Onshore Converter Station

Traffic Management Plan

DCO Requirement 16 (3) and 27 (1)(a)

(Applicable to Work Numbers 62 to 69)

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1. INTRODUCTION AND SCOPE

1.1 Project Overview

1. East Anglia Three Limited (EATL) was awarded a Development Consent Order (DCO) by the Secretary of State, Department of Business, Energy & Industrial Strategy (DBEIS) on 7 August 2017 for the East Anglia THREE Offshore Windfarm (EA THREE). The DCO granted consent for the development of a 1,200MW offshore windfarm and associated infrastructure and is live until 28 August 2022.

2. The DCO has now been subject to three non-material variations:

- In March 2019 EATL submitted a non-material change application to DBEIS to amend the consent to increase the maximum generating capacity from 1,200MW to 1,400MW and to limit the maximum number of gravity base foundations to 100. In June 2019 DBEIS authorised the proposed change application and issued an Amendments Order.
- In July 2020 EATL submitted a second non-material change application to DBEIS to amend the parameters of its offshore substations (reducing the number of these to one) and wind turbines (a decrease in the number of turbines and an increase in their hub height and rotor radius). On 15 April 2021 DBEIS authorised this proposed change application and issued an Amendments Order.
- In August 2021 EATL submitted a third non-material change application to DBEIS to amend the consent to remove the maximum generating capacity of 1,400MW and to amend the parameters of its wind turbines (a decrease in the number of turbines and an increase in their hub height and rotor radius). The application is currently in the consultation phase.

3. The onshore construction works associated with EA THREE will have a capacity of 1,400MW and transmission connection of 1,320MW. The construction works will be spread across a 37km corridor between the Suffolk coast at Bawdsey and the converter station at Bramford, passing the northern side of Ipswich. As a result of the strategic approach taken, the cables will be pulled through pre-installed ducts laid during the onshore works for East Anglia ONE Offshore Windfarm (EA ONE), thereby substantially reducing the impacts of connecting to the National Grid (NG) at the same location. The infrastructure to be installed for EA THREE, therefore, comprises:

- The landfall site with one associated transition bay location with two transition bays containing the connection between the offshore and onshore cables;
- Two onshore electrical cables (single core);
- Up to 62 jointing bay locations each with up to two jointing bays;
- One onshore converter station, adjacent to the EA ONE Substation;
- Three cables to link the converter station to the National Grid Bramford Substation;
- Up to three onshore fibre optic cables; and
- Landscaping and tree planting around the onshore converter station location.

4. Since the granting of the DCO, the decision has been made that the electrical connection for EA THREE will comprise a high voltage direct current (HVDC) cable rather than a high voltage alternating current cable and, therefore, the type of substation that will be required is a HVDC converter station. The substation will be referred to here as a 'converter station' and this amended terminology has been agreed with the relevant authorities on 15 October 2020. It has also been determined that only one converter station will be constructed rather than two and that the converter station will be installed in a single construction phase.

1.2 Purpose and Scope

5. This Traffic Management Plan (TMP) sets out the standards and procedures for managing the impact of traffic during the construction works for the East Anglia THREE Converter Station Stage, to facilitate safe use of the existing road network. This document has been produced to discharge DCO Requirements 16 (3) and 27 (1) (c) which state:

> **Highway accesses and improvements**
> **16. (3)** *No stage of the connection works may commence until for that stage, a scheme of traffic management measures (in accordance with table 2 of the outline traffic management plan) has been submitted to, and approved by the relevant planning authority in consultation with the relevant highway authority. The scheme must describe whether the proposed measures are to be temporary or permanent*.

Traffic
27. (1) *No stage of the connection works may commence until for that stage the following have been submitted to and approved by the relevant local planning authority in consultation with the relevant highway authority—*
(a) a traffic management plan which must be in accordance with the outline traffic management plan;

6. The scope of this document relates to the TMP associated with the construction of the Converter Station Stage. This stage comprises Work No.s 62 to 69, located to the north of the existing NG substation and adjacent to the EA ONE Substation (Figure 1 Site Context Plan). Separate TMPs have been produced for each stage of the EA THREE onshore works and are provided under separate cover.

7. The purpose of the TMP is to ensure that the traffic impacts of the development remain within those assessed by the Environmental Statement (ES). This TMP takes account of the route surveys, assessments and route evaluations undertaken and has been developed in accordance with the Outline Traffic Management Plan (Document Reference 8.7 of the DCO application) and Access Management Plan (EA3- GRD-CON-PLN-IBR-000104).

8. Construction works at the Converter Station will be some of the first onshore connection works to commence. The access track and temporary laydown will be constructed in Summer 2022 with the remaining works being undertaken from Q3 2023.

9. The converter station and cable Principal Contractors shall manage all construction traffic in accordance with this document, the Access Management Plan (EA3- GRD-CON-PLN-IBR-000104) and the Travel Plan (EA3-GRD-CON-PLN-IBR-000115). The measures contained herein will be adhered to by the Principal Contractors (and thereby all tiers of construction workforce) and the implementation and compliance will be monitored by the Construction Management Team. These measures will only be revised with the agreement of the Local Highway Authority (SCC).

10. Mitigation to minimise noise or vibration impacts are set out in the Construction Noise and Vibration Management Plan (EA3- GRD-CON-PLN-IBR-000113), provided under separate cover. Management of dust emissions and management of Public Rights of Way (PRoW) are set out in the converter station Code of Construction Practice (EA3-GRD-CON-PLN-IBR-000110).

EATL will work with the SCC to ensure appropriate resourcing is in place to monitor compliance with the provisions of this TMP.

2. ABBREVIATIONS

AADT	Annual Average Daily Traffic
CCS	Consolidated Construction Site
CLO	Community Liaison Officer
DBEIS	Department of Business, Energy and Industrial Strategy
DC	Direct Current
DfT	Department for Transport
DCO	Development Consent Order
DMRB	Design Manual for Roads & Bridges
EA ONE	East Anglia ONE Offshore Windfarm
EA THREE	East Anglia THREE Offshore Windfarm
EATL	East Anglia THREE Limited
ES	Environmental Statement
ESDAL	Electronic Service Delivery for Abnormal Loads system
HGV	Heavy Goods Vehicle
HVDC	High Voltage Direct Current
MSDC	Mid Suffolk District Council

MW	Megawatt
NG	National Grid
PRoW	Public Rights of Way
SCC	Suffolk County Council Local Highway Authority
TCo	Traffic Co-ordinator
TMP	Traffic Management Plan

3. CONSTRUCTION DETAILS

3.1 Enabling Works

11. The onshore construction works will commence with the enabling works, which comprises the establishment of the temporary laydown area (Work No 65) and the access to this from the existing EA ONE access road. The temporary laydown area will be directly northeast of the converter station and will include temporary offices, welfare, car parking, materials and equipment storage. At the start of the works the onshore converter station compound and temporary laydown area will be temporarily fenced in accordance with the Fencing and Enclosures Plan (EA3-GRD-CON-PLN-IBR-000106) and a security cabin will be installed at the main access gate.

12. Following any necessary ecological mitigation, topsoil will be stripped from the access road and temporary laydown area and stored at specific storage locations as to avoid cross contamination with other materials. Topsoil storage and management will be compliant with the recommendations and requirements set out in the Onshore Converter Station Landscape Management Plan (EA3- EA3-GRD-CON-PLN-IBR-000103). Topsoil will be stored to one side of the working area, in such a way that it is not mixed with any subsoil. Typically this would be stored as an earth bund of a maximum height of two metres, to avoid compaction from the weight of the soil. Storage time will be kept to a minimum, to prevent the soil deteriorating in quality and the topsoil bunds seeded to prevent windblow. Topsoil stripped from different fields will be stored separately, as would soil from specific hedgerow banks or woodland strips.

13. The construction of an access road typically involves the placement of suitable graded imported stone material onto a suitable subgrade, potentially with a reinforcing geogrid and/or a geotextile, however other methods such as soil stabilisation may be used if considered appropriate. Following the initial topsoil stripping, the on-site access road will be installed for a width of 6m.

14. The enabling works will also include installation of surface water drainage for the access road and temporary laydown area, in accordance with the Surface Water and Drainage Management Plan (EA3-GRD-CON-PLN-IBR-000107). Foul water drainage during this initial period will be via portable welfare facilities, with a tank that will be emptied on a weekly or bi-weekly basis.

3.2 Construction

15. The EA THREE onshore converter station will be located within a fenced compound (maximum 157m by 186m) (Work No. 67), immediately to the east of the East Anglia ONE Substation and to the north of the existing NG Bramford Substation. The converter station will contain electrical equipment including power transformers, switchgear, reactive compensation equipment, harmonic filters, cables, lightning protection masts, control buildings, communications masts, backup generators, access, fencing and other associated equipment, structures or buildings. The converter station will have a compact layout, with the majority of the equipment contained in buildings not incongruous to their setting.

16. The construction of the converter station will comprise a number of key stages, including: platform upfill to finished level (approx. 54m AOD) foundations and building construction and equipment installation and commissioning.

17. The main site access has already been constructed as part of the EA ONE works, however, an internal service road from this will require installation.

18. The enabling works will include grading and earthworks to remove any unsuitable materials from the converter station area and to build up with suitable fill material to establish a formation level for the converter station construction. The materials excavated will be reused on site as engineering fill or landscaping depending on material properties.

19. Following the completion of the site grading, works will commence with the excavations for ducting and the foundations for the buildings and external plant. The building will largely comprise steel, concrete or masonry and cladding materials. The structural steelwork will be fabricated and prepared off site and delivered to site for erection activities using cranes. The composite or cassette cladding panels (e.g. Kingspan) will be delivered to site ready to erect and be fixed to the steelwork.

20. The civil works will be followed by the installation and commissioning of the electrical equipment. The large transformers will be filled on site. The smaller electrical components will be constructed on site using small mobile plant and lifting apparatus.

3.3 Cable Installation

21. Works No.s 63 and 66 will comprise the installation in open trenches of cables to connect the Converter Station to the nearby National Grid Bramford Substation. Construction activities for the installation of the cable in open trenches will be undertaken within a temporarily fenced strip of land, referred to as the working width.

22. The cable route into the Converter Station from Work No. 64 through Work No 63 was not known at the time of the preparation of the Environmental Statement and it was considered at that time that this may also be installed using open trenches. The ducts have now, however, been installed during the construction works for EA ONE to end within Work No. 67 (the converter station site). There will, therefore, be no requirement, as originally anticipated, to open trench these through Work no. 63 to the Converter Station.

23. Works in Work No. 62 will also include the installation of haul road to reach a jointing bay in the adjacent Work No. 58 (not part of this stage) to the east. This will follow the route of the EA ONE haul road as shown in Figure 2.

24. In addition, all ducts to be used for EA THREE, which were installed during the EA ONE construction works, will require to be 'proved' to ensure that they are intact and free of debris. This will generally be undertaken by the use of foam pigs driven under pressure from jointing bay to jointing bay. Each stretch of duct that was installed using HDD will, however, require duct-proving excavations at each end to allow the use of smaller diameter foam pigs, due to a difference in the diameter of these compared to the ducting installed using open trench techniques.

3.4 Construction Traffic

3.4.1 HGV Movements

25. Chapter 27 Traffic and Transport of the ES for the East Anglia THREE project has assessed the environmental impact of traffic on the routes within the onshore highway study area across a range of effects, namely:

- Pedestrian amenity;
- Severance;
- Road safety; and
- Driver delay.

26. The assessment was predicated on a TMP being implemented as embedded mitigation that would manage the daily delivery profiles and control movements and routeing. The ES included peak hour assessments (i.e. between 08:00-09:00 and 17:00-18:00) which gives details of the maximum peak hour HGV movements. The overall assessment concluded that appropriate TMP measures would ensure that the environmental impacts would not be 'significant', including with respect to driver delay, i.e. congestion on the highway network and junctions in proximity to the converter station site.

27. Since the preparation of the ES in 2015, lessons learnt from the East Anglia TWO and East Anglia ONE North Offshore Windfarm' Environmental Statements and DCO Examination and following discussions with the Principal Contractors for the Converter Station (Siemens Energy) and cable (NKT) regarding likely car occupancy, it has become clear that a car occupancy of 2.5 is unlikely to be achievable. It was, therefore, agreed with SCC at the Traffic Working Group 3 (15 December 2021), that a target of 1.5 personnel per vehicle would be more appropriate, with a stretch target of 2.5 to also be considered.

28. Following further design works by the selected converter station and cable Principal Contractors (Siemens Energy and NKT UK respectively), an updated transport assessment (the scope for which is set out in paragraph 22) has now been carried out and is included here as Appendix 2 (the Traffic and Transport Technical Note). The Traffic and Transport Technical Note provides an overview of the changes to the vehicle numbers associated with the construction of the Converter Station Stage and also the Paper Mill Lane Works and nearby cable works in order to consider all project-related traffic on the road network to be used for the Converter Station Stage.

29. The Traffic and Transport Technical Note sets out the following:

- A summary of the assessment assumptions and resulting vehicle numbers associated with the construction of the EA THREE Converter Station Stage, Paper Mill Lane Works and also relevant cable works as identified in the ES;
- A summary of the assessment of vehicular impact associated with the construction of EA THREE onshore connection works, on the highway network in the ES;
- A summary of the potential assessment requirements of vehicular impact associated with the construction of EA3 on the highway network, following the issue of the DCO;
- A summary of the difference between the vehicle movements identified in the ES and the actual vehicle movements identified by Siemens Energy and NKT UK, based on a lower car occupancy (1.5) than presented in the ES (2.5), for a robust assessment;
- A summary of the anticipated total vehicle movements associated with the construction of EA THREE including the revised vehicle movements, at the locations potentially requiring assessment on the highway network;
- A review of the likely impacts at the sensitive junctions on the highway network that are likely to be used by traffic associated with the construction of the EA THREE Converter Station Stage and Paper Mill Lane Works (including for relevant cable works).
- A junction capacity assessment is included of the identified sensitive junction (Junction 1: A14/B1113 Claydon Interchange) to test the impact of the confirmed EA THREE traffic data at this junction, using the most recent baseline traffic data available and incorporating vehicle movements associated with various committed developments. The assessment confirmed there would be no capacity issues at the junction with the addition of the EA THREE vehicle movements.
- A review of road safety on the routes that would be used by the construction traffic associated with the construction of the Converter Station Stage, Paper Mill Lane Works and the relevant cable installation works (Sections 8 to 11) shows there are no road safety issues that would be exacerbated by an increase in traffic flows and that no additional traffic management measures are required.

30. The maximum daily and evening peak vehicle movements presented in Appendix 2 are summarised in Table 3-1. This is based on a car occupancy of 1.5, which has been identified from lessons learnt from the East Anglia TWO and East Anglia ONE North Offshore Windfarm' Environmental Statements and DCO Examinations, advice from SCC and through discussions with Siemens Energy and NKT UK, who have suggested that a 2.5 car occupancy is unlikely to be achievable.

Table 3-1 Confirmed Maximum Figures (Siemens Energy and NKT UK)

	Employees				HGV Movements	
	Number		Vehicle Movements			
	Daily	PM Peak	Daily	PM Peak	Daily	PM Peak
Converter Station	130	130	174	87	68	8
Paper Mill Lane Works including relevant cable installation works (Sections 8 to 11)	60	60	80	40	20	2
	190	**190**	**254**	**127**	**88**	**10**

31. A Construction Access Route Assessment (EA1-CON-E-SPR-001370-0) was undertaken prior to the construction of the EA ONE onshore electrical connection to evaluate the Local Access Routes of the construction road network, which do not form part of the Suffolk Lorry Route Network. The assessment included:

- An on-site engineering survey;
- An assessment and route evaluation of the construction access routes for the delivery of equipment, construction plant, materials; and
- The construction workforce along the Local Access Routes.

32. The assessment determined that the local access roads identified present viable and safe routes for use by the EA ONE construction traffic over the duration of the onshore construction works, subject to the implementation of mitigating measures and temporary

road improvements. This assessment has been reviewed with respect to EA THREE and it has been established that there is no need for re- assessment. Mitigation measures proposed to address the issues identified within the Construction Access Route Assessment and Transport Assessment have been developed in sufficient detail within this TMP to enable the Highway Authority, and other affected parties, to maintain the safety and level of service upon the existing transport network.

3.4.2 Abnormal Load Movements

33. The construction of the converter station stage will require the delivery of four 300 tonne main converter transformers. Due to their size and weight the transformers will comprise Abnormal Indivisible Loads (AIL). These will be delivered via specialist means and offloaded for example by the use of a mobile crane (see Sections 6.3 for details of abnormal load transport procedures).

4. TRAFFIC MANAGEMENT PLAN GOVERNANCE

34. Prior to the commencement of construction, a Traffic Co-ordinator (TCo) will be appointed by each Principal Contractor. Their key responsibilities will include:

- Managing the implementation of and compliance with the TMP, and the Access Management Plan;
- Reporting on a quarterly basis to MSDC and SCC with respect to these plans and their monitoring targets; and
- Acting as a point of contact for construction workers and sub-contractors.

35. The TCos will liaise with respect to the works using the common access from Bullen Lane and will hold a meeting with SCC to confirm responsibilities. The Converter Station Principal Contractor will, however, be responsible for traffic management for vehicles using the converter station access from Bullen Lane. The TCos will report to a senior member of the SPR Construction Management Team.

36. The Contact details for the TCos will be submitted to stakeholders (MSDC, SCC) for their records prior to commencement of construction. Stakeholders will also be informed should the contact details for the TCos change.

37. The TCos will liaise closely with one another to enable a co-ordinated approach to traffic management measures.

5. LOCAL COMMUNITY LIAISON

38. EATL is committed to providing clear communication to local residents and will manage public relations with local residents and businesses that will be affected by construction traffic. Proactive community liaison will be maintained, keeping local residents informed of the type and timing of works involved, the transport routes associated with the works, the hours of likely construction traffic movements and key traffic management measures. As outlined in the Code of Construction Practice (EA3-GRD-CON-PLN-IBR-000110), a combination of communication mechanisms such as posters, notices, exhibitions, letters, newsletters, website updates and parish council meetings will be employed to keep local residents and businesses informed.

39. A designated EA THREE Community Liaison Officer (CLO) will manage and respond to any public concerns, queries or complaints in a professional and diligent manner as set out in the Community Liaison and Public Relations Procedure contained within the Code of Construction Practice (EA3-GRD-CON-PLN-IBR-000110). The Complaints Procedure will be publicised and complaints will be directed to the EATL Community Liaison Officer. All enquiries will be logged, investigated and rectifying actions taken when deemed appropriate. Enquiries will be dealt with in an expedient and courteous manner. Details of complaints will be reported to Mid Suffolk District Council (MSDC) and SCC within 48 hours**.**

40. The CLO will liaise with parish councils to identify any local activities that may overlap with the construction works. EATL's Land Team will also speak to landowners regarding the timing of harvest and agricultural activity.

41. Parish Councils District councillors and County councillors, including Ward Members and Portfolio Holders in the area and the local liaison group will be contacted (in writing) in advance of the proposed works and ahead of key milestones in order to advise them of the ongoing works. The information provided will include a timetable of works, a schedule of working hours, the extent of the works, and a contact name, address and telephone number in case of complaint or query.

42. As part of this Converter Station Stage Traffic Management Plan, all transport related to the construction of the EA THREE connection works will be registered and issued with a unique vehicle identification code. This will be included on an identification sticker/board that will be placed in a prominent position on the vehicle to enable the site management team and members of the public to identify the vehicle and its association to EA THREE. This will be monitored by the Traffic Co-ordinator (see Section 4 of the TMP). This scheme

shall be submitted to and approved by SCC. Details of the scheme will also be shared with MSDC. SPR construction vehicles will have a defined identification livery so that they are immediately identifiable to construction staff and third parties.

6. TRAFFIC MANAGEMENT MEASURES

6.1 General Principles

43. The traffic management strategy is predicated on using the most efficient payload vehicle for delivery of materials (e.g. 20 tonne payload for stone deliveries) and therefore negates the need to downsize to smaller vehicles and double handle materials, minimising potential HGV movements on the highway network.

44. During consultation, the public expressed concerns with regard to highway improvements, fearing large over designed solutions which would look out of character with the surrounding landscape causing irrevocable environmental impacts. With this in mind, all highway solutions have taken a sensitive approach and hard engineering methods have been minimised to reduce impact on the surrounding environment.

45. There are no schools in close proximity to the converter station stage HGV route and therefore measures to minimise impacts with regards to these are not proposed. In addition, no road closures are anticipated with respect to the EA THREE converter station stage.

46. Compliance with the following measures will be subject to monitoring and enforcement measures set out in Section 7.

6.2 HGV Route Assessment

47. The updated transport assessment contained in the Traffic and Transport Technical Note in Appendix 2 and the Construction Route Assessment have examined the appropriateness, viability and justification for the use of the existing transport networks available to ensure any impact of the additional delivery and transport movements of the construction works for the onshore electrical connection are minimised to an acceptable level. The outcome of these assessments established construction routes that will adequately provide the requirements of the construction logistics which is based as far as reasonably practical upon the published Suffolk Lorry Route Network, thereby minimising the use of publicly maintained local access roads as far as possible. The updated transport assessment presented in the in Appendix 2 confirms that the existing SCC Lorry Route Network adequately provides for the construction activities required.

48. The EA THREE onshore converter station stage is well served by the Suffolk Lorry Route Network (SCC, 2017) being linked to the A14, a Strategic Lorry Route, at the Bramford Road junction (Junction 52) via the B1113 Lorraine Way/Bramford Road (a local access route). The Bullen Lane junction is approximately 3.5km along the B1113 (as shown on Figure 1) from the A14 and the converter station access is approximately 1.9km along Bullen Lane. This Converter Station Stage HGV route was used for the construction of the EA ONE Substation and the EA THREE converter station stage will use the access constructed from Bullen Lane for the EA ONE Substation (see Figure 1).

49. From the Converter Station stage access along Bullen Lane to the distributor route (B1113), an HGV can pass an oncoming vehicle for the majority of the route, with the exception of one short length (near Keepers Cottage). However, as existing traffic flows are relatively low and there is generally good forward visibility, it is considered that traffic will be able to give way to oncoming vehicles where the road narrows. This avoids the use of temporary road closures, road widening or a mobile traffic management system (as was used for low trafficked narrow roads to the EA ONE cable route). These controls were used for the construction of EA ONE and no issues arose.

50. In addition, a permanent 'ghost island' at the junction of Bullen Lane was provided as part of the EA ONE highway improvement works, to facilitate access to the minor road and improve safety of traffic using the B1113 (Lorraine Way).

6.3 Abnormal Load Route Assessment

51. A desk-study review has been undertaken of the report setting out the route used by the EA ONE transformer delivery vehicles (Route Report for the Road Transportation of a 278 Te Transformer from Ipswich Docks to Burstall Substation, Bullen Lane, Ipswich, Allelys Group, Nov. 2018) and it is confirmed that this document and route are still valid. A new route survey will be undertaken 6 months before transport, in order to consider potential changes of route itself or route conditions. The SCC Highways Structures Team will be consulted to confirm that the highways structures can carry the proposed loads. The Abnormal Load Route Study will be forwarded to MSDC and SCC for review. The EA ONE study did identify that Ostrich Creek Bridge would require temporary

overbridging to ensure the structural capacity of the bridge at the time of the transport of the AIL. This was also undertaken for EA ONE during the transport of the transformers. The TCos would be required to liaise with one another and also the relevant highway authorities to agree abnormal load routing and the design of any required works.

52. The movement of abnormal loads would be outside of the restrictions (routes and times) contained within this TMP with respect to HGVs and will be subject to separate agreement with the relevant highway authorities and police through the Electronic Service Delivery for Abnormal Loads (ESDAL) system. The TCos will notify stakeholders through ESDAL and agree appropriate timings, routes and asset protection measures (with the relevant highway authorities, police and Network Rail) appropriate to the type of load.

53. The timings and notice periods for all abnormal load deliveries will be agreed with SCC Highway Authority in advance in reasonable time and will be scheduled outside peak hours on the highway network. MSDC will also be notified of the timings of the AIL deliveries. Delivery of AIL will be undertaken in consultation with Suffolk Constabulary.

54. Pre and post AIL movement condition surveys and follow up reinstatement will be undertaken to ensure that any damage is remediated.

55. The following measures shall be implemented with respect to this temporary highways improvement:

a. No works that would affect the public highway or PRoW shall be commenced until all traffic safety measures required are fully operational and to the satisfaction of SCC.
b. All works within public highway will be the subject of traffic notifications. All timescales and street works applications will be in agreement with SCC Highway Authority street works department.
c. Where determined from pre-construction surveys, the public road network will be reinforced to a standard to allow safe passage for the general public and construction traffic for the full term of the construction period.
d. Measures will be implemented to ensure safe access and egress at all times for pedestrian and non-motorised modes of transport upon all public highways and PRoW affected or impacted by construction traffic.
e. All temporary traffic management measures to be undertaken in accordance with the Department for Transport's (DFT's) Chapter 8: Traffic Safety Measures and Signs for road works and temporary situations parts 1 and 2 (DfT, 2009a and DfT, 2009b), commonly referred to as Chapter 8.

6.4 Routeing

56. The following measures will be implemented with respect to the use of the Converter Station Stage HGV route from the A14 (as described in Section 6.2) (and also to access the A14):

a. All contractors will be contractually required to comply with the Converter Station Stage HGV route as assessed and agreed with SCC through this TMP.
b. The delivery routes will be communicated by the TCos to all companies and/or drivers involved in the transport of materials and plant to and from site by HGV construction vehicle.
c. Appropriate signage will be installed to direct suppliers and contractor's vehicles along the required route. Information signs will also be erected which will include a telephone number for the public to report concerns.
d. No construction HGVs are to be routed through Coddenham and Sproughton. Appropriate prohibition signs will be installed at strategic locations to prevent construction vehicles entering these areas.
e. Where possible the contractor will use local suppliers to reduce the distance travelled on the wider highway network.
f. Compliance with the defined Converter Station Stage HGV route will involve a vehicle registration system and log. The information will be made available to SCC upon request.
g. All HGV deliveries to the Converter Station Stage will be of a size and appropriate weight to accord with the hierarchal structure of the SCC Lorry Route Network for Strategic, Zone Distributor and Local Access lorry routes.
h. The Principal Contractors will establish a line of communication with SCC's Emergency Planning Officer and Traffic Manager. If notified of a major incident obstructing the highway the Principal Contractors would liaise directly with suppliers to suspend HGV deliveries along affected routes. The Principal Contractors will liaise with SCC to identify and assess alternative temporary access arrangements.
i. The TCos will be aware of major events on the highway (e.g. bike races, parades, etc) and around public holidays and be responsible for managing traffic demand during such times. The TCos will liaise with local stakeholders to understand when major events may occur. A stockpile of materials will enable advanced planning to ensure there are limited HGV movements during planned major events whilst not impacting upon the construction programme.

57. A Construction Phase Traffic Management Plan will be produced in line with this TMP by each Principal Contractor which will detail the requirements of all construction traffic. The Construction Phase Traffic Management Plans will detail all on site and off site traffic movements and management conditions for all traffic, plant and personnel associated with both the converter station and the cable works and how these interact.

6.5 Training

58. All regular HGV construction vehicle drivers will be formally inducted to the proposed East Anglia THREE project. The induction will seek to establish a clear set of responsibilities that drivers will be required to follow and will include details of the following:

a. Timings, pre-booked slots;
b. The approved Converter Station Stage HGV route;
c. Highway safety concerns;
d. Adherence to speed limits;
e. Additional safe working practices with regards to the use of Bullen Lane as a PRoW;
f. Requirements for reporting accidents and 'near misses';
g. A Driver Code of Conduct;
h. Procedures for dealing with emergencies; and
i. Disciplinary measures for non-compliance.

59. An information pack will be distributed to all individuals involved in the transport of materials. The pack will be a convenient size so it can be stored in a truck cab. The pack will include the key information as described with respect to induction.

60. Any HGV construction vehicle driver not inducted and not regularly delivering to the proposed East Anglia THREE project will be issued with a Driver Code of Conduct and approved delivery route plan.

6.6 Control of HGV Numbers

61. The following measures will be implemented in order to minimise HGV movements:

a. The Principal Contractors will be responsible for managing the demand for deliveries and exports for their own fleet and that of their supply chain partners to ensure they comply with agreed daily traffic profiles contained within the ES and the updated Traffic and Transport Technical Note. A timed delivery booking system will be implemented. The proposed delivery schedule will be prepared weekly in advance by the Principal Contractors, taking into account the other Principal Contractor's requirements, other committed developments and seasonal variations, with limited spaces reserved for short notice deliveries. The planning of deliveries (via the booking system) will assist the Principal Contractors to allocate sufficient space within the temporary laydown area for the planned number of deliveries.
b. The Principal Contractors will be required to keep an up to date record of deliveries and exports from the East Anglia THREE project, this will take the form of delivery receipts. This information will be retained to be provided to SCC upon request.
c. The registration numbers for all HGVs making deliveries will be recorded by the TCos. This would allow for checking and enforcement of any reported breaches of the agreed delivery routes
d. In accordance with good construction practice, opportunities will be sought to reduce the overall number of HGV movements by consolidating loads and using the largest feasible vehicles taking into account any other environmental constraints that may affect HGV routes.
e. In accordance with the CoCP (EA3-OND-CNS-REP-IBR-000005), the standard construction working hours for the proposed East Anglia THREE project and any construction-related traffic movements in and out of the site will be between the following hours:

   07:00 – 19:00 Monday to Friday; and

   07:00 – 13:00 on Saturday.
   There are a few exceptions to the above working times as defined in the DCO and set out in the CoCP.
f. The TCos will be required to plan for maintaining stockpiles of critical path items such as aggregate. These stockpiles will facilitate advanced planning of deliveries, maximise payloads, and enable a smooth import profile to be maintained.

6.7 Signage

62. Appropriate signage will be installed to direct suppliers and contractor's vehicles along the Converter Station Stage HGV route. This is to minimise the impact of deliveries on local residents and also minimise the risk of construction traffic missing vital junctions and

not being able to turn around easily in the downstream road network. A review of signage locations will be undertaken with SCC to ensure their suitability. Signage locations will be continually reviewed and agreed with SCC during the entire construction phase.

63. The Advance Warning signs to be installed shall include, but shall not be limited to:

- Information Signs, (including reference number, contact details, works to commence, proposed duration, diversionary routes);
- Works Access, directional and location and (including No access to Unauthorised Persons - Construction Site);
- Construction traffic directional routing (e.g. EA THREE Access route (directional Arrows); No access to Construction Traffic);
- Road Works Ahead;
- SLOW – Workforce/obstructions in road ahead;
- New Layout Ahead;
- Changed Priorities;
- Pedestrian directions, crossings and directional;
- Temporary speed limits/restrictions, in consultation with SCC Network Assurance – 30mph where straight line view is impaired by natural objects that cannot be removed due to environmental impact or engineering constraint; and
- Warning signs for any restrictions and/or obstructions that may be affected as a consequence of the works.

64. All temporary (and where agreed, permanent) traffic signs and road markings will be provided in accordance with the Traffic Signs and General Directions 2016 (DfT, 2016) and Chapter 8 'Traffic Safety Measures and Signs for Road Works, Temporary Situations' of the Traffic Signs Manual (DfT, 2009a and DfT. 2009b), in agreement with SCC via Temporary Traffic Regulation Order applications) and Highways England (for works on A14). All temporary signage will be removed on completion.

6.8 Pre and Post Construction Surveys

65. Prior to the commencement of the construction works, pre-condition surveys (dilapidation surveys) of the Converter Station Stage HGV route will be agreed with and undertaken in conjunction with SCC in accordance with the UK Pavement Management System standard. The survey will most likely comprise a Coarse Visual Inspection survey with more detailed surveys (such as the use of Deflectograph) for specific areas. The exact specification of surveys required would be agreed with SCC prior to commencement.

66. The pre-construction survey will also identify road surface irregularities which require remediation prior to construction in order to mitigate vibration impacts.

67. Costs of remedial works required as a result of construction will be funded by EATL. Further detail on the mitigation regarding vibration impacts will be outlined in the Converter Station Construction Noise and Vibration Management Plan (EA3-GRD-CON-PLN-IBR-000113) . Pre-construction surveys will be undertaken to determine road structures at all crossing points to determine the extent of carriageway strengthening requirements.

68. Any damage to the existing road network, street furniture as a consequence of the construction activities will be made good to the satisfaction of SCC, in accordance with such requirements (as to specification of materials and standard) as prescribed by regulations under the New Roads and Street Works Act 1991 (as amended).

69. The post-construction surveys and measures to secure any subsequent remediation will be agreed with SCC. These shall be undertaken as soon as possible on completion of relevant works.

70. The two surveys will form the basis of any ameliorating works that may be required upon completion of the onshore works, to rectify specific damage to the local road network as a direct result of the construction works. These pre and post construction surveys will include photographic records of street furniture and road conditions.

71. SCC will be kept updated of proposed start and completion dates via regular meetings and programme updates.

72. Pre and post-construction surveys of the PRoW in the vicinity of the Converter Station Stage will be undertaken as described in the PRoW Management Plan that forms Appendix 9 of the Converter Station Code of Construction Practice (EA3-OND-CNS-REP-IBR-000005).

6.9 Additional Controls

73. No daytime or overnight parking of site or construction vehicles (site employees or visitors) outside the temporary laydown area will be allowed without the prior agreement of SCC.

74. All traffic management measures will be temporary including traffic signs, road markings, barriers, lamps, traffic control and other such measures necessary in accordance with best practice unless otherwise agreed with the SCC Networks Assurance. These will be installed and maintained in good condition throughout the extent of the construction period.

75. On-site wheel wash provisions shall be provided at the exit from the converter station stage area to the public highway. Off-site road cleansing/sweeping provision along sections of the public highway will be used by construction vehicles shall be to the satisfaction of SCC. The wheel washing facilities will be designed and located to avoid used water running onto the highway.

76. The Principal Contractors and their suppliers' fleets will have arrangements with recovery companies to allow breakdowns and accidents to be cleared as quickly as possible in order to avoid any such incidents blocking the highway. All breakdowns and accidents will be reported to the relevant TCo.

7. MONITORING AND ENFORCEMENT

7.1 Monitoring

77. The following section sets out how the targets and measures contained within this TMP will be monitored to ensure compliance.

7.1.1 HGV Numbers

78. The HGV movements associated with the construction of the converter station stage will be continuously monitored by the TCos through the use of the Booking System to ensure adherence with the assessed HGV movements.

79. The information (i.e. records of deliveries and return journeys together with any breaches of the agreed delivery routes or delivery hours) will be made available to SCC Highway Authority on a quarterly basis, for checking against the application profile.

7.1.2 HGV Routeing

80. The vehicle identity system (See section 5) will help the public distinguish HGV construction vehicles associated with the proposed East Anglia THREE project from other traffic on the highway network. Each HGV will be required to display a unique identifier, provided by the relevant TCo within the window of the cab that will allow members of the public to report any concerns such as driver behaviour or the use of unapproved routes via a publicized telephone contact number. Signs will be erected at all construction accesses with the relevant contact number clearly displayed for public enquiries.

81. The TCos will be the first point of call for all concerns raised. Contact details will be made available in a regular newsletter that will be circulated to all local Parish and Town Councils and stored at community hubs, such as libraries, for reference.

82. The Principal Contractors will endeavour, where practicable, to appoint contractors whose HGV fleet is fitted with a GPS tracking system and that these are used to record the routes, time and speed of vehicles when making deliveries. The GPS tracking together with delivery records will serve to augment the unique identifier to allow the relevant TCo to respond to any complaints and provide a complete evidence base. The TCos will also ensure that where installed, these monitoring systems are activated, and records are made available to the TCos to facilitate auditing and complaint investigation.

7.2 Enforcement

7.2.1 Introduction

83. The consequences of not complying with the measures contained within this TMP could result in an increase in HGV traffic on the highway network and road safety concerns, potentially impacting on sensitive receptors, leading to significant environmental effects. It is therefore essential that that the relevant TCo can quickly react to any breaches and implement corrective processes. This section therefore provides a summary of the mechanisms that would ensure that the TMP is effectively enforced.

7.2.2 Potential Breaches

84. To ensure that the TMP can be effectively enforced it is important to define what would constitute a breach. The TMP therefore considers that the following would constitute a breach whereby corrective measures would be required:

a. Failure to implement or use the agreed traffic management measure;
b. Failure to follow the agreed delivery route;
c. Failure of the HGV to display its unique identifier;
d. Construction HGV traffic operating outside of agreed hours;
e. Exceeding the agreed freight and delivery profiles as set out within the updated Transport Assessment and thereby the Environmental Statement;
f. Construction HGV traffic being driven inappropriately, e.g. speeding; and
g. Failure to record deliveries and departures for plant and materials with the booking system.

7.2.3 Corrective Process

85. On receipt of a report of a potential breach, the TCos would investigate the circumstances and compile a report for MSDC and SCC as Highway Authority within seven working days. The report would outline the outcome of the investigation and what corrective action (if necessary) had been implemented. MSDC and SCC (as the Local Highway Authority) will then review the information, request further clarifications (if required) and confirm to the TCos if a material breach has occurred.

86. If the breach is found to be material, the following three stage process will be followed:

- Stage one – MSDC or SCC confirms a breach and requests the TCos to review the data and concerns. MSDC, SCC and the TCos would then agree the extent of the breach of controls and agree action. 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 involve individuals/sub-contractors/suppliers to produce an action plan to outline how the issue would be rectified and any additional mitigation measures proposed. The action plan should identify a strategy with a duration of not more than seven working days to correct the breach. MSDC and SCC will be informed.
- Stage three – Should further breaches still occur the contractor would be required to remove the offender from site and the contractor/ supplier would receive a formal warning. Any continued breaches by individuals of the supplier/ contractor may be dealt with by the formal dispute procedures of the contract. MSDC and SCC will be informed.

87. Failure to follow the performance standards as shown in Section 7.2.2 and (including the correction process, or continued breaches would be addressed by contractual measures between EATL and the contractor.

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

7.2.4 Action Plan

Table 7-1 TMP Action Plan

Measure	Timescale	Responsibility
Appointment of a TCo	Prior to construction commencement	Each Principal Contractor
Obtain technical approval for construction of offsite highway mitigation measures	Prior to construction commencement	Each Principal Contractor
Implement advance warning signing	Prior to construction commencement	Each Principal Contractor
Establish monitoring systems: **• Delivering booking system;** **• Unique vehicle identifier system; and**	Prior to construction commencement	TCos

Measure	Timescale	Responsibility
• Telephone reporting system.		
Agree scope of highway condition surveys with SCC	Prior to construction commencement	TCos
Agree abnormal load restrictions with SCC through ESDAL	Prior to abnormal load movements	Converter Station TCo
Monitoring of TMP measures: **• HGV movements;** **• Accidents and near misses;** **• HGV monitoring;** **• Complaints; and** **• Produce monitoring reports.**	Ongoing throughout construction	TCos

8. REFERENCES

DfT, 2009a, *Traffic Signs Manual, Chapter 8, Traffic Safety Measures and Signs for Road Works and Temporary Situations, Part 1: Design*. London, TSO

DfT, 2009b, *Traffic Signs Manual, Chapter 8, Traffic Safety Measures and Signs for Road Works and Temporary Situations, Part 2: Operations*. London, TSO

DfT, 2016, *DfT Circular 01/2016, Traffic Signs and General Directions 2016*, Version 2

SCC, 2017, *Suffolk Lorry Route Network*, https://www.suffolk.gov.uk/assets/Roads-and-transport/lorry-management/Lorry-Route-Map-Amended-MAY-17.pdf

APPENDIX 1 CONSTRUCTION ACCESS ROUTE

608000 609000 610000 611000 612000 613000 614000 615000

250000 249000 248000 247000 246000

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

EA THREE DCO Corridor
EA THREE Onshore Converter Station Layout Detail
EA THREE Onshore Converter Station Temporary Site Facilities Detail

EA THREE Converter Substation to National Grid Substation Cable Route
400kV AC Cable - Open Cut Section
400kV AC Cable - Ducted Section

EA THREE Onshore Converter Station Access Roads
Permanent
Temporary

EA THREE Cable Access Road
Haul Road

EA THREE Area to be Reprofiled
EA THREE Onshore Converter Station SUDs Pond
EA ONE Onshore Converter Station Access Road
Construction Access Route

GoBe consultants

Rev	Date	By	Comment
B	05/04/2022	PW	Second Issue
A	25/01/2022	PW	First Issue

Original A3 Plot Scale 1:20,000

0 400 800 Metres

Onshore Converter Station Stage

Appendix: Construction Access Route

Drg No	05356.00006.12.00076.1 Construction Access Route
Rev	2
Date	05/04/2022
Layout	N/A

Document Path: P:\05356 - GoBe Consultants Ltd\00006 East Anglia Three\Tech\GIS\Dwgs\Wking\EA3\Onshore Substation\Doc Ref EA3-GRD-CON-PLN-IBR-000115\5356.00006.12.0076.1 ONCS Construction Access Route.mxd

APPENDIX 2 EAST ANGLIA THREE CONVERTER STATION AND PAPER MILL LANE WORKS TRAFFIC AND TRANSPORT TECHNICAL NOTE

EAST ANGLIA THREE CONVERTER STATION AND PAPER MILL LANE WORKS

Traffic and Transport Technical Note

Prepared for: **ScottishPower Renewables**

SLR Ref: 404.05356.00006
Version No: Final
March 2022

BASIS OF REPORT

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1.0 Introduction

1.1 Background

SLR Consulting Ltd. (SLR) has been commissioned by ScottishPower Renewables (SPR) to undertake a review and analysis of the anticipated vehicle movements associated with the construction of the East Anglia THREE (EA3) Converter Station and Paper Mill Lane Works, as per the Development Consent Order (DCO) dated 7th August 2017.

The forecast vehicle movements (personnel and Heavy Goods Vehicles (HGV)) for the construction of the EA3 Converter Station and cable works were set out in Chapter 27 'Traffic and Transport' of the Environmental Statement (ES), which was prepared by Royal HaskoningDHV in support of the DCO submission (Document Reference – 6.1.27)

The vehicle movements identified in the ES, which was prepared in 2015, were estimates based on a set of reasoned assumptions, professional experience and using previous project experience; however, Siemens Energy, who are the appointed Principal Contractor and will be responsible for construction of the EA3 Converter Station, has now confirmed the vehicle movements for the construction programme. NKT, the Principal Contractor for the EA3 cable route works, has provided confirmed vehicle movements associated with the Paper Mill Lane Works. These revised vehicle movements have been incorporated into the analysis presented in this Note.

Whilst this note relates to the construction vehicles associated with the Converter Station and Paper Mill Lane Works, it is acknowledged that during the main construction phase for the cable route in 2024, construction vehicles associated with the wider cable works will also be using the same road network. These vehicle movements, have also, therefore, been incorporated into the analysis presented in this note.

It should be noted that the ES referred to the construction of a substation; however, the proposal is now to construct a converter station. Therefore, all references to the converter station in this note are assumed to replace the references to the substation in the ES.

1.2 Purpose of the Report

The objective of this Technical Note is to provide Suffolk County Council (SCC) with an overview of the changes to the vehicle numbers associated with the construction of the EA3 Converter Station and Paper Mill Lane Works. Vehicle numbers and movements were discussed with SCC at a meeting on the 16th November 2021 and an initial draft of this note was provided following the meeting. The matter was discussed at the EA3 Traffic Working Group meeting on the 15th December 2021 and this note has been updated following the meeting and further discussions with SCC.

This Technical Note therefore sets out the following:

- A summary of the assessment assumptions and resulting vehicle numbers associated with the construction of the EA3 Converter Station, Paper Mill Lane Works and also relevant cable works identified in the ES;
- A summary of the assessment of vehicular impact associated with the construction of EA3, on the highway network in the ES;
- A summary of the potential assessment requirements of vehicular impact associated with the construction of EA3 on the highway network, following the issue of the DCO;
- A summary of the difference between the vehicle movements identified in the ES and the actual vehicle movements identified by Siemens Energy and NKT, based on a lower car occupancy than presented in the ES, for a robust assessment;

- A summary of the anticipated total vehicle movements associated with the construction of EA3 including the revised vehicle movements, at the locations potentially requiring assessment on the highway network;
- A review of the likely impacts at the sensitive junctions on the highway network that are likely to be used by traffic associated with the construction of the EA3 Converter Station and Paper Mill Lane Works (including for relevant cable works); and
- A summary of the above and a conclusion on assessment requirements for the consideration of SCC.

2.0 DCO Submission EA3 Converter Station and Paper Mill Lane Works Traffic Data

2.1 Assessment Assumptions

A brief summary of the assumptions employed to assess the impact of vehicle movements associated with the construction of EA3 is set out as follows:

- The nature of construction works typically requires that employees work longer hours in the summer and shorter hours in the winter to take advantage of the available daylight. Therefore, whilst employees would arrive prior to the morning network peak hour (08:00 to 09:00) throughout the year (and therefore no requirement for assessment during this period), there is the possibility that there would be an overlap between construction employees departing and the network evening peak hour (17:00 to 18:00 observed from traffic counts) i.e. when the daytime construction shift finishes at the same time as the evening network peak (employees would be departing their place of work and HGVs would be returning from making deliveries).
- As a worst case it was assumed that all employee trips would overlap with the evening network peak hour, recognising this scenario is only likely to occur during a two month period before and after the summer months.
- The delivery of materials and plant to the Primary CCSs (in this case Paper Mill Lane Works) would be spread over a ten hour period, whilst onward deliveries to Secondary CCSs or points of access would be scheduled to avoid network peak hours.
- A car occupancy of 2.5 employees per vehicle; and
- To develop a worst case impact scenario on the highway network, the peak traffic demand for each section was added together to create a theoretical 'in-combination worst case' week whereby the peak construction activity for all sections would occur concurrently. This results in the combined traffic flows on the 'A' class road network as over-estimated.

2.2 Trip Generation

The maximum number of employee, employee vehicle movements and HGV movements associated with the construction of the EA3 Converter Station, Paper Mill Lane Works and also relevant cable works identified in the ES as identified in Chapter 27 'Traffic and Transport', are set out in **Table 2-1** below:

Table 2-1
EA3 Converter Station, Paper Mill Lane Works
and relevant cable works Trip Generation (DCO Submission)

	Employees				HGV Movements	
	Number		Vehicle Movements			
	Daily	PM Peak	Daily	PM Peak	Daily	PM Peak
EA3 Converter Station	75	75	60	30	26	3
Paper Mill Lane Works and relevant cable works	150	150	120	60	131	13
Total	**225**	**225**	**180**	**90**	**157**	**16**

2.3 Assessment Requirements

In order to assess if there was any potential for significant impact the evening peak (17:00 to 18:00) on the highway network, the forecast construction traffic generation (EA3 Converter Station and Cable Route Sections 1 to 11) was assigned to the junctions across the agreed study area, to inform the DCO application.

SCC identified 11 junctions across the agreed study area as potentially being susceptible to increases in traffic flow.

In Chapter 27 'Traffic and Transport' it was concluded that the forecast vehicle movements associated with the construction of EA3 (total construction works) were of a magnitude that could potentially lead to significant impacts at the following three sensitive junctions:

- Junction 1: Roundabout junction of the A14 and B1113 (Claydon Interchange);
- Junction 5: Roundabout junction of the A12 and A1214; and
- Junction 11: Roundabout junction of the A12 and B1438.

In the Outline Construction Traffic Management Plan (OCTMP), prepared for the EA3 DCO application, the list of sensitive junctions where the forecast vehicle movements identified as having the potential to lead to significant impacts was as follows:

- Junction 5: Roundabout junction of the A12 and A1214;
- Junction 6: Roundabout junction of the A12 and Newbourne Road;
- Junction 8: Priority junction of the B1079 and Manor Road;
- Junction 11: Roundabout junction of the A12 and B1438; and
- Junction 12: Roundabout junction of the A14 and A12 (south)

The maximum vehicle movements (EA3 Converter Station and total EA3) in the evening peak hour at each of the junctions above (1, 5, 6, 8, 11 and 12) as identified in *Table 27.17 Peak Hour Traffic Flows through Sensitive Junctions* of Chapter 27 'Traffic and Transport', are set out in **Table 2-2**

Table 2-2
Forecast Evening Peak (17:00 – 18:00) Junction Impacts (DCO Submission)

Junction		Total EA3			EA3 Converter Station		
		Cars/LGVs	HGVs	Total	Cars/LGVs	HGVs	Total
1	A14/B1113	80	16	96	30	3	33
5	A12/A1214	88	22	110	0	0	0
6	A12/Newbourne Road	48	22	70	0	0	0
8	B1079/Manor Road	15	0	15	0	0	0
11	A12/B1438	134	22	156	0	0	0
12	A14/A12	52	24	76	11	1	12

As **Table 2-2** shows, vehicle movements associated with the construction of the EA3 Converter Station only impact at Junction 1: A14/B1113 Claydon Interchange and Junction 12: A14/A12.

Capacity assessments were not undertaken at any of the junctions listed above (in Chapter 27 and the OCTMP) as part of the DCO application; however, the following strategy was proposed:

- The junctions identified as having the potential to lead to significant impacts would be subject to detailed analysis through the development of the Traffic Management Plan, post-consent, when a contractor has been appointed and can inform outcomes; and
- Further analysis would seek to quantify the potential significance of these impacts and the scope of mitigation measures. Potential mitigation measures would focus on enhanced travel planning and restricting peak hour movements rather than physical junction improvements.

3.0 Revised EA3 Converter Station and Paper Mill Lane Works Traffic Data

3.1 Introduction

In the context of the strategy set out in **Section 2.3,** and using the assessment assumptions in Chapter 27 'Traffic and Transport', the following text sets out the revised vehicle movements for the construction of EA3 as a result of the EA3 Converter Station vehicle movements anticipated by Siemens Energy and the Paper Mill Lane Works (and relevant cable installation works) vehicle movements anticipated by NKT.

Following discussion and written feedback from SCC provided on the 13th December 2021, the focus of the assessment is at Junction 1: A14/B1113 Claydon Interchange.

The assessment is based on the worst case, which is during the two-week concrete pour for the EA3 Converter Station, when there are a higher number of daily HGVs. The average number of daily HGVs associated with the construction of the EA3 Converter Station is anticipated to be two for the majority of the construction period, which is significantly less than that for the two-week concrete pour period.

3.2 Trip Generation

The revised maximum (daily and evening peak) number of employee, employee vehicle movements and HGV movements associated with the construction of the EA3 Converter Station, Paper Mill Lane Works and the relevant cable installation works (i.e. Sections 8 to 11 of the cable route – see Figure 1 of the Outline Access Management Plan) are set out in **Table 3-1.**

Table 2-1This is based on a car occupancy of 1.5, which has been identified from lessons learnt from the EA2 / EA1N ES and Examination, advice from SCC and through discussions with Siemens Energy, who has suggested that a 2.5 car occupancy is unlikely to be achievable.

Table 3-1
EA3 Confirmed Maximum Figures (Siemens Energy and NKT)

Construction Phase	Employees				HGV Movements	
	Number		Vehicle Movements			
	Daily	PM Peak	Daily	PM Peak	Daily	PM Peak
Converter Station	130	130	174	87	68	8
Paper Mill Lane Works including relevant cable Installation works (Sections 8 to 11)	60	60	80	40	20	2
Total	**190**	**190**	**254**	**127**	**88**	**10**

3.3 Trip Distribution

The data presented in **Table 3-1** has been distributed at Junction 1: A14/B1113 Claydon Interchange) based on the assessment in the ES, which is summarised as follow:

- 97% of employee vehicles using Junction 1;

- 100% of HGVs using Junction 1;
- 78% of employee vehicles from / to A14 South;
- 19% of employee vehicles from / to A14 Nouth;
- 70% of HGVs from / to A14 South; and
- 30% of HGVs from / to A14 North.

Therefore, the maximum number of vehicle movements associated with the construction of the EA3 Converter Station (Siemens Energy data), Paper Mill Lane Works and the relevant cable installation works (Sections 8 to 11) (NKT data) in the evening peak hour at Junction 1 is set out in **Table 3-2.**

Table 3-2
Forecast 17:00 – 18:00 Junction Impacts (Junction 1)

Arm	Converter Station (Siemens Energy)			Paper Mill Lane - Works (and relevant cable installation works (Sections 8 to 11) (NKT)		
	Cars/LGVs	HGVs	Total	Cars/LGVs	HGVs	Total
B1113	84	8	92	0	0	0
A14 North	0	2	2	0	1	1
Ipswich Road	0	0	0	0	0	0
A14 South	0	6	6	0	1	1
Paper Mill Lane	0	0	0	39	2	41

Whilst SCC has confirmed that Junction 1: A14/B1113 Claydon Interchange was not considered a sensitive junction at the time of the DCO submission, there have been a number of consented planning applications since 2015 that have vehicular movements impacting the junction. Therefore, SCC has requested that a capacity assessment is undertaken at Junction 1: A14/B1113 Claydon Interchange to assess the potential impact of the EA3 construction traffic, based on the confirmed vehicle movement data provided by Siemens Energy and NKT, which is set out in **Section 4.0**.

4.0 Assessment of Likely Impacts

4.1 Introduction

This section presents a capacity assessment of Junction 1: A14/B1113 Claydon Interchange to assess the potential impact of the EA3 construction traffic, based on the confirmed vehicle movement data provided by Siemens Energy and NKT.

4.2 Assessment Parameters

The assessment has been based on the following parameters:

- Evening Peak (17:00 to 18:00);
- 2023 assessment year derived from the capacity assessment output in the Transport Assessment submitted in support of the planning application for the extension to Port One Business and Logistics Park (Ref: DC/20/01175);
- Addition of committed development traffic (see **Appendix 01**); and
- Confirmed vehicle movement data provided by Siemens Energy and NKT as set out in **Table 3-2**

4.3 Traffic Flows

The resulting traffic flows for the following assessment scenarios are provided in **Appendix 02:**

- 2023 base + committed development; and
- 2023 base + committed development + EA3

4.4 Capacity Assessment

The ARCADY model presented in the Transport Assessment for DC/20/01175 has been replicated and updated following a review of the junction geometries and additional comments from SCC, and the results of the two assessment scenarios (including a plan showing the junction geometries) identified above are provided in **Appendix 03** and summarised in **Table 4-1** below.

Table 4-1
ARCADY Results (17:00 to 18:00)

Arm	2023 Base + Committed Development		2023 Base + Committed Development + EA3	
	RFC	Maximum Queue	RFC	Maximum Queue
Ipswich Road	0.41	0.7	0.44	0.8
A14 Northbound Off-slip	0.41	0.7	0.43	0.7
Paper Mill Lane	0.10	0.1	0.13	0.2
B1113 Bramford Road	0.64	1.7	0.72	2.5
A14 Southbound Off-slip	0.24	0.3	0.26	0.3

As **Table 4-1** shows, the junction operates well within its theoretical capacity in the base plus committed development scenario and continues to operate within its theoretical capacity with the addition of the EA3 vehicle movements, with negligible queues and spare capacity for additional vehicle movements.

5.0 Road Safety Assessment Review

5.1 Introduction

SCC also requested that the assessment of road safety presented in the ES be updated for the B1113 corridor and Paper Mill Lane, to ascertain if any additional mitigation measures are required and the review is presented in this section.

5.2 Scope

The Crashmap database[1] has been used to compare the number of accidents and any clusters, for the five year period prior to the DCO application (2011 to 2015) and the most recent five year period available excluding 2020 as traffic levels will have been unrepresentative of typical conditions due to the Covid-19 pandemic (2015 to 2019), at the following locations:

- A14/B1113 Claydon Interchange;
- B1113/Somersham Road;
- B1113/Bullen Lane;
- B1113/A1071; and
- Paper Mill Lane

As the images in **Appendix 04** show, there has been a reduction or no change in the number of accidents that have occurred during each five year period at all locations, with the exception of Paper Mill Lane. A further analysis has been provided below.

5.3 Analysis

5.3.1 A14/B1113 Claydon Interchange

The number of accidents at the junction within the most recent five year period is significantly less than the number of accidents in the five year period prior to the submission of the DCO application with a noticeable reduction on the Ipswich Road arm, which will be used by some NKT vehicles accessing Cable Route Section 8:

- 2011 to 2015 - 24 accidents; and
- 2015 to 2019 – 9 accidents

There have been three accidents on the B1113 arm in each of the five year periods. A review of the 2015 to 2019 data shows the three accidents (see the Crashmap reports in **Appendix 05**), which were in the vicinity of the give way line, were due to three separate causation factors; one with no other vehicles involved, one involving an agricultural vehicle and one involving four vehicles, which appears to have been a shunt. Therefore, it can be concluded that there is not a deficiency in the highway layout that an increase in vehicles associated with the construction of EA3 would exacerbate.

5.3.2 B1113/Somersham Road

There has been a reduction in the number of accidents in the vicinity of the B1113/Somersham Road junction, with none occurring in the most recent five year period:

[1] www.crashmap.co.uk

- 2011 to 2015 – 3; and
- 2015 to 2019 – 0

Therefore, it can be concluded that there are no road safety issues at this junction that an increase in vehicles associated with the construction of EA3 would exacerbate.

5.3.3 B1113/Bullen Lane

There have been no accidents at the B113/Bullen Lane junction in either of the five year periods. Therefore, it can be concluded that there are no road safety issues at this junction that an increase in vehicles associated with the construction of EA3 would exacerbate.

5.3.4 B1113/A1071

The number of accidents at the junction within the most recent five year period is half the number of accidents in the five year period prior to the submission of the DCO application:

- 2011 to 2015 – 8; and
- 2015 to 2019 – 4

All four accidents in the most recent five year period occurred in different locations at the junction and therefore there is unlikely to be any deficiencies in the highway layout that an increase in vehicles associated with the construction of EA3 would exacerbate.

Whilst there has been one accident in each five year period that involved a cyclist, given the reduction in the total number of accidents and since only 3% of employee vehicles are forecast to use this junction and no HGVs are permitted to use the junction, it can be concluded that there are no road safety issues at this junction that an increase in vehicles associated with the construction of EA3 would exacerbate.

5.3.5 Paper Mill Lane

The number of accidents at the junction within the most recent five year period has increased from the five year period prior to the submission of the DCO application:

- 2011 to 2015 – 0; and
- 2015 to 2019 – 2

A review of the 2015 to 2019 data (see the reports in **Appendix 05**) shows the accidents occurred in different locations; one accident was a shunt and one involved no other vehicles. Given the low number of accidents and separate locations and causation factors, it can be concluded that there are no road safety issues at this junction that an increase in vehicles associated with the construction of EA3 would exacerbate.

5.4 Summary

The review of road safety in this section would indicate that, in general, there has not been any worsening of road safety since the submission of the DCO application, with a significant improvement at key junctions that will be used by the majority of construction traffic.

Therefore, no changes to the measures proposed in the Traffic Management Plan are considered to be necessary.

6.0 Summary and Conclusion

6.1 Summary

This Technical Note sets out the anticipated maximum number of vehicle movements associated with the construction of the EA3 Converter Station, Paper Mill Lane Works and the relevant cable installation works (Sections 8 to 11) in the evening peak hour at Junction 1: A14/B1113 Claydon Interchange using confirmed data from Siemens Energy and NKT. The assessment is based on a lower (and more realistic) car occupancy of 1.5 employees, compared to the car occupancy of 2.5 used in the ES for the DCO application.

A junction capacity assessment has been undertaken to test the impact of the confirmed EA3 traffic data at Junction 1: A14/B1113 Claydon Interchange, using the most recent baseline traffic data available and incorporating vehicle movements associated with various committed developments. The assessment confirmed there would be no capacity issues at the junction with the addition of the EA3 vehicle movements.

A review of road safety on the routes that would be used by the construction traffic associated with the construction of the EA3 Converter Station, Paper Mill Lane Works and the relevant cable installation works (Sections 8 to 11) shows there are no road safety issues that would be exacerbated by an increase in traffic flows and that no changes to the measures proposed in the EA3 Traffic Management Plan are required.

6.2 Conclusion

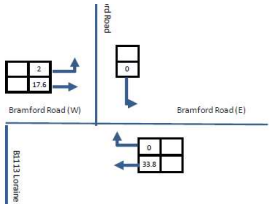
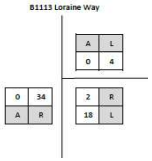
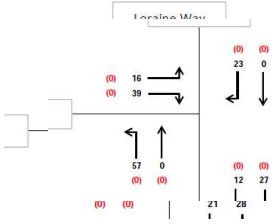
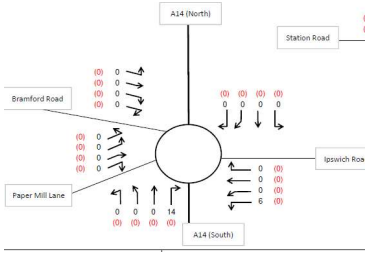
As demonstrated, the impact of the revised EA3 Converter Station and Paper Mill Lane Works construction works traffic data is such that there would be no capacity issues at Junction 1: A14/B1113 Claydon Interchange and no impacts on road safety on the routes used by construction traffic.

In, conclusion, no further assessments on the highway network should be required prior to the commencement of construction associated with the EA3 Converter Station and Paper Mill Lane Works.

A separate Technical Note has been prepared to consider the impact on the highway network of the EA3 Works at Playford Corner and Clappits based on the confirmed traffic data provided by NKT.

APPENDIX 01

Committed Development Traffic Flows

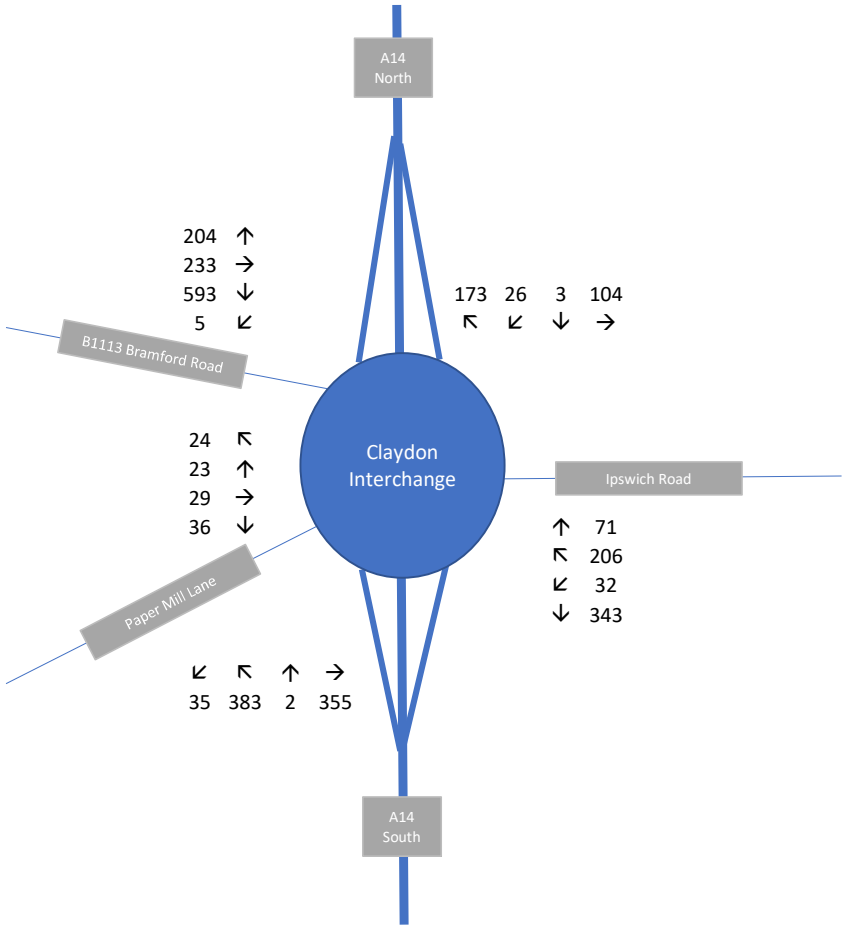
Reference	Comments	Include?	PM Peak Flows
DC/21/04711	Transport and Access Report. No HGVs during peak hours and construction personnel staggered (and not included in the assessment)	No	n/a
DC/21/00060	TMP - negligible vehicle movements	No	n/a
DC/19/01601	Same as DC/21/00060	No	n/a
DC/17/05331	No traffic data required for application	No	n/a
DC/19/03008	No traffic data required for application	No	n/a
DC/18/00233	Transport Assessment available - not assigned at Claydon Interchange, so 50/50 split to and from A14 S/N assumed	Yes	
DC/19/01401	Transport Assessment available - negligible flows (6 two-way) to/from B1113 north	No	
DC/19/00567	Transport Assessment available - not assigned at Claydon Interchange, so 50/50 split to and from A14 S/N assumed	Yes	
1856/17	TA Part 3	Yes	
DC/18/02010	Refused	No	n/a

	Total vehice flows (cars)			
	Departures to		Arrivals from	
	A14 N	A14 S	A14 N	A14 S
B1113 Bramford Road	17	17	28	28
Ipswich Road		6		14

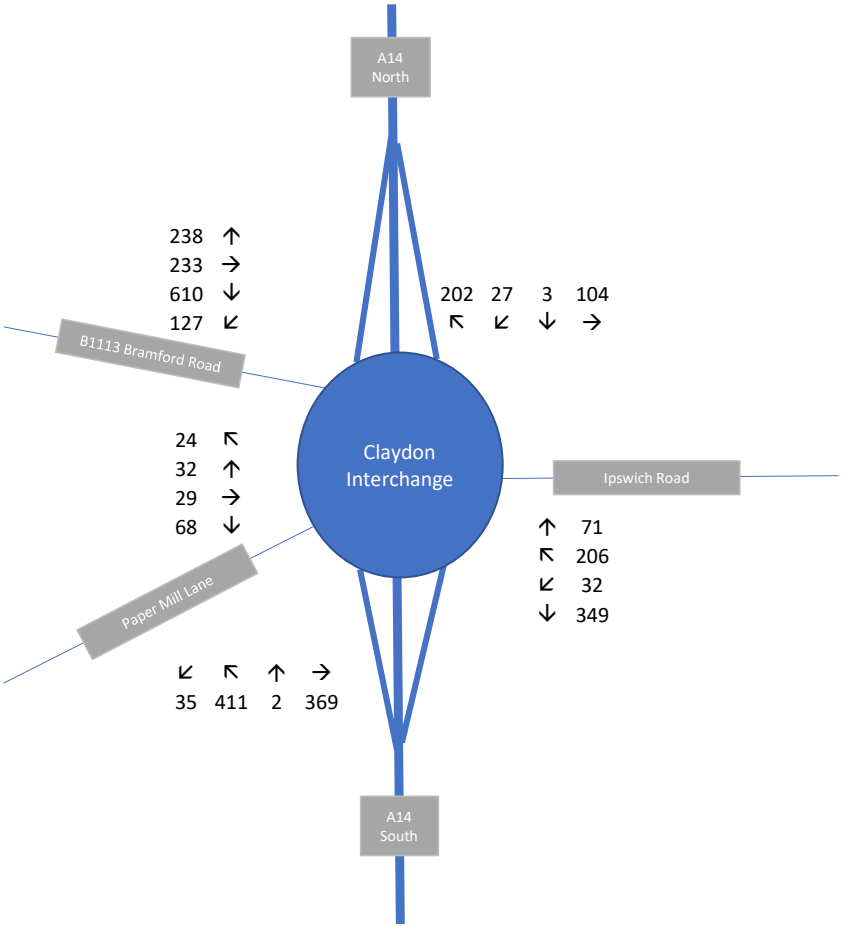
APPENDIX 02

Assessment Scenario Traffic Flows

2023 Base + Committed Development (17:00 to 18:00)

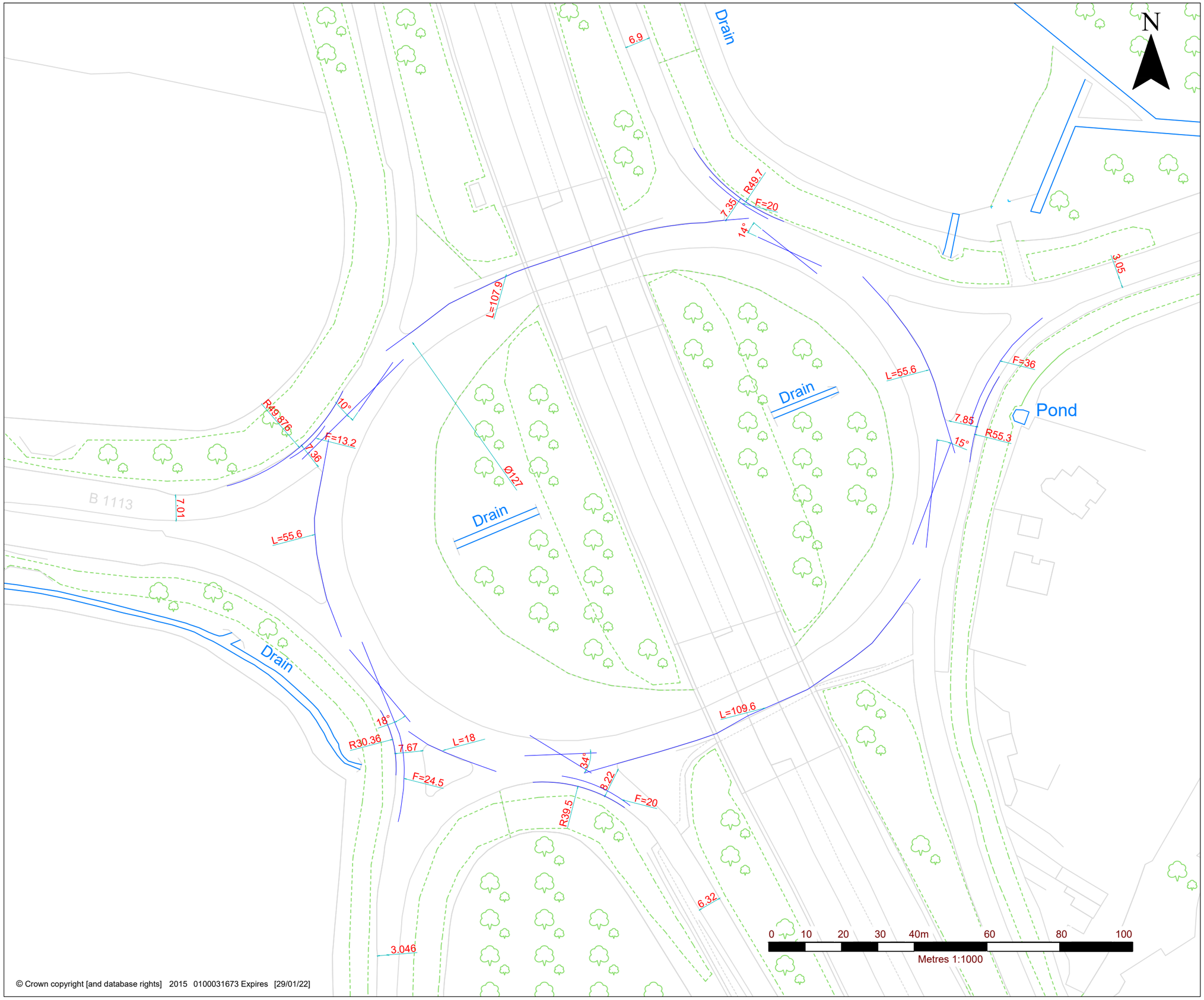


2023 Base + Committed Development + EA3 (17:00 to 18:00)



APPENDIX 03

ARCADY Results



406.05356.00001.14.SK01.0.dwg

NOTES

LEGEND

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CLAYDON INTERCHANGE

EAST ANGLIA THREE

ARCADY MEASUREMENTS

SK01

Scale 1:1,000 @ A3

Date FEBRUARY 2022

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.1.7462

Filename: 20220208_A14_Claydon_PM_B1113_Single_Lane.j9
Path: \\euafs\SHEFS\SHE\AMA Sheffield\Projects\Scottish Power Renewables - 00481\404.05356.00006 - East Anglia offshore wind farms\EA3\B1113 Corridor TAs
Report generation date: 08/02/2022 13:57:42

»2023 Base, AM
»2023 Base, PM
»2023 Base + Com Dev, PM
»2023 Base + Com Dev + E3, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2023 Base									
Arm 1	D1	1.1	4.31	0.52	A	D2	0.7	3.33	0.40	A
Arm 2		0.6	2.86	0.38	A		0.6	2.75	0.38	A
Arm 3		0.1	3.26	0.11	A		0.1	2.99	0.09	A
Arm 4		2.0	8.59	0.67	A		1.6	7.35	0.62	A
Arm 5		0.3	3.35	0.22	A		0.3	3.20	0.21	A
	2023 Base + Com Dev									
Arm 1						D3	0.7	3.49	0.41	A
Arm 2							0.7	2.92	0.41	A
Arm 3							0.1	3.13	0.10	A
Arm 4							1.7	7.69	0.64	A
Arm 5							0.3	3.38	0.24	A
	2023 Base + Com Dev + E3									
Arm 1						D4	0.8	3.89	0.44	A
Arm 2							0.7	3.14	0.43	A
Arm 3							0.2	3.26	0.13	A
Arm 4							2.5	10.12	0.72	B
Arm 5							0.3	3.72	0.26	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	28/01/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR\llong
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Base	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023 Base	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023 Base + Com Dev	PM	ONE HOUR	16:45	18:15	15	✓
D4	2023 Base + Com Dev + E3	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2023 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A14 Claydon Interchange	Large Roundabout		1, 2, 3, 4, 5	5.02	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Ipswitch Road	
2	A14 Northbound Offslip	
3	Paper Mill Lane	
4	Bramford Road	
5	A14 Southbound Offslip	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.05	7.85	36.0	55.3	127.0	15.0	
2	6.32	8.22	20.0	39.5	127.0	34.0	
3	3.05	7.67	24.5	30.4	127.0	18.0	
4	3.60	3.60	0.0	49.9	127.0	10.0	
5	6.90	7.35	20.0	49.7	127.0	14.0	

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	1032	55.60
2	718	109.60
3	1373	18.00
4	646	55.60
5	1469	107.90

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.906	2615
2	1.012	2848
3	0.784	2412
4	0.751	1794
5	0.886	2703

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Base	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	838	100.000
2		ONE HOUR	✓	699	100.000
3		ONE HOUR	✓	128	100.000
4		ONE HOUR	✓	777	100.000
5		ONE HOUR	✓	278	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	512	35	201	90
	2	305	0	23	369	2
	3	38	30	0	39	21
	4	233	490	43	11	0
	5	107	2	16	153	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	2	0	2	1
	2	3	0	13	13	0
	3	5	10	0	13	10
	4	3	11	0	24	27
	5	3	0	13	13	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.52	4.31	1.1	A	769	1153
2	0.38	2.86	0.6	A	641	962
3	0.11	3.26	0.1	A	117	176
4	0.67	8.59	2.0	A	713	1069
5	0.22	3.35	0.3	A	255	383

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	631	158	558	2017	0.313	629	513	0.0	0.5	2.590	A
2	526	132	412	2218	0.237	525	775	0.0	0.3	2.126	A
3	96	24	849	1550	0.062	96	88	0.0	0.1	2.475	A
4	585	146	365	1396	0.419	582	580	0.0	0.7	4.407	A
5	209	52	862	1731	0.121	209	85	0.0	0.1	2.365	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	753	188	669	1908	0.395	753	613	0.5	0.6	3.113	A
2	628	157	493	2138	0.294	628	928	0.3	0.4	2.383	A
3	115	29	1016	1422	0.081	115	105	0.1	0.1	2.754	A
4	699	175	437	1345	0.519	697	694	0.7	1.1	5.545	A
5	250	62	1032	1583	0.158	250	101	0.1	0.2	2.699	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	923	231	817	1761	0.524	921	750	0.6	1.1	4.274	A
2	770	192	603	2030	0.379	769	1135	0.4	0.6	2.853	A
3	141	35	1244	1246	0.113	141	128	0.1	0.1	3.255	A
4	855	214	534	1274	0.671	852	850	1.1	2.0	8.445	A
5	306	77	1262	1384	0.221	306	124	0.2	0.3	3.338	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	923	231	820	1759	0.525	923	752	1.1	1.1	4.305	A
2	770	192	604	2029	0.379	770	1138	0.6	0.6	2.857	A
3	141	35	1245	1245	0.113	141	129	0.1	0.1	3.259	A
4	855	214	535	1274	0.672	855	851	2.0	2.0	8.593	A
5	306	77	1266	1381	0.222	306	124	0.3	0.3	3.349	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	753	188	673	1904	0.396	755	616	1.1	0.7	3.136	A
2	628	157	495	2137	0.294	629	933	0.6	0.4	2.390	A
3	115	29	1018	1420	0.081	115	106	0.1	0.1	2.758	A
4	699	175	438	1344	0.520	702	696	2.0	1.1	5.639	A
5	250	62	1038	1578	0.158	250	102	0.3	0.2	2.710	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	631	158	562	2014	0.313	632	515	0.7	0.5	2.608	A
2	526	132	414	2216	0.237	527	780	0.4	0.3	2.131	A
3	96	24	852	1548	0.062	96	88	0.1	0.1	2.479	A
4	585	146	366	1395	0.419	586	583	1.1	0.7	4.459	A
5	209	52	867	1726	0.121	209	85	0.2	0.1	2.373	A

2023 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A14 Claydon Interchange	Large Roundabout		1, 2, 3, 4, 5	4.31	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	1032	55.60
2	718	109.60
3	1373	18.00
4	646	55.60
5	1469	107.90

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023 Base	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	646	100.000
2		ONE HOUR	✓	722	100.000
3		ONE HOUR	✓	112	100.000
4		ONE HOUR	✓	736	100.000
5		ONE HOUR	✓	274	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	343	32	200	71
	2	355	0	35	330	2
	3	29	36	0	24	23
	4	204	480	48	4	0
	5	104	3	26	141	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	2	3	3	1
	2	3	0	15	9	0
	3	0	6	0	17	0
	4	2	5	2	75	6
	5	3	0	0	12	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.40	3.33	0.7	A	593	889
2	0.38	2.75	0.6	A	663	994
3	0.09	2.99	0.1	A	103	154
4	0.62	7.35	1.6	A	675	1013
5	0.21	3.20	0.3	A	251	377

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	486	122	553	2036	0.239	485	519	0.0	0.3	2.319	A
2	544	136	392	2285	0.238	542	647	0.0	0.3	2.064	A
3	84	21	828	1632	0.052	84	106	0.0	0.1	2.325	A
4	554	139	388	1433	0.387	552	525	0.0	0.6	4.072	A
5	206	52	867	1775	0.116	206	72	0.0	0.1	2.294	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	581	145	662	1933	0.300	580	621	0.3	0.4	2.661	A
2	649	162	469	2208	0.294	649	774	0.3	0.4	2.308	A
3	101	25	991	1504	0.067	101	127	0.1	0.1	2.564	A
4	662	165	464	1377	0.481	660	628	0.6	0.9	5.016	A
5	246	62	1038	1629	0.151	246	86	0.1	0.2	2.603	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	711	178	810	1794	0.397	710	761	0.4	0.7	3.319	A
2	795	199	574	2103	0.378	794	947	0.4	0.6	2.750	A
3	123	31	1213	1329	0.093	123	155	0.1	0.1	2.985	A
4	810	203	568	1300	0.623	808	769	0.9	1.6	7.267	A
5	302	75	1270	1430	0.211	301	106	0.2	0.3	3.189	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	711	178	812	1792	0.397	711	762	0.7	0.7	3.331	A
2	795	199	575	2102	0.378	795	949	0.6	0.6	2.753	A
3	123	31	1214	1328	0.093	123	155	0.1	0.1	2.987	A
4	810	203	568	1300	0.624	810	770	1.6	1.6	7.353	A
5	302	75	1273	1427	0.211	302	106	0.3	0.3	3.197	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	581	145	666	1930	0.301	582	623	0.7	0.4	2.673	A
2	649	162	470	2207	0.294	650	777	0.6	0.4	2.312	A
3	101	25	993	1503	0.067	101	127	0.1	0.1	2.569	A
4	662	165	464	1376	0.481	664	629	1.6	0.9	5.076	A
5	246	62	1042	1625	0.152	247	86	0.3	0.2	2.612	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	486	122	557	2033	0.239	487	522	0.4	0.3	2.330	A
2	544	136	393	2284	0.238	544	650	0.4	0.3	2.069	A
3	84	21	831	1630	0.052	84	106	0.1	0.1	2.328	A
4	554	139	389	1432	0.387	555	527	0.9	0.6	4.112	A
5	206	52	872	1771	0.116	206	72	0.2	0.1	2.300	A

2023 Base + Com Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A14 Claydon Interchange	Large Roundabout		1, 2, 3, 4, 5	4.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	1032	55.60
2	718	109.60
3	1373	18.00
4	646	55.60
5	1469	107.90

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2023 Base + Com Dev	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	652	100.000
2		ONE HOUR	✓	764	100.000
3		ONE HOUR	✓	112	100.000
4		ONE HOUR	✓	749	100.000
5		ONE HOUR	✓	302	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	349	32	200	71
	2	369	0	35	358	2
	3	29	36	0	24	23
	4	204	497	48	0	0
	5	104	3	26	169	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	2	3	3	1
	2	3	0	15	9	0
	3	0	6	0	17	0
	4	2	5	2	75	6
	5	3	0	0	12	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.41	3.49	0.7	A	598	897
2	0.41	2.92	0.7	A	701	1052
3	0.10	3.13	0.1	A	103	154
4	0.64	7.69	1.7	A	687	1031
5	0.24	3.38	0.3	A	277	416

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	491	123	584	2008	0.244	490	530	0.0	0.3	2.368	A
2	575	144	410	2267	0.254	574	664	0.0	0.3	2.124	A
3	84	21	878	1594	0.053	84	106	0.0	0.1	2.384	A
4	564	141	398	1430	0.394	561	564	0.0	0.6	4.130	A
5	227	57	887	1752	0.130	227	72	0.0	0.1	2.360	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	586	147	699	1900	0.309	586	634	0.3	0.4	2.740	A
2	687	172	490	2187	0.314	686	794	0.3	0.5	2.400	A
3	101	25	1050	1458	0.069	101	127	0.1	0.1	2.651	A
4	673	168	476	1372	0.491	672	675	0.6	1.0	5.131	A
5	271	68	1062	1604	0.169	271	86	0.1	0.2	2.702	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	718	179	855	1753	0.410	717	776	0.4	0.7	3.472	A
2	841	210	600	2077	0.405	840	972	0.5	0.7	2.911	A
3	123	31	1286	1272	0.097	123	155	0.1	0.1	3.131	A
4	825	206	583	1293	0.638	822	826	1.0	1.7	7.584	A
5	333	83	1299	1402	0.237	332	106	0.2	0.3	3.363	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	718	179	858	1750	0.410	718	777	0.7	0.7	3.485	A
2	841	210	601	2076	0.405	841	974	0.7	0.7	2.915	A
3	123	31	1287	1271	0.097	123	155	0.1	0.1	3.135	A
4	825	206	584	1293	0.638	825	827	1.7	1.7	7.686	A
5	333	83	1302	1399	0.238	333	106	0.3	0.3	3.375	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	586	147	703	1896	0.309	587	636	0.7	0.4	2.751	A
2	687	172	492	2185	0.314	688	798	0.7	0.5	2.405	A
3	101	25	1052	1456	0.069	101	127	0.1	0.1	2.657	A
4	673	168	477	1372	0.491	676	676	1.7	1.0	5.200	A
5	271	68	1067	1599	0.170	272	86	0.3	0.2	2.712	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	491	123	588	2005	0.245	491	532	0.4	0.3	2.381	A
2	575	144	412	2266	0.254	576	667	0.5	0.3	2.132	A
3	84	21	881	1591	0.053	84	106	0.1	0.1	2.388	A
4	564	141	399	1429	0.395	565	566	1.0	0.7	4.173	A
5	227	57	892	1748	0.130	228	72	0.2	0.1	2.369	A

2023 Base + Com Dev + E3, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A14 Claydon Interchange	Large Roundabout		1, 2, 3, 4, 5	5.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Entry-to-exit separation (m)
1	1032	55.60
2	718	109.60
3	1373	18.00
4	646	55.60
5	1469	107.90

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2023 Base + Com Dev + E3	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	652	100.000
2		ONE HOUR	✓	771	100.000
3		ONE HOUR	✓	153	100.000
4		ONE HOUR	✓	823	100.000
5		ONE HOUR	✓	304	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	349	32	200	71
	2	369	0	36	364	2
	3	29	68	0	24	32
	4	204	497	122	0	0
	5	104	3	27	170	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	2	3	3	1
	2	3	0	15	9	0
	3	0	4	0	17	3
	4	2	5	2	75	6
	5	3	0	0	12	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.44	3.89	0.8	A	598	897
2	0.43	3.14	0.7	A	707	1061
3	0.13	3.26	0.2	A	140	211
4	0.72	10.12	2.5	B	755	1133
5	0.26	3.72	0.3	A	279	418

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	491	123	665	1935	0.254	490	530	0.0	0.3	2.488	A
2	580	145	467	2211	0.263	579	688	0.0	0.4	2.203	A
3	115	29	883	1597	0.072	115	163	0.0	0.1	2.429	A
4	620	155	429	1410	0.440	616	569	0.0	0.8	4.522	A
5	229	57	966	1686	0.136	228	79	0.0	0.2	2.467	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	586	147	796	1812	0.323	586	634	0.3	0.5	2.933	A
2	693	173	559	2120	0.327	693	823	0.4	0.5	2.522	A
3	138	34	1056	1460	0.094	137	195	0.1	0.1	2.722	A
4	740	185	513	1347	0.549	738	681	0.8	1.2	5.895	A
5	273	68	1157	1524	0.179	273	94	0.2	0.2	2.877	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	718	179	972	1647	0.436	717	775	0.5	0.8	3.866	A
2	849	212	683	1995	0.425	848	1006	0.5	0.7	3.134	A
3	168	42	1293	1272	0.132	168	238	0.1	0.2	3.260	A
4	906	227	628	1262	0.718	901	833	1.2	2.5	9.849	A
5	335	84	1414	1306	0.256	334	115	0.2	0.3	3.703	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	718	179	976	1643	0.437	718	777	0.8	0.8	3.891	A
2	849	212	685	1994	0.426	849	1010	0.7	0.7	3.143	A
3	168	42	1295	1271	0.133	168	239	0.2	0.2	3.264	A
4	906	227	629	1261	0.719	906	835	2.5	2.5	10.123	B
5	335	84	1419	1301	0.257	335	116	0.3	0.3	3.723	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	586	147	802	1807	0.324	587	637	0.8	0.5	2.956	A
2	693	173	561	2118	0.327	694	828	0.7	0.5	2.532	A
3	138	34	1059	1458	0.094	138	196	0.2	0.1	2.727	A
4	740	185	514	1346	0.550	745	683	2.5	1.2	6.037	A
5	273	68	1164	1518	0.180	274	95	0.3	0.2	2.896	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	491	123	669	1931	0.254	491	532	0.5	0.3	2.503	A
2	580	145	469	2209	0.263	581	692	0.5	0.4	2.213	A
3	115	29	886	1594	0.072	115	164	0.1	0.1	2.435	A
4	620	155	430	1409	0.440	621	571	1.2	0.8	4.583	A
5	229	57	973	1681	0.136	229	79	0.2	0.2	2.479	A

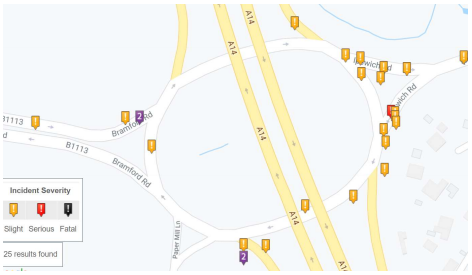
APPENDIX 04

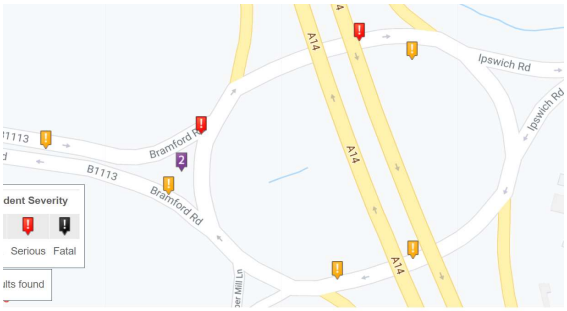
Crashmap Screenshots

2011 - 2015

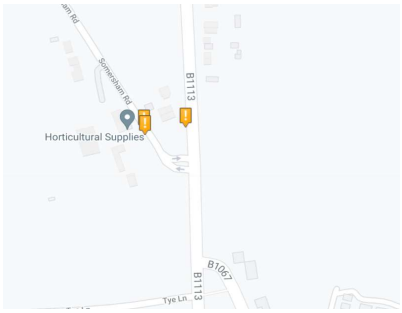
2016 -2020

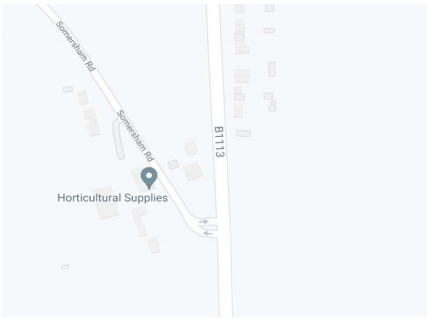
Claydon Interchange





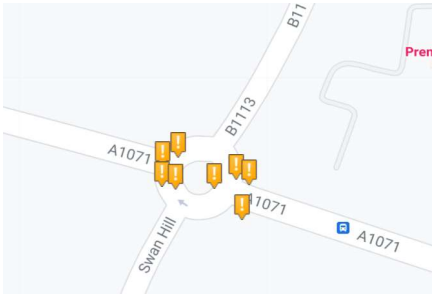
B1113 / Somersham Road

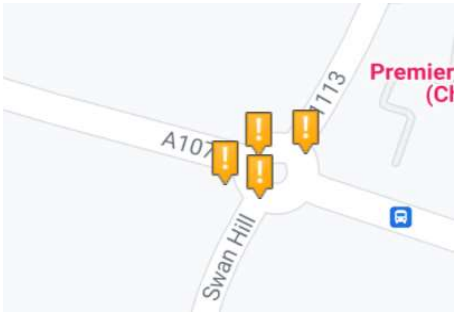




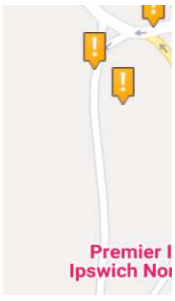
B1113 / Bullen Lane

B1113 / A1071

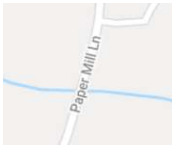




Paper Mill Lane




Paper Mill Ln


Paper Mill Ln

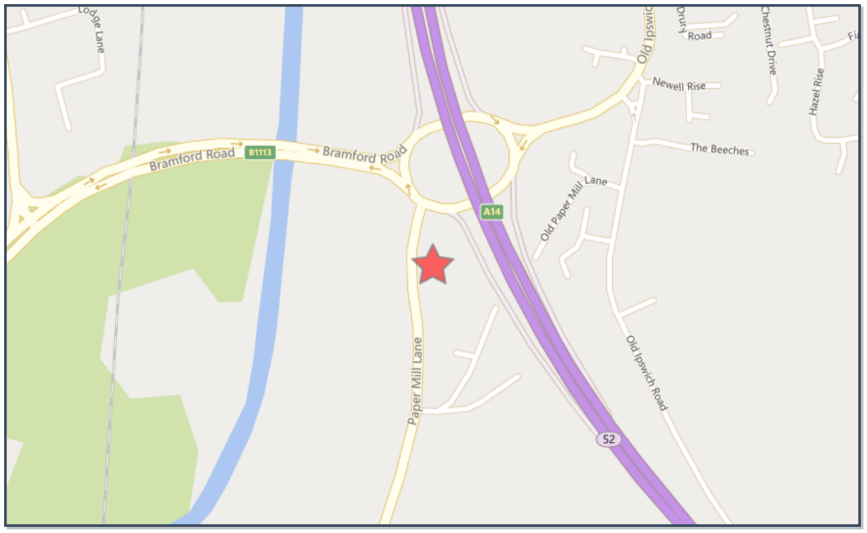
APPENDIX 05

Crashmap Reports

crashmap.co.uk

Validated Data

Crash Date:	Wednesday, November 09, 2016	**Time of Crash:**	10:43:00 PM	**Crash Reference:**	**2016370132278**
Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Suffolk			**Number of Vehicles:**	1
Local Authority:	Mid Suffolk District			**OS Grid Reference:**	612880 249408
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	70				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Dual carriageway				
Junction Control:	Not Applicable				



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	15	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Vehicle or pillion passenger	Female	36 - 45	Unknown or other	Unknown or other

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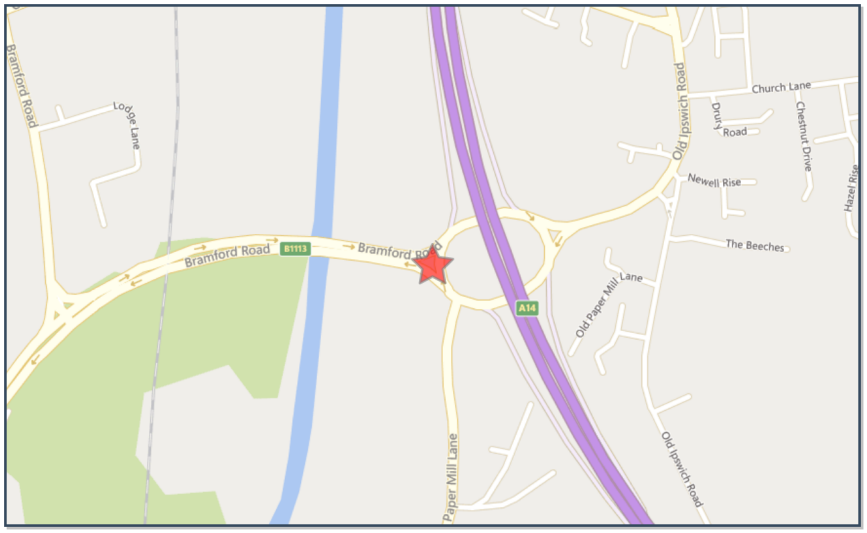
Validated Data

Crash Date:	Monday, August 21, 2017	**Time of Crash:**	5:50:00 PM	**Crash Reference:**	**2017370218598**

Highest Injury Severity:	Slight	**Road Number:**	B1113	**Number of Casualties:**	1
Highway Authority:	Suffolk			**Number of Vehicles:**	4
Local Authority:	Mid Suffolk District			**OS Grid Reference:**	612819 249547
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	40				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Van or goods vehicle 3.5 tonnes mgw and under	10	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Car (excluding private hire)	18	Male	16 - 20	Vehicle is slowing down or stopping	Front	Other	None	None
3	Car (excluding private hire)	12	Male	56 - 65	Vehicle is slowing down or stopping	Back	Other	None	None
4	Car (excluding private hire)	9	Female	26 - 35	Vehicle is slowing down or stopping	Back	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

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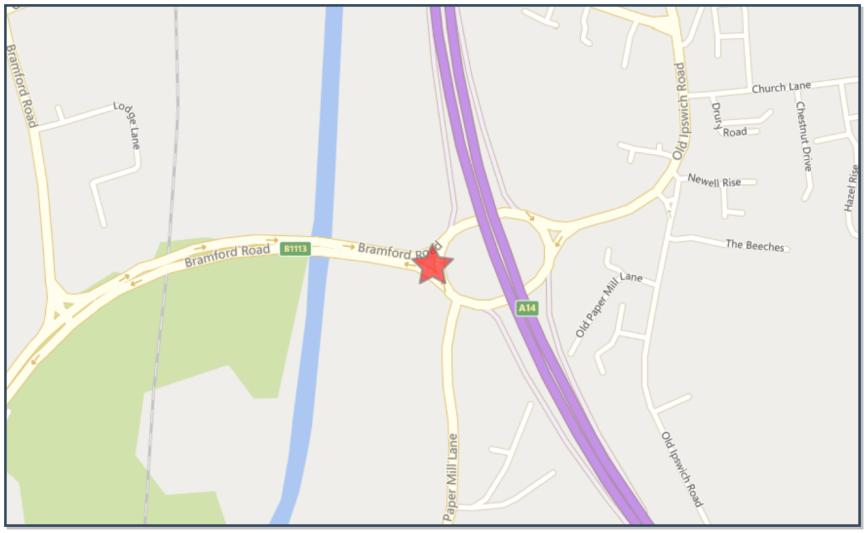
Validated Data

Crash Date:	Friday, July 20, 2018	**Time of Crash:**	7:26:00 AM	**Crash Reference:**	**2018370319130**

Highest Injury Severity:	Slight	**Road Number:**	B1113	**Number of Casualties:**	1
Highway Authority:	Suffolk			**Number of Vehicles:**	2
Local Authority:	Mid Suffolk District			**OS Grid Reference:**	612819 249547
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Other junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	2	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Front	Journey as part of work	None	Wall or fence
2	Agricultural vehicle	4	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	46 - 55	Unknown or other	Unknown or other

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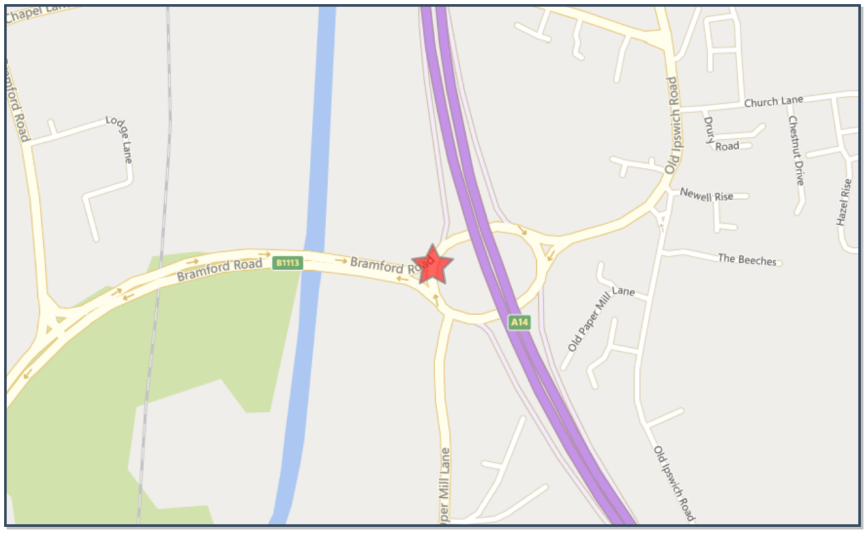
Validated Data

Crash Date:	Thursday, July 19, 2018	**Time of Crash:**	5:45:00 AM	**Crash Reference:**	**2018370336188**

Highest Injury Severity:	Serious	**Road Number:**	B1113	**Number of Casualties:**	1
Highway Authority:	Suffolk			**Number of Vehicles:**	1
Local Authority:	Mid Suffolk District			**OS Grid Reference:**	612829 249569
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	70				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Roundabout				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Dual carriageway				
Junction Control:	Give way or uncontrolled				



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Motorcycle over 50cc and up to 125cc	11	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Driver or rider	Male	36 - 45	Unknown or other	Unknown or other

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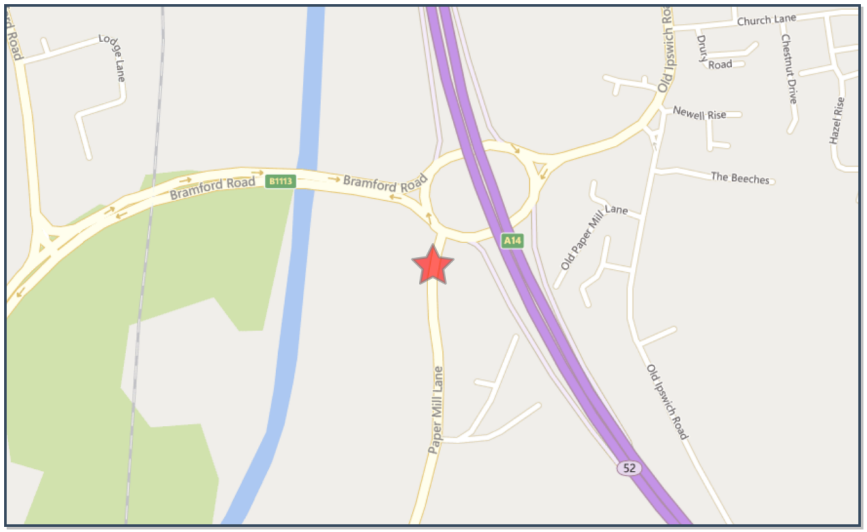
Validated Data

Crash Date:	Friday, October 05, 2018	**Time of Crash:**	8:27:00 AM	**Crash Reference:**	**2018370338860**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	2
Highway Authority:	Suffolk			**Number of Vehicles:**	2
Local Authority:	Mid Suffolk District			**OS Grid Reference:**	612846 249443
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	60				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Roundabout				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	11	Female	36 - 45	Vehicle is moving off	Front	Commuting to/from work	None	None
2	Car (excluding private hire)	14	Female	46 - 55	Vehicle is waiting to proceed normally but is held up	Back	Commuting to/from work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	36 - 45	Unknown or other	Unknown or other
2	2	Slight	Vehicle or pillion passenger	Male	36 - 45	Unknown or other	Unknown or other

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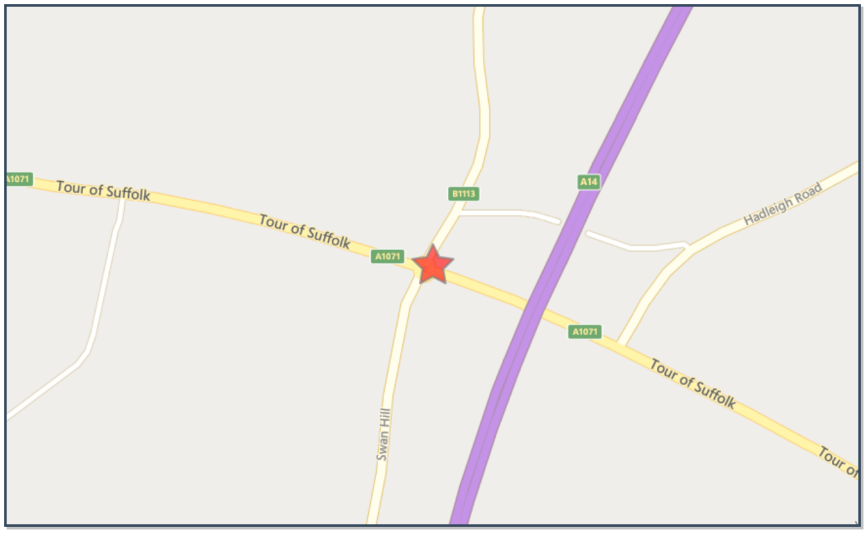
Validated Data

Crash Date:	Thursday, November 28, 2019	**Time of Crash:**	6:35:00 PM	**Crash Reference:**	**2019370927135**

Highest Injury Severity:	Slight	**Road Number:**	A1071	**Number of Casualties:**	1
Highway Authority:	Suffolk			**Number of Vehicles:**	2
Local Authority:	Babergh District			**OS Grid Reference:**	612358 243647
Weather Description:	Raining without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	Roundabout				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	3	Female	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Journey as part of work	None	None
2	Car (excluding private hire)	8	Male	46 - 55	Vehicle is in the act of turning right	Offside	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	26 - 35	Unknown or other	Unknown or other

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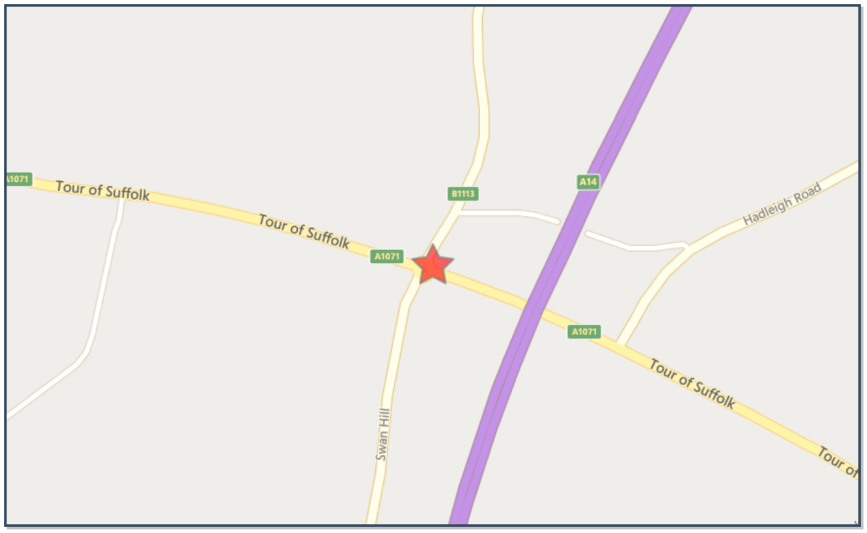
Validated Data

Crash Date:	Sunday, November 08, 2020	**Time of Crash:**	12:00:00 PM	**Crash Reference:**	**2020371003468**

Highest Injury Severity:	Slight	**Road Number:**	A1071	**Number of Casualties:**	1
Highway Authority:	Suffolk			**Number of Vehicles:**	2
Local Authority:	Babergh District			**OS Grid Reference:**	612360 243642
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Roundabout				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Roundabout				
Junction Control:	Give way or uncontrolled				



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Validated Data

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	8	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Pedal cycle	-1	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	46 - 55	Unknown or other	Unknown or other

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609000 609500 610000 610500

246500 246000

Track Track Track BULLEN LANE BULLEN LANE Track Track

Coordinate System: British National Grid
Projection: Transverse Mercator
Datum: OSGB 1936
Units: Meter

Works No.s Overview

Tye Lane Woodlands Farm Black Cottage Tye Lane Bullen Hall Farm Channel Hill Farm Burstallhill

69 65 64 67 62 63 66 68

EA THREE DCO Corridor
EA THREE Onshore Converter Station Layout Detail
EA THREE Onshore Converter Station Temporary Site Facilities Detail

EA THREE Converter Substation to National Grid Substation Cable Route
400kV AC Cable - Open Cut Section
400kV AC Cable - Ducted Section

EA THREE Onshore Converter Station Access Roads
Permanent
Temporary

EA THREE Cable Access Road
Haul Road
EA THREE Onshore Converter Station SUDs Pond
EA THREE Area to be Reprofiled

EA ONE Onshore Converter Station Access Road

Works No.s
65 62 66 63 67 64 68 69

GoBe consultants

Rev	Date	By	Comment
B	04/04/2022	PW	Second Issue
A	31/03/2022	JRS	First Issue

Original A3 Plot Scale 1:5,000

0 100 200 Metres

Onshore Converter Station Stage

Figure 1: Site Context Plan

Drg No	05356.00006.12.0001.1 ONCS Site Context Plan
Rev	2
Date	04/04/2022
Layout	N/A

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