



# **East Anglia ONE North Offshore Windfarm**

# Outline Access Management Plan

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**East Anglia ONE North** 



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The Outline Access Management Plan is supported by one figure, listed in the table below.

| Figure number | Title  |
|---------------|--|
| Figure 1      | Access Locations and Associated Onshore Infrastructure |



## Glossary of Acronyms

| ccs   | Construction Consolidation Site              |  |  |  |
|-------|--|--|--|--|
| DCO   | Development Consent Order                    |  |  |  |
| DMRB  | Design Manual for Roads and Bridges          |  |  |  |
| ES    | Environmental Statement                      |  |  |  |
| HDD   | Horizontal Directional Drill                 |  |  |  |
| HGV   | Heavy Goods Vehicle                          |  |  |  |
| OAMP  | Outline Access Management Plan               |  |  |  |
| ОТР   | Outline Travel Plan                          |  |  |  |
| ОСТМР | Outline Construction Traffic Management Plan |  |  |  |



## Glossary of Terminology

| A compound which allows the safe transition of cables between the overhead lines and underground cables which connect to the National Grid substation. |  |  |  |  |
|--|--|--|--|--|
| es   |  |  |  |  |
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| Mitigation areas  | Areas captured within the onshore Development Area specifically for mitigating expected or anticipated impacts.   |  |  |  |  |
|---|---|--|--|--|--|
| National electricity grid                                   | The high voltage electricity transmission network in England and Wales owned and maintained by National Grid Electricity Transmission   |  |  |  |  |
| National Grid infrastructure                                | A National Grid substation, cable sealing end compounds, cable sealing end (with circuit breaker) compound, underground cabling and National Grid overhead line realignment works to facilitate connection to the national electricity grid, all of which will be consented as part of the proposed East Anglia ONE North project Development Consent Order but will be National Grid owned assets. |  |  |  |  |
| National Grid<br>overhead line<br>realignment works         | Works required to upgrade the existing electricity pylons and overhead lines (including cable sealing end compounds and cable sealing end (with circuit breaker) compound) to transport electricity from the National Grid substation to the national electricity grid.   |  |  |  |  |
| National Grid<br>overhead line<br>realignment works<br>area | The proposed area for National Grid overhead line realignment works.  |  |  |  |  |
| National Grid<br>substation                                 | The substation (including all of the electrical equipment within it) necessary to connect the electricity generated by the proposed East Anglia ONE North project to the national electricity grid which will be owned by National Grid but is being consented as part of the proposed East Anglia ONE North project Development Consent Order.   |  |  |  |  |
| National Grid<br>substation location                        | The proposed location of the National Grid substation.  |  |  |  |  |
| Natura 2000 site  | A site forming part of the network of sites made up of Special Areas of Conservation and Special Protection Areas designated respectively under the Habitats Directive and Birds Directive.   |  |  |  |  |
| Onshore cable corridor                                      | The corridor within which the onshore cable route will be located.  |  |  |  |  |
| Onshore cable route   | This is the construction swathe within the onshore cable corridor which would contain onshore cables as well as temporary ground required for construction which includes cable trenches, haul road and spoil storage areas.  |  |  |  |  |
| Onshore cables  | The cables which would bring electricity from landfall to the onshore substation. The onshore cable is comprised of up to six power cables (which may be laid directly within a trench, or laid in cable ducts or protective covers), up to two fibre optic cables and up to two distributed temperature sensing cables.  |  |  |  |  |
| Onshore development area                                    | The area in which the landfall, onshore cable corridor, onshore substation, landscaping and ecological mitigation areas, temporary construction facilities (such as access roads and construction consolidation sites), and the National Grid Infrastructure will be located.   |  |  |  |  |
| Onshore infrastructure                                      | The combined name for all of the onshore infrastructure associated with the proposed East Anglia ONE North project from landfall to the connection to the national electricity grid.  |  |  |  |  |



| Onshore preparation works   | Activities to be undertaken prior to formal commencement of onshore construction such as pre–planting of landscaping works, archaeological investigations, environmental and engineering surveys, diversion and laying of services, and highway alterations.   |  |  |
|-----------------------------|--|--|--|
| Onshore substation          | The East Anglia ONE North substation and all of the electrical equipment within the onshore substation and connecting to the National Grid infrastructure.   |  |  |
| Onshore substation location | The proposed location of the onshore substation for the proposed East Anglia ONE North project.  |  |  |
| Transition bay              | Underground structures at the landfall that house the joints between the offshore export cables and the onshore cables.  |  |  |
| Two-way movement            | A movement is the process of transporting goods from a source location to a predefined destination. A two-way movement represents the inbound (laden trip from source) and the outbound unladen trip (back to source). For example, 20 two-way movements comprise 10 laden trips from source and 10 outbound unladen trips back to source. |  |  |



# **Outline Access Management Plan**

### 1 Introduction

#### 1.1 Background

- 1. This Outline Access Management Plan (OAMP) relates to the onshore infrastructure of the proposed East Anglia ONE North project.
- 2. The OAMP forms part of a set of documents that supports the Environmental Statement (ES) (document reference 6.1) submitted by the Applicant as part of the Development Consent Order (DCO) application.
- 3. A final detailed Access Management Plan (AMP) will be produced post-consent, prior to onshore construction of the proposed East Anglia ONE North project, and will be in line with this OAMP. Once contractors¹ have been appointed, the final AMP measures would be further developed in consultation with Suffolk County Council (SCC) and agreed with East Suffolk County Council, prior to the commencement of works.
- 4. The final AMP will provide a key mechanism, enforceable through the DCO, through which the location, frontage, general layout, visibility and embedded mitigation measures for points of access to the onshore infrastructure would be agreed with the relevant regulators.
- 5. This OAMP reinforces commitments made in the ES (document reference 6.1) and presents the requirements and standards that will be incorporated into the final access designs.
- 6. In respect to traffic and transport, the two certified plans referred to in the DCO, which support the AMP, are outlined below:
  - Outline Construction Traffic Management Plan (OCTMP): The OCTMP sets
    out the standards and procedures for managing the impact of Heavy Goods
    Vehicle (HGV) traffic during the construction period, including localised road
    improvements necessary to facilitate the safe use of the existing road
    network; and

<sup>&</sup>lt;sup>1</sup> The term contractor is used throughout this document. The term 'contractor' in relation to contractor responsibilities relates to either a Principal Contractor(s) or sub-contractors(s) and will be defined within the final OAMP.



 Outline Travel Plan (OTP): The OTP sets out how construction personnel traffic would be managed and controlled.

#### 1.2 OAMP Scope

- 7. Activities within the scope of this OAMP relate to works undertaken from the point of commencement of the onshore preparation works construction of the proposed East Anglia ONE North project. Onshore infrastructure as defined within the DCO or as permitted as onshore preparation works in line with the provisions set out within the DCO. Works include:
  - Export cable installation from the landfall location to the transition bays, including Horizontal Directional Drilling (HDD);
  - Temporary works associated with landfall HDD and transition bay excavation;
  - Onshore cable installation along the onshore cable route including jointing bays and potential HDD;
  - Temporary works associated with the onshore cable route and onshore substation including establishment of a haul road for the entire cable route, Construction Consolidation Sites (CCSs) and temporary working areas;
  - Onshore substation, and access;
  - National Grid infrastructure;
  - Reinstatement and mitigation works enacted during the construction phase;
     and
  - Highways enabling works include the construction of seven public highway accesses, three haul road crossings and off-site highway improvements.
- 8.1. The scope of this OAMP does not extend to the base port to be utilised for offshore construction and maintenance, as no decision has yet been made regarding a preferred base port for the offshore construction and operation of the proposed East Anglia ONE North project. Such facilities would be provided or brought into operation by means of one or more planning applications or as port operations with permitted development rights.
- 9.8. The East Anglia ONE North offshore windfarm project (the proposed East Anglia ONE North project) is also in the application Examination phase. The proposed East Anglia ONE North project has a separate DCO which has been submitted at the same time as the proposed East Anglia ONE North project. The two projects share the same landfall location and onshore cable route and the two onshore substations are co-located, and connect into the same National Grid substation.



- <u>10.9.</u> The traffic and transport impact assessment presented in the ES considers the proposed East Anglia TWO project and the proposed East Anglia ONE North project under two construction scenarios:
  - Scenario 1 the proposed East Anglia TWO project and proposed East Anglia ONE North project are built simultaneously; and
  - Scenario 2 the proposed East Anglia TWO project and the proposed East Anglia ONE North project are built sequentially with a construction gap.
- 10. The scope of Tthis OAMP applies to both scenario 1 and scenario 2.
- 11. The scope of this OAMP does not extend to the base port to be utilised for offshore construction and maintenance, as no decision has yet been made regarding a preferred base port for the offshore construction and operation of the proposed East Anglia ONE North project. Such facilities would be provided or brought into operation by means of one or more planning applications or as port operations with permitted development rights.

# 2 Access Design

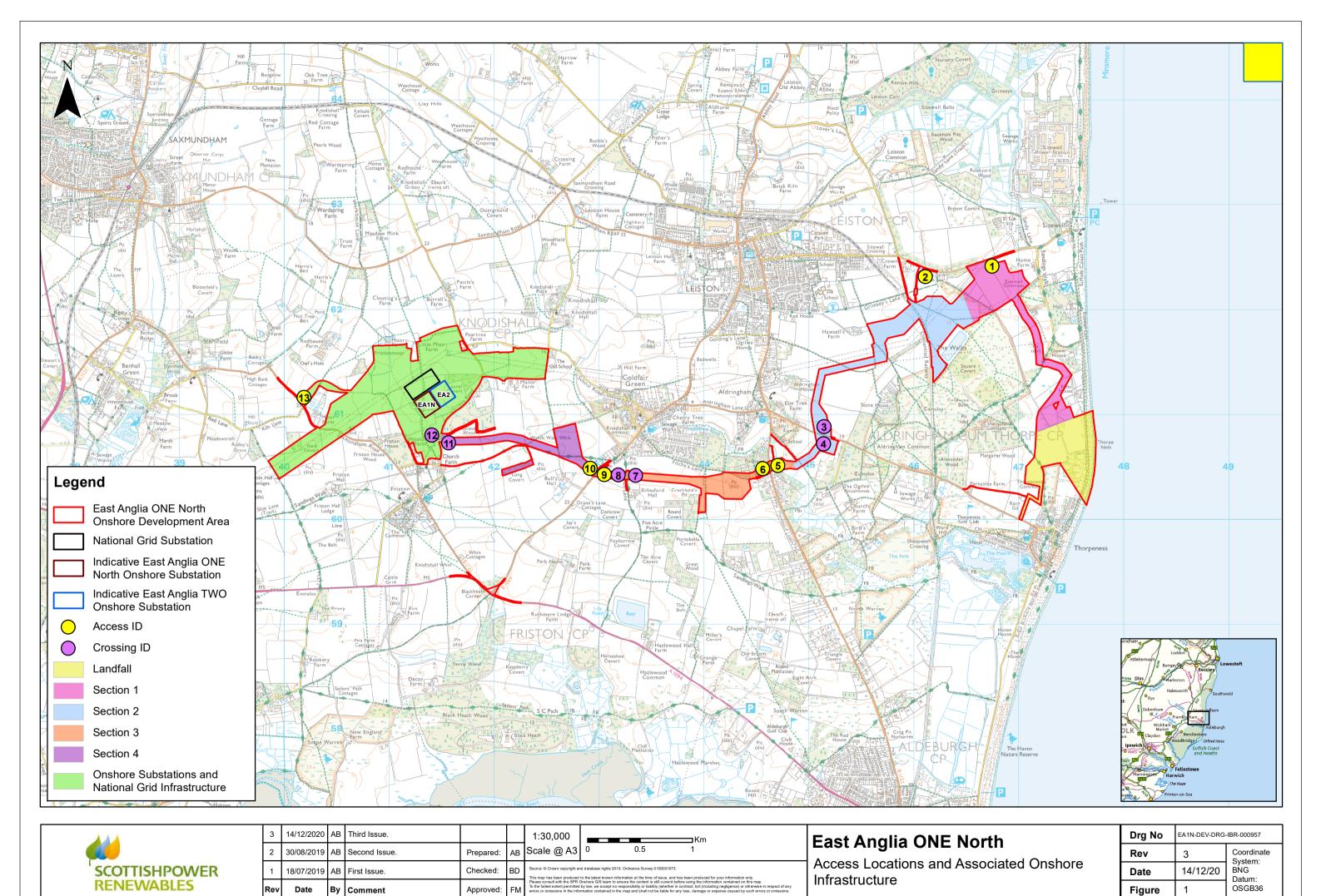
#### 2.1 Access Strategy

- 11.12. The onshore infrastructure includes works at the following seven discrete sites (which are shown on *Figure 1* on page 5 of this OAMP):
  - Landfall location;
  - Onshore cable route section 1;
  - Onshore cable route section 2;
  - Onshore cable route section 3;
  - Onshore cable route section 4;
  - Onshore substation; and
  - National Grid Infrastructure.
- 12.13. In order to access these seven discrete sites an access strategy has been developed. The 'basis of design' for the access strategy has been informed by engagement with Suffolk County CouncilSCC and refined following feedback from public consultation (full details are set out in ES Chapter 26 Traffic and Transport (document reference 6.1.26).
- 13.14. The access strategy applies a hierarchical approach (informed by the Suffolk Country CouncilSCC HGV route hierarchy) to selecting routes and where



possible, seeks to reduce the impact of HGV traffic upon the most sensitive communities. A copy of the Suffolk County Council SCC HGV route hierarchy plan is provided in Annex 1 Suffolk – Lorry Route Network (extract).

- 14.15. To allow construction vehicles to be routed away from the most sensitive communities, the Applicant has committed to the implementation of a temporary haul road for the length of onshore cable route. The use of the haul road allows:
  - All construction traffic wishing to access the landfall location to do so via Sizewell Gap rather than travelling via the B1122 from Aldeburgh and B1353 towards Thorpeness;
  - All construction traffic to the onshore substation and National Grid Substation to avoid travelling via Friston or Sternfield by accessing from the B1069 (south of Knodishall/ Coldfair Green) and travelling along the temporary haul road and crossing over Grove Road; and
  - All construction traffic wishing to access all onshore cable route section 2 to the south of the B1353 to do so via Sizewell Gap rather than travelling via the B1122 from Aldeburgh and B1353 towards Thorpeness.
- 15.16. The use of the haul route has allowed the Applicant to commit the following access strategy:
  - All HGV traffic would be required to travel via the A1094 or B1122 from the A12, no HGV traffic would be permitted to travel via alternative routes, such as the B1121 or B1119;
  - No HGV traffic would be permitted to travel though Leiston or Coldfair Green / Knodishall;
  - No HGV traffic would be permitted to travel via the B1121 through Friston, Sternfield or Benhall-Green; and
  - No HGV traffic would be permitted to travel via the B1353 towards Thorpeness.
- 46.17. The access strategy includes both accesses and crossings. The accesses provide for access and egress to and from the existing public highway, whilst crossings would only permit construction traffic to cross from one side of the existing public highway to the other. No construction access or egress would be permitted from the crossing points.





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47.18. The following *Table 2.1* describes the proposed access strategy, the location of the proposed accesses and crossings and associated onshore infrastructure which the access serves. This information is also depicted graphically within *Figure 1*.

Table 2.1 Proposed East Anglia ONE North Accesses and Associated Infrastructure Components

| Infrastructure component                    | Access                           | Accesses and Associated Infrastructure Components Route   |  |  |  |
|---|----------------------------------|---|--|--|--|
| Landfall                                    | 1 (Sizewell<br>Gap)              | Vehicles to travel from the A12 via the B1122 and Lover's Lane / Sizewell Gap.  |  |  |  |
| Onshore cable route section 1               | 1 (Sizewell<br>Gap)              | Vehicles to travel from the A12 via the B1122 and Lover's Lane / Sizewell Gap.  |  |  |  |
| Onshore cable route section 2               | 2 (Sizewell<br>Gap)              | Vehicles to travel from the A12 via the B1122 and Lover's Lane / Sizewell Gap. Vehicles wishing to access south of B1353 would cross the B1353 at access 3 and 4.   |  |  |  |
| Onshore cable route section 3               | 10 (B1069<br>Snape Road)         | Vehicles to travel from the A12 via the A1094 before heading north on the B1069 to the CCS via access 10. From the CCS vehicles would then cross over the B1069 from access 10 to 9 to access section 3 of the onshore cable route.           |  |  |  |
|   |                                  | Works to the east of Sloe Lane would cross Sloe Lane at access 7 and 8.   |  |  |  |
| Onshore cable route section 4               | 10 (B1069<br>Snape Road)         | Vehicles to travel from the A12 via the A1094 before heading north to access 10 on the B1069. Works to the west of Grove Road would cross Grove Road at access 11 and 12.   |  |  |  |
| East Anglia ONE North<br>Substation         | 10 (B1069<br>Snape Road)         | Vehicles to travel from the A12 via the A1094 before heading north to access 10 on the B1069, vehicles  |  |  |  |
| National Grid Substation and Infrastructure |                                  | would then travel via the haul road and crossing Grove Road at access 11 and 12.  |  |  |  |
| East Anglia ONE North<br>Substation         | 13 (B1121<br>Saxmundham<br>Road) | Access 13 would provide a permanent access to the East Anglia ONE North and National Grid substations following completion of construction. During construction the access would only be used for Abnormal Indivisible Load (AIL) deliveries. |  |  |  |
| National Grid Substation and Infrastructure | rtoau)                           |   |  |  |  |

18.19. There is a small part of section 3 of the onshore cable route (section 3BA) that is located either side of the B1122 to the south of Aldringham (*Figure 1*). At this stage, three options are being investigated for serving section 3AB. These include serving section 3AB directly from access 2 or 9 or providing two new accesses from the B1122 (accesses 5 and 6). If access 2 or 9 where used to serve section 3A3B, accesses 5 and 6 would be converted from accesses to a crossing.



- 19.20. After construction, temporary accesses (access 1 to 12) will be reinstated, unless otherwise agreed with the Local Highway Authority and relevant land-owner.
- 20.21. Access 13 would provide a permanent access to the onshore substation and National Grid substation and would therefore remain for the operational life of the proposed East Anglia ONE North project. It is anticipated that the proposed East Anglia TWO project would use access 13 as permanent access to the East Anglia TWO onshore substation.

#### 2.2 Access Design

- 21.22. All seven accesses have been designed as simple priority junctions, with geometry in accordance with the requirements of the Design Manual for Roads and Bridges (DMRB) standards for major/ minor priority junctions.
- 22.23. General Arrangement drawings (with details of visibility splays, signage and road markings), of all accesses are provided in *Annex* 42.
- 23.24. In order to ensure that HGVs can enter and exit each access in forward gear, swept path analysis has been undertaken for each access. This swept path analysis (presented within *Annex 42*) has been undertaken using a maximum legal articulated vehicle and a rigid body tipper. These vehicle types are considered to provide a representation of the largest standard vehicles that would use the accesses.
- 24.25. A summary of the drawings provided within **Annex 42** and content are provided in **Table 2.2**.

**Table 2.2 Access Design Drawing Summary** 

| Access ID   | General Arrangement drawing        | Swept path analysis drawings |
|---|------------------------------------|------------------------------|
| 1   | TP-PB4842-DR001 Rev D0.6           | TP-PB4842-DR002 Rev D0.3     |
| 2   | TP-PB4842-DR003 Rev D0.4           | TP-PB4842-DR004 Rev D0.3     |
| 5   | TP-PB4842-DR008 Rev D0. <u>6</u> 5 | TP-PB4842-DR009 Rev D0.3     |
| 6   | TP-PB4842-DR008 Rev D0. <u>6</u> 5 | TP-PB4842-DR010 Rev D0.3     |
| 9   | TP-PB4842-DR011 Rev D0.4           | TP-PB4842-DR012 Rev D0.3     |
| 10  | TP-PB4842-DR011 Rev D0.4           | TP-PB4842-DR013 Rev D0.3     |
| 13 (construction phase for AILs and employees only) | TP-PB4842-DR020 Rev D0.3           | TP-PB4842-DR022 Rev D0.3     |
| 13 (operational phase)                              | TP-PB4842-DR021 Rev D0.3           | TP-PB4842-DR022 Rev D0.3     |



- 25.26. The general guiding principle for the access design is to keep engineering works to a minimum to reduce the environmental impact of the proposed East Anglia ONE North project and ensure timely reinstatement of baseline conditions. This has entailed minimising vegetation that needs to be removed to provide forward visibility.
- 26.27. **Table 2.3** provides a summary of the required visibility splay for each access in accordance with the measured 85<sup>th</sup> percentile speeds (the speed at which 85 percent of all vehicles are observed to travel) and the achievable splays. It has been agreed with SCC that 85<sup>th</sup> percentile speeds should be used rather than average speeds as this would provide a worst case for determining visibility splays as higher speeds result in a requirement for longer visibility splays.
- 27.28. Where the visibility splays cannot be achieved, measures are proposed to temporality reduce the speed limit and consequently the required visibility splay.

**Table 2.3 Access Visibility Requirements** 

| Access<br>ID * | Measured<br>85th<br>percentile<br>speeds<br>(mph) | Required<br>visbility<br>for 85th<br>percetile<br>speed | Achievable visbility |      | Visibility<br>achievable | Further<br>traffic<br>control<br>measures                              | Notes   |
|----------------|---|---|----------------------|------|--------------------------|--|---|
| 1              | 57.1  | 215m  | 380m                 | 295m | Yes                      | Temporary<br>reduction<br>in the<br>speed limit<br>from 60 to<br>40mph | Whilst visibility is acheiveable, a reduction in speed limit is proposed as best practice   |
| 2              | 57.1  | 215m  | 195m                 | 215m | No                       | Temporary<br>reduction<br>in the<br>speed limit<br>from 60 to<br>40mph | The visbility to the east is 20m shorter than required for a design speed of 100kph (62.5mph). It is therefore proposed to temporarility reduce the speed limit to 40mph.           |
| 5              | 44.7  | 120m  | 97m                  | 90m  | No                       | Speed<br>limit<br>reduced<br>from 40 to<br>30mph                       | The visbility north and south is 23 and 30m shorter than required for a design speed of 70kph (43.8mph). It is therefore proposed to temporarility reduce the speed limit to 30mph. |



| Access<br>ID * | Measured<br>85th<br>percentile<br>speeds<br>(mph) | Required<br>visbility<br>for 85th<br>percetile<br>speed | Achieva<br>visbility |      | Visibility<br>achievable | Further<br>traffic<br>control<br>measures   | Notes  |
|----------------|---|---|----------------------|------|--------------------------|---|--|
| 6              | 44.7  | 120m  | 90m                  | 99m  | No                       | Speed<br>limit<br>reduced<br>from 40 to<br>30mph  | The visbility north and south is 30 and 21m shorter than required for a design speed of 70kph (43.8mph). It is therefore proposed to temporarility reduce the speed limit to 30mph.  |
| 9              | 39.4  | 120m  | 50m                  | 95m  | No                       | Extenstion<br>of the<br>existing<br>40mh<br>speed limit<br>south<br>along the<br>B1069. | It is proposed to extend the existing 40mph speed limit further south along to reduce the speed of vehciles on the approach to access 9. In addtion, existing vegitation will be removed/ cut back to ensure a visbility splay of 120m can be achieved in both directions. |
| 10             | 39.4  | 120m  | 145m                 | 268m | Yes                      | Extenstion<br>of the<br>existing<br>40mh<br>speed limit<br>south<br>along the<br>B1069. | Whilst visibility is acheiveable, an extention of the the 40mph speed limit is required for access 9 located opposite access 10 on the B1069.  |
| 13             | 43.8  | 160m  | 247m                 | 161m | Yes                      | Temporary<br>reduction<br>in the<br>speed limit<br>from 60 to<br>40mph                  | Speed limit reduction to be applied for construction only. Upon completion of the construction the temporary speed limit would be removed.   |

#### Notes:

<sup>\*</sup> Acceses 3, 4, 7, 8, 11 and 12 are considered seperatly in *Section 2.3* because at these locations construction traffic would only be able cross the public highway.



#### 2.3 Crossing Design

- 28.29. Where the haul road crosses the public highway at the B1353 (access 3 and 4), Sloe Lane (access 7 and 8) and Grove Road (access 11 and 12), formalised crossings are proposed.
- 29.30. The crossing points at Grove Road and Sloe Lane are located at sections of the highway where existing traffic flows and speeds are low. It is proposed therefore that construction vehicles would give-way to traffic on the public highway and cross in gaps in traffic when safe to do so.
- 30.31. The crossing point at the B1353 is located at a section of the highway where traffic speeds are higher, it is therefore proposed that construction vehicles cross the public highway under traffic signal control. Under traffic signal control, the traffic signals would rest on red on the haul road and would only change to green when demanded by vehicles on the construction haul road.
- 31.32. Each of the crossings have been designed to ensure that vehicles cannot turn off or on to the public highway from the haul road. To prevent dirt being tracked across the public highway 20m of carriageway construction (concrete or asphalt) are provided either side of the entry point. Further measures to prevent dirt being tracked across the public highway are detailed within the <a href="Outline Code of Construction Practice">Outline Code of Construction Practice</a> (OCoCP) submitted with the <a href="Outline Code of Construction Practice">OCOCP)</a> submitted with the <a href="Outline Code of Construction Practice">OCOCP)</a> submitted with the <a href="Outline Code of Construction Practice">OCOCP)</a> submitted with the <a href="Outline Code of Construction Practice">OCOCP)</a> submitted with the <a href="Outline Code of Construction Practice">OCOCP)</a> submitted with the <a href="Outline Code of Code o
- 32.33. General Arrangement drawings (with details of signs, road markings and visibility drawings are provided in *Annex* 42 and a summary of the drawings and content are provided in *Table 2.4*.

**Table 2.4 Crossing Design Drawing Summary** 

| Access ID | General Arrangement drawing |
|-----------|-----------------------------|
| 3 and 4   | TP-PB4842-DR007 Rev D0.4    |
| 7 and 8   | TP-PB4842-DR027 Rev D0.1    |
| 11 and 12 | TP-PB4842-DR014 Rev D0.3    |

#### 2.4 Road Safety

- 33.34. The following mitigation measures have been developed to reduce the risk to the travelling public and construction personnel and are applied to each access and crossing (where applicable):
  - Temporary direction and warning signs to advise of turning vehicles would be provided for all accesses. This signage would highlight the proposed



- accesses to construction personnel traffic to avoid late breaking manoeuvres and highlight to the travelling public the potential for turning vehicles;
- Temporary warning signs to advise of crossing vehicles would be provided for all crossings. This signage would highlight to the travelling public the potential for crossing vehicles;
- All accesses constructed to facilitate two-way HGV movements to prevent vehicles having to give way on the highway;
- All crossings constructed to prevent access from the highway, ensuring vehicles do not attempt to access or egress at these locations;
- All accesses and crossings provided with appropriate visibility splays to allow vehicles to safely access and exit from the junctions. These splays will be maintained by the Contractor for the duration of use of the access;
- All accesses and crossings to incorporate a bound (concrete or asphalt) surface to prevent dust and dirt being tracked on to the highway: -and
- Temporary reduction in the existing speed limit in the vicinity of all accesses and crossings to reduce the speed of vehicles in the vicinity of these locations.
- 34.35. In addition to the applied road safety measures, each access and crossing have been subject to an independent Stage 1 Road Safety Audit (preliminary design). A copy of the independent Stage 1 Road Safety Audit is provided within *Annex* 23.
- 35.36. The Stage 1 Road Safety Audit has identified a total of 10 problems<sup>2</sup> with the access designs as presented and provides recommendations for how to address these problems as the designs are developed. A Designers response in also provided within *Annex* 2-3 this includes confirmation of the acceptance of each of the problems and also the auditor's recommendations for how to address these problems.

#### 2.5 Technical Approval

36.37. Once a Contractor has been appointed, the technical approvals for the access, crossing designs and speed limit modifications will be submitted to and agreed with Suffolk County Council (SCC) as required under the DCO (or under Section 278 of the Highways Act (1980) where required).

<sup>&</sup>lt;sup>2</sup> The term 'problem' is a formal road safety audit term that identifies an issue with the design as present that need to be addressed.



- 37.38. The technical approval process will include submission of finalised drawings, showing full details of access and crossing improvements, including drainage, lighting, signing, and standard construction details.
- 38.39. Apart from Access 13, all project accesses and crossing points are temporary and following completion of construction would be reinstated to their former state unless otherwise agreed with SCC and the relevant land-owner.
- 39.40. The technical approval documentation would also include a Stage 2 Road Safety Audit (detailed design) and designer's response.
- 40.41. In addition to the powers set out in the draft DCO, relevant powers under the Road Traffic Regulation Act (1984) will also be relied upon to implement the temporary speed limit changes associated with the access and crossing strategy.

## 3 Traffic Management

- 42. In order to construct each of the accesses and crossings, temporary traffic management will be implemented to maintain highway safety and to ensure minimal delays to existing road users.
- 43. In addition, to minimise the impacts of construction traffic on the wider highway associated with the construction of the accesses and crossing, wider control measures proportionate to the scale of the proposed works are detailed below.

#### 3.1 Traffic Management – Road Works

41.44. The form of traffic management to be employed at each access and crossing location depends on the characteristics at the site (traffic volume, speed, visibility etc). In locations where traffic flows are very low and forward visibility is good, shuttle working could be controlled manually with the use of STOP/GO signs. In most cases however, it is expected that alternate one-way traffic (shuttle working) would be traffic signal controlled. Indicative working arrangements extracted from Safety at Street Works and Road Works: a code of practice 2013, areas shown in *Plate 3.1 - Plate 3.3.* 



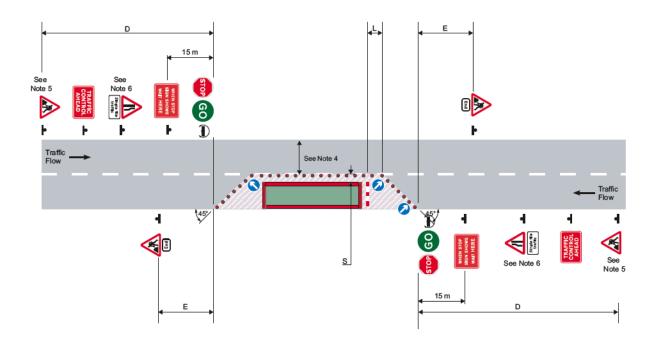


Plate 3.1 Indicative Temporary Traffic Management Arrangements (Stop/Go)

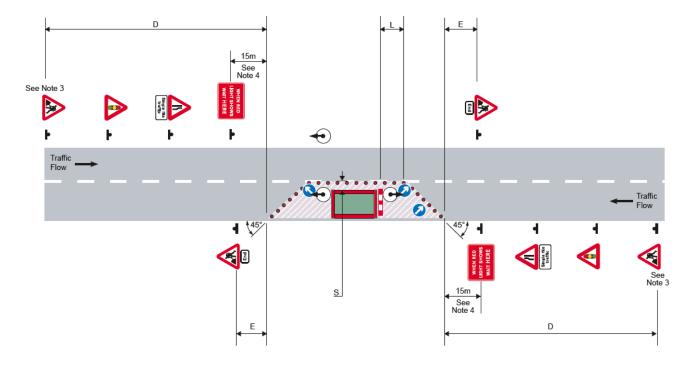


Plate 3.2 Indicative Temporary Traffic Management Arrangements (Traffic Signals)



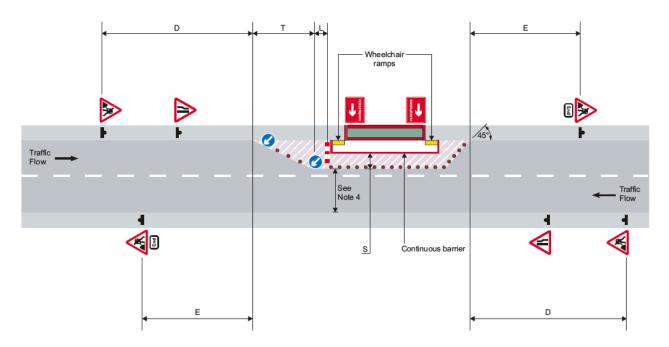


Plate 3.3 Indicative Temporary Traffic Management Arrangements (footway diversion into the carriageway)

- 42.45. Where the construction of the accesses and crossings would impact upon an existing footpath, the traffic management would incorporate a segregated area where pedestrians can safely walk through the works area. However, should the existing road width not safely permit such an arrangement then the road would be temporarily, widened into the adjacent verge.
- The detailed design of traffic management at accesses and crossings will be undertaken prior to construction and agreed with SSCC in accordance and notified in accordance with the provisions within the New Road and Street Works Act 1991 (and other relevant highways legislation where applicable) and draft DCO (Part 3) with the requirements set out within the draft DCO.

#### 3.2 Traffic Controls

47. This section of the OAMP provides detail of measures that would be implemented to control traffic movements during the construction of the accesses and crossings, proportionate to the low level of demand likely to be generated during this activity.

#### **3.2.1 Timings**

48. In accordance with the OCoCP, submitted as part of the Standard construction working hours for the proposed East Anglia ONE North project and any construction-related traffic movements will be between the following hours:



- 07:00 19:00 Monday to Friday; and
- 07:00 13:00 on Saturday.
- 49. There may be times where construction would need to occur outside of the hours stated above; these would be agreed with the relevant planning authority prior to any such works being undertaken. In the event of an emergency, the relevant planning authority would be notified as soon as is practicable.

#### 3.2.2 Delivery Routes

- 50. Prior to the commencement of construction of the accesses and crossings, the Contractor will submit details to SCC and agree the routes to be used by traffic constructing the accesses and crossings.
- 51. To ensure compliance with the agreed delivery routes, the following measures are proposed:
  - Direction signing for the identified delivery routes would be implemented. This
    would direct construction traffic from the A12 to the respective accesses and
    crossings along the agreed delivery routes;
  - Information signs will be erected in the vicinity of the accesses, which will include a telephone number for the public to report concerns;
  - The delivery route instructions would be communicated by the Contractor to all companies and/or drivers involved in the transport of materials and plant in advance of access activities;
  - The registration numbers for all HGVs making deliveries would be recorded by the Contractor. This would allow for checking and enforcement associated with of any reported breaches of the agreed delivery routes; and
  - The Contractor will provide all companies and/or drivers involved in the transport of materials and plant details of a unique identifier (e.g. the Contractor's logo) that that can be placed in the window of their vehicle. This will enable residents to identify if a HGV is engaged on work on the proposed East Anglia ONE North project.

#### 3.2.3 Control of Deposits on the Highway

- 52. To manage the potential for the deposition of detritus on the public highway, the Contractor will ensure:
  - Regular inspections of the public highway in the vicinity of the accesses and crossing are undertaken to ensure it is free of detritus;



- A road sweeper is available on call to clear any detritus and other material from the public highway;
- A stiff brush / jet wash is available (at each access/ crossing) to allow drivers to clean vehicles down prior to entering the public highway; and
- Any loaded vehicles entering and leaving are covered to prevent escape of materials during transport.

#### 3.2.4 Enforcement and Corrective Measures

- 53. If the Contractor is made aware of a potential breach of the agreed operating hours or delivery routes or operating hours (except where otherwise agreed with the relevant planning authority or in the event of an emergency), the Contractor will be required to investigate the circumstances and compile a report for the highway authority. The highway authority will then review the information, request further clarifications (if required) and confirm to the Contractor if a material breach has occurred.
- 54. If the breach is found to be material the following three stage process will be followed:
  - Stage One Tthe highway authority confirms a breach and requests that the Contractor to reviews the data and concerns. The highway authority and the Contractor would then agree the extent of the breach of controls, and agree any action to be taken. This is likely to be a contractor warning at this stage;
  - Stage Two If a further material breach is identified, the Contractor would be given a further warning and required to produce an action plan to outline how the issue would be rectified and any additional mitigation measures proposed to be implemented; and
  - Stage Three Should further breaches still-occur the Contractor would be required to remove the offender relevant party from site and the Contractor / supplier would receive a formal warning. Any continued breaches by individuals of the supplier/-Contractor / supplier may be dealt with by the formal dispute procedures of the contract.

-Individual employee breaches would be addressed through UK employment law whereby the three-stage process outlined above would form the basis for disciplinary proceedings.



#### 3.23.3 References

Department for Transport (2013). Safety at street works and road works: a code of practice 2013

Department for Transport (2009). Traffic Signs Manual - Chapter 8 - Traffic Safety measures and Signs for Road Works and Temporary Situations, London: TSO

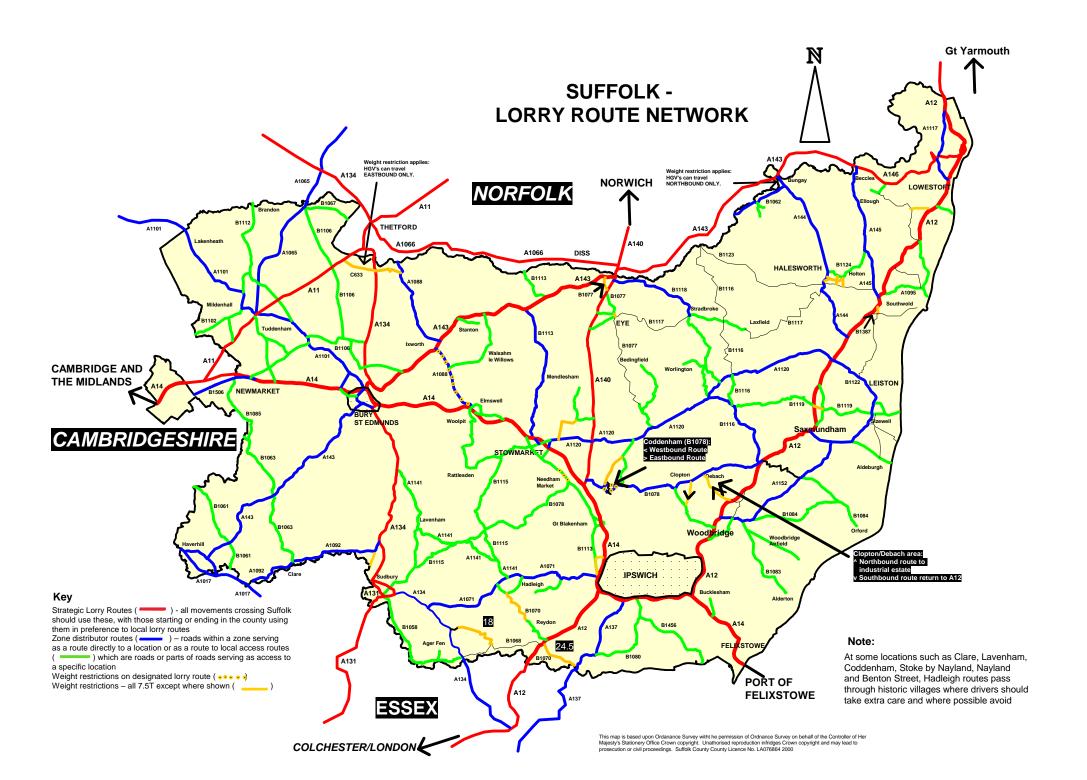
Department for Transport (2007). Manual for Streets, London: Thomas Telford Publishing

Highways Agency (new Highways England) (August 20201995). Design Manual for Roads and Bridges (DMRB) Volume 6 Section 2 Part 6 TD 42/95CD 123 - Geometric dDesign of at-grade priority and signal controlled jucntions Major/Minor Priority Junctions



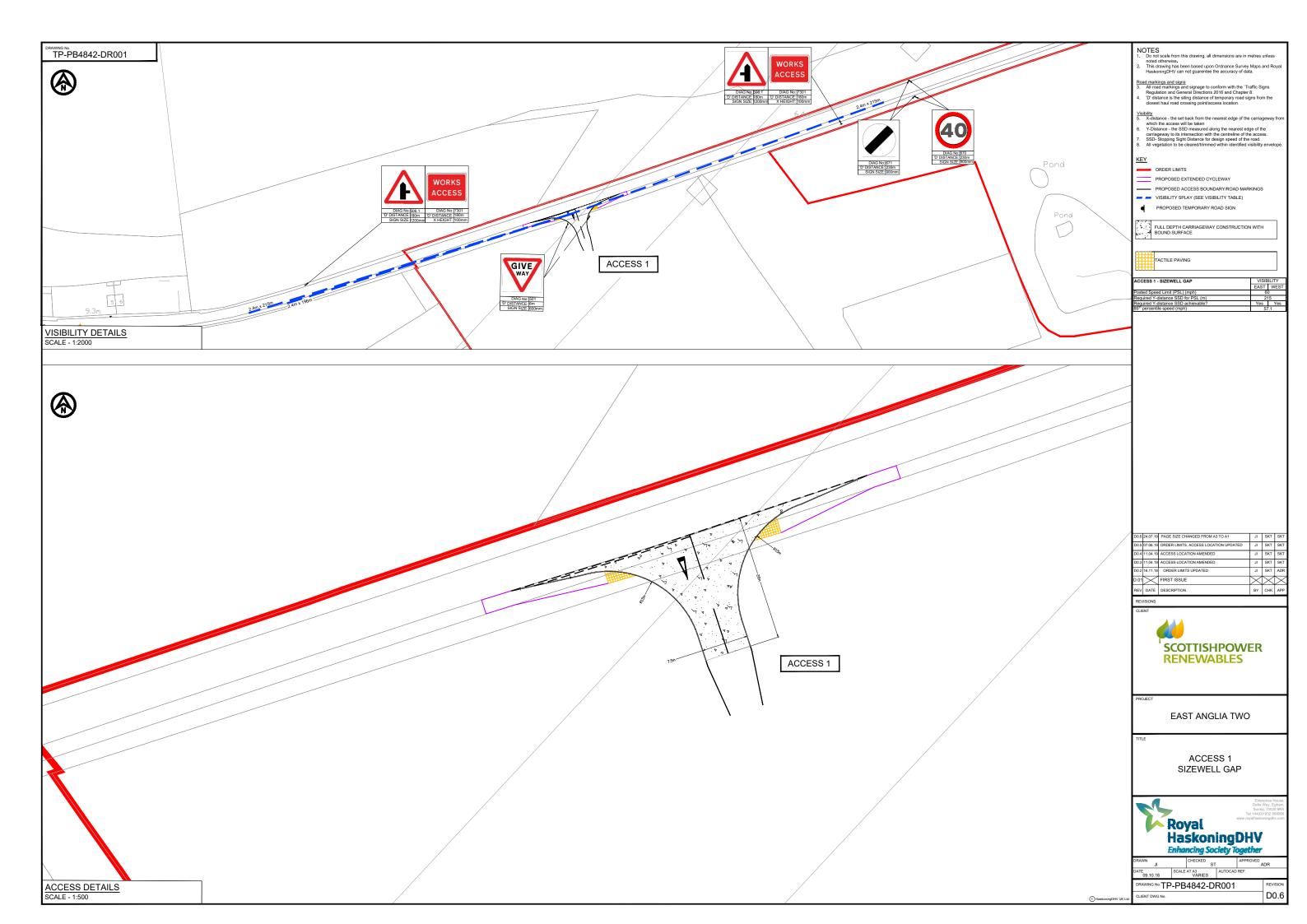
# Annex 1: Suffolk – Lorry Route Network (extract)

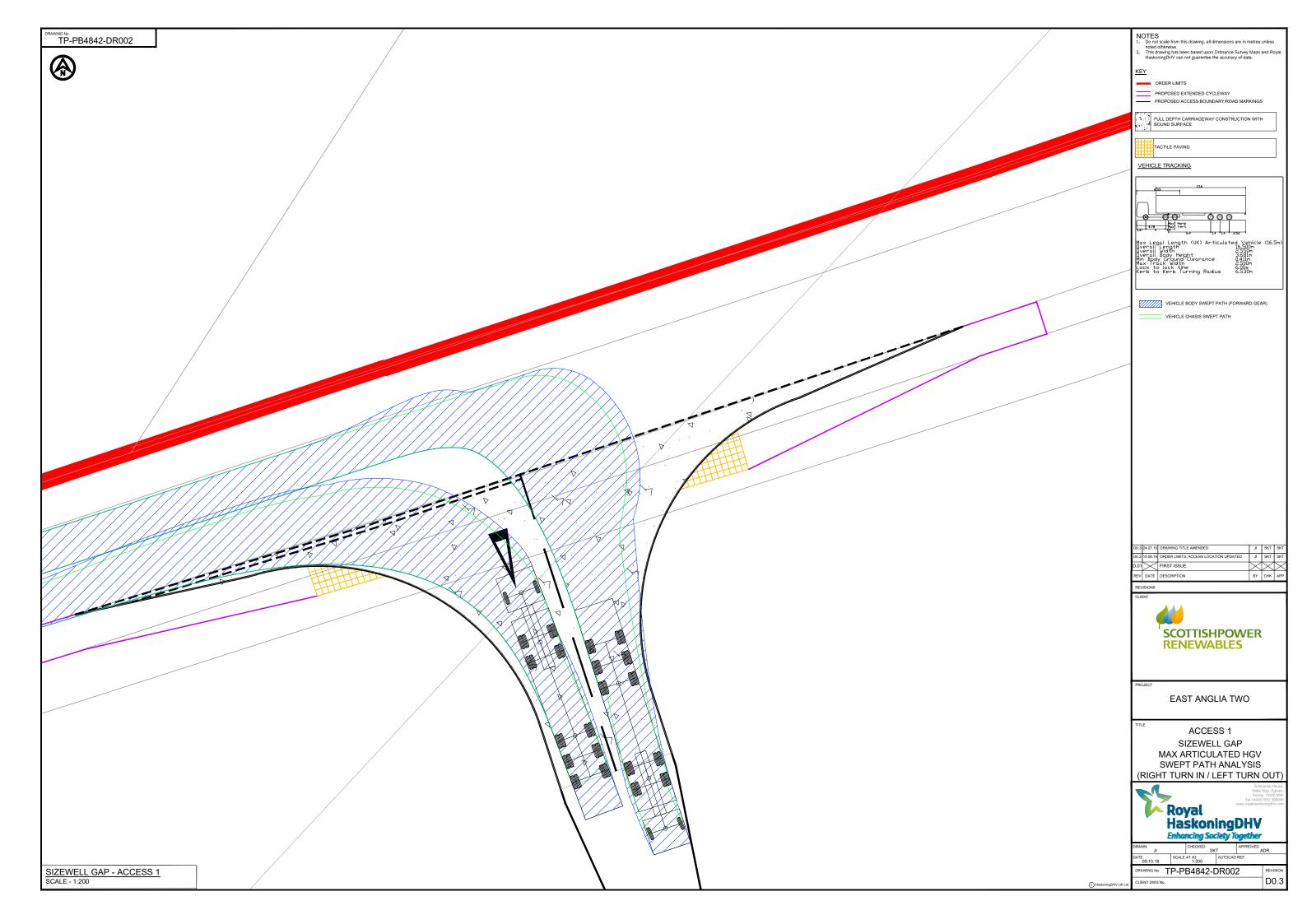
<u>Suffolk County Council, 2017. Lorry Route Map. Available online:</u>
<a href="https://www.suffolk.gov.uk/assets/Roads-and-transport/lorry-management/Lorry-Route-Map-Amended-MAY-17.pdf">https://www.suffolk.gov.uk/assets/Roads-and-transport/lorry-management/Lorry-Route-Map-Amended-MAY-17.pdf</a>

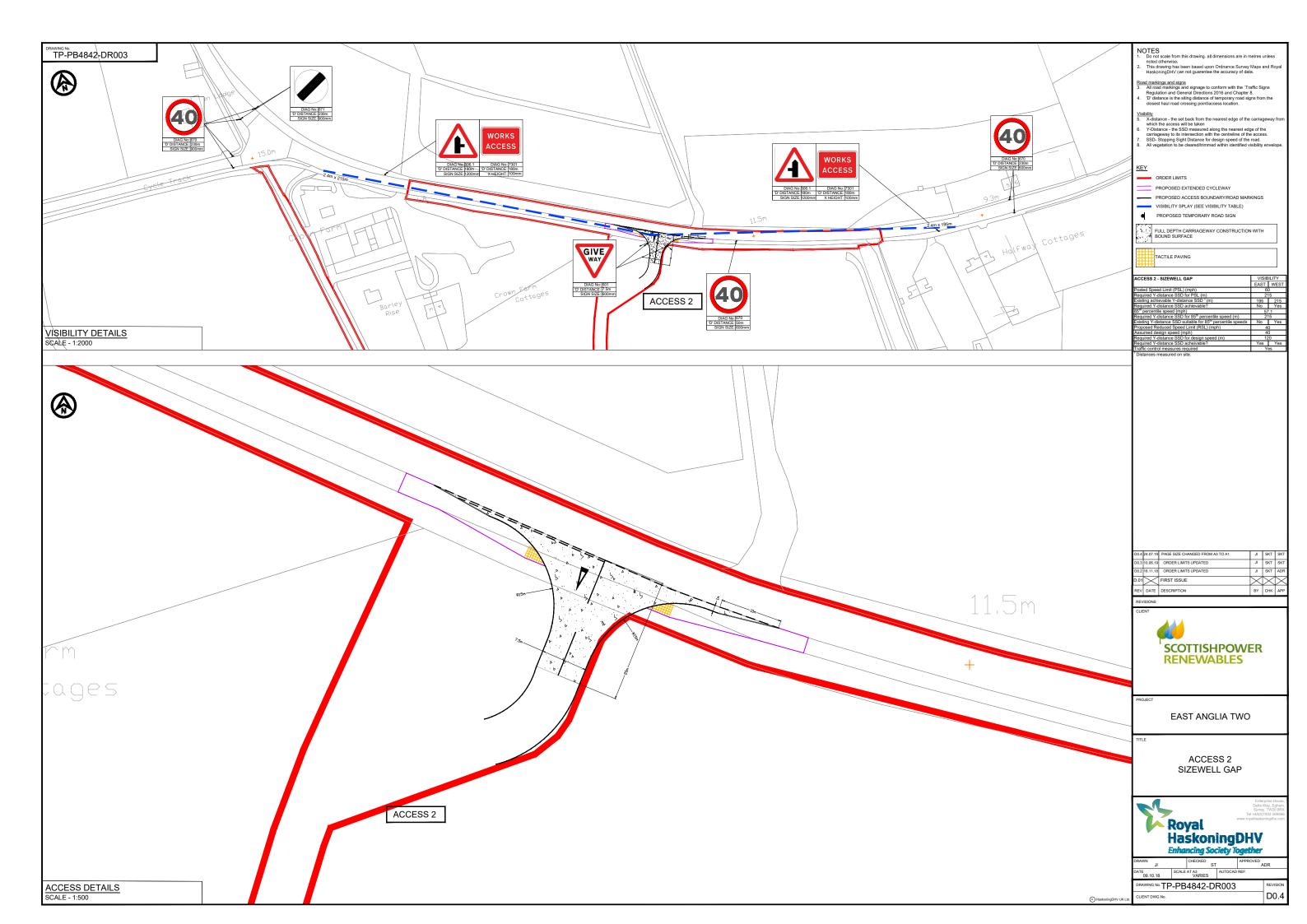


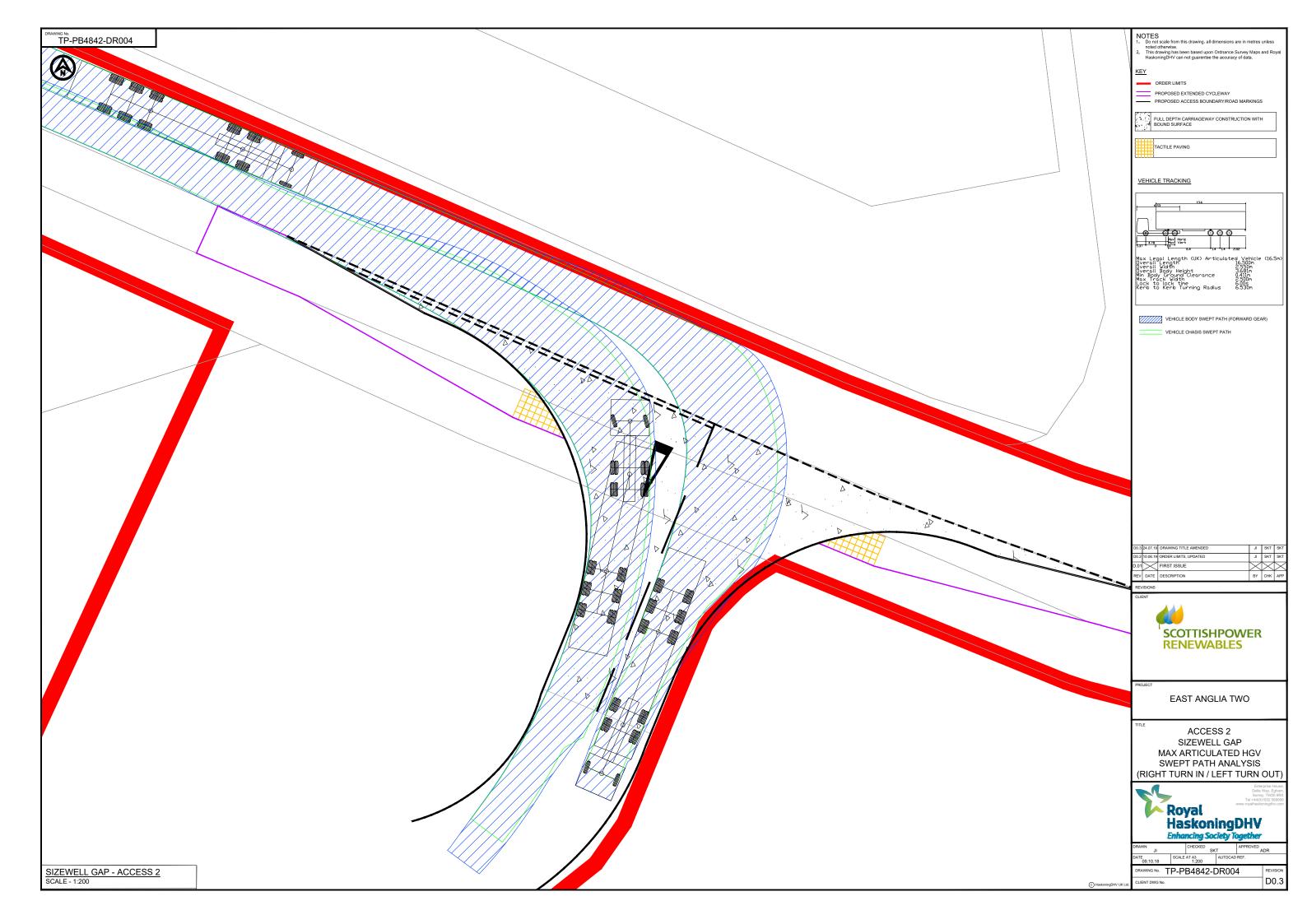


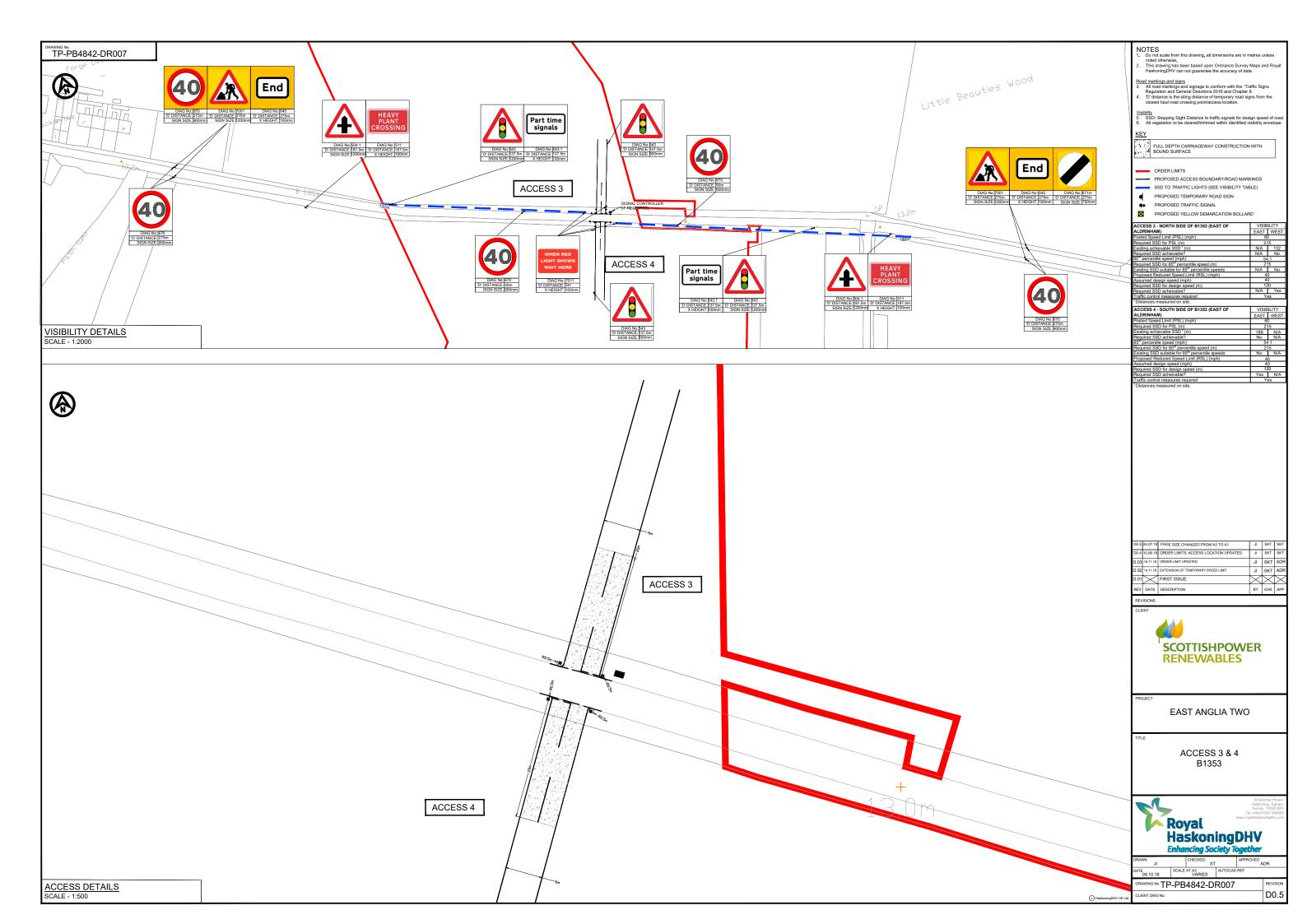
# **Annex 2: Proposed Preliminary Access Concepts**

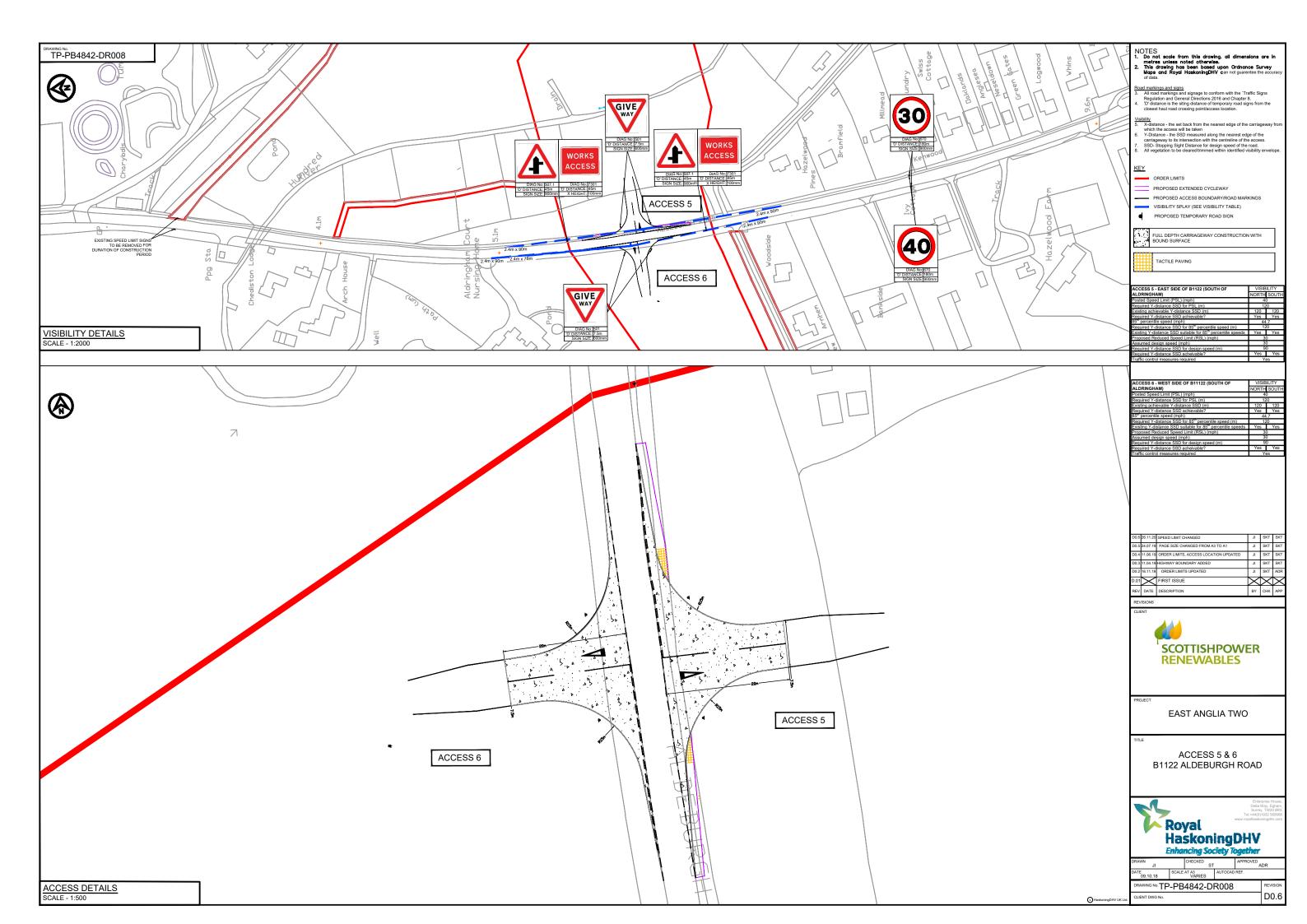


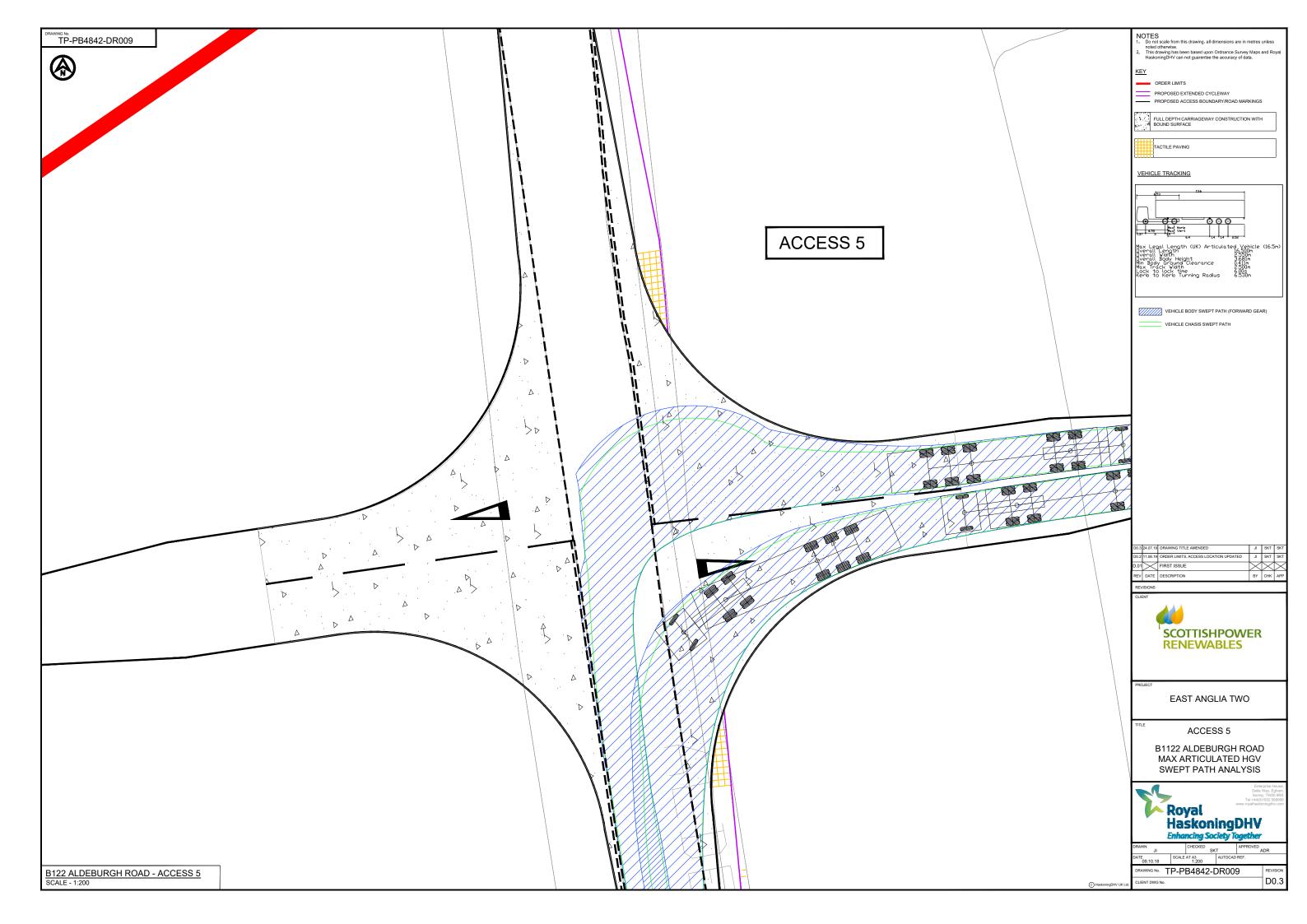


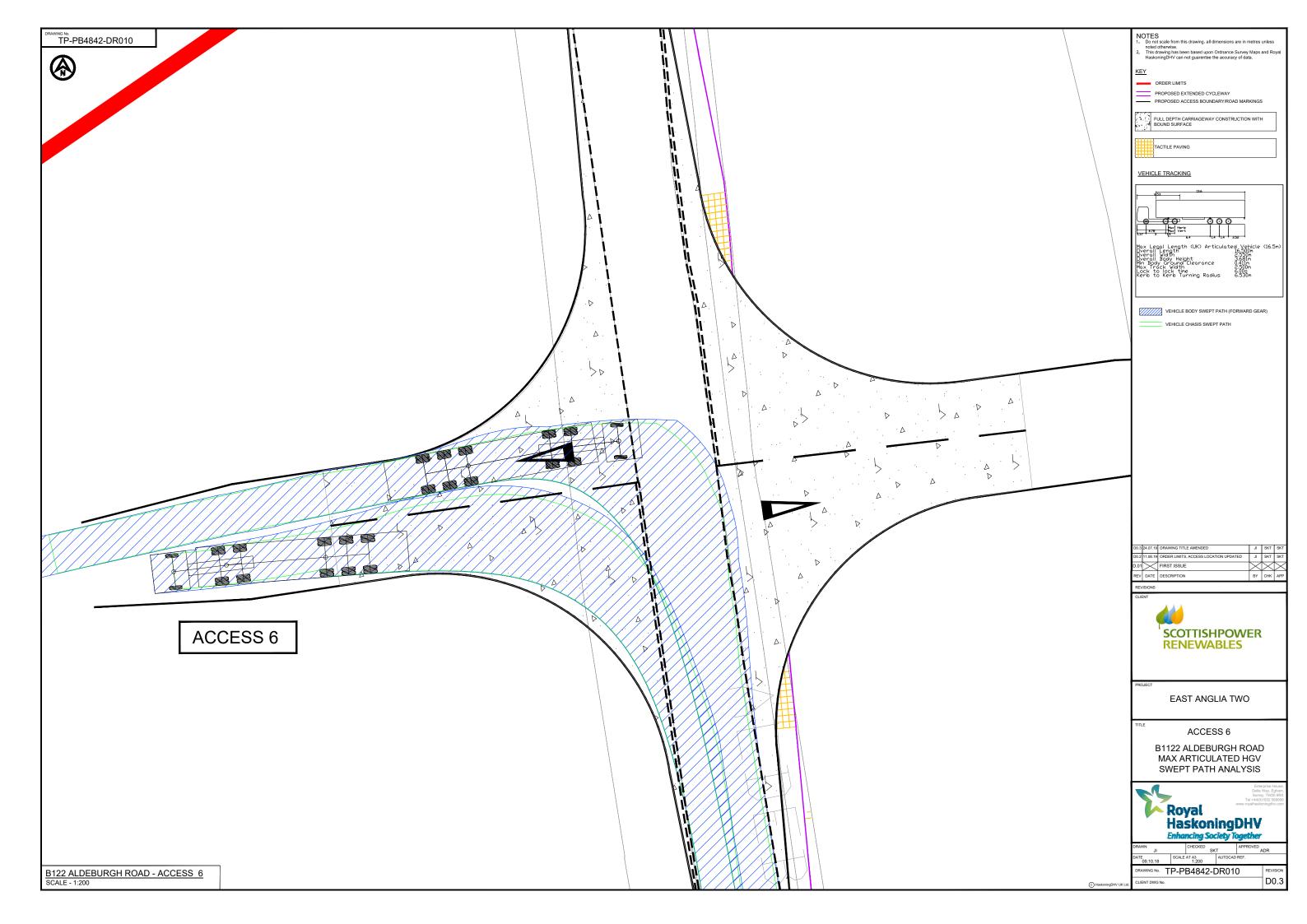


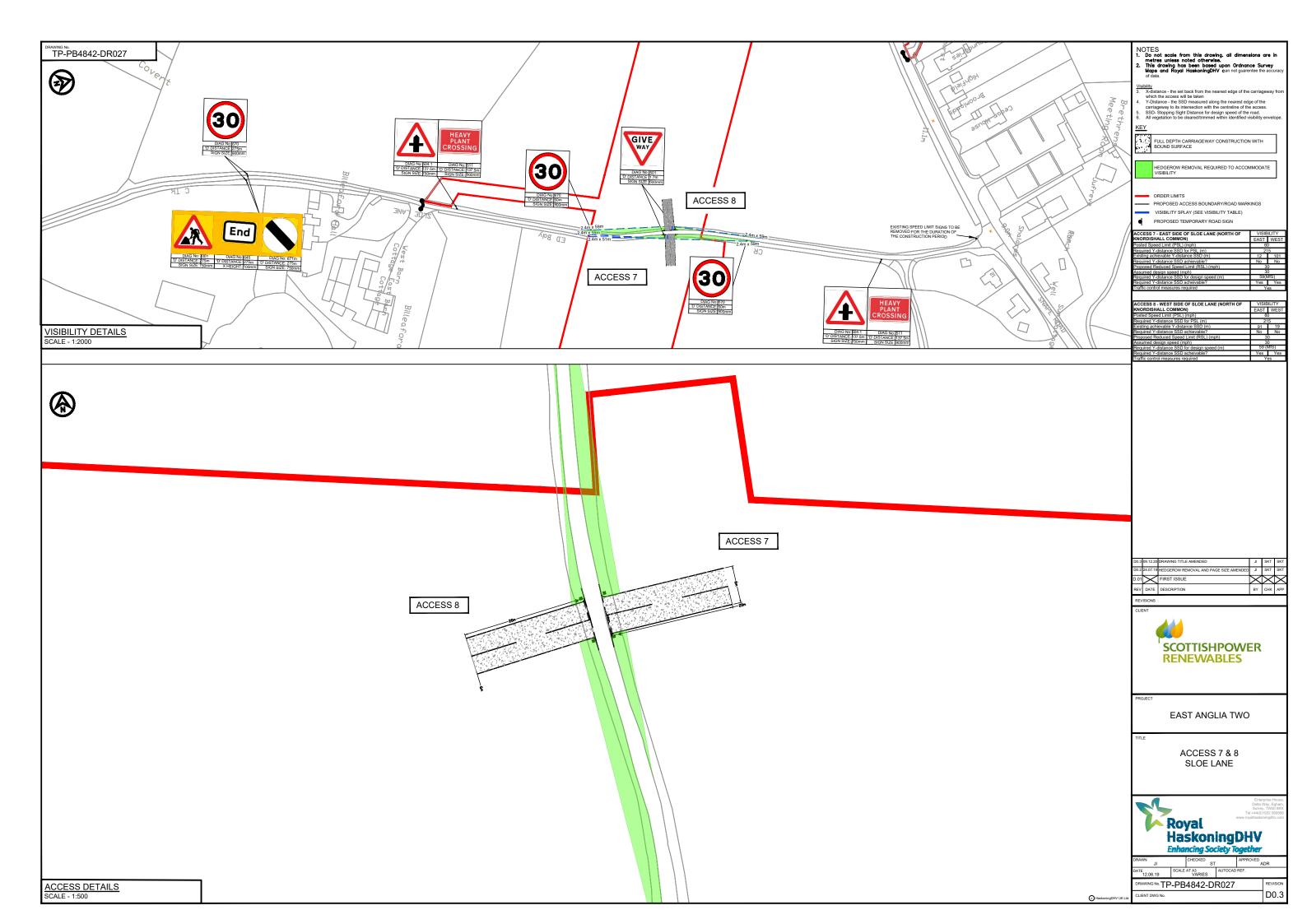


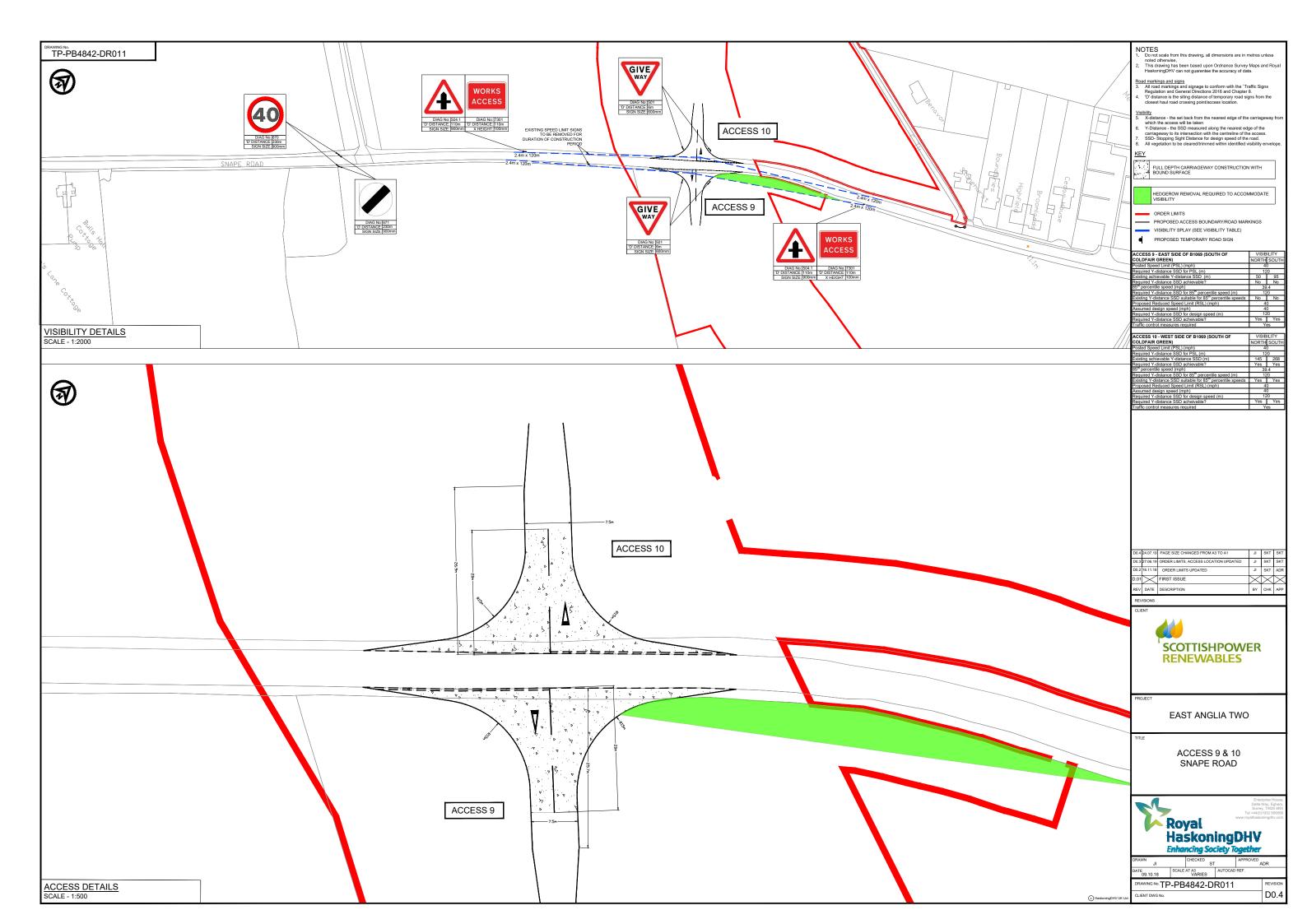


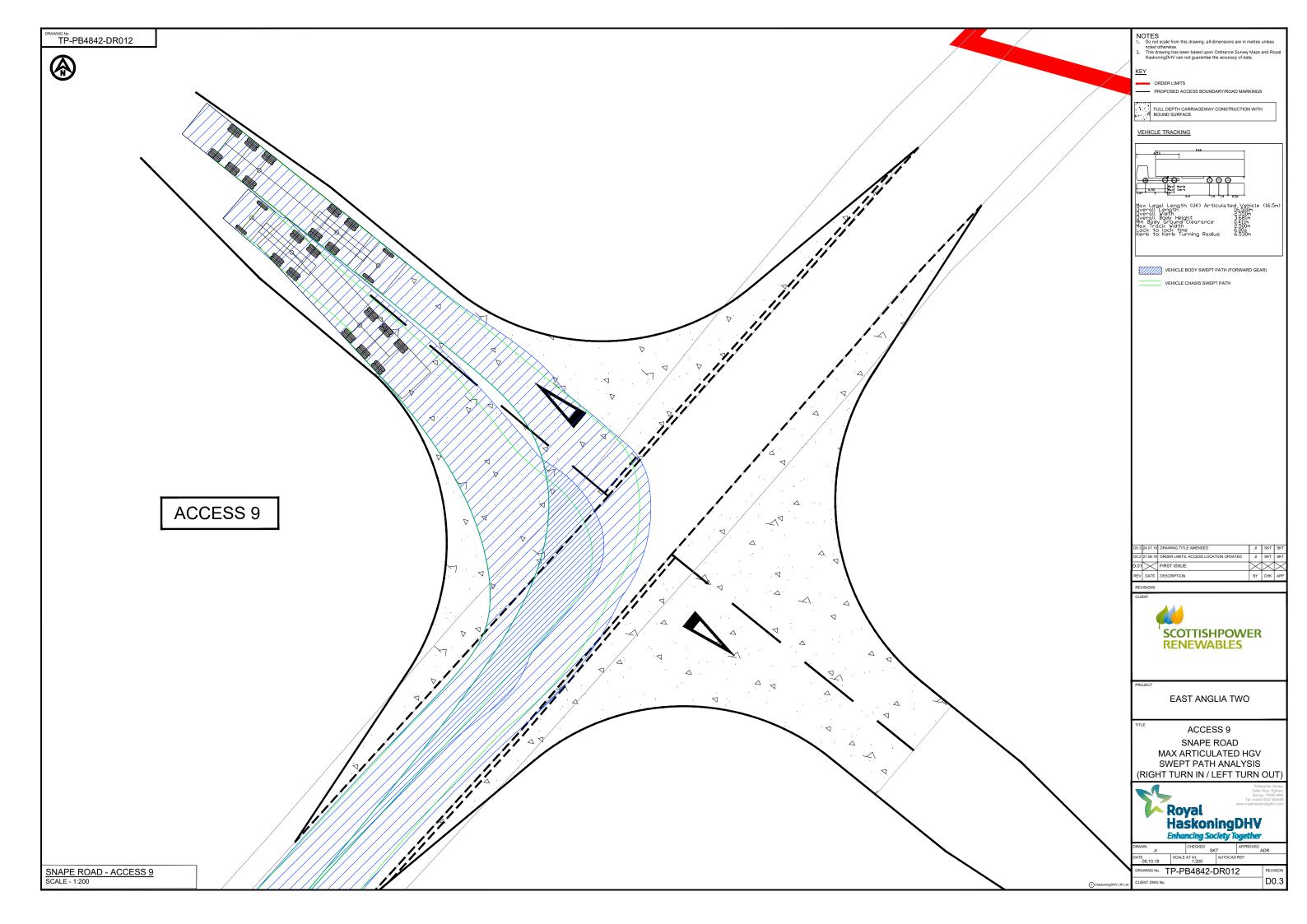


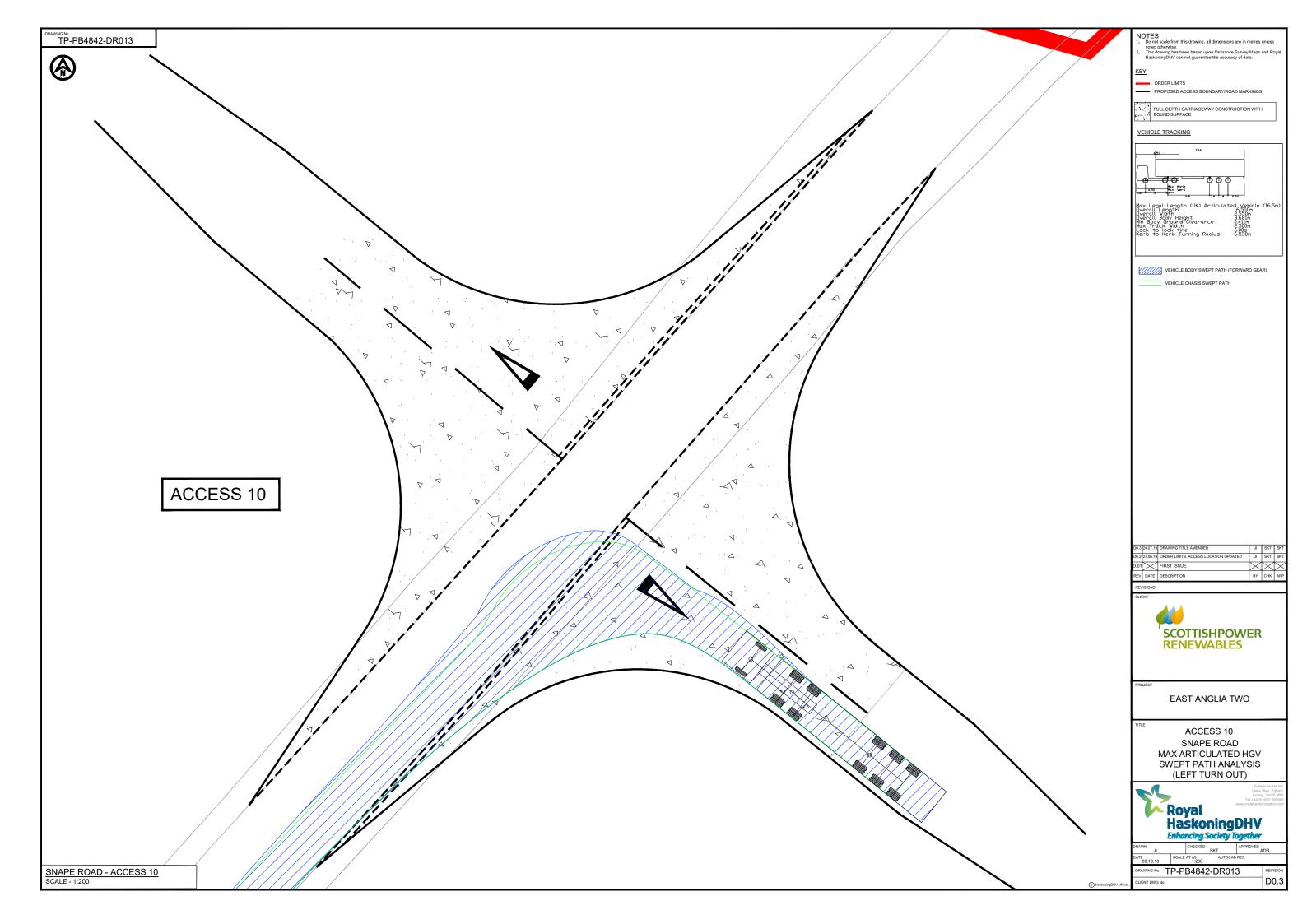


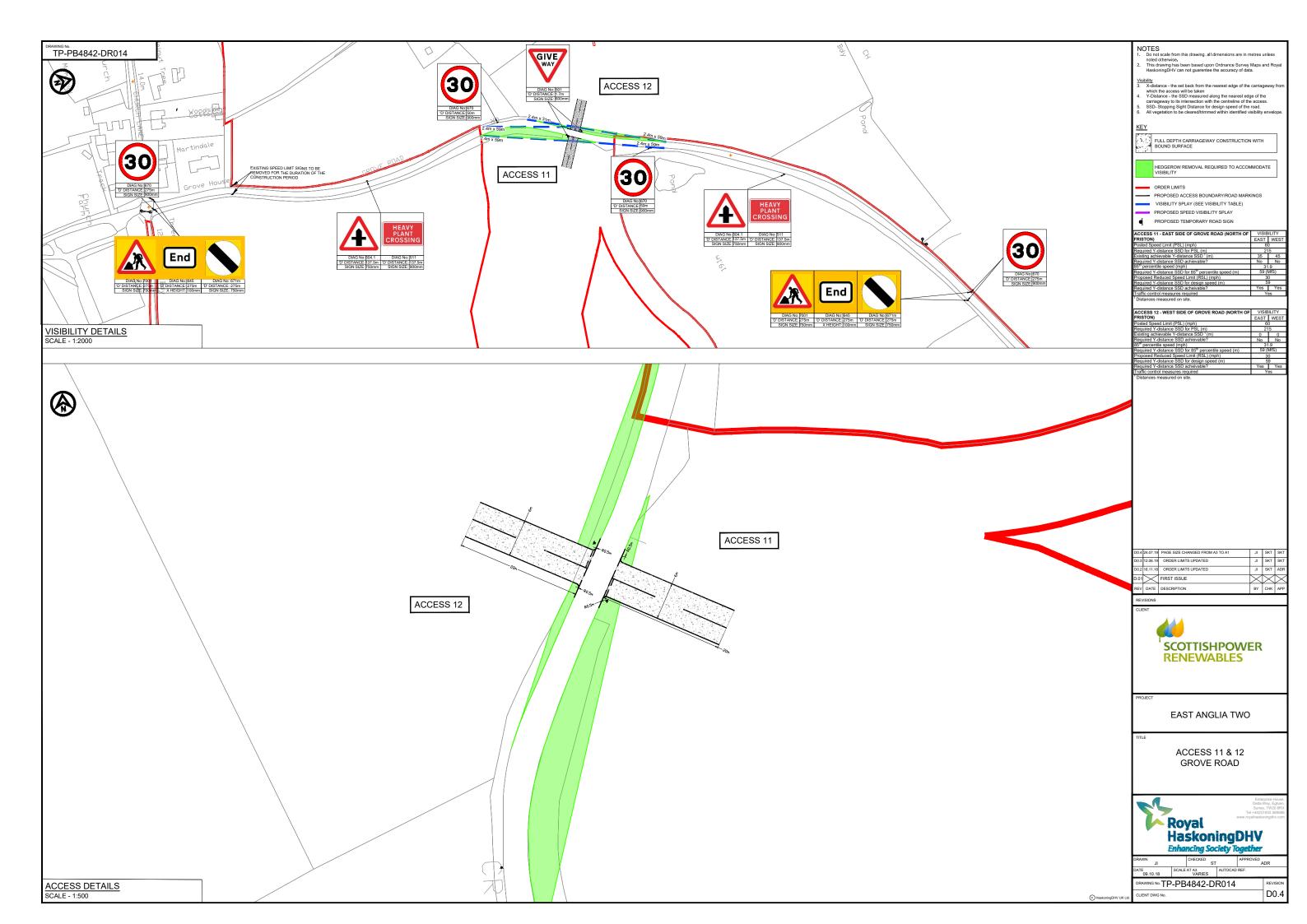


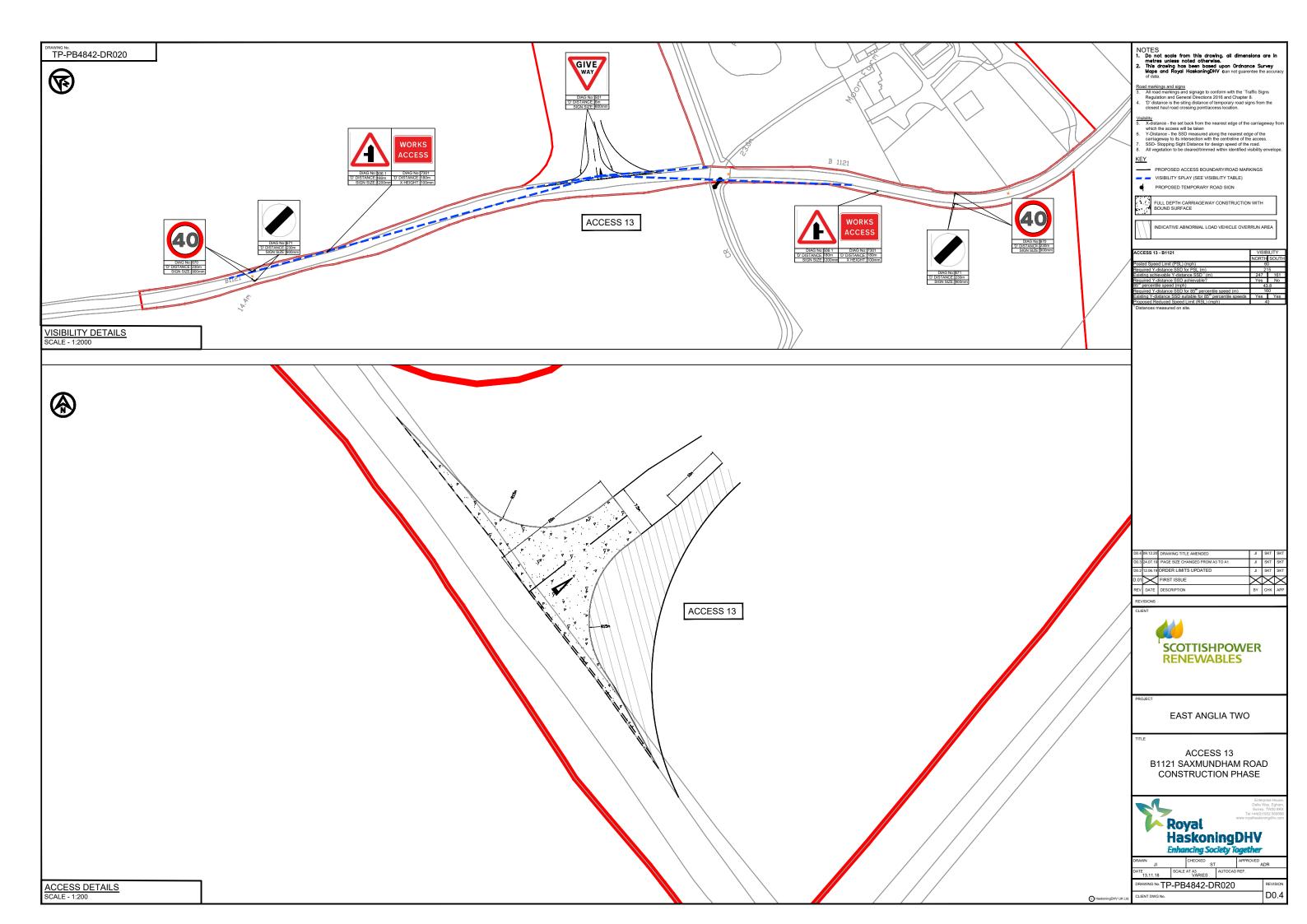


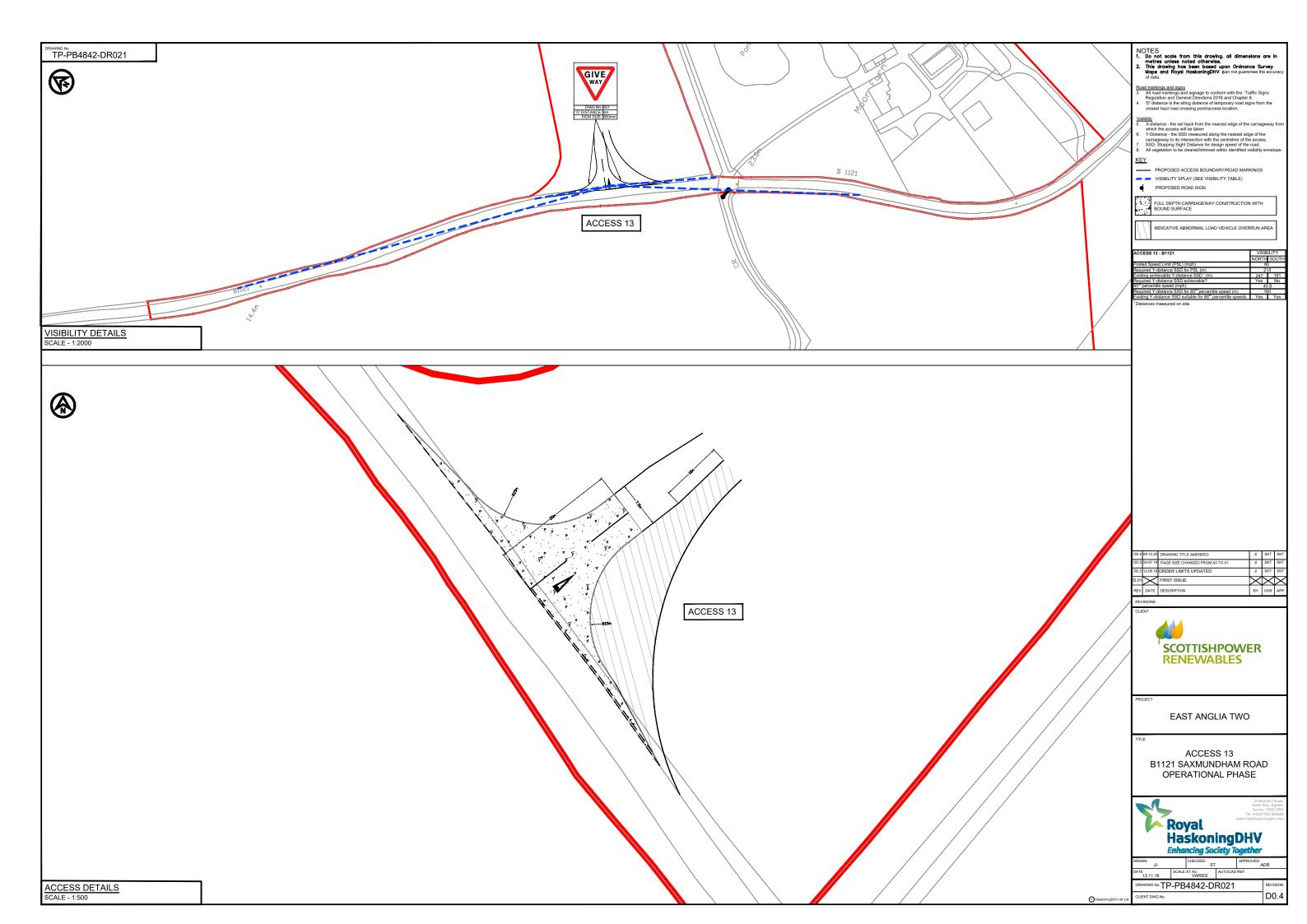


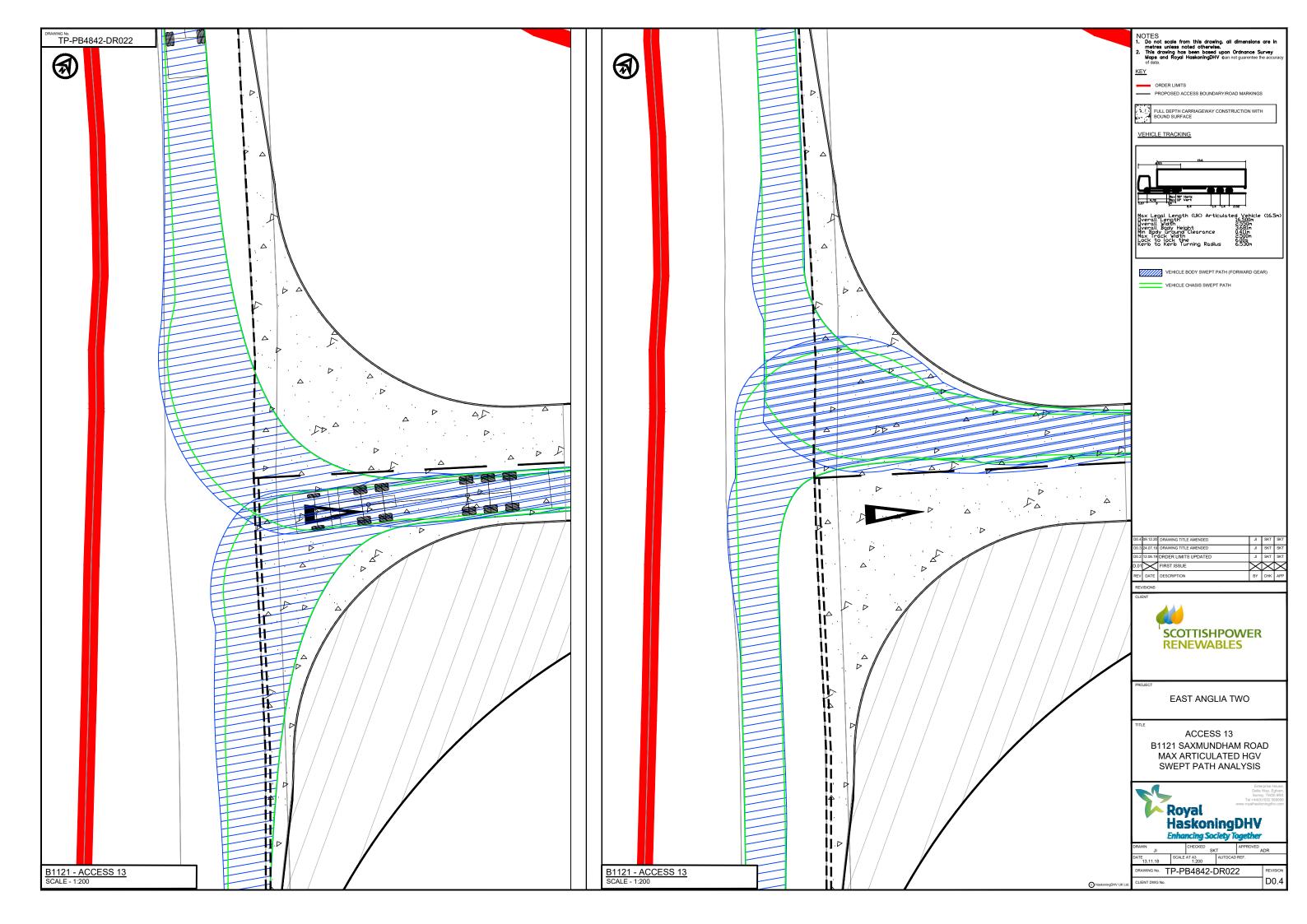














# **Annex 3: Stage 1 Road Safety Audit and Designers Response**

# **ROAD SAFETY AUDIT – DESIGNER'S RESPONSE**

| Project            | East Anglia TWO Offshore Windfarm |  |
|--------------------|-----------------------------------|--|
| Audit Reference    | rence T&P PB4842 RSA1             |  |
| Date of Audit      | Date of Audit 17.07.2019          |  |
| Audit Team Members | Vicky Seaton and Bryn Buck        |  |

| Paragraph No. /<br>Problem No. | Problem Accepted (Yes / No) | Recommended Measure<br>Accepted (Yes / No) | Notes, alternative Measure (describe)  |  |  |
|--------------------------------|-----------------------------|--|--|--|--|
| B1.1.1 / Problem 1             | Yes                         | Yes  | Details of a relocated bus stop will<br>be provided for the Stage 2 Road<br>Safety Audit (RSA)   |  |  |
| B1.2.1 / Problem 2             | Yes                         | Yes  | Detail of surfacing materials will be provided for the Stage 2 RSA.  |  |  |
| B2.2.1 / Problem 3             | Yes                         | Yes  | The Access Management Plan includes a requirement for the Contractor to maintain visibility splays for the duration of use of the access.  Details of the location of utilities' and any required diversions will be provided for the Stage 2 RSA.  Details of relocated signing will be provided for the Stage 2 RSA.  Details of signing sizes and carriageway offsets will be provided for the Stage 2 RSA.  Details of signing sizes and carriageway offsets will be provided for the Stage 2 RSA.  Details of relocated signing will be provided for the Stage 2 RSA.  Details of relocated signing will be provided for the Stage 2 RSA. |  |  |
| B2.3.1 / Problem 4             |                             |  |  |  |  |
| B5.1.1 / Problem 5             | Yes                         | Yes  |  |  |  |
| B5.1.2 / Problem 6             | Yes                         | Yes<br>Yes                                 |  |  |  |
| B5.1.3 / Problem 7             |                             |  |  |  |  |
| B5.1.4 / Problem 8             | Yes                         | Yes  |  |  |  |
| B5.1.5 / Problem 9             | Yes                         | Yes  | Details of signing sizes and carriageway offsets will be provided for the Stage 2 RSA.   |  |  |
| B5.2.1 / Problem 10            | Yes                         | Yes  | Details of amendments of the center line markings will be provided for the Stage 2 RSA   |  |  |

| Name: Sam Taylor |  |
|------------------|--|

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

# **East Anglia TWO Offshore Windfarm**

Stage 1 Road Safety Audit

Client: Scottish PowerRenewables

Reference: T&P PB4842 RSA1

Status: 01/Final

Date: 30 July 2019





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Document title: East Anglia TWO Offshore Windfarm

Document short title: East Anglia TWO - RSA1

Reference: T&P PB4842 RSA1

Status: 01/Final Date: 30 July 2019

Project name: East Anglia TWO Offshore Windfarm

Project number: PB4842 Author(s): Vicky Seaton

Drafted by: Vicky Seaton

Checked by: Bryn Buck

Date / initials: 05.07.2019 / BB

Approved by: Vicky Seaton

Date / initials: 17.07.2019

Classification

Project related

ISO 9001=ISO 14001
OHSAS 18001

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# **Appendices**

Appendix A – Documents forming the Audit Brief



#### 1 Introduction

- 1.1.1 Royal HaskoningDHV has been appointed by Scottish PowerRenewables to undertake a Stage 1 Road Safety Audit. This Audit refers to the construction access points and haul road crossings of the existing highway network for the proposed East Anglia TWO project. The locations of the 13 accesses audited are shown on **Figure 1** of this report.
- 1.1.2 The Audit Team for this Stage 1 Road Safety Audit was as follows:

#### **Audit Team Leader**

Vicky Seaton, BSc (Hons), MSoRSA, MCIHT, HE CoC HaskoningDHV UK Limited

#### **Audit Team Member**

Bryn Buck, MIHE HaskoningDHV UK Limited

- 1.1.3 The Road Safety Audit took place at the Birmingham office of Royal HaskoningDHV on Thursday 4<sup>th</sup> July, in accordance with information provided by Sam Taylor of Royal HaskoningDHV's Peterborough office. The Road Safety Audit comprised an examination of the documents listed in **Appendix A** of this report.
- 1.1.4 A site visit by the above Audit Team was undertaken on Wednesday 3<sup>rd</sup> July between 14:00 and 16:30. Weather conditions during the site visit were fine and surface conditions were dry.
- 1.1.5 The terms of reference for the Road Safety Audit are described in GG 119<sup>1</sup> The Road Safety Audit 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 design to any other criteria.
- 1.1.6 The Audit is concerned with 13 proposed accesses and haul road crossings and their interface with the existing public highway network. The access strategy for the proposed East Anglia TWO project includes both accesses and crossings. The accesses provide for access and egress to and from the existing public highway, whilst crossings would only permit construction traffic to cross from one side of the existing public highway to the other. No construction access or egress would be permitted from the crossing points.
- 1.1.7 Access 13 would also provide a permanent access to the onshore substation and National Grid substation and would therefore remain for the operational life of the proposed East Anglia TWO project.
- 1.1.8 The locations of any problems observed by the Audit Team are shown on **Figure 2** of this report.
- 1.1.9 A summary of Personal Injury Collision (PIC) data has been provided to the Audit Team as part of the competed Audit Brief. The PIC data identified collisions within the study area for the period between 1st February 2013 and 1st February 2018 inclusive.
- 1.1.10 The collision data indicates that two 'slight' collisions were recorded on the B1069 within proximity of Accesses and 10. The first 'slight' collision was due to a loss of control on the bend and the

<sup>&</sup>lt;sup>1</sup> GG 119 Road Safety Audit (Formerly HD 19/15), Revision 1, January 2019



second 'slight' collision was due to reduced visibility as a result of glare from the sun. No other collisions were recorded within proximity of the remaining 11 accesses/ crossings.

- 1.1.11 Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems identified. They are only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with GG 119, and in no way imply that a formal design process has been undertaken.
- 1.1.12 There may be alternative measures of addressing a problem which would be equally acceptable or superior in achieving the desired degree of mitigation and these should be considered when responding to this report.



# 2 Matters Arising from this Stage 1 Road Safety Audit

- 2.1.1 It is understood that the design is currently only at a planning stage, and as such there are a number of items the Audit Team would wish to see but which are not expected to be available for Audit at this stage. It is recognised that these details may not be available for Audit at this time. As such, the Design Team should submit a full Stage 2 Road Safety Audit alongside the detailed design package issued to the Local Highway Authority for approval.
- 2.1.2 Items to be considered by the detailed design may include:
  - Drainage;
  - Landscaping;
  - Public utilities;
  - Paving and kerbing;
  - Carriageway markings;
  - · Road signs; and
  - Lighting.

# **B1** Local Alignment

## **B1.1** Visibility

#### **B1.1.1 Problem 1**

Location: Access 5 from the B1122 Aldeburgh Road.

Summary: Stationary buses could restrict forward visibility of oncoming vehicles for drivers egressing from Access 5, leading to the potential for collisions.

Description: An existing bus stop is located to the south of the existing access to Aldringham Court. When a bus is stationary at the bus stop the forward visibility of vehicles from the north (travelling south) from Access 5 would be restricted by the stationary bus. Reduced visibility, due to the stationary bus could lead to vehicles pulling out of Access 5 into the path of an oncoming vehicle, potentially leading to side impact collisions.

#### RECOMMENDATION

Relocate the existing bus stop to ensure it is located outside of the proposed visibility splay.

30 July 2019 **EAST ANGLIA TWO - RSA1** T&P PB4842 RSA1

3



#### **B1.2** New/ Existing Road Interface

**B1.2.1 Problem 2** 

Location: Access 1 from Sizewell Gap road.

Summary: Accelerated wear of the carriageway could result in premature highway failure leading to the potential for potholes to form which could destabilise cyclists and motorcyclist leading to personal injury.

Description: The Audit Team observed cracking of the existing highway in the vicinity of Access 1. The addition of turning HGV traffic at this location could lead to an acceleration of the wear of the carriageway surface and the potential for the carriageway to 'pick out' and potholes to form. If cyclists or motorcyclists were to collide with these potholes the rider could be destabilised, potentially leading to a fall and personal injury.



Looking west along Sizewell Gap road, an example of existing carriageway failure

#### RECOMMENDATION

Resurface/ repair the carriageway opposite Access 1 to prevent premature failure of the carriageway.

#### B2 General

#### **B2.1** Departures from Standard

2.1.3 The Audit Team has not been made aware of any Departures from Standard at this Stage.



#### **B2.2** Landscaping

#### B2.2.1 Problem 3

Location: Accesses 1, 7, 8, 9, 10, 11, 12 and 13.

Summary: Poor maintenance of existing vegetation alongside the highway could reduce the distance drivers can see an oncoming vehicle from new points of access, leading to the potential for side impact collisions.

Description: There are existing hedgerows and trees located alongside the road in the vicinity of Accesses 1, 3, 4, 7, 8, 9, 10, 11, 12 and 13. If these hedgerows are not regularly maintained, there is the potential for the vegetation to obscure visibility of oncoming vehicles. Reduced visibility, due to overgrown vegetation could lead to vehicles pulling out of the accesses in to the path of an oncoming vehicle, potentially leading to side impact collisions.

#### RECOMMENDATION

Ensure that visibility splays are maintained.

#### **B2.3** Public Utilities/ Services Apparatus

#### **B2.3.1** Problem 4

Location: Multiple locations as follows:

- Access 3 to the north of the B1353;
- Access 8 to the west of Sloe Lane; and
- Access 10 to the west of the B1069 Snape Road.

Summary: Insufficient offsets from existing telegraph poles to turning vehicles could lead to collisions.

Description: Telegraph poles are currently installed alongside the road in the proximity of Accesses 3, 8 and 10. It is not clear from the drawings provided to the Audit Team where the access would be located in relation to the telegraph poles. The Audit Team therefore considers that there is a risk that vehicles manoeuvring into or out of the proposed accesses could collide with the telegraph pole. Furthermore, it is not clear if larger vehicles could safely pass under the cables.

#### RECOMMENDATION

Ensure that the final access designs include for appropriate offsets between the new accesses and existing telegraph poles. In addition, ensure that all types of vehicles can pass safely under the cables.

#### **B3** Junctions

2.1.4 The Audit Team did not identify any junction related safety problems at this stage.

#### B4 Walking, Cycling and Horse Riding

2.1.5 The Audit Team did not identify any walking, cycling and horse-riding related safety problems at this stage.



# B5 Traffic Signs, Carriageway Markings and Lighting

#### **B5.1** Traffic Signs

**B5.1.1** Problem 5

Location: Access 1 from Sizewell Gap road.

Summary: Insufficient offsets between an existing sign and turning vehicles could lead to collisions.

Description: A shared use footway/ cycleway sign is currently installed alongside the road in the proximity of Access 1. It is not clear from the drawings provided to the Audit Team where the access would be located in relation to the sign. The Audit Team therefore considers that there is a risk that vehicles turning into or out of the proposed accesses could collide with the sign.

#### RECOMMENDATION

Ensure that the final access design includes for an appropriate offset between the new access and existing sign.

#### **B5.1.2 Problem 6**

Location: Accesses 1 and 2 from Sizewell Gap road.

Summary: Temporary signage located within the existing footway/ cycleway along Sizewell Gap Road could reduce the effective width leading to collisions.

Description: Temporary signing arrangements are proposed in the vicinity of Access 1 and Access 2. If positioned within the existing shared use footway/ cycleway the signs could reduce the effective width leading to the potential for conflict and collisions between pedestrians and cyclists.

#### RECOMMENDATION

Ensure that the final sign locations do not impact upon the effective width of the footway/ cycleway and that mounting heights allow cyclists to pass under the signs.

#### B5.1.3 Problem 7

Location: Access 5 from the B1122 Aldeburgh Road.

Summary: Temporary signage located within the existing footway along Aldeburgh Road could reduce the effective width leading to collisions.

Description: Temporary signing arrangements are proposed in the vicinity of Access 5. If positioned within the existing footway, the signs could reduce the effective width. A reduced footway width could potentially force users with pushchairs or in wheelchairs and mobility scooters to have to take to the road to navigate around the signs. Users travelling in the road could be struck by passing vehicles.

#### RECOMMENDATION

Ensure that the final sign locations do not impact upon the effective width of the footway.



B5.1.4 Problem 8

Location: Access 6 from the B1069 Snape Road.

Summary: An existing 'Elderly people' crossing sign could restrict visibility for drivers departing from Access 6, potentially leading to side impact collisions.

Description: An existing 'Elderly people' crossing sign is located to the south of Aldringham Court. The existing sign would be located within the visibility splay for Access 6, potentially reducing the forward visibility of oncoming vehicles. Reduced forward visibility from Access 6 could result in vehicles pulling out of the access across the path of an oncoming vehicle, leading to side impact collisions.

#### RECOMMENDATION

Relocate the existing 'Elderly people' crossing sign away from the visibility splay or raise the height of the sign assembly to allow drivers to see approaching vehicles under the sign face.

#### **B5.1.5 Problem 9**

Location: Multiple locations as follows:

- Accesses 7 and 8 from Sloe Lane:
- Accesses 11 and 12 from the B1069 Snape Road; and
- Access 13 from B1121 Saxmundham Road.

Summary: New signs placed close to the edge of the highway or within highway could be vulnerable to collisions with passing vehicles.

Description: Temporary signage is proposed on the approach to all new accesses. accesses. The existing highway and verges on the approach to Accesses 7, 8, 11, 12 and 13 are narrow, this could result in signs being placed within or close to the edge of the highway. Signs placed close to or within the highway could lead to collisions between vehicles and the sign or head on collisions between vehicles as drivers stray into the oncoming lane to avoid the signs.

#### RECOMMENDATION

Ensure that the final sign designs consider the available verge width maintaining a minimum 450mm clearance from the edge of the road to the edge of the sign face.

#### **B5.2** Carriageway Markings

#### **B5.2.1** Problem 10

Location: Access 13 from the B1121 Saxmundham Road.

Summary: The existing centre line markings along the B1121 Saxmundham Road finish short of Access 13. A centre line would reduce the potential for drivers departing from Access 13 to stray into the oncoming lane.

Description: An existing carriageway centre line is provided to the south of the proposed Access 13 in the vicinity of the junction with Kiln Lane. The centre line however terminates to the south of the proposed Access 13. The Audit Team were concerned that the presence of a centre line would assist drivers staying in lane when departing from Access 13. Without a centre line, drivers departing Access 13 may miss judge their position and stray in to the oncoming lane, potentially leading to head on collisions.

#### RECOMMENDATION

Extend the existing centre line to encompass Access 13.



#### 3 Audit Team Statement

3.1.1 We certify that this Road Safety Audit has been carried out in accordance with GG 119.

#### **Audit Team Leader**

Vicky Seaton, BSc (Hons), MSoRSA, MCIHT, HE CoC
Principal Transport Planner
Royal HaskoningDHV

5<sup>th</sup> Floor Newater House
11 Newhall Street
Birmingham

Signed: REDACTED
Dated: 17.07.2019

#### **Road Safety Audit Team Member**

Bryn Buck, MIHE
Senior Technician & Road Safety Auditor
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Portland Street
Manchester
M1 3LF
United Kingdom

Signed: REDACTED

Date: 04.07.2019

Appendix A

**Documents Forming the Audit Brief** 



# **APPENDIX A**

# **Documents Forming the Audit Brief**

#### **DRAWING NUMBER**

#### TP-PB4842-DR001 Rev D0.5 TP-PB4842-DR002 Rev D0.2 TP-PB4842-DR003 Rev D0.3 TP-PB4842-DR004 Rev D0.2 TP-PB4842-DR007 Rev D0.4 TP-PB4842-DR008 Rev D0.4 TP-PB4842-DR009 Rev D0.2 TP-PB4842-DR010 Rev D0.2 TP-PB4842-DR011 Rev D0.3 TP-PB4842-DR012 Rev D0.3 TP-PB4842-DR013 Rev D0.2

TP-PB4842-DR014 Rev D0.3

TP-PB4842-DR020 Rev D0.2

TP-PB4842-DR021 Rev D0.2

TP-PB4842-DR022 Rev D0.2

#### **DRAWING TITLE**

Access 1 Access 1 SPA Access 2 Access 2 SPA Access 3 and 4 (Crossings) Access 5 and 6 Access 5 SPA Access 6 SPA Access 7 and 8 (Crossings) Access 9 and 10 Access 9 SPA Access 10 SPA Access 11 and 12 (Crossings) Access 13 (construction phase access) Access 13 (operational phase access) Access 13 SPA

#### **DOCUMENTS**

Safety Audit Brief

#### 

☐ Collision plot☒ Traffic flow / modelling data☐ Pedestrian flow / modelling data

Speed survey data

Other documents

# **DETAILS** (where appropriate)

| Included within the audit brief |
|---------------------------------|
| Included within the audit brief |
| Included on drawings            |

# **Figures** Figure 1 – Site Location Plan Figure 2 – Problem Location Plan



