

National Grid
Cable Tunnel Replacement
Project

Environmental Statement
Volume VI

Appendix 10.2: Abnormal Load
Assessment Report

December 2023



the
transportation
consultancy

EXCEED RESPECT VALUE INNOVATE

Abnormal Load Assessment

Date: July 2023

Prepared for: National Grid

Project: TKRE, Grain-Tilbury and Kingsnorth-Tilbury 400kV Upgrading FEED

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List of Abbreviations

Term	Definition
AIL	Abnormal Indivisible Load
ALA	Abnormal Load Assessment
C&U	Construction & Use
CTMP	Construction Traffic Management Plan
DfT	Department for Transport
kV	KiloVolt
KCC	Kent County Council
LHA	Local Highway Authority
LRN	Local Highway Network
SGTO	Special Types General Order
SRN	Strategic Road Network
TC	Thurrock Council
TBM	Tunnel Boring Machine
VCA	Vehicle Certification Agency
VSO	Vehicle Special Order

1. Introduction

1.1 Overview

The Transportation Consultancy Ltd ('ttc') have been appointed to prepare an Abnormal Load Assessment (ALA) in support of the construction and uprating of the transmission distribution system of the National Grid (NG) TKRE, Grain-Tilbury and Kingsnorth-Tilbury 400kV circuits which are forecasted to become overloaded in their current capacity and require uprating.

1.2 Purpose of the Abnormal Load Assessment

This ALA has been prepared to accompany a planning application in relation to the construction and uprating of the NG tunnelled transmission distribution system between TKRE, Grain-Tilbury and Kingsnorth-Tilbury.

The impacts of the proposed tunnel circuit system will primarily occur during the construction phase of the project and therefore this report, identifies a safe and efficient transport route for Abnormal Indivisible Loads (AIL) to access the site during the construction period, with due consideration of the existing highway conditions.

Scenarios for the delivery of the TBM by waterway (via Port of Tilbury Docks) and by the Local Road Network (LRN) and Strategic Road Network (SRN) e.g A134, A1089 and A2, M2 are considered within the ALA.

The purpose of this report is to outline the routes being considered for the transportation of the Tunnel Boring Machine (TBM) and confirmation is sought from the relevant Local Highway Authority (LHA) that the proposed transfer routes are acceptable in principle.

This ALA should be read alongside the Construction Traffic Management Plan (CTMP) (Report Reference: 210707-01) which also supports the planning application.

1.3 Consultation

Thurrock Council (TC), Kent County Council (KCC), National Highways (NH), Essex Police (EP) and Kent Police (KP) have been contacted to provide consultation and advice on the proposed transfer route and to seek approval in principle. A summary of consultation responses is presented in **Table 1.1**.

Table 1.1 Consultee Responses

Consultee	Date Contacted	Response	Action
Thurrock Council	19 th May 2023	Routing is on the Strategic Road Network and therefore under the jurisdiction of National Highways	TTC liaising with abnormal loads team at National Highways. Contact: JHowes@thurrock.gov.uk
Kent County Council	22 nd May 2023	Has requested pre-application fees to review. TBD	On-going Contact: Angela.Coull@kent.gov.uk
National Highways	22 nd May 2023	Connect Plus Services deal with Abnormal Load Transfers on NH assets.	TTC has shared routing information and details of loads and vehicle specification. Contact: Ata.Ahmad@connectplum25.co.uk

Consultee	Data Contacted	Response	Action
		Has requested additional information regarding gross weights, ales weights, an routes. This has been shared.	
Essex Police	22 nd May 2023	In accordance with standard protocol, Essex Police outlined the following criteria: - C&U/ STGO CAT1 & CAT2 = 2 clear working days - STGO CAT3 = 5 clear working days - TBM can be moved under self escort. - Movements not permitted: a. Monday – Friday 0700-0900 hours b. Monday – Friday 1630-1900 hours - That the movement DOES NOT deviate from the notified route. - Movements WILL NOT take place during the hours of darkness unless the route is exclusively utilising roads listed in 'Chart A. - NO MORE than 2 loads to travel together - The weight of the load(s) travelling together DOES NOT exceed the weight for the structure over which it passes	Relevant notice periods and protocols to be adhered. If not, haulier and driver liable to prosecution Contact: Abloads@essex.police.uk
Kent Police	19 th May 2023	In accordance with standard protocol, Kent Police outlined the following criteria: - provide Police with '2 clear days' notice' - required by law to notify Kent Police when a load intends to travel on roads in Kent when it exceeds one of the following: - Exceed 2.9m width - Exceed 18.65m - Exceed 80T	Relevant notice periods and protocols to be adhered. If not, haulier and driver liable to prosecution Contact: abloads@kent.police.uk

Copies of correspondence is provided at **Appendix A**.

1.4 Objectives of the ALA

The objectives of the ALA would be to provide information on:

- Legislative and Procedural Guidance;
- AIL Types and Transfer Vehicle types;
- Route Appraisal and Swept Path Analysis; and,
- Management Strategy

1.5 Structure of the ALA

The remainder of this ALA is structured as follows:

- **Chapter 2 – Development Proposals:** summaries the development proposals and construction timescales.

- **Chapter 3 – Legislative & Procedural Guidelines:** provides an overview of the relevant guidance and procedural documentation used to determine the category of AIL vehicle and respective requirements concerning notification procedures, speed limits and escorts;
- **Chapter 4 – AIL Types and Transfer Vehicle Specifications:** provides details of the different AIL components being considered and the respective transfer vehicle configuration, which includes details on axle spacing/loading;
- **Chapter 5 – Route Options, Appraisal and Assessment:** provides an overview of the route options, including the identification of ‘pinch points’ and the works required to accommodate the proposed movements; and
- **Chapter 6 – Management Strategy:** details the general management measures that will be adhered to during the transfer of AILs.

2. Development Proposals

2.1 Overview

The proposed development is situated in the south-east of England in the administrative boundaries of the following authorities:

- Thurrock Council (TC) – a Unitary Authority (also act as the LHA);
- Kent County Council (KCC); and,
- Gravesham District Council – KCC as the LHA

The existing NG Grain-Tilbury and Kingsnorth-Tilbury 400kV circuits are forecasted to become significantly overloaded in their current capacity and require uprating. The circuits are predominantly overhead line, with cabled sections installed within a deep tunnel crossing the River Thames.

The uprating of the Grain-Tilbury and Kingsnorth-Tilbury 400kV circuits involves:

- Installation of 400kV cables within a new tunnel connection under the River Thames;
- Uprating of 400kV 4TK Grain-Tilbury and 4VG Kingsnorth-Tilbury overhead lines including downloads by reconductoring of the existing OHL sections of the Tilbury-Grain/Tilbury-Kingsnorth circuits; and,
- Uprating of substation bays at Grain, Kingsnorth, and Tilbury substations

2.2 Site Location

The Tilbury site is located within an industrial area and is bound by a concrete production factory to the north, industrial land to the east, the River Thames to the south and a vehicle storage site to its west. The Gravesend site is bound by the River Thames to the north, shooting range to the east, Thames and Medway Canal Road to the south and the Metropolitan Police Training building to the west.

Figure 2.1 below illustrates the site's location within the local context.

Figure 2.1 Site Location



2.3 Development Phases

This ALA considers the movement of AILs during construction phase of the proposed development only. No movement of AILs are necessary during the operational period of the proposed development.

2.4 Project Timescales

The duration of the entire construction programme is approximately 46 months commencing in March 2025. The tunnel construction activities are expected to last approximately 17 months commencing March 2026 which the 'Tunnel Drive' lasting 8 months between July 2026 and February 2027.

3. Legislative & Procedural Guidelines

3.1 Overview

'*The Road Vehicles (Construction & Use) Regulations 1986*' - usually referred to as '*Construction & Use*', or '*C&U regulations*', describes the different types and classification of permitted vehicles for use on the road, for example motor cars, motorbikes, buses, lorries, mobile cranes, and tracked vehicles. It also states the maximum dimensions for each type of vehicle, its gross weight, number of axles, braking system, type of tyres, maximum speed, exhaust system and mirrors.

In conjunction with the C&U regulations the '*The Road Vehicles (Authorised Weight) Regulations 1998*' - usually referred to as '*Authorised Weight Regulations*', details the imposed maximum weight (gross and per axle) of different types of vehicles relating to the number of axles within each category of vehicle.

Vehicles not conforming to the regulations specified above are subject to The Road Vehicles (Authorisation of Special Types) (General) Order 2003 - usually referred to as '*Special Types*' or '*STGO*'. It specifies when the Police, Roads Authority or secretary of state is to be notified of an intended vehicle movement, and the number of days' notice required before the movement takes place.

3.2 STGO – Abnormal Indivisible Load Regulations

AIL transport vehicles are broadly defined by the Department for Transport (DfT) as vehicles that have any of the following:

- A weight of more than 44,000 kg;
- An axle load of more than 10,000 kg for a single non-driving axle and 11,500 kg for a single driving axle;
- A width of more than 2.9 m; and
- A rigid length of more than 18.65 m.

In addition to the above, hauliers are generally advised to inform statutory authorities if total vehicle heights are likely to exceed 5.0 m (although it should be noted that there is no legal height restriction).

STGO vehicles are further categorised into three weight categories, as follows:

- Category 1 - Maximum Gross Weight: 50,000 kg, C&U regulation axle limit (46,000 kg if the combination has less than 6 axles and does not comply in all other respects with the Authorised Weight regulations);
- Category 2 - Maximum Gross Weight: 80,000 kg, 12,500 kg axle limit; and
- Category 3 - Maximum Gross Weight: 150,000 kg, 16,000 kg axle limit.

For all categories, the following advice is provided with regards to width:

- A vehicle, locomotive or trailer may be up to 3.0 m wide and, subject to certain qualifications, this limit may be exceeded if it is necessary for the safe carriage of the load;
- Loads wider than 5 m can only be conveyed if authorised by special order (the VR1 procedure – supplementary form under STGO regulations). The VR1 must be carried on the vehicle and at least 10 days notification is required prior to the movement date; and

- The load cannot exceed 6.1 m width under STGO regulations.

For all categories, the following advice is provided with regards to length:

- The overall length of the vehicle(s) and load may be up to 30 m, or greater if authorised by special order from the secretary of state (see Section 2.3). In any combination of vehicles on which a load rests, including any articulated vehicle, the 30 m does not include the length of the drawing vehicle; and
- An articulated vehicle or trailer, which is abnormal only in respect of length for carrying indivisible loads of exceptional length, can operate under normal C&U regulations.

With regards to speeds, those that apply to each of the weight categories are set out in **Table 3.1**.

Table 3.1 Speed limits against weight category

	Definition		
	Motorways	Dual Carriageway	Other
Category 1	Normal	Normal	Normal
Category 2	40 mph	35 mph	30 mph
Category 3	30 mph	25 mph	20 mph
Article 20 (over 4.3m wide)	30 mph	25 mph	20 mph

It should be noted that although the speeds referenced above are the legal limits, the actual achievable speed of the vehicle configuration may be slower.

3.3 Special Orders

Vehicles that exceed one of the following, and thus are not covered by the STGO regulations, necessitates an application for a Vehicle Special Order (VSO):

- Width of 6.1m;
- Length of 30m; and,
- Gross weight of 150,000kg.

To apply a VSO, the following information will need to be supplied to the DfT,

- Name and address of person/ organisation making the application;
- Details of the persons/ organisations of who will be using the vehicles, if different from (point 1);
- The number of vehicles involved;
- Type of vehicles involved, their make, model, registration and/or chassis (serial) numbers of motor vehicles or trailers. These will be listed on any order issued;
- Details of the vehicles e.g. number of axles, individual axle weights, and gross vehicle weights (both in kg), plus dimensions (in m);
- In the case of vehicle combinations, overall weights (in kg) and dimensions (in m); and

- Details of the C&U Regulations with which the vehicles do not comply and the reasons why they cannot comply: The Regulations are specified on an Order and it should be made clear that failure to comply with non-specified Regulations, or supplying incorrect data would invalidate an Order.

On receipt of the application, the Vehicle Certification Agency (VCA) will evaluate the application and contact the applicant should further information be required. Various organisations including the Police, Local Authorities, and other interested parties, both within and outside of the DfT may be consulted; especially in respect of the conditions to be imposed. Following receipt of all information, and assuming that there are no technical reasons or objections from any of the parties consulted, an Order will be prepared and dispatched by email within 10 working days.

Orders are issued for varying periods of time at the discretion of the DfT. Typically, they are issued for a period of up to five years.

The following sets out the speed limits of VSO loads:

- Articulated vehicles weighting between 150 and 250 tonnes: 25mph;
- Draw-bar Trailer vehicles weighting between 150 and 250 tonnes: 20mph; and,
- Girder frame trailers: 12 mph.

3.4 Notification Requirements

Table 3.2 below provides a summary of the actions required dependent upon the vehicle's specified width, length, weight and load projection.

Table 3.2 Summary of required measures

	Width of Vehicle Load	Police Notification	Special Notice to Road & Bridge Authorities (And Indemnity)	Secretary of State 'VR1' Authorisation	Special Order
Width of Vehicle Load	Exceeding 2.9 m up to 4.3m (C&U)	✓			
	Exceeding 3.0m up to 5.0m (STGO)	✓		✓	
	Width between 5.0 m and 6.1 m	✓	✓		✓
Overall Length	Width exceeding 6.1 m	✓			
	Exceeding 18.65 m up to 27.4m (C&U)	✓			
	Exceeding 18.75 m (STGO)	✓	✓		✓
Gross weight of Vehicle and Load	Overall length of a part 2 vehicle combination exceeding 25.9 m	✓	✓		
	Maximum length exceeding 30.0m	✓	✓		
	C&U limits up to 80,000 kg	✓	✓		✓

Note: Part 2, article 12 of the Road Vehicles (Authorisation of Special Types) (General) Order 1003. Full information available:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/503103/Aide_Memoire_updated_Sep_2015.pdf

3.5 Guidance on the Movement of Abnormal Indivisible Loads (March 2010)

This guidance has been issued by the Association of Chief Police Officer (ACPO) of England, Wales & Northern Ireland and sets the general rules for escorting abnormal loads on British roads.

The purpose of this document is to assist individual Constabularies concerning the movement of abnormal loads.

Section 2.14 of the guidance states that:

‘An escort or escort vehicle is not defined in legislation and there is no legal requirement for any abnormal loads to be escorted. There is however a requirement for loads of certain dimensions to have an attendant’.

Section 2.16 lists the dimensions of vehicles that are currently self or privately escorted as follows:

‘Motorways:

- Width over 4.6 m wide;
- Weight over 130 tonnes;
- Length no overall policy (load, route and dimensions considered)

All other roads:

- Width over 4.1 m wide;
- Weight over 100 tonnes;
- Length over 27.4 rigid length

These dimensions are a general guide and forces retain the right to vary them as considered necessary’.

Where there is a requirement to stop or control traffic for the purposes of undertaking a specific manoeuvre, Sections 2.21 and 2.22 state:

‘An escort driver or any other person or attendant to the abnormal load does not have any legislative powers to stop and control other road users. A Police authority will not accredit an escort driver or any other person with powers to stop and control traffic to facilitate the movement of an abnormal load.

The appointed haulier will therefore, confirm the above with all relevant Police Constabularies prior to transfer’.

In accordance with the above, where the stopping of traffic or other road is required, a Police escort will be utilised. In all other instances, self/private escort will be utilised.

4. AIL Types and Transfer Vehicle Specifications

4.1 Overview

This chapter provides details of the different AIL components being considered and the respective transfer vehicle configuration, which includes details on axle spacing/loading.

4.2 AIL Deliveries

The types of transfer vehicles being considered in this assessment are as follows:

- **TBM** – 4-axle Truck with 14-axle ‘Lowboy’ Trailer; and,
- **Cable Drum** – 4-axle Truck with 1+3 axle Lowbed DOLL Panther or 3-axle Truck with 2+4 axle Lowbed Nootboom

The vehicle configurations used to transfer the abnormal loads will ultimately be decided by the appointed haulier, however, the configurations selected are considered a worst-case and robust representation.

It is anticipated that the TBM will use a ballast tractor/s to move the AIL components (model to be confirmed by haulier). The proposed vehicle trailers used in the vehicle configurations have been included below.

The TBM transfer vehicle load and configuration is much larger than the Cable Drum configuration, and therefore, represents a ‘worst-case’ scenario for AIL transfer. The ALA focuses on the movement of the TBM however, for completeness, details of the Cable Drum and vehicle configuration are provided for completeness.

4.3 TBM 14-axle ‘Lowboy’ Trailer

As outlined above the transfer vehicle will be subject to the selected TBM. At the time of writing, and for the purposes of the ALA, the TBM will have an external diameter of 4.6m and weigh c.80-100t. The TBM will be divided into the three sections for transportation (Note: the middle section contains the majority of the equipment and generally cannot be divided further).

It is anticipated that c.55 no. vehicles will be required over the course of a 7-day period to deliver the TBM components, with c.5 no. resulting in AIL transfer. The type of transfer vehicle being considered in this assessment is outlined in **Figure 4.1** below.

Figure 4.1 Typical TBM Transfer Vehicle



Source: <https://www.heavytorque.co.uk/transporting-tbm-mary/>

The TBM transfer vehicle used within this ALA is illustrated in **Figure 4.2** with the trailer specification details presented **Table 4.1**. This is considered worst-case and robust.

TBM could be disassembled at the Gravesend Site, into smaller sections for removal as the TBM will likely require refurbishment, however, removal will likely require abnormal load transfer.

Figure 4.2 Typical TBM Transfer Vehicle Profile

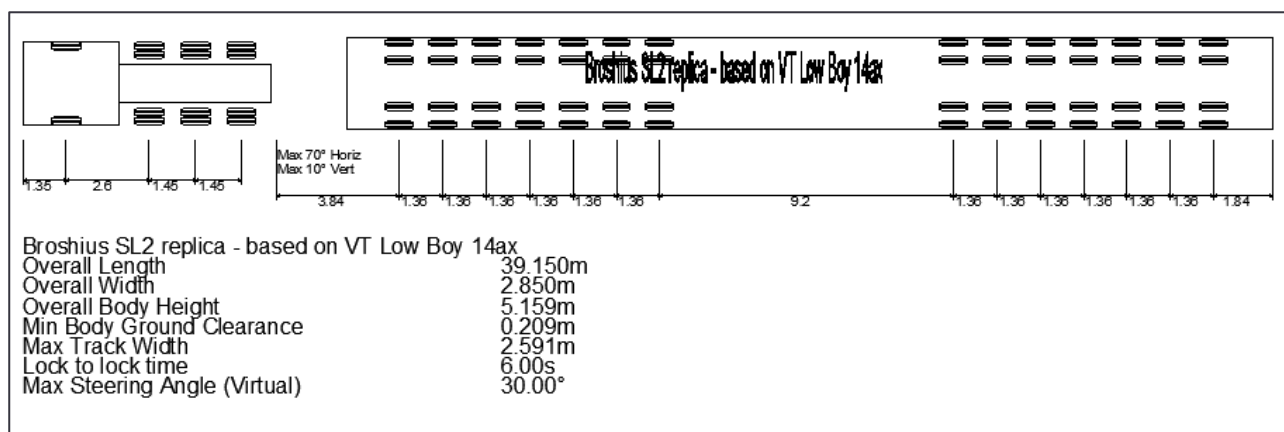


Table 4.1 TBM Trailer Specification

Aspect	Value
Weight	80,000kg to 100,000kg
No. of Axles	14
Axle Weight	5,714kg x 14 to 7,142kg x 14
Wheels per Axle (x) No. of Axles	4 x 7
Axle Spacing	7x 1.360m, 9.2m, 7x 1.360m
Trailer Length	29m

Aspect	Value
Total Length	39.150m
Width wheel track (with load)	2.850m (4.5m)
Height	5.159m
Ground Clearance	0.2m

4.4 Cable Drum Lower Loader

The transport and delivery of cables to the new Tilbury compound, from where the cables are proposed to be pulled, shall be either via the existing local road network or from the Port of Tilbury Docks. It is assumed low loader vehicles will transport the cable drums by road and offload them via a mobile crane into the drum storage area at the site where the pulling of the cables is expected to be undertaken from.

For pulling down the shaft and into the tunnel, the cable drums would need to be picked up by tractors and drum trailers and transported to the front of the headhouses, to be set up ready for feeding down the shaft.

The cable pulling site is expected to be the new Tilbury cable sealing end compound.

The cable drum transfer vehicle is illustrated in **Figure 4.3** with the trailer specification details presented **Table 4.2**.

Figure 4.3 Cable Drum Transfer Vehicles

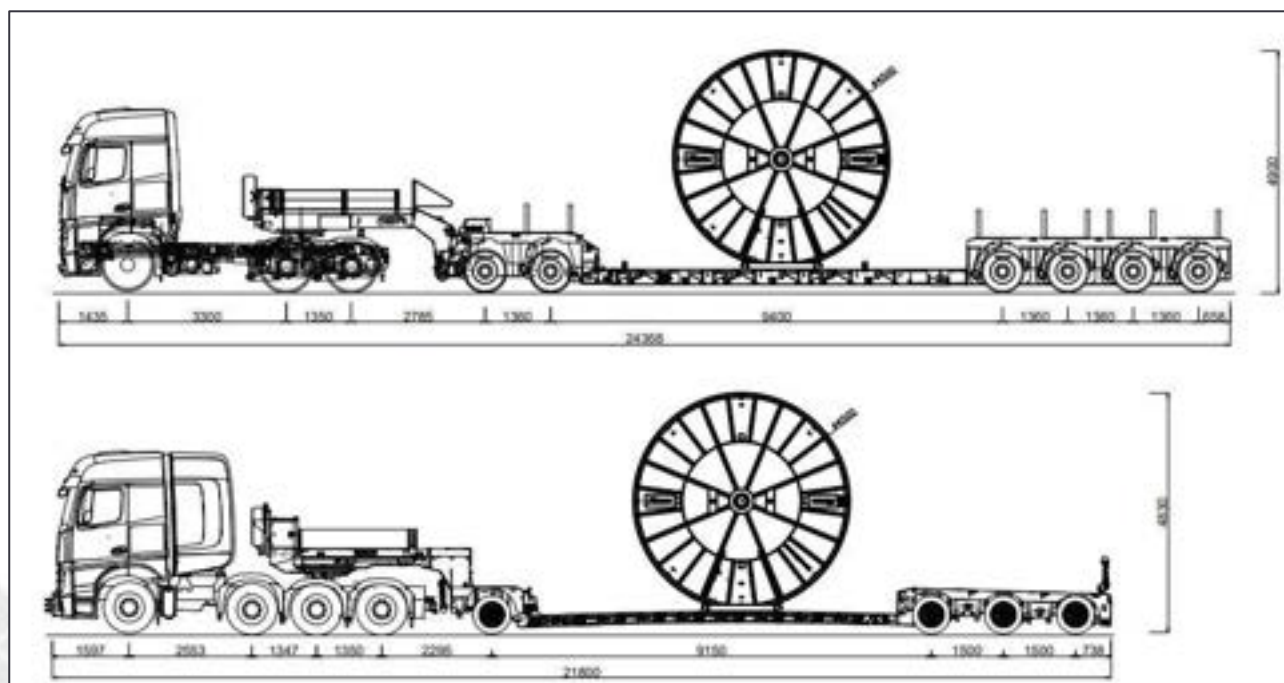


Table 4.2 Cable Trailer Specification

Aspect	Value
Weight	40,000kg
No. of Axles	6
Axle Weight	10,000kg x 4 to 6,666 kg x 6
Wheels per Axle (x) No. of Axles	4 x 4 or 4 x 6
Axle Spacing	1x 1.360m, 9.4m, 4 x 1.360m
Length	24.36m
Width	3.8m
Max Height	4.9m

5. Route Options, Appraisal and Assessment

5.1 Overview

This section of the report outlines the proposed routes that could be used for the transfer the following:

- TBM from the SRN to the Tilbury Site;
- TBM from the Port of Tilbury Docks to the Tilbury Site; and,
- TBM from the Gravesend Site to SRN

The routes have been determined using:

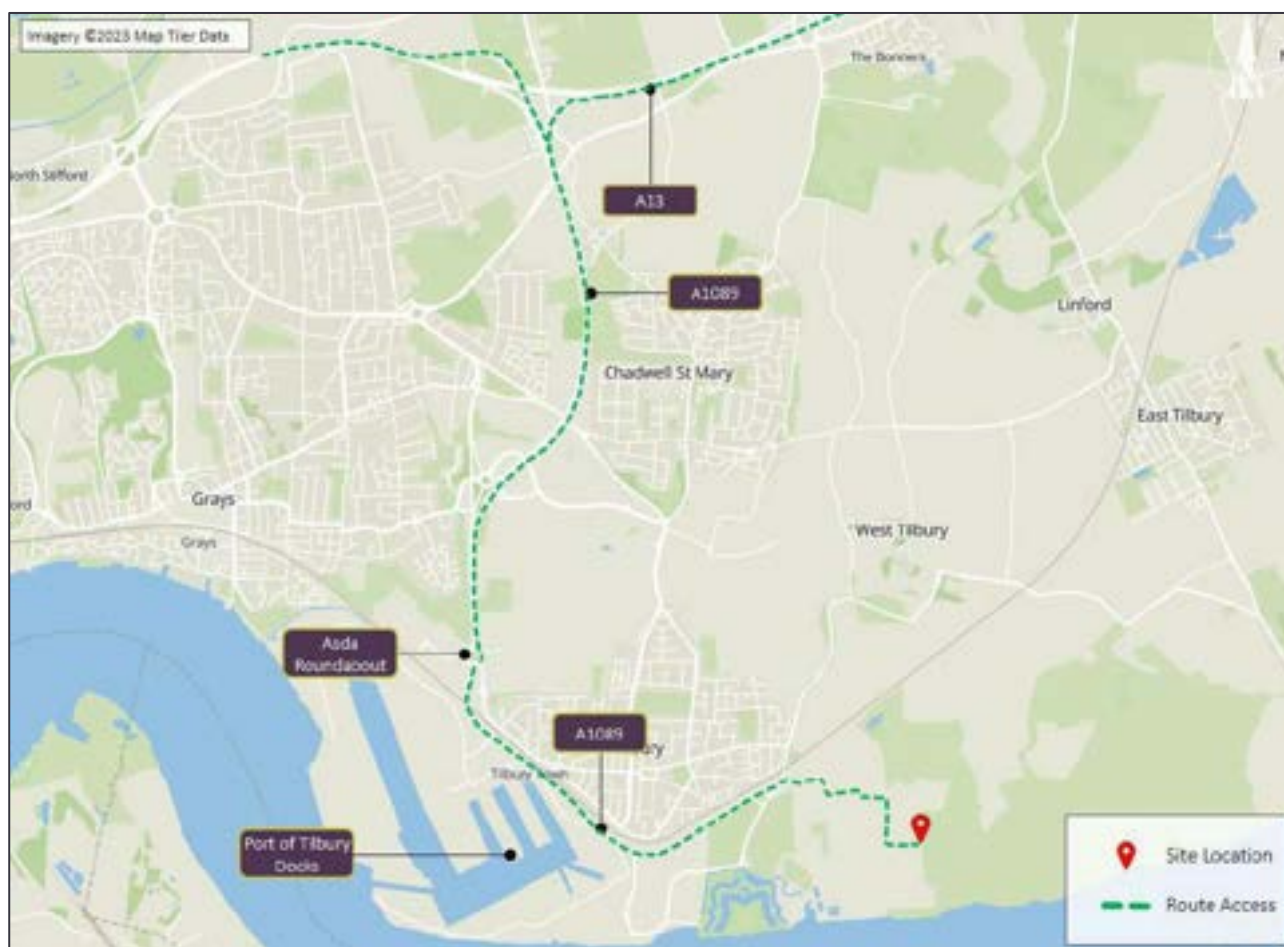
- National Highways 'high' and 'low' load grid map (**Appendix B**);
- Historic experience of AILs departing Port of Tilbury;
- Desktop review of routes identifying weight, height, horizontal and vertical considerations; and,
- Most suitable routes for transport configuration.

5.2 Route Option to Tilbury

Tilbury Site from SRN (A13)

The proposed TBM transfer route from the SRN (A13) is illustrated within **Figure 5.1**.

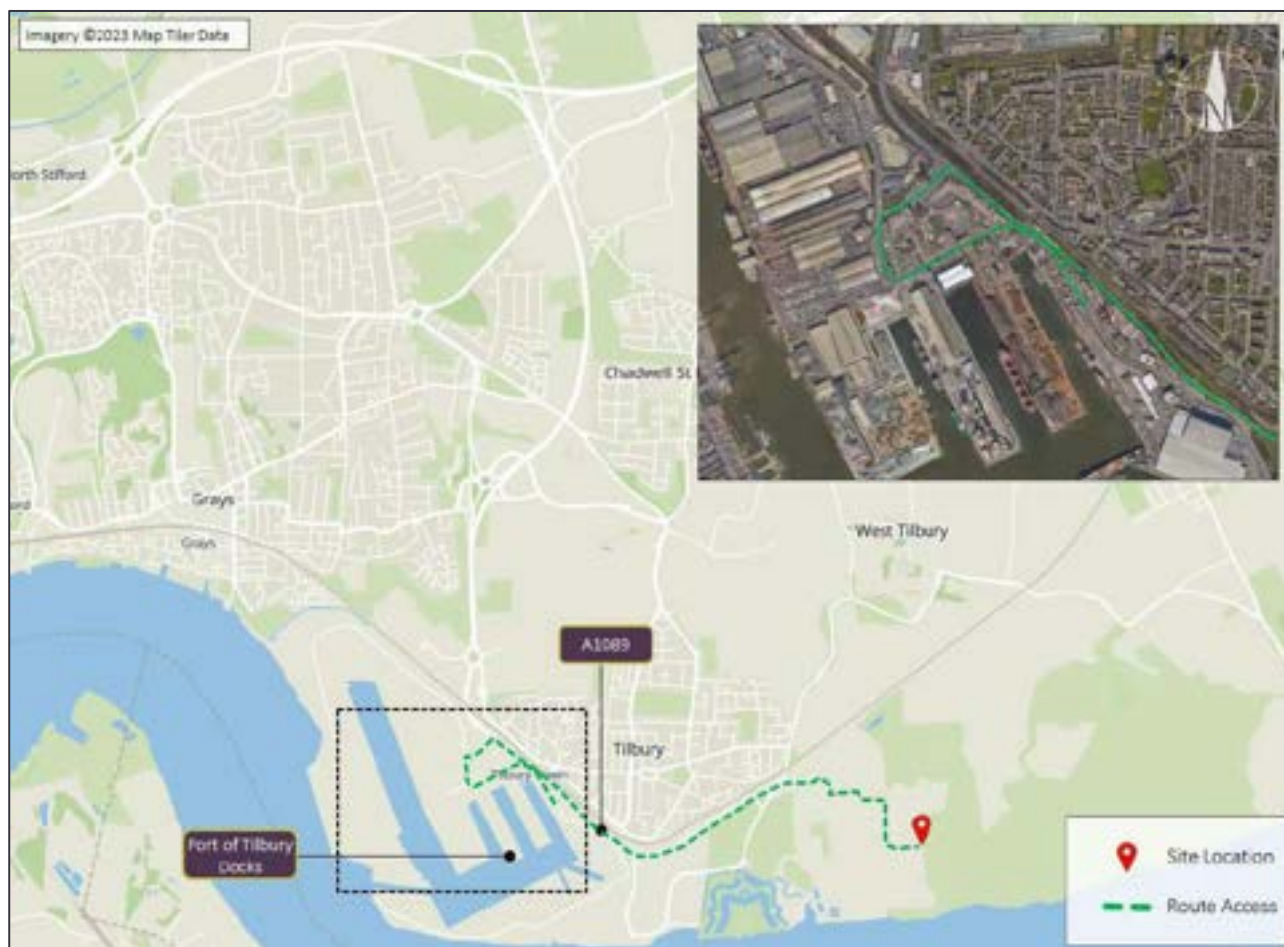
Figure 5.1 Route Overview to the Tilbury Driving Shaft from the SRN



Tilbury Site from Port of Tilbury Docks

The proposed TBM transfer route from the Port of Tilbury Docks is illustrated within **Figure 5.2**.

Figure 5.2 Route Overview to the Tilbury Driving Shaft from Port of Tilbury Docks



The route scenario from the Port of Tilbury Docks utilises the A1089 (right turn from Dock Road to A1089). The Port of Tilbury has vast experience of handling and receiving AILs. Given the A1089 would be utilised for the movement of the AIL from the SRN, no further assessment is necessary for this scenario.

Figure 5.3 illustrates the route through the Port of Tilbury RORO site below.

Figure 5.3 Route through Port of Tilbury RORO



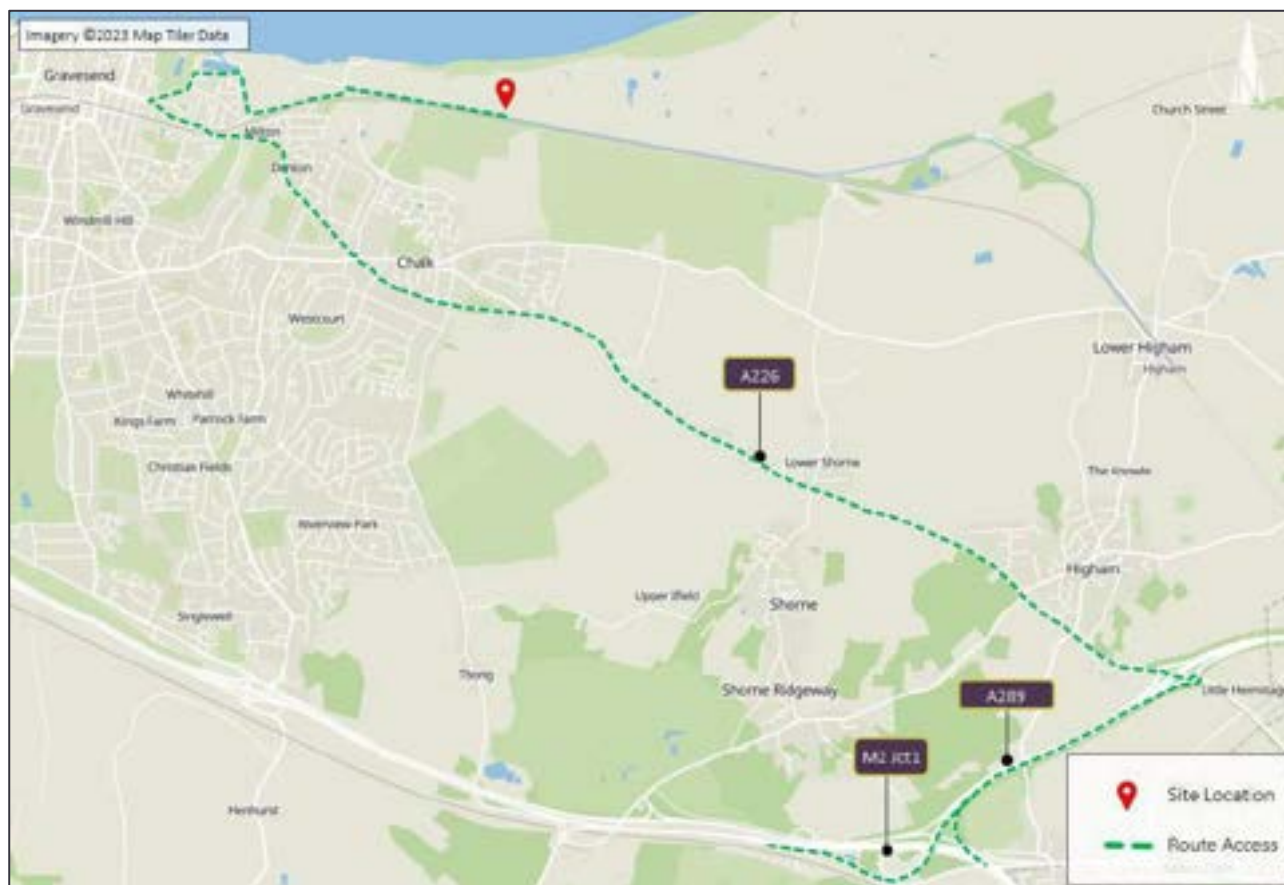
5.3 Route Option from Gravesend

Gravesend Site

Given the direction of travel of the TBM from north to south; the TBM will be removed via the Gravesend shaft. The removal and transport of the TBM at Gravesend will require the removal of AILs providing that the TBM is to be reused. However, if the TBM is not to be reused it could be reduced to component form before removal.

The proposed TBM transfer route from Gravesend to the SRN is illustrated within **Figure 5.4**.

Figure 5.4 Route from Receiving Shaft (Gravesend) to SRN



5.4 Route Appraisal

The routes outlined above have been subject to a site and route audit undertaken in April 2023. The pro-forma provided in **Appendix C** records the location, obstacle and mitigations required for the AIL transfer vehicle to safely manoeuvre between the SRN (A13) to Tilbury and Gravesend to the SRN (A289). Supporting photographic evidence is include within the pro-formas.

It should be noted that the A13/A1089 is considered to be capable of accommodate the delivery of the cable drums.

5.5 Swept Path Analysis

As outlined previously within this report, no Swept Path Analysis (SPA) is considered necessary for the transfer of underground cable drums since the TBM vehicle configuration has a larger body and load envelope.

It is recognised that accommodation works will be required to enable the TBM to gain access into the proposed Tilbury Site and removal from Gravesend to the SRN. As such, SPA has been conducted at a number of locations in order to determine the areas of 'hard-standing' required to accommodate the delivery of the TBM or where traffic island/street furniture will require temporary removal.

A copy of the SPA is included within **Appendix D**.

6. Management Strategy

6.1 Overview

This section of the report outlines the general management measures that will be adhered to during the transfer of AILs.

6.2 General Traffic Management Measures

The following sets out the general traffic management strategy that would be employed by the contractor. It is expected that a full abnormal load management strategy will be drafted and agreed with TC and KCC prior to the transfer taking place.

Route Enforcement

The routes identified in this ALA will be strictly enforced unless further notification is given, all main and sub-contracting companies involved in the project will be monitored to ensure they follow the correct routes and do not use other 'shortcuts'. The routes will be clearly defined in all subcontracts and clearly signposted for all drivers to see. Any contractor not adhering to the relevant route guidance will be disciplined by National Grid. Onsite monitoring and spot checks will assist in this.

Timings of Movements

Deliveries shall only take place during the hours agreed with the Police and the relevant LHAs.

Deliveries would be timed to avoid the morning or afternoon school run periods or other predictable peak traffic periods.

Deliveries are expected to take place during weekdays, however, if deliveries are required at weekends approval in principle should be sought from the relevant LHAs and the Police.

Escorts

Where applicable, AIL vehicles shall all be escorted in accordance with '*Self-Escorting of Abnormal Loads and Abnormal Vehicles*' Code of Practice. The escorting will be undertaken by the haulage contractor. Where it has been identified that traffic will need to be temporarily stopped, then a Police escort will be required.

Convoys would typically comprise no more than two abnormal vehicles and shall be escorted by Police and / or haulier escort vehicles as appropriate.

Temporary Closure

At the discretion of the haulage contractor, temporary road closures may be required in order to deliver some of the larger AILs. The haulage contractor will liaise with the local community, businesses and key services to ensure they are fully informed in advance should a road closure scheme be required.

Accommodation Works

The accommodation works identified within this ALA and accompanying SPA will be confirmed as part of the trial run. All confirmed accommodation works will be undertaken prior to the first AIL movement and where

applicable all reinstatements will be undertaken following the last abnormal load delivery. It is anticipated that accommodation works such as ‘socketing’ of signal poles and other street furniture would remain following the completion of the project.

Public Communications Strategy

The delivery of AILs is likely to cause some delay to local road users and, in some cases, restrict access along certain routes. To ensure residents, local business and key services are made aware of such restrictions, the principal contractor will implement a comprehensive communications strategy, which could include, but is not limited to; letter drops, radio, notices within local papers, temporary road signage, website updates on a project website and other social media outlets.

Notification

All key stakeholders would be notified prior to the movement of AILs. The appointed haulage contractor will be responsible for notifying the relevant stakeholders and will do so in one of the following ways:

- Highways England’s Electronic Service Delivery for Abnormal Loads (ESDAL) system; and
- Abnormal Loads Movement Application Form.

If the latter method of notification is chosen, then notification periods referenced within the following document apply:

- *‘Aide Memoire for notification requirements for the movement of Abnormal Indivisible Loads or vehicles by road when not complying with The Road Vehicles (Construction and Use) Regulations 1986 (commonly known as C & U).’*

Appendix A

Consultation Response

Adrian Simms

From: Adrian Simms
Sent: 05 June 2023 16:58
To: Ata Ahmad
Cc: Abloads Essex; James McGavin; Oscar Hodges; Mark Coomber; Shelly Newnham; Simon Paul
Subject: RE: EXTERNAL - Consultation Enquiry - Future Transfer of Abnormal Load (2026)

Hello Ata,

I hope you're well.

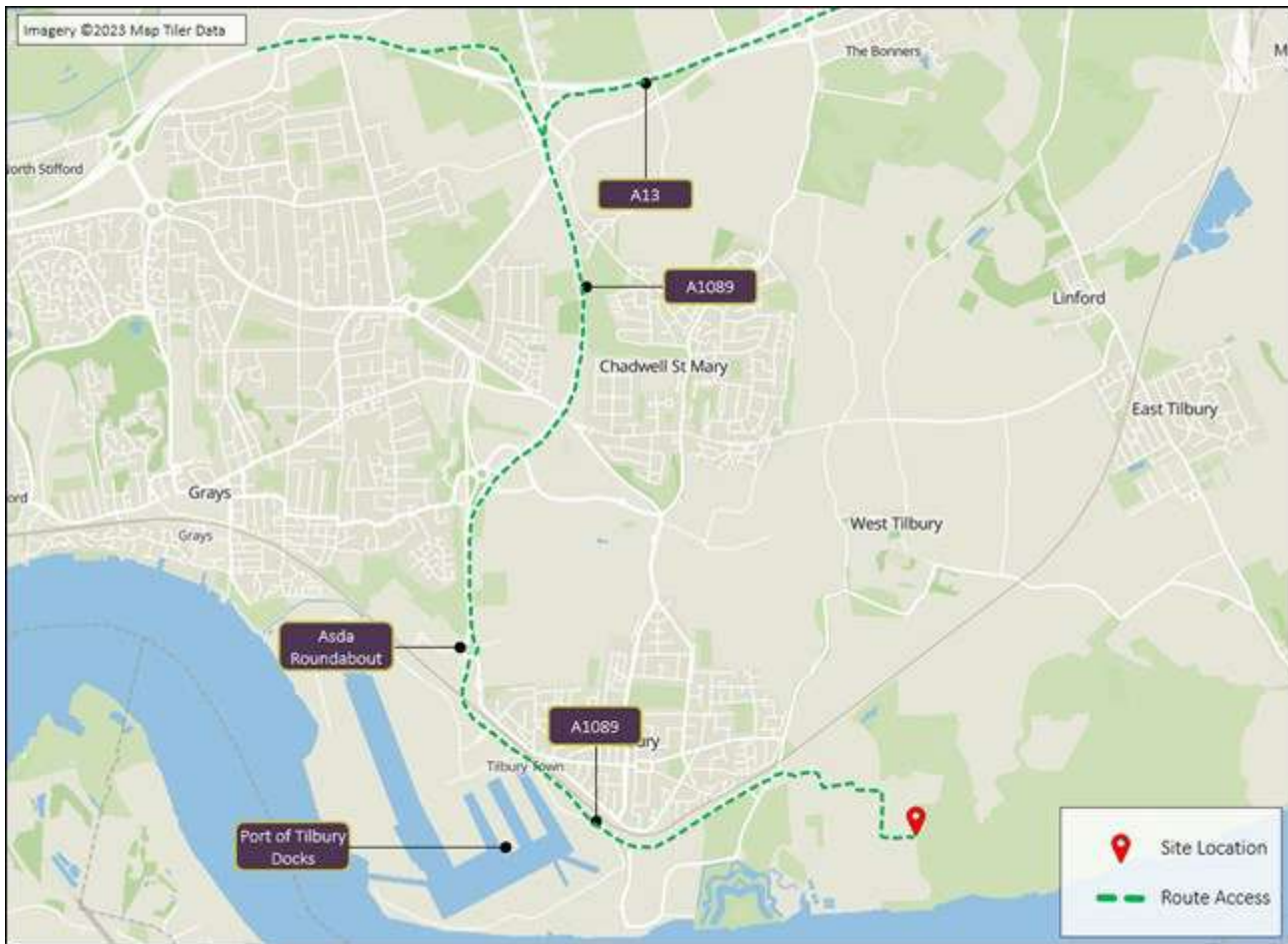
Please find the TBM load specification below (and images of similar load transfer set up).

Aspect	Value
Weight	80,000kg to 100,000kg
No. of Axles	14
Axle Weight	5,714kg x 14 to 7,142kg x 14
Wheels per Axle (x) No. of Axles	4 x 7
Axle Spacing	7x 1.360m, 9.2m, 7x 1.360m
Trailer Length	29m
Total Length	39.150m
Width wheel track (with load)	2.850m (4.5m)
Height	5.159m
Ground Clearance	0.2m



The indicative route to site is illustrated below from the A13. The project team will also be assessing the feasibility of transfer

from Tilbury Docks (the preferred option). Road transfer or waterway transfer utilise the A1089 from the docks to site.



Once in place, the TBM will be used for boring the cable tunnel and will exit/be removed from the Gravesend tunnel head house.

If you require further information, please do not hesitate to get in touch.

With regards,
Adrian

Adrian Simms BSc (Hons) MSc MRTPI
Associate

The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN
M: 07704 662865
T: 01926 776097
adrian@ttc-transportplanning.com
www.ttc-transportplanning.com | Connect with me on [LinkedIn](#)



From: Ata Ahmad <Ata.Ahmad@connectplum25.co.uk>
Sent: Friday, May 26, 2023 10:59 AM

To: Adrian Simms <adrian@ttc-transportplanning.com>

Cc: Abloads Essex <Abloads@essex.police.uk>; James McGavin <James@ttc-transportplanning.com>; Oscar Hodges <oscar@ttc-transportplanning.com>; Mark Coomber <Mark.Coomber@connectplusm25.co.uk>; Shelly Newnham <Shelly.Newnham@connectplusm25.co.uk>; Simon Paul <Simon.Paul@connectplusm25.co.uk>

Subject: RE: EXTERNAL - Consultation Enquiry - Future Transfer of Abnormal Load (2026)

Hi Adrian

Thanks for a nice overview of the project. I can look into the route feasibility for the Tunnel Boring Machine (TBM), can you please send me more information about the machine i.e. gross weight, axle weights, dimensions etc. Additionally, it'll be helpful if you could specify your initial thoughts about the potential route and then we can discuss the alternate options if it doesn't work.

Thanks

Ata

Ata Ahmad

Structures Engineer

Connect Plus Services

T: 0203 386 8500 | M: 07446079826

Leatherhead Motorway Compound | Bypass Road | Leatherhead | Surrey | KT22 7GZ



EXCELLENCE | CUSTOMER FOCUS | TRUST | ONE TEAM | RESPECT

Think - how can you take the risk out of your work today?

 *Consider the environment. Please don't print this e-mail unless you really need to*

From: Simon Paul <Simon.Paul@connectplusm25.co.uk>

Sent: Monday, May 22, 2023 4:59 PM

To: Ata Ahmad <Ata.Ahmad@connectplusm25.co.uk>

Subject: FW: EXTERNAL - Consultation Enquiry - Future Transfer of Abnormal Load (2026)

Please catch up for details and copy in Shelly and Mark, and myself

From: Mark Coomber <Mark.Coomber@connectplusm25.co.uk>

Sent: Monday, May 22, 2023 11:16 AM

To: Simon Paul <Simon.Paul@connectplusm25.co.uk>

Subject: FW: EXTERNAL - Consultation Enquiry - Future Transfer of Abnormal Load (2026)

Fyi, see teams chat 😊

Regards

Mark

Electronic service delivery for abnormal loads



Area 5 M25 portal of choice

<https://www.gov.uk/esdal-abnormal-load-notification>



Mark R Coomber

Working Hours 08:00 – 16:00 Monday to Wednesday

Abnormal Load Coordinator for Area 5

Abnormal Load Movements 020 3386 8936, Mobile 07436 307 076

Connect Plus Services | South Orbital Way | Dartford | Kent | DA1 5PR



EXCELLENCE | CUSTOMER FOCUS | TRUST | ONE TEAM | RESPECT

Think - how can you take the risk out of your work today?

"Through teamwork and collaboration, with better planning of our works, we will reduce roadspace use by maximising the shared use of all closures on the Network"

Consider the environment. Please don't print this e-mail unless you really need to

From: Abloads Essex <Abloads@essex.police.uk>

Sent: Monday, May 22, 2023 11:00 AM

To: Adrian Simms <adrian@ttc-transportplanning.com>

Cc: Mark Coomber <Mark.Coomber@connectplusm25.co.uk>; Shelly Newnham

<Shelly.Newnham@connectplusm25.co.uk>

Subject: RE: EXTERNAL - Consultation Enquiry - Future Transfer of Abnormal Load (2026)

STOP: This email originated from outside of **Connect Plus Services**. **THINK BEFORE YOU CLICK:** Do not click links or open attachments unless you recognise the sender and know the content is safe. Definitely do not enter your ID and password.

Hi Adrian,

Thank you for your email.

I have CC'd in Mark Coomber and Shelly Newnham who are the Abloads Coordinators for Area 5.

Mark/Shelly could you please pass on to anyone else who can assist.

Regards

Susan Rees

Abnormal Loads Officer 70361

Commercial Vehicle Unit

Tel: 01245 457171 or 101

Ext. 421084

Mobile: 07773 207762

Email: abloads@essex.police.uk

Website: www.essex.police.uk



Please visit our partnership website saferessexroads.org

From: Adrian Simms <adrian@ttc-transportplanning.com>

Sent: 22 May 2023 09:58

To: Abloads Essex <Abloads@essex.police.uk>

Cc: James McGavin <James@ttc-transportplanning.com>; Oscar Hodges <oscar@ttc-transportplanning.com>

Subject: EXTERNAL - Consultation Enquiry - Future Transfer of Abnormal Load (2026)

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Dear Abnormal Loads Team,

We are preparing an abnormal load route options report on behalf of National Grid who is currently considering plans to build a new electricity cable tunnel beneath the Thames between Tilbury and Gravesend. The tunnel, which is needed to upgrade the network to continue to supply local homes and businesses, will replace an existing tunnel in the same area. This was built in the 1960s and is coming towards the end of its useful life.

The project is in very early development and as part of our initial feasibility studies we are carrying out some surveys in the area to get a better understanding of the local environment, ground conditions and local highway conditions for transportation of HGV movements (construction phase) and in particular the Abnormal Indivisible Loads (AIL) for the Tunnel Boring Machine (TBM).

We would like to consult with Essex Police on the route options to determine any constraints, could you please advise whether there are any specific contacts covering the A13, A1089 (near Tilbury Docks) that we can commence consultation with?

Regards,
Adrian

Adrian Simms BSc (Hons) MSc MRTPI
Associate

The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN
M: 07704 662865
T: 01926 776097
adrian@ttc-transportplanning.com
www.ttc-transportplanning.com | Connect with me on [Linkedin](#)



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Atkins Limited a company organised and existing under the laws of England and Wales, registered under number 00688424 and having its registered office at Woodcote Grove, Ashley Road, Epsom, Surrey KT18 5BW

Egis Road Operation UK Limited a company incorporated under the laws of England and Wales, registered number 6693340, whose registered office is c/o Frenger International Limited, Wilberforce House, Station Road, London NW4 4QE



Please consider the environment before printing this e-mail

Adrian Simms

From: Abloads Essex <Abloads@essex.police.uk>
Sent: 22 May 2023 09:58
To: Adrian Simms
Cc: Abloads Essex
Subject: Abnormal Load Notification - Standard Permit
Attachments: image002.png; image003.png; Escort Determination Chart A.pdf; Escort Determination Chart B.pdf

Dear Sir/ Madam

ESSEX POLICE

Please disregard if your original email did not relate to an abnormal load movement notification.

I refer to your abnormal load notification which you should deem as being received by Essex Police at the time and date that you have received this acknowledgement. This is an automated message authorising your movement subject to a notice period and various conditions. If your movement is outside of our determination charts (A & B), then we will be in contact separately.

Essex Police also administer the abnormal load movement notifications on behalf of Southend on Sea Borough Council.

SOUTHEND ON SEA BOROUGH COUNCIL

I refer to your abnormal load notification which you should deem as being received by Southend on Sea Borough Council at the time and date that you have received this acknowledgement. This is an automated message authorising your movement subject to a notice period and various conditions.

NOTICE PERIOD

Movement of the load to which it refers can only take place once the appropriate notice period has expired:

C&U/ STGO CAT1 & CAT2	2 clear working days
STGO CAT3	5 clear working days

- Weekends and bank holidays are not working days.
- C&U refers to Road Vehicles (Construction and Use) Regulations 1986.
- STGO refers to Road Vehicles (Authorisation of Special Types) (General) Order 2003.

CONDITIONS

The Chief Constable in these circumstances imposes the following standard conditions upon any movement:

1. Movements **WILL NOT** take place during the following peak periods:
 - a. Monday – Friday 0700-0900 hours
 - b. Monday – Friday 1630-1900 hours
2. That the movement **DOES NOT** deviate from the notified route.
3. Movements **WILL NOT** take place during the hours of darkness unless the route is exclusively utilising roads listed in 'Chart A.'
4. Movements requiring a self-escort as per '[Chart A](#)' or '[Chart B](#)' **WILL NOT** take place unless the self-escorting vehicle and driver present fully comply with [Lighting and marking COP for SO VR1 STGO and CU loads](#) & [Lighting and marking COP for abnormal load self escorting vehicles](#)
5. **NO MORE** than 2 loads to travel together.
6. The weight of the load(s) travelling together **DOES NOT** exceed the weight for the structure over which it passes.
7. You **DO NOT** require a Police Escort as per chart A or B or otherwise.
8. The ALO, on behalf of the Chief Constable, has not placed a variation of the conditions on the movement;

9. A copy of this Standard Permit clearly showing the date and time sent **WILL** be carried with the load when being moved and produced upon demand to a Police Officer.

Indemnities

Hauliers must indemnify any authority owning structures that an abnormal load traverses against possible damage. This can be either by move or annually. Please ensure your indemnity form is emailed to us unless you are using ESDAL as you are automatically prompted to provide an indemnity.

Compliance with Legislation & Movements outside of the Standard Conditions

Where it is necessary to make a movement outside of the above standard conditions you must ensure that you are in receipt of a Non-Standard Permit prior to moving. A Non-Standard Permit is one that details the conditions placed upon any movement which does not sit within a Standard Permit or Dispensation. It is essential that you make further contact with me to discuss the necessary arrangements. Whilst not every condition placed within permits issued by Essex Police would directly contravene legislation relating to the movement of abnormal indivisible loads it must be remembered that failure to adhere to the conditions set may result in delays should your load be stopped and checked by police. It may be seen as an aggravating factor should you contravene road traffic legislation or a potential breach of Health and Safety legislation.

The vehicle and load must conform to all legal requirements in particular vehicle illumination and projection markers. These must be displayed in accordance with Schedule 12 Road Vehicles (Construction and Use) Regulations 1988. It is the haulier's responsibility to survey the route and complete a risk assessment prior to the movement to ensure that the load is able to negotiate the planned route safely. In line with legislation each load is required to have an attendant if the vehicle or load width exceeds 3.5m, or the rearward projection exceeds 3.05m. A self-escort crew member may act as an attendant.

Unless dispensation has been successfully applied for, and it is still current, movements within the notice period are not authorised. In such cases the haulier and driver may leave themselves open to prosecution.

Regards

Susan Rees

Abnormal Loads Officer 70361

Commercial Vehicle Unit

Tel: 01245 457171 or 101

Ext. 421084

Mobile: 07773 207762

Email: abloads@essex.police.uk

Website: www.essex.police.uk



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Adrian Simms

From: Adrian Simms
Sent: 19 June 2023 13:46
To: Angela.Coull@kent.gov.uk
Cc: David.Barton@kent.gov.uk; James McGavin; Oscar Hodges
Subject: RE: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Gravesend

Hi Angela,

Thanks for your email. I'm still waiting on information from the wider team on this one.

Out of interest, given the unique nature of the scheme, how we would determine the pre-app fee based on the fee schedule?

Many thanks,
Adrian

Adrian Simms BSc (Hons) MSc MRTPI

Associate

The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN
M: 07704 662865
T: 01926 776097

adrian@ttc-transportplanning.com

www.ttc-transportplanning.com | Connect with me on [Linkedin](#)



From: Angela.Coull@kent.gov.uk <Angela.Coull@kent.gov.uk>
Sent: Monday, June 19, 2023 12:06 PM
To: Adrian Simms <adrian@ttc-transportplanning.com>
Cc: David.Barton@kent.gov.uk; James McGavin <James@ttc-transportplanning.com>; Oscar Hodges <oscar@ttc-transportplanning.com>
Subject: RE: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Gravesend

Hi Adrian

It is my understanding that National Grid is a for-profit organisation who is not a government body. Is this correct? If so, pre-app fees would apply.

Many thanks

Angela Coull | Principal Transport and Development Officer – West Kent | Highways, Transportation & Waste | Kent County Council | Ashford Highway Depot, Henwood Industrial Estate, Javelin Way, Ashford, TN24 8AD | 03000 415733 | www.kent.gov.uk/highways

Please note my working hours are Mon – Fri 0800 - 1415

From: Adrian Simms <adrian@ttc-transportplanning.com>
Sent: Wednesday, June 14, 2023 2:55 PM
To: Angela Coull - GT TRA <Angela.Coull@kent.gov.uk>
Cc: David Barton - GT TRA <David.Barton@kent.gov.uk>; James McGavin <James@ttc-transportplanning.com>; Oscar Hodges <oscar@ttc-transportplanning.com>
Subject: RE: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Gravesend

Hello Angela,

Many thanks for the quick response, it's much appreciated.

I understand any application/pre-app will be made under *Class B – Electricity Undertakings* as outlined within *The Town and Country Planning (General Permitted Development) Order 2015*, and, as a result, would negate the requirement for pre-app charges.

I am happy to check with National Grid and the wider project team.

Many thanks and kind regards,
Adrian

Adrian Simms BSc (Hons) MSc MRTPI
Associate

The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN
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T: 01926 776097
adrian@ttc-transportplanning.com
www.ttc-transportplanning.com | Connect with me on [Linkedin](#)



From: Angela.Coull@kent.gov.uk <Angela.Coull@kent.gov.uk>
Sent: Wednesday, June 14, 2023 2:13 PM
To: Adrian Simms <adrian@ttc-transportplanning.com>
Cc: David.Barton@kent.gov.uk
Subject: RE: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Gravesend

Hello Adrian

Myself and Dave Barton (copied in) cover the Gravesham area.

We would be happy to engage in discussions, however, KCC charge for pre-application advice. Details can be found here:

<https://www.kent.gov.uk/environment-waste-and-planning/planning-and-land/planning-applications/planning-advice/highway-pre-application-advice>.

Please complete the form and email it to Developmentplanningwest@kent.gov.uk.

Many thanks

Angela Coull | Principal Transport and Development Officer – West Kent | Highways, Transportation & Waste | Kent County Council | Ashford Highway Depot, Henwood Industrial Estate, Javelin Way, Ashford, TN24 8AD | 03000 415733 | www.kent.gov.uk/highways

Please note my working hours are Mon – Fri 0800 - 1415

From: James Wraight - GT TRA <James.Wraight@kent.gov.uk>

Sent: Tuesday, June 13, 2023 1:43 PM

To: Angela Coull - GT TRA <Angela.Coull@kent.gov.uk>; Lisa Daniels - GT TRA <Lisa.Daniels@kent.gov.uk>

Subject: FW: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Gravesend

Hi Adrian

Colleagues (copied) will be able to assist you with this.

Kind regards

James

James Wraight | Project Manager | Major Capital Programme Team | Kent County Council | 1st Floor, Invicta House, Maidstone, ME14 1XX | Internal: 410446 | External: 03000 410446 | Contact Centre: 03000 418181 | www.kent.gov.uk |

From: Adrian Simms <adrian@ttc-transportplanning.com>

Sent: Tuesday, June 13, 2023 12:15 PM

To: James Wraight - GT TRA <James.Wraight@kent.gov.uk>; Richard.Smith@kent.gov.uk

Cc: James McGavin <James@ttc-transportplanning.com>; Oscar Hodges <oscar@ttc-transportplanning.com>

Subject: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Gravesend

You don't often get email from adrian@ttc-transportplanning.com. [Learn why this is important](#)

Good morning, James,

Apologies for the cold email, my colleague, James McGavin, suggested you as a potential point of contact within KCC.

We are preparing a Construction Traffic Management Plan (CTMP) and Abnormal Load Assessment Report on behalf of National Grid who is currently considering plans to build a new electricity cable tunnel beneath the Thames between Tilbury and Gravesend.

The tunnel, which is needed to upgrade the network to continue to supply local homes and businesses, will replace an existing tunnel in the same area. This was built in the 1960s and is coming towards the end of its useful life.

The project is in *very early development* and as part of our initial feasibility studies we are carrying out some surveys in the area to get a better understanding of the local environment, ground conditions and local highway conditions for transportation of HGV movements (during construction phase) and the Abnormal Indivisible Loads (AIL) for the Tunnel Boring Machine (TBM).

We would like to consult with Kent Council (including other stakeholders) who's users could be temporarily impacted by the construction phase of the works.

Access to the Gravesend Site (south of the [Eastcourt Marshes Substation](#)) will be taken from the [Thames and Medway Canal Road](#). During the construction phase of works (commencing 2025) there is a requirement to construct a new Tunnel Headhouse which will generate material that will be removed offsite (via Thames and

Medway Canal Road). A peak of 15 two-way daily movements is expected over a period of 32-weeks. Following tunnel completion, the TBM will also be removed and transferred away from site via this route, and this will generate approx. 5 abnormal loads.

The HGV construction route(s) and AIL removal route is illustrated in the images below.

Appropriate signage will be displayed prior to works and during work phases.

I would be grateful if this could request could be passed onto the relevant area officer to commence dialogue.

Many thanks and kind regards,
Adrian

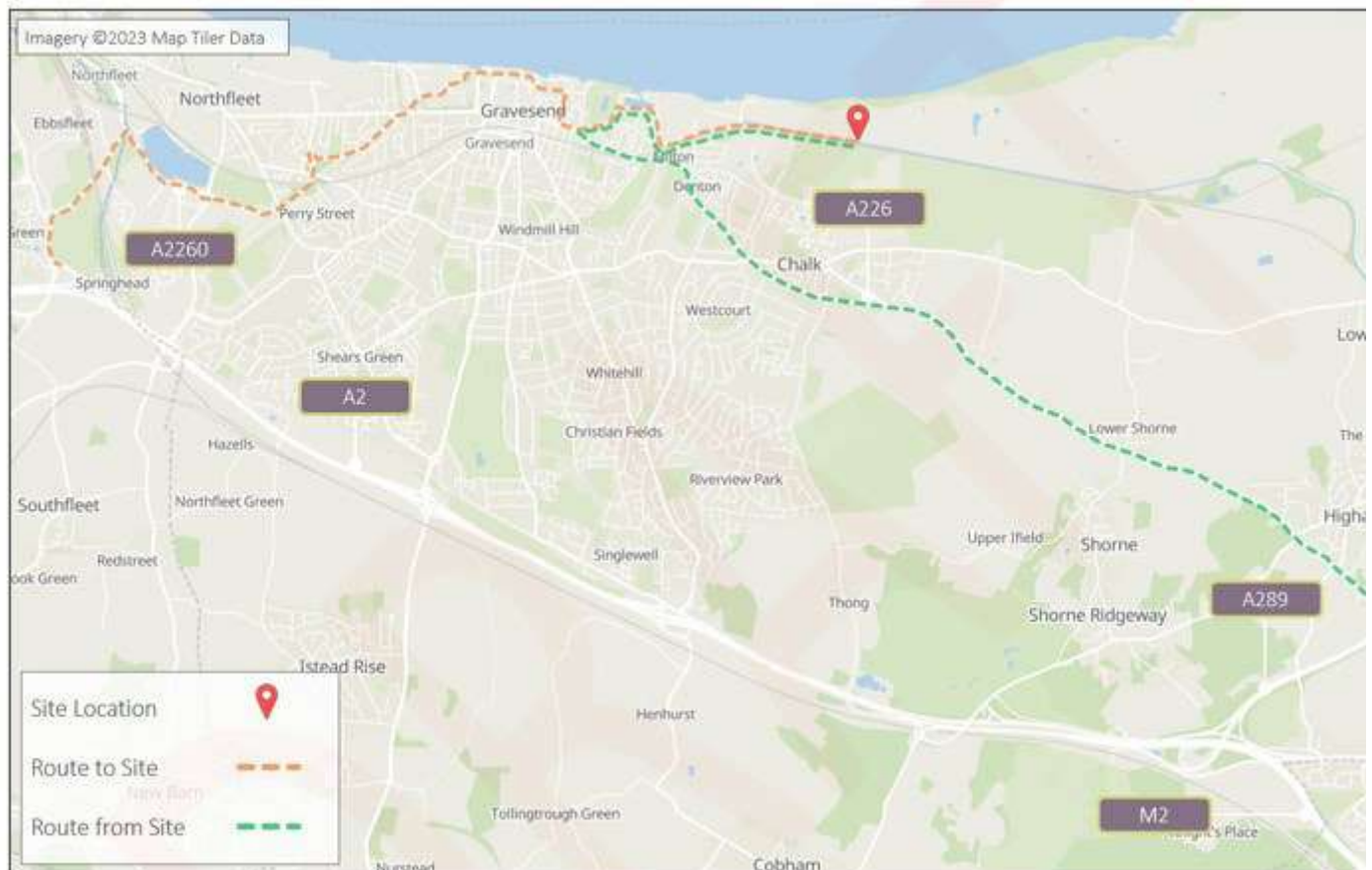
Adrian Simms BSc (Hons) MSc MRTPI
Associate

The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN
M: 07704 662865
T: 01926 776097

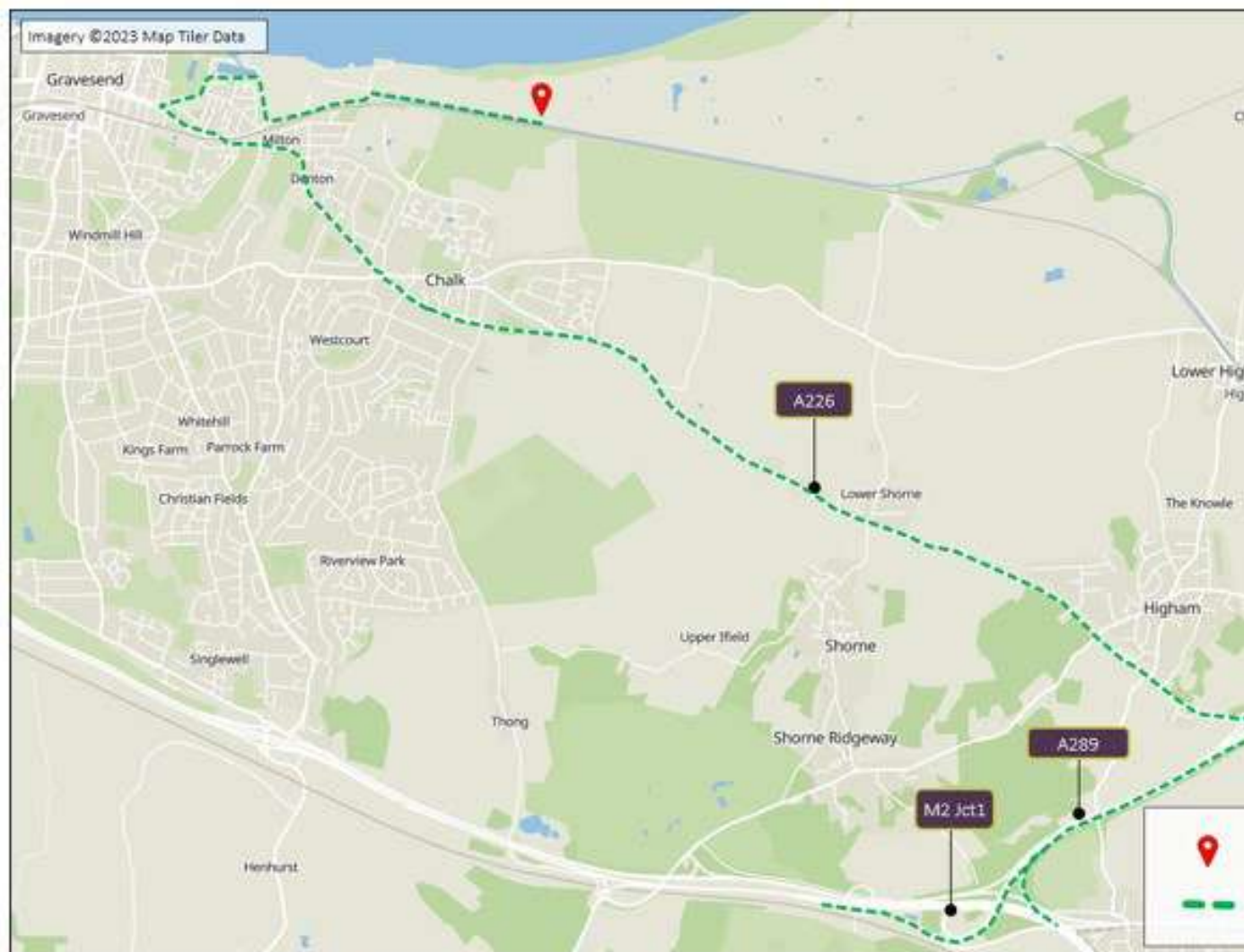
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HGV General Construction Traffic



Abnormal Load Removal Route



Adrian Simms

From: Adrian Simms
Sent: 22 May 2023 15:19
To: Abnormal Loads Coldharbour Kent
Subject: RE: EXTERNAL - Online form submission: ABL-61-23-4600-C

Hello Rachel,

Thank you for your quick response.

At this stage we are at early feasibility so some details may be unknown – apologies for this. I outline the information I currently have below.

The largest vehicle/load associated with the scheme is the Tunnel Boring Machine (TBM). The TBM will have an external diameter of 4.6m and weigh c.80-100t. The TBM will be divided into the three sections for transportation (Note: the middle section contains the majority of the equipment and generally cannot be divided further).

It is anticipated that c.55 no. vehicles will be required over the course of a 7-day period to deliver the TBM components, however, only c.5 no. result in AIL transfer.

Typical TBM Transfer Vehicle



Source: <https://www.heavytorque.co.uk/transporting-tbm-mary/>

TBM Trailer Specification

Aspect	Value
Weight	80,000kg to 100,000kg
No. of Axles	14
Axle Weight	5,714kg x 14 to 7,142kg x 14

Aspect	Value
Wheels per Axle (x) No. of Axles	4 x 7
Axle Spacing	7x 1.360m, 9.2m, 7x 1.360m
Trailer Length	29m
Total Length	39.150m
Width wheel track (with load)	2.850m (4.5m)
Height	5.159m
Ground Clearance	0.2m

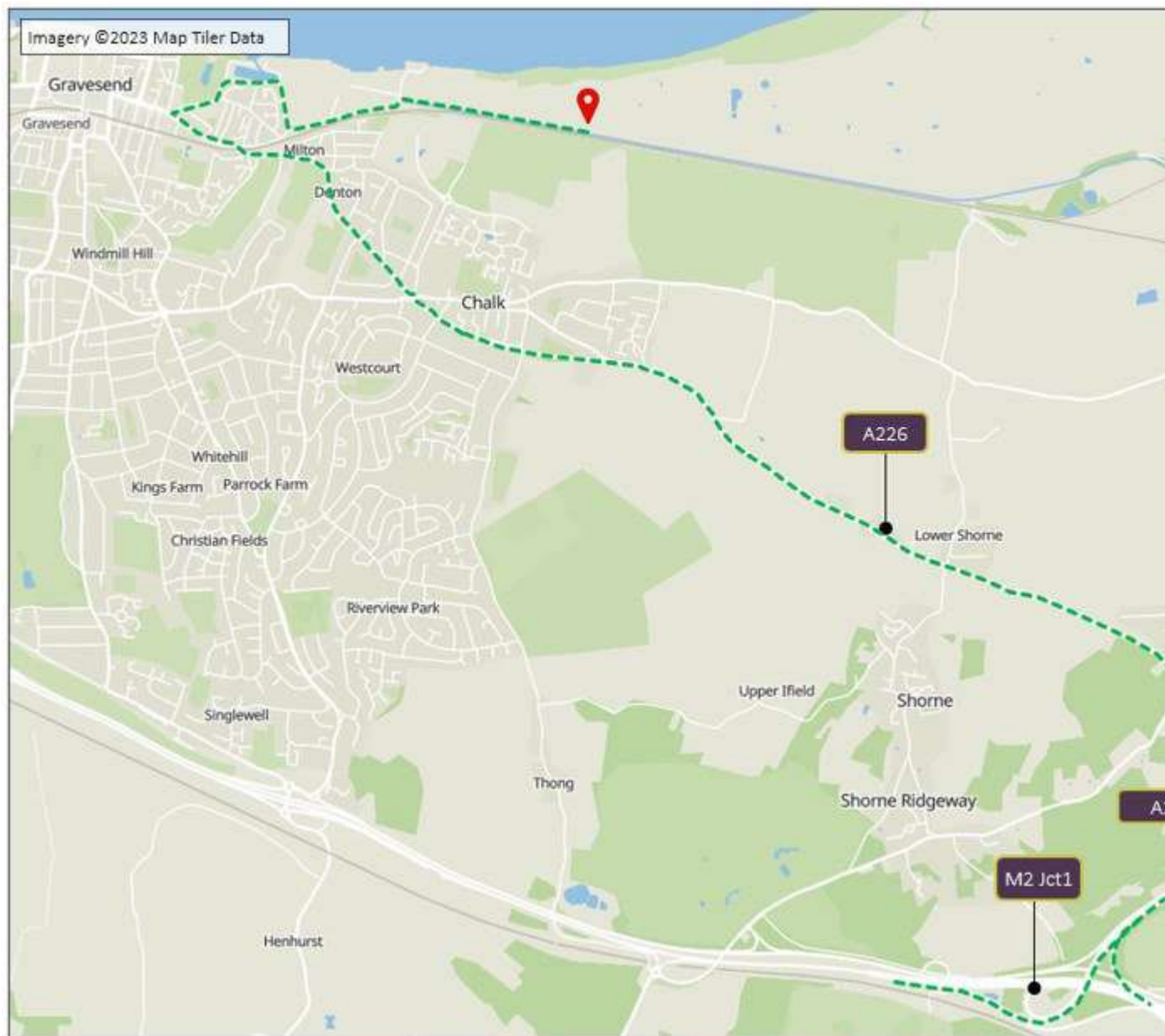
The TBM will arrive at the Tilbury site, north of the River Thames.

TBM delivery is forecast to commence in July 2026 and continue for c.8 months.

The TBM will then be removed from the Gravesend side in March 2027 where it will be stripped and cleaned for c.2 months. I envisage it will be then moved off-site around May 2027.

The exit route to the SRN is illustrated below and on the following roads:

- Thames and Medway Canal Road;
- Norfolk Road;
- Canal Road;
- Ordnance Road;
- A226 (Milton Road);
- A226 toward Higham and the Gads Hill Interchange;
- A289 Hasted Road SB toward M2



I trust this information is helpful and of use.

If you need any clarification, please do not hesitate to get in touch.

Many thanks and kind regards,
Adrian

Adrian Simms BSc (Hons) MSc MRTPI
Associate

The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN
M: 07704 662865
T: 01926 776097

adrian@ttc-transportplanning.com
www.ttc-transportplanning.com | Connect with me on [Linkedin](#)



From: Abnormal Loads Coldharbour Kent <abloads@kent.police.uk>

Sent: Monday, May 22, 2023 1:04 PM

To: Adrian Simms <adrian@ttc-transportplanning.com>

Subject: RE: EXTERNAL - Online form submission: ABL-61-23-4600-C

Good afternoon,

Thank you for your enquiry below. Please can you send me details of load/vehicle and your preferred route/routes, copy of any route survey you have conducted/commissioned and like number of movements, frequency and time period (for example, once a week for 6 months etc)

Many thanks

Rachel

Rachel Badmin | PSE 58238 | Kent Police

Abnormal Loads Officer | Traffic Management Unit

Tasking Operations Planning | Tactical Operations Command

☎ 01622 798629

✉ abloads@kent.police.uk



**Kent
Police**



VisionZeroKent
Delivering Safer Roads and Streets
visionzerokent.org

-----Original Message-----

From:

Sent: 19 May 2023 18:29

To: Abnormal Loads Coldharbour Kent <abloads@kent.police.uk>

Subject: EXTERNAL - Online form submission: ABL-61-23-4600-C

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OFFICIAL - SENSITIVE

STEP 1

First name: Adrian

Middle name(s): not given

Surname: Simms

Email address: adrian@ttc-transportplanning.com

Type your message here: Dear Abnormal Loads Team,

We are preparing an abnormal load route options report on behalf of National Grid who is currently considering plans to build a new electricity cable tunnel beneath the Thames between Tilbury and Gravesend. The tunnel, which is needed to upgrade the network to continue to supply local homes and businesses, will replace an existing tunnel in the same area. This was built in the 1960s and is coming towards the end of its useful life.

The project is in very early development and as part of our initial feasibility studies we are carrying out some surveys in the area to get a better understanding of the local environment, ground conditions and local highway conditions for transportation of HGV movements (construction phase) and in particular the Abnormal Indivisible Loads (AIL) for the Tunnel Boring Machine (TBM).

We would like to consult with Kent Police on the route options to determine any constraints through Gravesend and the A226 toward the A289.

Best regards,

Adrian

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Adrian Simms

From: Adrian Simms
Sent: 14 June 2023 09:27
To: Howes, Julian
Cc: James McGavin; Oscar Hodges
Subject: RE: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Tilbury

Hello Julian,

Many thanks for your swift reply – it's much appreciated.

Thank you for passing on Janice's email address. I'll make contact with her direct.

With regards,
Adrian

Adrian Simms BSc (Hons) MSc MRTPI
Associate

The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN
M: 07704 662865
T: 01926 776097
adrian@ttc-transportplanning.com
www.ttc-transportplanning.com | Connect with me on [Linkedin](#)



From: Howes, Julian <JHowes@thurrock.gov.uk>
Sent: Wednesday, June 14, 2023 9:21 AM
To: Adrian Simms <adrian@ttc-transportplanning.com>
Cc: James McGavin <James@ttc-transportplanning.com>; Oscar Hodges <oscar@ttc-transportplanning.com>
Subject: RE: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Tilbury

Adrian,

Thank you it would be myself, but as part of the routing is on the strategic network under the jurisdiction of National Highways I suggest you also contact Janice Burgess to start with too.

Janice.Burgess@nationalhighways.co.uk

Regards

Julian Howes

Thurrock: an ambitious and collaborative community which is proud of its heritage and excited by its diverse opportunities and future

From: Adrian Simms <adrian@ttc-transportplanning.com>
Sent: 13 June 2023 16:42
To: Howes, Julian <JHowes@thurrock.gov.uk>
Cc: James McGavin <James@ttc-transportplanning.com>; Oscar Hodges <oscar@ttc-transportplanning.com>
Subject: Consultation Enquiry - Management of Highways during Construction Works in 2025/26 - Tilbury

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon, Julian,

Apologies for the cold email, I hope this finds you safe and well. By way of introduction my name is Adrian Simms and I work for The Transportation Consultancy.

We are currently preparing a Construction Traffic Management Plan (CTMP) and Abnormal Load Assessment Report on behalf of National Grid who is currently considering plans to build a new electricity cable tunnel beneath the Thames between Tilbury and Gravesend.

The tunnel, which is needed to upgrade the network to continue to supply local homes and businesses, will replace an existing tunnel in the same area. This was built in the 1960s and is coming towards the end of its useful life.

The project is in *very early development* and as part of our initial feasibility studies we are carrying out some surveys in the area to get a better understanding of the local environment, ground conditions and local highway conditions for transportation of HGV movements (during construction phase) and the Abnormal Indivisible Loads (AIL) for the Tunnel Boring Machine (TBM).

We would like to consult with Thurrock Council (including other stakeholders) who's users could be temporarily impacted by the construction phase of the works.

Access to the Tilbury Site (situated on land [here](#)) will be taken from the Port of Tilbury RORO2 access road [here](#). During the construction phase of works (commencing 2025) there is a requirement to construct a new Tunnel Headhouse and cable tunnel under the River Thames which will generate material that will be removed offsite (via the A1089 and ultimately toward the A13). A peak of 40 two-way daily movements is expected over a period of 23-weeks during the Tunnel Lining phase. Approx 5 abnormal loads carrying the TBM will be transported from the Port of Tilbury to site.

Tunnelling commences on the north side of the Thames, travelling south toward Gravesend. Following tunnel completion, the TBM will also be removed and transferred away from site via Gravesend and the Local Highway Network to the A289.

The HGV construction route and AIL delivery route is illustrated in the images below.

Appropriate signage will be displayed prior to works and during work phases.

I would be grateful if this could request could be passed onto the relevant area officer to commence dialogue.

Many thanks and kind regards,

Adrian

Adrian Simms BSc (Hons) MSc MRTPI

Associate

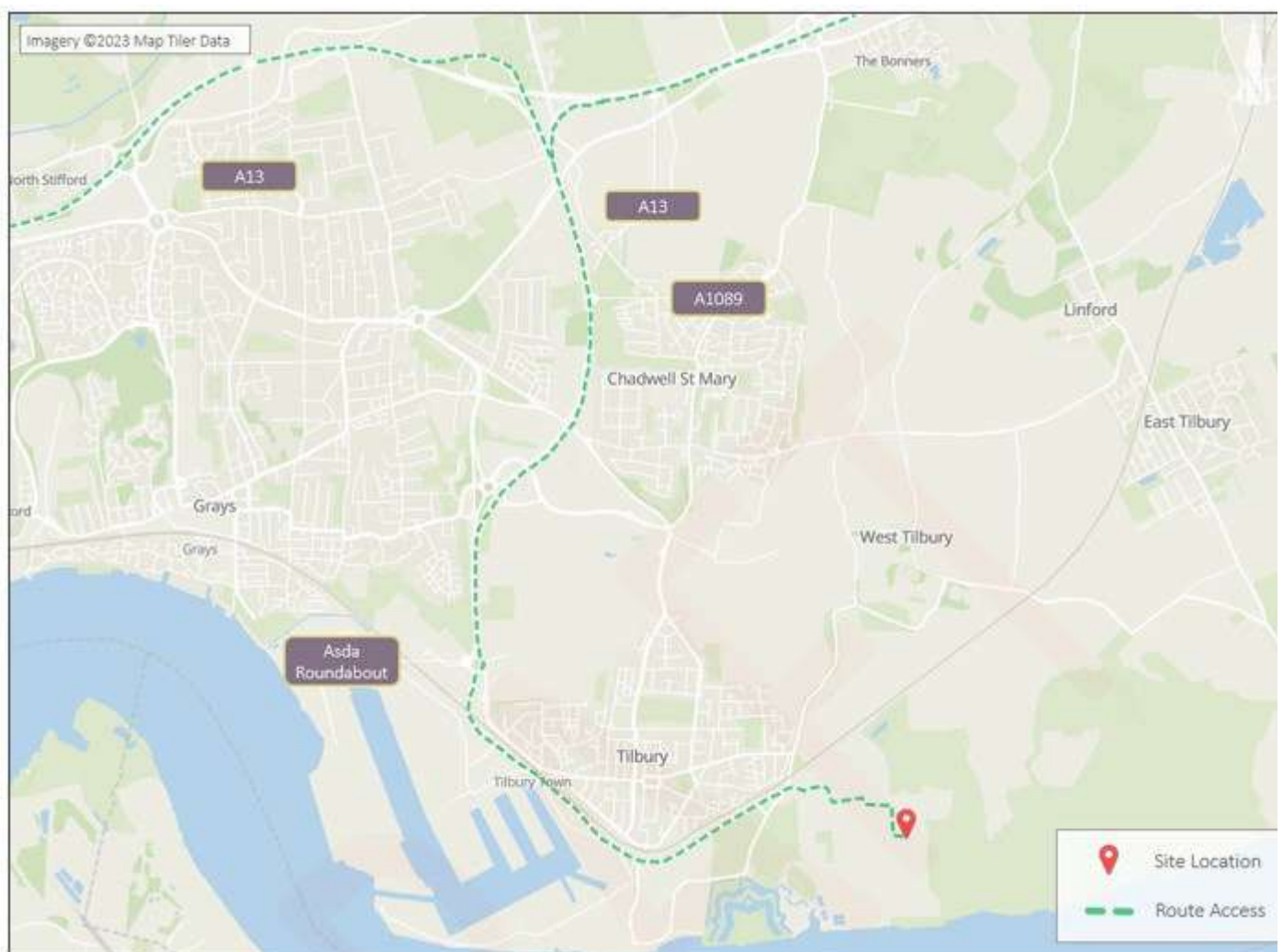
The Transportation Consultancy
27 Park Street, Leamington Spa, CV32 4QN

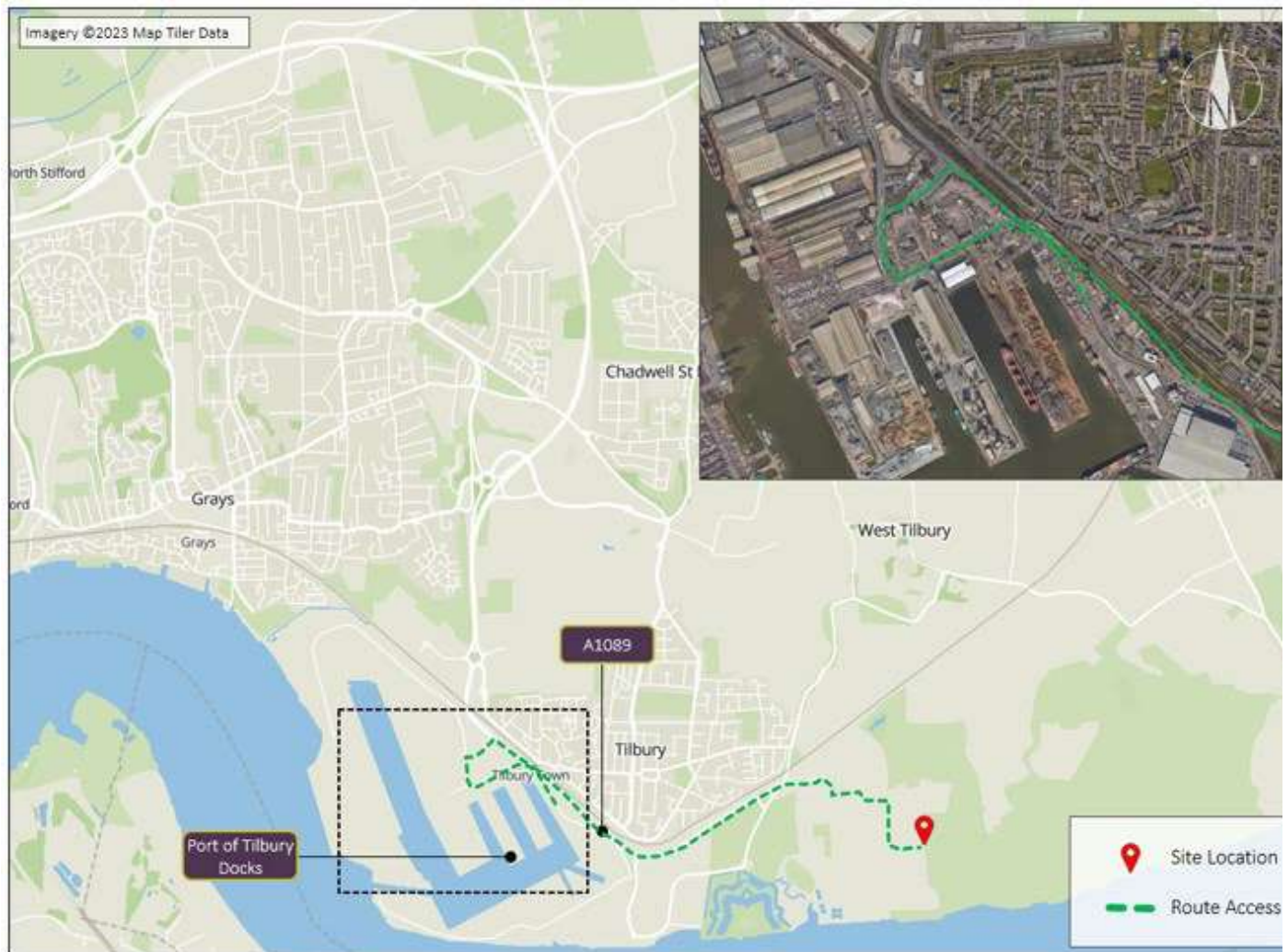
M: 07704 662865

T: 01926 776097

adrian@ttc-transportplanning.com

www.ttc-transportplanning.com | Connect with me on [LinkedIn](#)





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Appendix B

National Highways 'high' 'low' Grid Map

Motorway

All purpose

Highways Agency

Trunk Road

Non-Highways Agency A-Road D/cw

Non-Highways Agency A-Road S/cw

Non-Highways Agency B-Road

Heavy Load Route

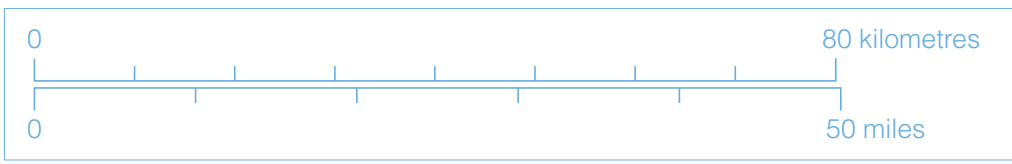
High Load Route

Classification	12 Axles - Gross Trailer Weight	14 Axles - Gross Trailer Weight
A+	406.04T	480.60T
A	325.12T	360.68T
B	280.42T	315.98T
C	269.24T	304.80T
D	264.16T	299.72T
E	259.08T	294.64T
F	223.52T	259.08T
M25	300,000kg on 12 Axles	

High Load Grid Routes: 18' or 20' vehicle running height.

Full details of the classification vehicle's configurations are available from the Highways Agency. Routes on this map should not be taken as permission to move. The correct notification process must still be followed

abnormal.loads@highways.gsi.gov.uk



Route information is considered to be in development, last reviewed 1/7/2007

To view this map with 'Active Layers' view in Adobe Acrobat Reader version 6 or later.

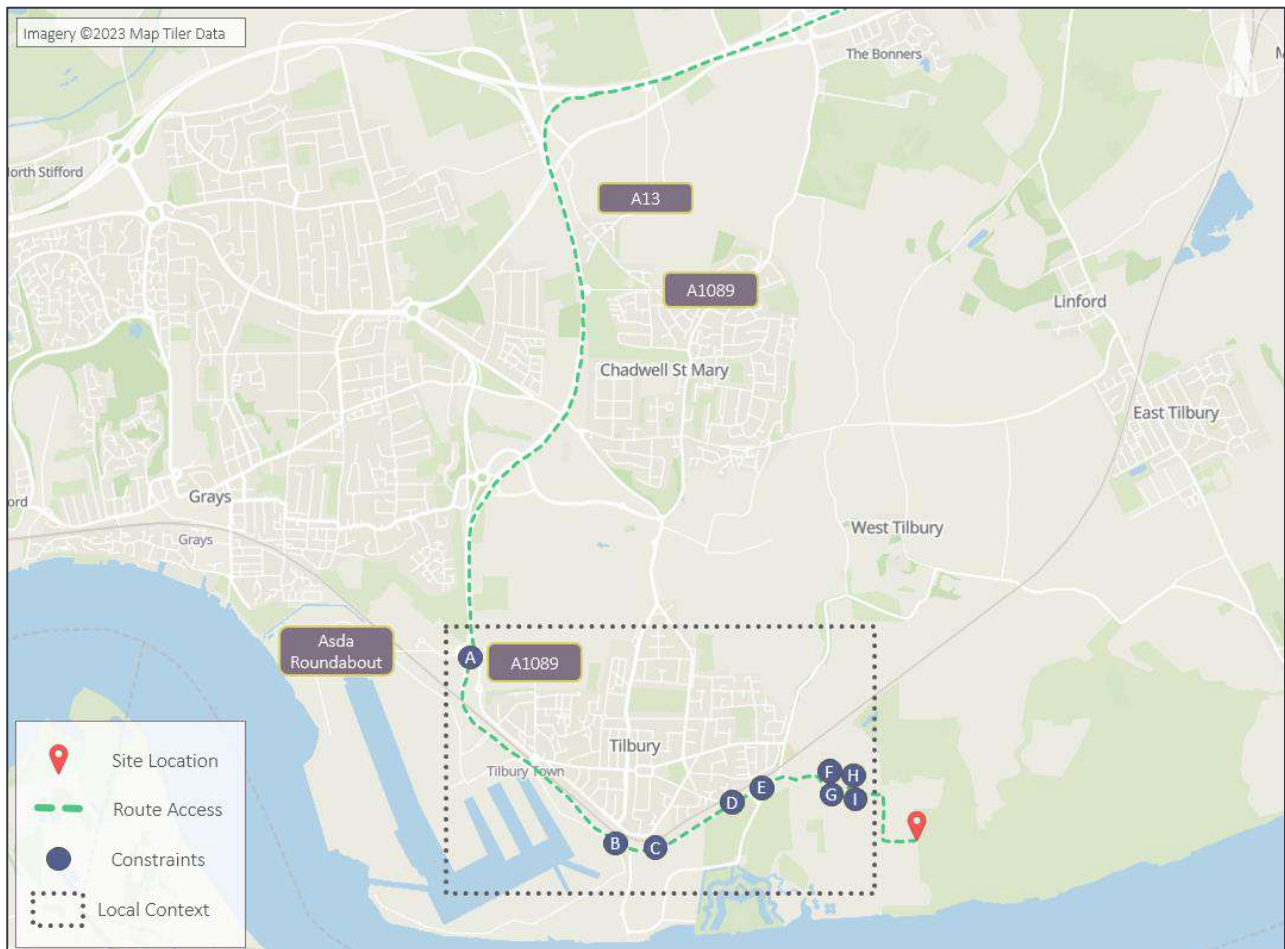
To download the latest version of Adobe Acrobat please click on the link below



Appendix C

Route Appraisal Pro-Forma

Tilbury Route – TBM Arrival



Tilbury Route – Local Context



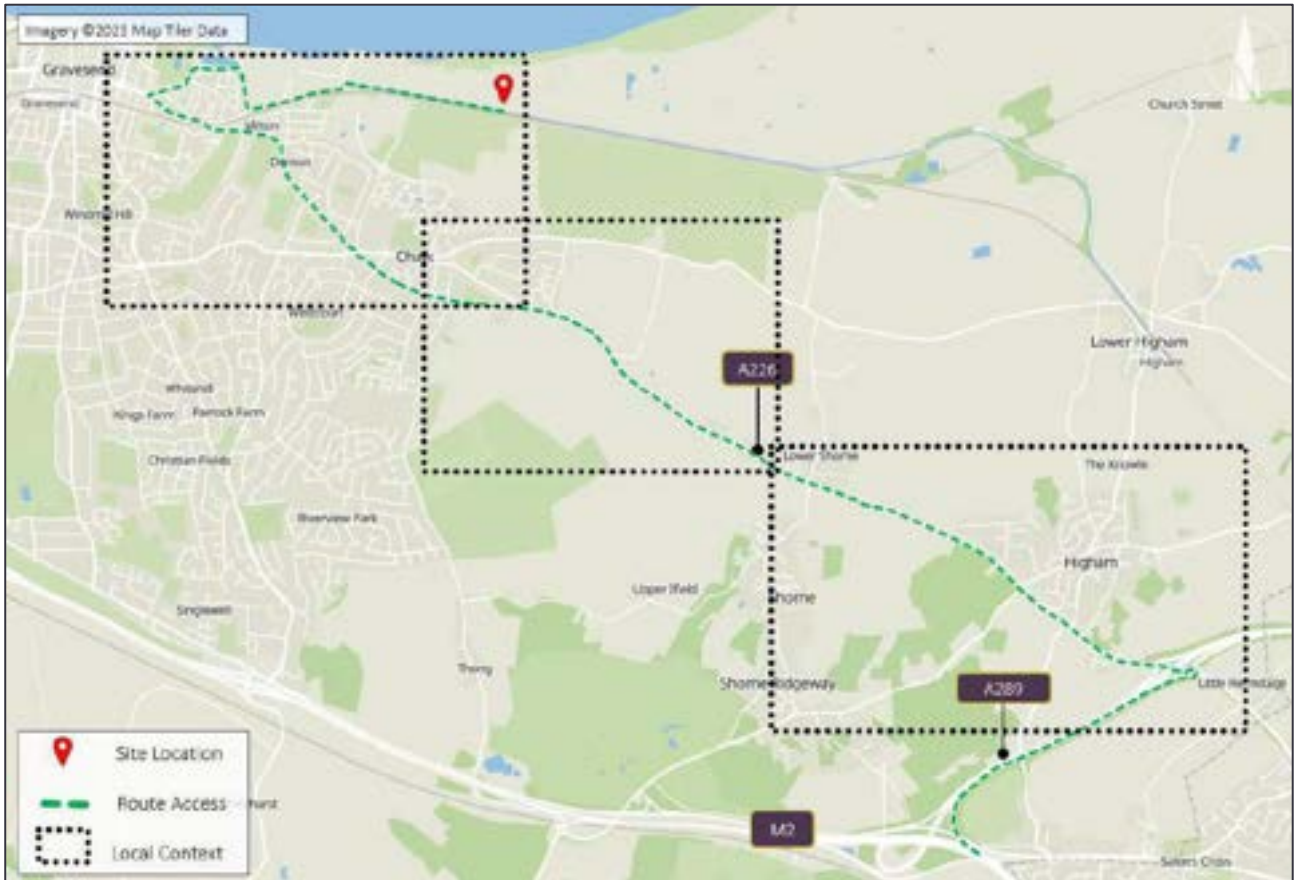
Constraints Pro-forma on Tilbury Route

Tilbury Route						
Ref	Location		Authority	Constraint	Recommendation	Site Audit Photographs
	Northing	Easting				
A	51°28'07.0 "N	0°20'54.4" E	Thurrock Council / National Highways	Asda Roundabout Junction – street furniture	See Drawing Ref:210707-1 Sheet 1 No mitigation needed	
	https://goo.gl/maps/w1cs9fWek8fPkb6A9					
B	51°27'26.1 "N	0°21'45.9" E	Thurrock Council / National Highways	Central traffic island with street furniture.	Possible temporary removal of light, and signage	
	https://goo.gl/maps/cxjGjGxRWuesggq97					

Tilbury Route						
Ref	Location		Authority	Constraint	Recommendation	Site Audit Photographs
	Northing	Easting				
C	51°27'24.4 "N	0°21'52.3" E	Thurrock Council / National Highways	Central traffic island with street furniture.	Possible temporary removal of light, and signage	
	https://goo.gl/maps/f4Bh5iMYMW3RZ7LZ6					
D	51°27'36.1 "N	0°22'29.6" E	Thurrock Council / National Highways	Central traffic island with street furniture.	Possible temporary removal of light, and signage	
	https://goo.gl/maps/JDSRKxlvTgTwsisB9					
E	51°27'37.1 "N	0°22'32.6" E	Thurrock Council / National Highways	Central traffic island with street furniture.	Possible temporary removal of light, and signage	
	https://goo.gl/maps/ayD8yYTg8nGDd8c98					
F	51°27'33.5 "N	0°23'02.2" E	Port of Tilbury	Height restriction barrier.	Temporary dismantling of barrier.	
	https://goo.gl/maps/hp4XpW1pMM9eGo3n8				Re-assessment closer to time of movement to establish any requirement for lifting.	
G	51°27'33.6 "N	0°23'15.0" E	Port of Tilbury	Height restriction barrier.	Temporary dismantling of barrier.	
	https://goo.gl/maps/oSA6uEvXvNVW1QHN9				Re-assessment closer to time of movement to establish any requirement for lifting.	

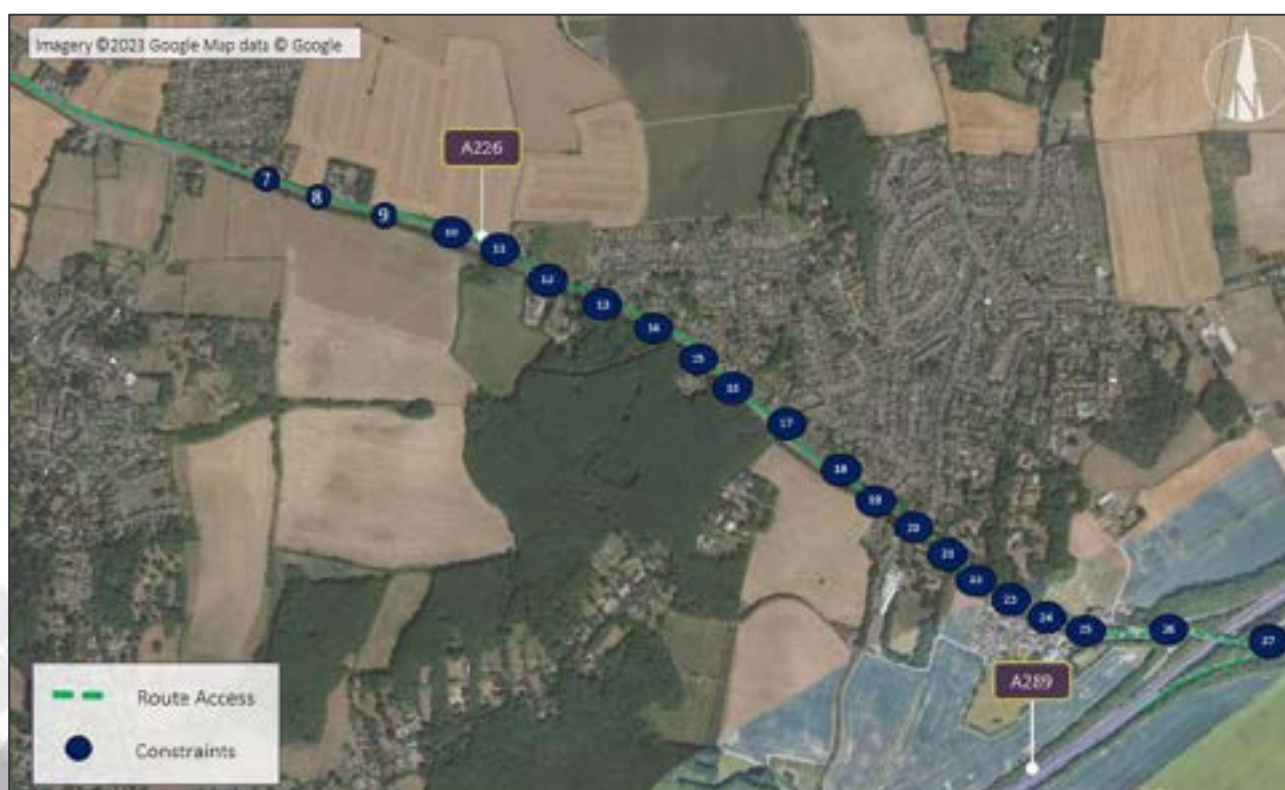
Tilbury Route						
Ref	Location		Authority	Constraint	Recommendation	Site Audit Photographs
	Northing	Easting				
H	51°27'33.7 "N	0°23'16.1" E	Port of Tilbury	Level-crossing	Provide protective steel plating or trackway to facilitate driving over	
	https://goo.gl/maps/bkujrPbUnq3UMiq59					
I	51°27'33.2 "N	0°23'20.0" E	Port of Tilbury	S-bend	See Drawing Ref:210707-1 Sheet 3a and Sheet 3b Self propelled moduler trailer mitigates any over- run	
	https://goo.gl/maps/qZ7bWSpcNNgtgo68					

Gravesend Route – Departure of TBM



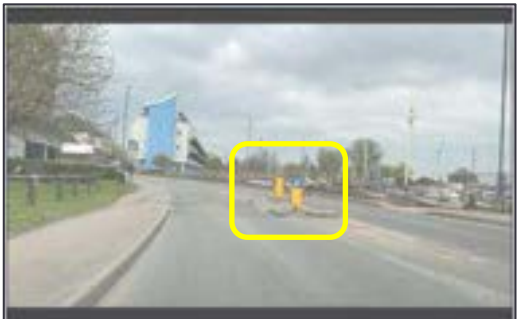
Gravesend Local Context



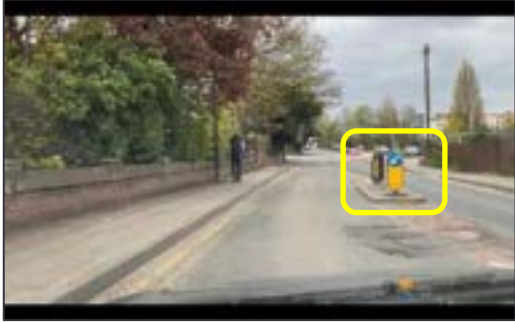
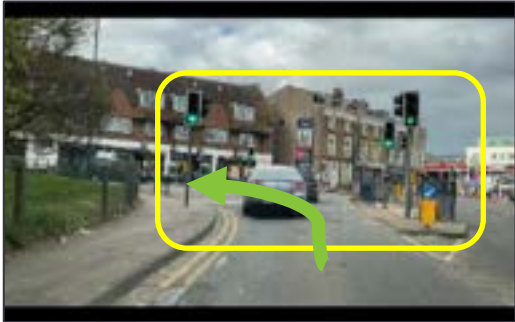


Constraints Pro-forma on Gravesend Route

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
A	51°26'25.2"N	0°24'22.3"E	Vegetation impact on load	See Drawing Ref:210707-1 Sheet 4 Reduce the overhang of trees with potential of total removal.	
B	51°26'25.7"N	0°24'18.0"E	Narrow gateway.	Temporary removal of gate posts and signage	
C	51°26'26.0"N	0°24'15.4"E	Speed bump.	Removal of speed bumps & sign	
D	51°26'27.2"N	0°24'05.0"E	Speed bump.	Removal of speed bumps & sign	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
E	51°26'30.3"N	0°23'38.4"E	Speed bump / parking in layby	Removal of speed bumps & sign. Restrict parking during removal of TBM.	
F	51°26'31"N	0°23'35"E	Overrun of verge and impact on trees	See Drawing Ref:210707-1 Sheet 4 Removal of trees and temporary installation of overrun area.	
F	51°26'32.7"N	0°23'02.2"E	Pedestrian refuge island with street furniture.	Temporary removal of signage. Possible removal of kerbed island.	
G	51°26'33.4"N	0°23'00.2"E	Pedestrian refuge island with street furniture.	Temporary removal of signage. Possible removal of kerbed island.	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northings	Easting			
H	51°26'33.1"N	0°22'53.8"E	Pedestrian refuge island with street furniture.	Temporary removal of signage. Possible removal of kerbed island.	
I	51°26'33.6"N	0°22'48.4"E	Pedestrian refuge island with street furniture.	Temporary removal of signage. Possible removal of kerbed island.	
J	51°26'33.3"N	0°22'46.5"E	Traffic control island with street furniture.	Temporary removal of signage. Possible removal of kerbed island.	
K	51°26'30.7"N	0°22'44.4"E	Pedestrian Zebra crossing and island	Temporary removal of signage. Possible removal of kerbed island.	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
L	51°26'29.9"N	0°22'42.7"E	Traffic control island.	Temporary removal of signage. Possible removal of kerbed island.	
M	51°26'27.9"N	0°22'32.5"E	Signal controlled junction with guard railing and traffic light island	Temporary removal of traffic lights, guard railing and islands (plating to be investigated for kerb island) See Drawing: 210707-1 Sheet 6	
N	51°26'17.2"N	0°23'15.2"E	Traffic island with street furniture.	Temporary removal of signage and lighting column. Possible removal of kerbed island.	
O	51°26'14.8"N	0°23'15.5"E	Traffic island with street furniture.	Temporary removal of signage and lighting column. Possible removal of kerbed island.	

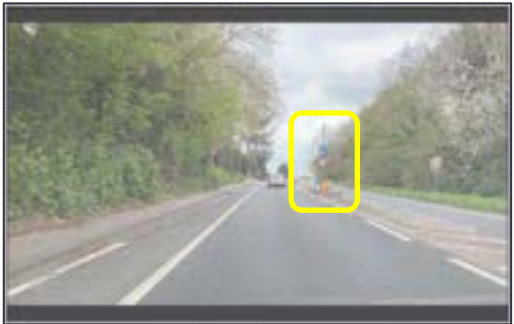
Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
P	51°26'12.9"N	0°23'16.0"E	Uncontrolled pedestrian crossing with refuge island and guard railing.	Temporary removal of furniture, guard railing and lighting column. Possible removal of kerbed island.	
Q	51°26'09.6"N	0°23'19.2"E	Pedestrian refuge island with street furniture.	Temporary removal of signage and lighting column. Possible removal of kerbed island.	
R	51°26'08.5"N	0°23'21.0"E	Pedestrian refuge island with street furniture.	Temporary removal of signage and lighting column. Possible removal of kerbed island.	
S	51°26'03.3"N	0°23'29.1"E	Pedestrian refuge island with street furniture.	Temporary removal of signage and lighting column. Possible removal of kerbed island.	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
T	51°25'52.8"N	0°23'46.1"E	Pedestrian refuge island with street furniture.	Temporary removal of signage and lighting column. Possible removal of kerbed island.	
U	51°25'57"N	0°23'38"E	Lion Roundabout - Guard railing and street furniture and pedestrian controlled crossing on exit	See Drawing Ref:210707-1 Sheet 7 Guard railing to be removed upon exit. Overrun area or trakway to be considered to protect footway	
V	51°25'46.0"N	0°24'21.3"E	Traffic control island with street furniture.	Temporary removal of signage and lighting column.	
W	51°25'45.4"N	0°24'29.8"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northings	Easting			
X	51°25'40.5"N	0°24'54.8"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
Y	51°25'37.0"N	0°24'59.8"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
Z	51°25'32.6"N	0°25'04.4"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
1	51°25'29.7"N	0°25'10.2"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
2	51°25'26.8"N	0°25'16.8"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
3	51°25'23.9"N	0°25'23.3"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
4	51°25'21.3"N	0°25'30.1"E	Pedestrian refuge island with street furniture.	No foreseen issues to negotiate due to width of road space	
5	51°25'19.1"N	0°25'37.0"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	

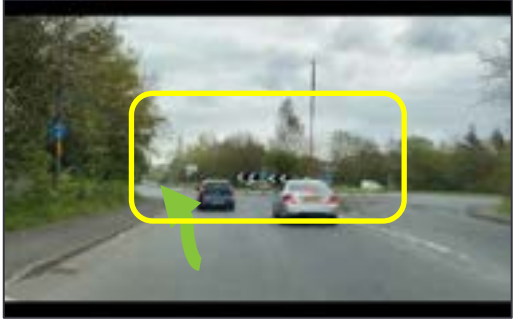
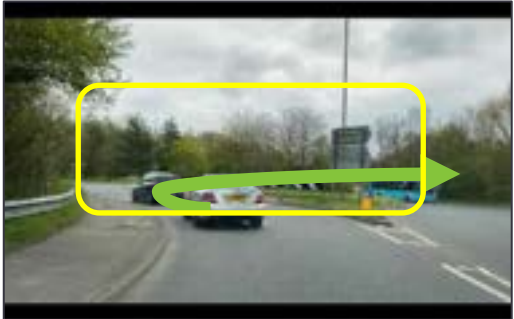
Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
6	51°25'17.6"N	0°25'41.9"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
7	51°25'07.8"N	0°26'15.3"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
8	51°25'06.4"N	0°26'21.2"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
9	51°25'05.4"N	0°26'27.7"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
10	51°25'03.8"N	0°26'34.9"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
11	51°25'02.1"N	0°26'40.5"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
12	51°25'00.1"N	0°26'47.2"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
13	51°24'58.2"N	0°26'53.8"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
14	51°24'56.2"N	0°27'00.2"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
15	51°24'53.8"N	0°27'04.8"E	Traffic control island with street furniture.	No foreseen issues to negotiate due to width of road space	
16	51°24'52.5"N	0°27'07.0"E	Traffic control island with street furniture	No foreseen issues to negotiate due to width of road space	
17	51°24'49.1"N	0°27'12.0"E	Traffic light signal heads	No foreseen issues to negotiate due to width of road space	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
18	51°24'45.2"N	0°27'20.0"E	Pedestrian refuge island with street furniture.	No foreseen issues to negotiate due to width of road space	
19	51°24'43.4"N	0°27'24.2"E	Pedestrian refuge island with street furniture.	No foreseen issues to negotiate due to width of road space	
20	51°24'41.7"N	0°27'27.8"E	Pedestrian refuge island with street furniture.	Temporary removal of signage and lighting column. Possible removal of kerbed island. Cable height to be checked or lifted	
21	51°24'39.6"N	0°27'31.4"E	Pedestrian refuge island with street furniture.	No foreseen issues to negotiate due to width of road space	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
22	51°24'37.5"N	0°27'35.0"E	Traffic control island with street furniture	No foreseen issues to negotiate due to width of road space	
23	51°24'35.9"N	0°27'39.2"E	Traffic control island with street furniture	No foreseen issues to negotiate due to width of road space	
24	51°24'34.6"N	0°27'43.7"E	Traffic control island with street furniture and 40mph roundel	No foreseen issues to negotiate due to width of road space. Cable height to be checked or lifted	
25	51°24'33.8"N	0°27'49.4"E	Traffic control island with street furniture	No foreseen issues to negotiate due to width of road space	

Gravesend Route					
Ref	Location		Constraint	Recommendation	Site Audit Photographs
	Northing	Easting			
26	51°24'33.7"N	0°27'56.5"E	Traffic island with street furniture	See Drawing Ref:210707-1 Sheet 8 No mitigation needed	
27	51°24'32.7"N	0°28'07.3"E	Traffic island with street furniture	See Drawing Ref:210707-1 Sheet 8 No mitigation needed	

Appendix D

Swept Path Analysis

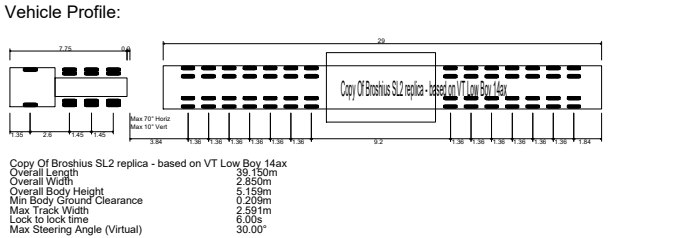
Abnormal Load, Asda Roundabout Junction.



Date of 1st Issue 28/07/23	Description First Issue	Drawn by OH	Checked by JM
-------------------------------	----------------------------	----------------	------------------

Key:	
	Vehicle Body
	Wheel Base

- Notes:
- Based upon OS Mapping.
 - Vehicle profile to be finalised by the AIL transportation contractor.
 - Vehicle configuration based on worst-case assumption for robustness.



A3 SCALE
As shown

Drawing Title

Tilbury, Gravesend

Abnormal Load Assessment (PP1)

Asda Roundabout Junction - A1089

Sheet 1 of 8

Architect

Drawing Status

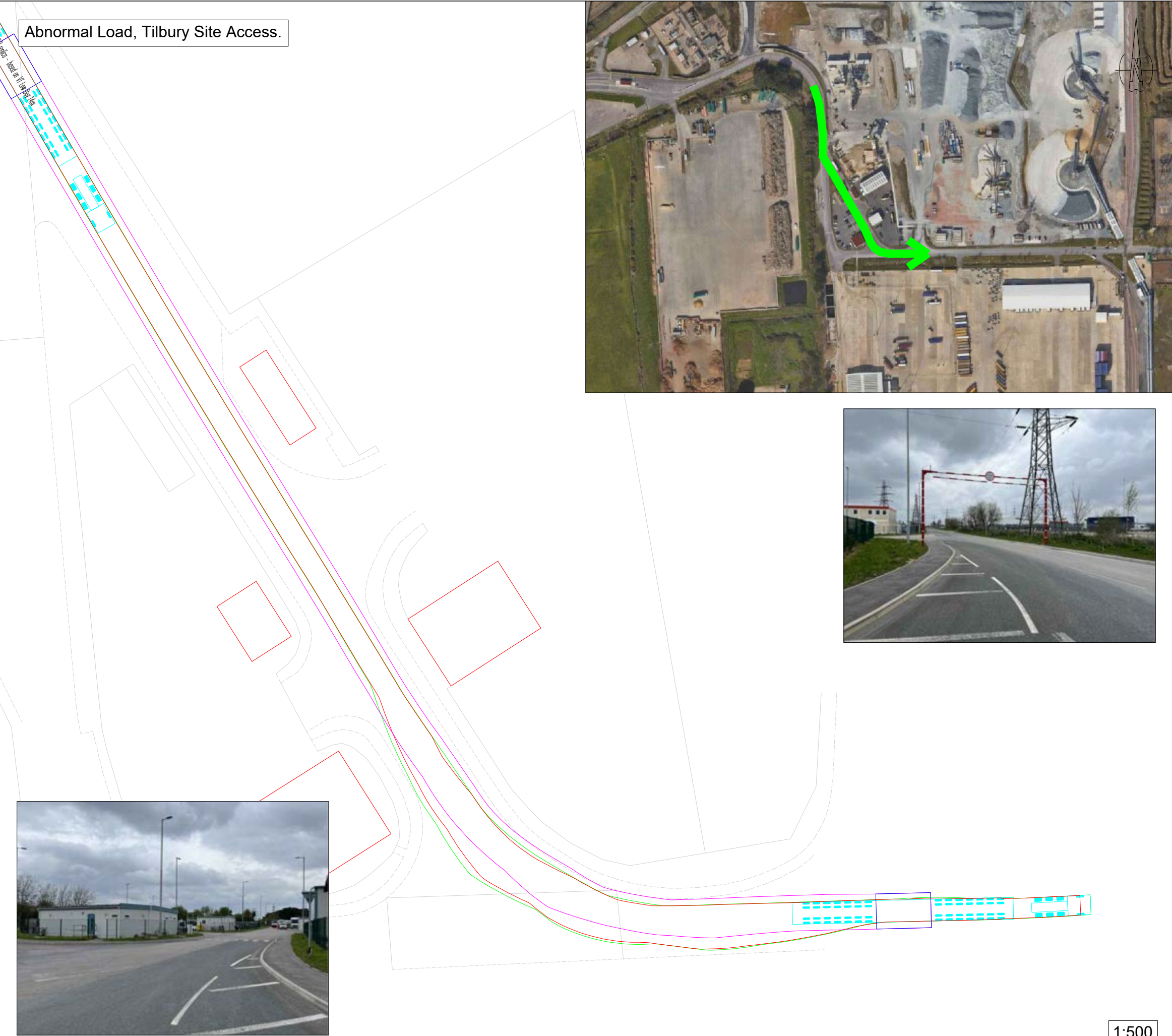
FINAL

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-transportplanning.com

ttc | the transportation consultancy

Drawing Number	210707-01	Revision	-
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1:1000



Date of 1st Issue 28/07/23	Description First Issue	Drawn by OH	Checked by JM
-------------------------------	----------------------------	----------------	------------------

Key:

- Vehicle Body
- Wheel Base

Notes:

- Based upon OS Mapping.
- Vehicle profile to be finalised by the AIL transportation contractor.
- Vehicle configuration based on worst-case assumption for robustness.

Vehicle Profile:

Copy Of Broshius SL2 replica - based on VT Low Boy 14ax

Overall Length 39.150m
Overall Width 2.850m
Overall Body Height 5.189m
Min Body Ground Clearance 0.209m
Max Track Width 2.591m
Lock to lock time 6.00s
Max Steering Angle (Virtual) 30.00°

A3 SCALE
As shown

Drawing Title
Tilbury, Gravesend
Abnormal Load Assessment (PP2)
Tilbury Site - Internal Access Road
Sheet 2 of 8

Architect

Drawing Status
FINAL

27 Park Street
Leamington Spa
CV32 4QN
E: info@ttc-transportplanning.com

ttc the transportation consultancy

Drawing Number
210707-01

Revision
-

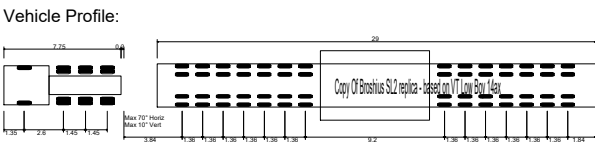
Abnormal Load, Tilbury Site Access.



Date of 1st Issue	Description	Drawn by	Checked by
28/07/23	First Issue	OH	JM

- Key:
- Vehicle Body
 - Wheel Base
 - Area of verge to be clear of obstructions and reinforced - temporary hardstanding / metal plating

- Notes:
- Based upon OS Mapping.
 - Vehicle configuration based on worst-case assumption for robustness.



Copy Of Broshius SL2 replica - based on VT Low Boy 14ax
Overall Length 39.150m
Overall Width 2.820m
Overall Body Height 5.150m
Min Body Ground Clearance 0.205m
Max Track Width 2.591m
Lock to lock time 6.00s
Max Steering Angle (Virtual) 30.00°



A3 SCALE As shown	Drawing Title Tilbury, Gravesend Abnormal Load Assessment (PP3 Option 1) Tilbury Site - Internal Access Road Sheet 3 of 8	
Architect		
Drawing Status FINAL		
27 Park Street Leamington Spa CV32 4QN E: info@ttc-transportplanning.com		 the transportation consultancy
Drawing Number 210707-01		Revision -

Abnormal Load, Tilbury Site Access.



Date of 1st Issue 28/07/23	Description First Issue	Drawn by OH	Checked by JM
Key: Vehicle Body Wheel Base Area of verge to be clear of obstructions and reinforced - temporary hardstanding / metal plating			
Notes: 1. Based upon OS Mapping. 2. Vehicle configuration based on worst-case assumption for robustness.			
Vehicle Profile: SPMT - With Power Pack & Transformer Overall Length 20.200m Overall Width 5.100m Overall Body Height 0.602m Min Body Ground Clearance 0.352m Track Width 1.100m Lock to lock time 6.00s Max Wheel Angle 90.00°			
A3 SCALE As shown			
Drawing Title Tilbury, Gravesend Abnormal Load Assessment (PP3 Option 2) Tilbury Site - Internal Access Road Sheet 3 of 8			
Architect			
Drawing Status FINAL			
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Drawing Number 210707-01			Revision -

Abnormal Load, Gravesend - Thames & Medway Canal.

1:500

Key:

	Vehicle Body
	Wheel Base
	Area to be reinforced and cleared - temporary hardstanding / metal plating
	Area to be managed and cleared of vegetation

Notes:

1. Based upon topographical survey.
2. Vehicle configuration based on worst-case assumption for robustness.

Vehicle Profile:

The diagram shows two views of a vehicle's side profile. The top view is a plan view showing the overall length of 7.75 feet and a wheelbase of 6 feet. Below it are two side elevation views. The left side view shows a height of 10 feet 11 inches at the front and 10 feet 7 inches at the rear. The right side view shows a total length of 29 feet. A central box contains the text "Copy Of Broshius SL2 replica - based on VT Low Boy 14ax".

Copy Of Broshius SL2 replica - based on VT Low Boy 14ax	
Overall Length	39.150m
Overall Width	2.850m
Overall Body Height	5.159m
Min Body Ground Clearance	0.209m
Max Track Width	2.591m
Lock to lock time	6.00s
Max Steering Angle (Virtual)	30.00°

A3 SCALE	
As shown	

Drawing Title	
Tilbury, Gravesend	
Abnormal Load Assessment (PP4)	
Gravesend Site - Thames & Medway Canal	
Sheet 4 of 8	

Architect

Drawing Status

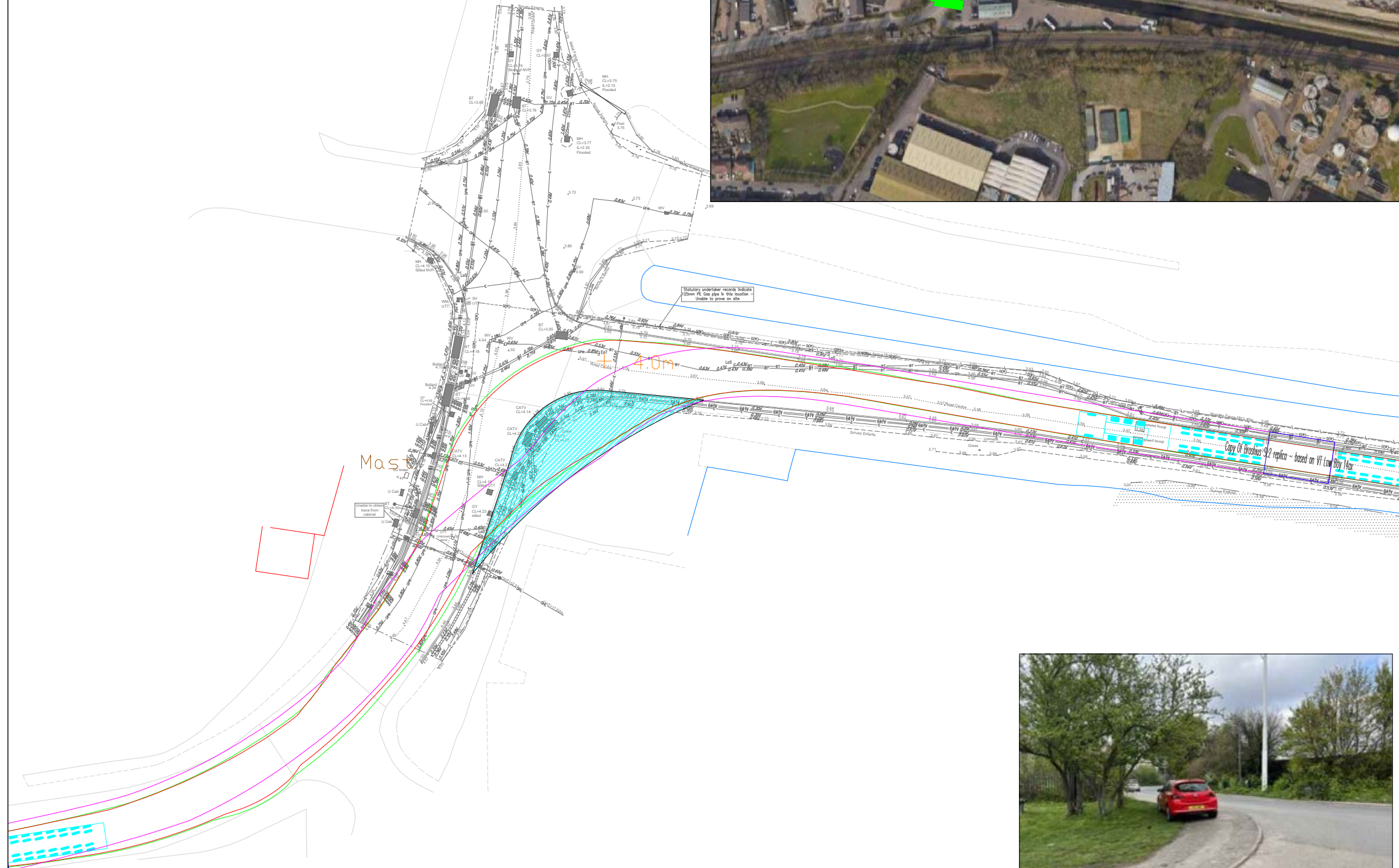
FINAL

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consultancy

Drawing Number	210707-01	Revision	-
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Abnormal Load, Gravesend - Thames & Medway Canal.



1:500

Date of 1st Issue 28/07/23	Description First Issue	Drawn by OH	Checked by JM
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Key:

	Vehicle Body
	Wheel Base
	Area of verge to be cleared and reinforced - temporary handstanding / metal plating

Notes:

1. Based upon OS Mapping.
2. Vehicle configuration based on worst-case assumption for robustness.

Vehicle Profile:

The technical drawing shows the vehicle profile with the following dimensions:

- Top View Dimensions:**
 - Overall Length: 2.75m
 - Overall Width: 0.9m
 - Track Width: 0.25m
 - Wheelbase: 0.6m
 - Min Body Ground Clearance: 0.209m
- Side View Dimensions:**
 - Overall Height: 0.39150m
 - Max Track Width: 2.5611m
 - Lock to lock time: 6.00s
 - Max Steering Angle (Virtual): 30.00°

Copy Of Broshius SL2 replica - based on VT Low Boy Max

A3 SCALE As shown	
Drawing Title Tilbury, Gravesend Abnormal Load Assessment (PP5) Thames & Medway Canal - Norfolk Road Sheet 5 of 8	

Architect

Drawing Status

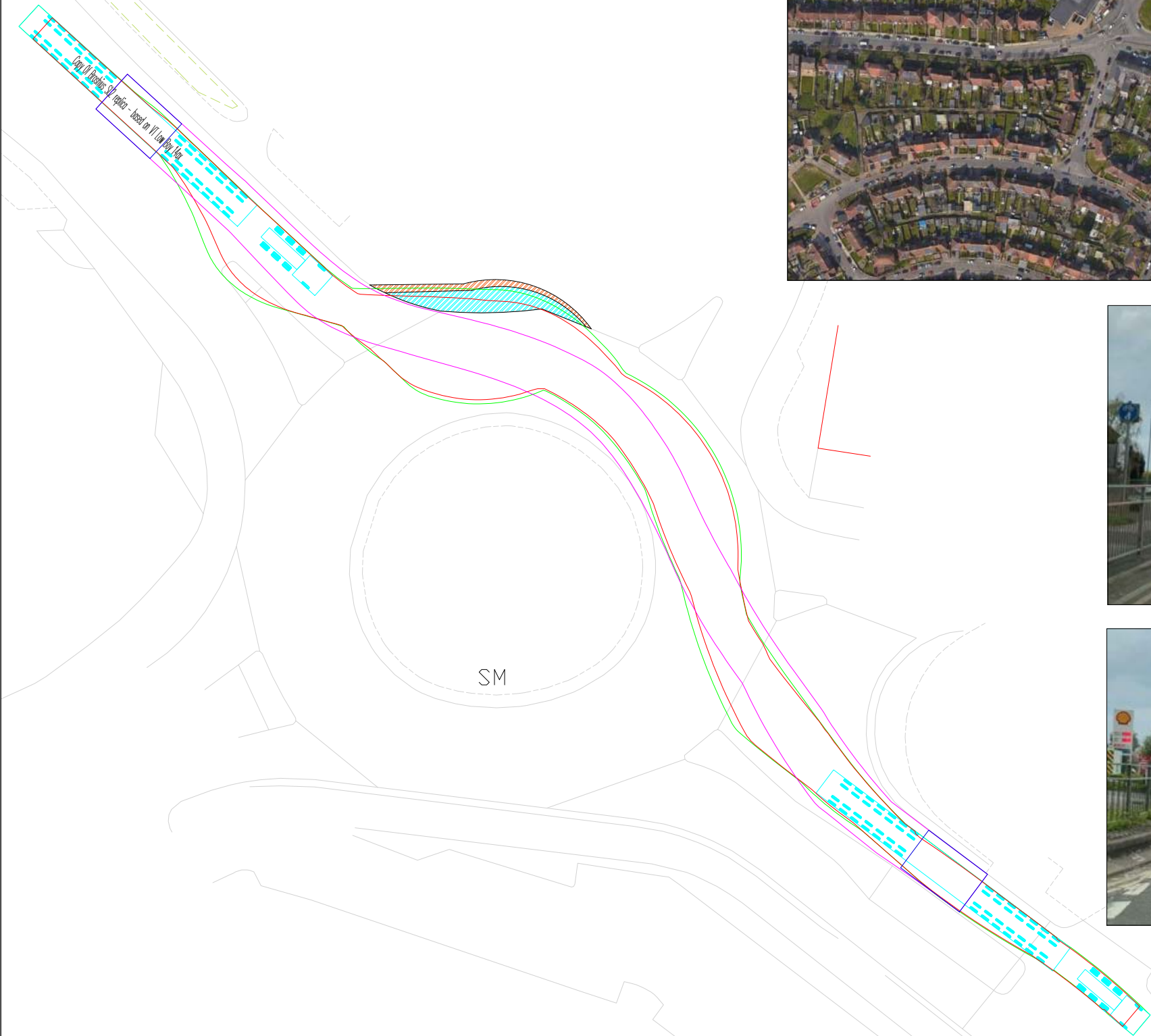
FINAL

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Drawing Number	210707-01	Revision	-
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Abnormal Load, A226 - Lion Roundabout.



Date of 1st Issue 28/07/23	Description First Issue	Drawn by OH	Checked by JM
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Key:

- Vehicle Body
- Wheel Base
- Area to be cleared of street furniture/guard railing and reinforced
- Area to be managed

Notes:

- Based upon OS Mapping.
- Vehicle configuration based on worst-case assumption for robustness.

Vehicle Profile:

Copy Of Brosthus SL2 replica - based on VT Low Boy 14ax

Overall Length	39.150m
Overall Width	2.850m
Overall Body Height	5.150m
Min Body Ground Clearance	0.209m
Max Track Width	2.591m
Lock to lock time	6.00s
Max Steering Angle (Virtual)	30.00°

A3 SCALE
As shown

Drawing Title
Tilbury, Gravesend
Abnormal Load Assessment (PP7)
A226 - Lion Roundabout
Sheet 7 of 8

Architect

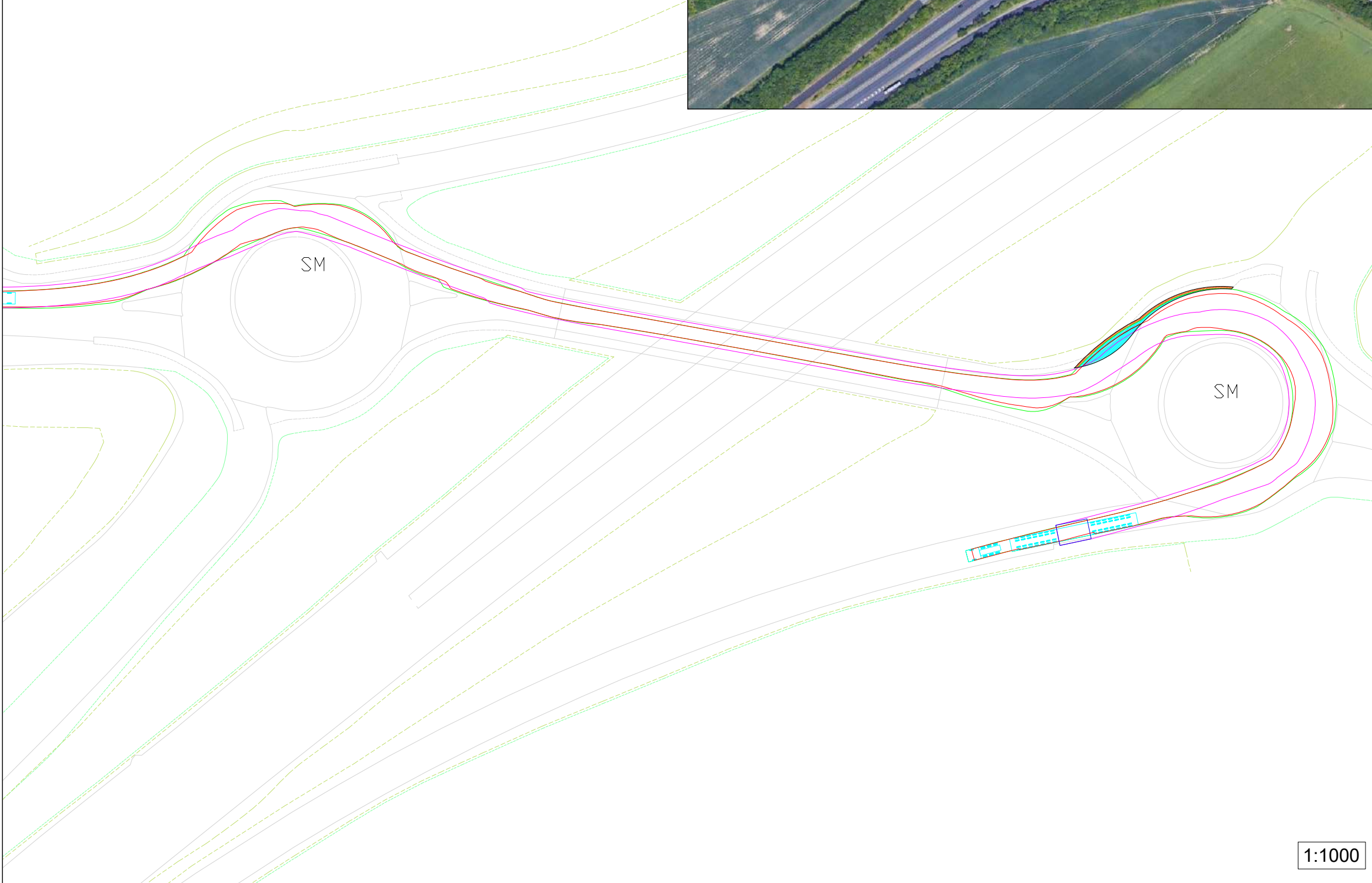
Drawing Status
FINAL

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Drawing Number 210707-01	Revision -
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Abnormal Load, Gads Hill Roundabout



Date of 1st Issue 28/07/23	Description First Issue	Drawn by OH	Checked by JM
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Key:

- Vehicle Body
- Wheel Base
- Area of verge to be clear of obstructions and reinforced - temporary hardstanding / metal plating
- Area to be managed

Notes:

- Based upon OS Mapping.
- Vehicle configuration based on worst-case assumption for robustness.

Vehicle Profile:

Copy Of Broshius SL2 replica - based on VT Low Boy 14ax

Overall Length	39.150m
Overall Width	2.850m
Overall Body Height	5.150m
Min Body Ground Clearance	0.209m
Max Track Width	2.591m
Lock to lock time	6.00s
Max Steering Angle (Virtual)	30.00°

A3 SCALE
As shown

Drawing Title
Tilbury, Gravesend
Abnormal Load Assessment (PP8)
A226 / A289 - Gads Hill Interchange
Sheet 8 of 8

Architect

Drawing Status
FIRST

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1:1000

Drawing Number
210707-01

Revision
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