



Thurrock Flexible Generation Plant

**Outline Construction Traffic Management Plan
Application document number A8.8
APFP Regulations ref. 5(2)(q)**

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Summary

This document considers the traffic and transport impact of the proposed Thurrock Flexible Generation Plant development.

Qualifications

This document has been prepared by Charles Montgomerie, a Consultant Transport Planner who has three years' experience in transport planning.

It has been checked by David Archibald, Director, a Member of the Chartered Institution of Highways and Transportation with 20 years' experience in transport planning and highway engineering.

1. Introduction

1.1 Overview

- 1.1.1 This Outline Construction Traffic Management Plan (CTMP) has been prepared on behalf of Thurrock Power Ltd, in support of the application for a Development Consent Order (DCO) for the construction phase of the Thurrock Flexible Generation Plant.
- 1.1.2 The site is located immediately to the north of the existing Tilbury Substation within Thurrock, Essex, as shown on Figure 1.1.
- 1.1.3 This Outline CTMP sets out measures that will be implemented to mitigate the impacts of construction HGVs travelling to and from the site. A separate Outline Construction Worker Travel Plan (Document Reference A8.9) has been prepared to support the application in relation to the movement of staff and visitors during the construction phase.
- 1.1.4 This Outline CTMP will form the basis of a final Construction Traffic Management Plan, which will evolve from but be substantially based on this document once a contractor has been appointed, post consent.
- 1.1.5 The arrangements of the CTMP will be communicated through the site induction for all site personnel; however, when further, more specific information needs to be communicated, additional bespoke talks will be carried out addressing the relevant site personnel as and when required.
- 1.1.6 This CTMP has been prepared in advance of detailed construction planning following a strategic approach to ensure opportunities for positive benefits in minimising environmental impact are secured during the delivery of the proposals.
- 1.1.7 This CTMP will guide the preparation of a final CTMP which will be prepared prior to construction commencing, and approved by Thurrock Council in consultation with Highways England, where appropriate.



Figure 1.1: Site Location Plan.

2. Existing Situation

2.1 Site Location

- 2.1.1 The site is located immediately to the north of the existing Tilbury Substation and the site of the decommissioned Tilbury coal fired power station, with the River Thames further to the south. The eastern edge of Tilbury is approximately 800 m north west of the main development site, the village of West Tilbury is approximately 1.25 km to the north and East Tilbury village is approximately 2.1 km to the east.
- 2.1.2 Part of the main development site is known as Walton Common (registered common land number CL228). It forms part of the common known as The Green, Hall Hill, Fort Road, Parsonage, Walton and Tilbury Fort Commons (ID 33611).
- 2.1.3 The other land within the application boundary generally comprises grass or arable fields separated by drainage channels and some man-made ponds.
- 2.1.4 Existing access to the site is via a farm track to Station Road, which then connects to West Tilbury via Church Road and East Tilbury via Princess Margaret Road. To the north, the A13 dual carriageway provides a strategic highway route to the M25 and London.

2.2 Highway Network

Local Highway Network

- 2.2.1 The local transport network providing access to the site is shown on Figure 1.1.
- 2.2.2 Station Road is a 4.5 m – 6.2 m wide single carriageway road routing broadly west to east between Church Road and Princess Margaret Road respectively with a national speed limit of 60 mph. It has no footways, no street lighting and no parking restrictions. There are a number of passing places at the narrow sections of Station Road. At the narrow sections of Station Road there is clear forward visibility either side of the narrow sections, meaning that oncoming drivers can see one-another, and self- manage themselves, passing accordingly.
- 2.2.3 At its eastern end, Station Road forms the minor arm of a bifurcated simple priority junction with Princess Margaret Road. To the west, Station Road passes over an at-grade level crossing and becomes Church Road at its junction with Low Street Lane.

- 2.2.4 To the north east of the existing site access Love Lane forms the minor arm of a simple priority junction with Station Road and routes to Princess Margaret Road with a 7.5 tonne weight restriction. Love Lane is a one-way road in the south west bound direction.
- 2.2.5 Church Road is a single carriageway road approximately 4.7 m – 6 m wide with a national speed limit of 60 mph. It has no footways, no street lighting and no parking restrictions. Church Road continues west from Station Road into West Tilbury. Approximately halfway between Station Road and West Tilbury, Church Road becomes Coopers Shaw Road and continues as the major priority arm to the south west. At this point, Church Road forms the minor arm of a simple priority junction to provide access to West Tilbury with a 7.5 tonne weight restriction along it.
- 2.2.6 Coopers Shaw Road is a single carriageway road with a national speed limit of 60 mph and an approximate carriageway width of 6 m. There are no footways, no street lighting and no parking restrictions. It continues to the south west to Gun Hill where it becomes Fort Road and continues south west into Tilbury.
- 2.2.7 Fort Road is a single carriageway road routing west from Coopers Shaw Road then south and to the west. It is subject to the national speed limit of 60mph prior to entering Tilbury where the speed limit reduces to 30mph. The carriageway is of varying width along its length, generally being 5.5m to 6m wide. There is no street lighting and limited footways. Fort Road has a number of dedicated accesses to Tilbury Railport and Tilbury Ferry Port. Fort Road becomes the Ferry Road and then the A1089 St Andrews Road as it continues west.

Strategic Highway Network

- 2.2.8 To the north west of the Gate 1 entrance to the Port of Tilbury, the A1089 St Andrews Road becomes a dual carriageway road with two lanes in each direction at which point it becomes part of the Strategic Road Network. Along this section of road, it is subject to a 40mph speed limit.
- 2.2.9 Continuing north, the A1089 St Andrews Road forms the southern arm of a five-arm roundabout, known locally as the 'ASDA Roundabout'. At the ASDA roundabout, the A1089 Dock Road Approach continues north; Dock Road provides the main vehicular link to Tilbury town centre to the south east; Thurrock Park Way provides a link to Thurrock Park Industrial Estate to the west; and there is an access to the consented London Distribution Park to the east. The ASDA roundabout has recently been improved as part of the consented London Distribution Park.

- 2.2.10 The A1089 is a dual carriageway road north of the ASDA roundabout and is subject to the national speed limit of 70 mph. It has street lighting, two lanes in both directions and forms merge and diverge lanes with both directions of the A13 at its northern end.
- 2.2.11 The A13 to the east of the A1089 is also a dual carriageway road and continues to Stanford Le Hope, Basildon and Southend on Sea. It connects to the grade separated Orsett Cock roundabout and is subject to the national speed limit of 70 mph. The A13 also continues west of the A1089 and connects to the M25 at junction 30 via a grade separated signalised gyratory. It has street lighting along the entirety of its length in the vicinity of the A1089.
- 2.2.12 The A13 is currently undergoing improvement works to widen it between the Orsett Cock roundabout and the A1014 from two to three lanes in both directions. As part of the work, the Orsett Cock roundabout will be widened, and new traffic lights will be installed. Works are planned to be complete by Autumn 2020.

2.3 Road Safety

Local Highway Network

- 2.3.1 Personal injury accident (PIA) data has been obtained for the most recently available 5-year period from the website Crashmap (n.d.), which provides a summary of PIAs from data recorded by the police.
- 2.3.2 The area of study for the local road network is the construction vehicle route including Station Road, Church Road, Coopers Shaw Lane and Fort Road. During the five-year period there was a total of 9 PIAs in the study area. Three resulted in serious injury and the remainder were classified as slight injury accidents. There were no fatal injury accidents. Full details of the road safety analysis are set out in Volume 6, Appendix 10.1: Transport Assessment of the Environmental Statement (ES) submitted as part of the application for the proposed Thurrock Flexible Generation Plant.
- 2.3.3 From the analysis undertaken there does not appear to be anything in relation to the existing highway layout or geometries that contributes to a road safety concern, as such there are no safety issues to be managed by measures through this outline CTMP.
- ### ASDA roundabout
- 2.3.4 In accordance with comments received from Highways England and Thurrock Council, PIA data has been obtained from Essex Highways for the latest available 5-year period for the ASDA roundabout.

- 2.3.5 There have been 22 injury accidents recorded within the study area, during the five-year analysis period. There were 18 slight and 4 serious injury accidents across the five-year period. There were no fatal injury accidents recorded during the time period and area selected. Full details of the road safety analysis are set out in Volume 6, Appendix 10.1: Transport Assessment of the ES.
- 2.3.6 From the analysis undertaken, it is considered that there are no common contributory factors of injury accidents which would highlight any potential deficiency in the design of the roundabout and that there are therefore no prevailing highway safety issues.
- 2.3.7 Of the slight injury accidents, one included a goods vehicle which overturned on the roundabout due to failing to reduce speed when traversing the roundabout carriageway.
- 2.3.8 On the A1089 Dock Approach road southbound and on the roundabout itself there are signs warning goods vehicles of tipping and giving a max speed of 30 mph. It should be noted that as part of the Tilbury 2 consented application the speed limit on approach to the roundabout will be reduced to 30 mph from the north and from the south. There are road signs warning drivers of adverse camber both north of the roundabout and on the circulatory carriageway.
- 2.3.9 Nevertheless the adverse camber on the roundabout has been identified and management measures regarding this are presented later in the CTMP to ensure construction HGV drivers are made aware and navigate the roundabout safely.

2.4 Observed Traffic Flows

- 2.4.1 Traffic survey data has been obtained from Highways England, DfT and recent planning applications in the vicinity of the site.
- 2.4.2 Table 2.1 summarises the observed traffic flows.

Table 2.1: Observed traffic flows.

Road Link ID	Road Link / Description	Data	24 Hour AADT
			Observed
1	A13 between M25 junction 30 and A126	Total	105742
		HV	11686
2	A13 between A126 and A1012	Total	87145
		HV	11066
3	A13 between A1089 and A1012	Total	92240
		HV	10988
4	A1089 between Marshfoot Road roundabout and A13	Total	26691
		HV	7047
11	Coopers Shaw Road / Church Road / Station Road, between Gun Hill Road and EMR East Tilbury junction	Total	977
		HV	190
15	A13, between Orsett Cock roundabout and A1089	Total	86272
		HV	8142
16	A1089 Dock Approach Road, between Marshfoot Road roundabout and ASDA roundabout	Total	29123
		HV	6948
17	A1089 St Andrews Road, between ASDA roundabout and Port of Tilbury Gate 1	Total	13477
		HV	6235
18	A1089 St Andrews Road, between Port of Tilbury Gate 1 and Proposed Tilbury 2 Road	Total	5263
		HV	1382
19	Proposed Tilbury 2 Road between A1089 St Andrews Road and Fort Road	Total	1413
		HV	220
20	Fort Road, between Proposed Tilbury 2 Road and Brennan Road	Total	1413
		HV	220
21	Fort Road, between Brennan Road and Coopers Shaw Road	Total	1906
		HV	243
22	Station Road, East Tilbury	Total	500
		HV	0

3. Objectives

3.1 Introduction

- 3.1.1 The primary objective of this CTMP is to minimise any effects of transport associated with the construction of the Thurrock Flexible Generation Plant.
- 3.1.2 Therefore, the most easily identified benefits of this CTMP are those that are directly related to minimising congestion on the surrounding highway network, noise, air pollution and fewer accidents and the appropriate movement and management of construction HGVs.
- 3.1.3 The final Construction Traffic Management Plan will build upon this CTMP with key objectives being to:
- Reduce traffic associated with the construction, particularly non-essential traffic;
 - Maximise the environmental and health benefits by promoting reduced emissions and higher safety levels; and
 - Maintain road safety through the management of HGVs.
- 3.1.4 Steps toward the mitigation of any construction transport impacts are to:
- Ensure construction vehicles use the most suitable routes; and
 - Ensure that the construction vehicles meet high environmental standards.

4. Key CTMP Contacts

Contact name and Phone Numbers of Personnel Responsible for Adherence and Monitoring the CTMP

- 4.1.1 Contact details for personnel responsible for adherence to the plan will be established on appointment of the main contractor for the construction works. Prior to the commencement of construction operations, details will be confirmed in writing to Thurrock Council.

Contact Name and Phone Numbers for Site Related Enquiries Including Out of Hours' Time Periods

- 4.1.2 As above, contact details for site related enquiries will be established on appointment of the main contractor for the construction works. These details will be included on site notices placed at the site entrance. Prior to the commencement of construction operations, details will be confirmed in writing to the Thurrock Council.

5. Duration of Construction Works and Times of Operation

5.1 Duration of Construction Works

5.1.1 Any substantial changes in the build programme and / or number of vehicle movements will be communicated to Thurrock Council in advance.

Construction Phasing

5.1.1 The minimum construction period is for a single-phase development and is expected to be 18-24 months.

5.1.2 Should the proposed development be constructed in three phases, each phase will last up to 18 months and the overall construction programme may last four and a half to six years. Each phase may be back to back or there may be a gap of around nine months between phases, depending on market conditions.

5.1.3 Full details on the construction phasing and timescales are set out in Volume 2, Chapter 2: Project Description of the ES.

5.2 Construction Working Hours

5.2.1 Normal construction working hours will be Monday to Friday 08:00–18:00 and Saturday 08:00–13:00. No Sunday, bank holiday or night working is proposed save as described below.

5.2.2 Construction HGV movements will be generated throughout the day and will be typically spread fairly equally in terms of hourly movements. Any occasional peaks of construction HGV movements at various times of the day will be balanced by subsequent troughs. During the construction phase, these peaks and troughs of HGV activity will average out overall. An average day will see a fairly equal spread of construction HGV movements across the working day. HGV movements on a weekday will be between 08:00 and 18:00 and on a Saturday, between 08:00 and 13:00.

5.2.3 Non-noisy activities such as fit-out within buildings may be undertaken outside those hours where these would not cause disturbance off-site. It is possible that certain construction activities that cannot be interrupted, such as a continuous concrete pour, may be required.

5.2.4 Works for the gas pipeline crossing Station Road may be undertaken during night time to minimise disruption caused by diversions, at the discretion of the contractor and Thurrock Council.

6. Anticipated Construction HGV Movements

6.1 Introduction

- 6.1.1 This section of the report sets out the estimated number of HGVs that will be generated throughout the construction phase of the development. This information has been used in subsequent sections that consider the safety of the adjoining highway networks, in order to inform the suite of management measures proposed.
- 6.1.2 It should be noted that the construction programme and corresponding construction traffic strategy may be subject to change following the appointment of construction contractors and prior to work commencing on site. Thurrock Council will be kept informed about any planned changes in the build programme and the associated number of vehicle movements will be communicated to Thurrock Council in advance for each stage.
- 6.1.3 Full details of the construction traffic generation are set out in Volume 6, Appendix 10.1: Transport Assessment.

6.2 Construction HGVs

- 6.2.1 It is estimated that construction of the site will generate an average of 40 HGV deliveries per day (average of 80 HGV movements per day) throughout the construction period. This could peak at 80 HGV deliveries per day (160 HGV movements per day). This includes all associated construction activities including all deliveries and all removal of material / waste etc.
- 6.2.2 The origins of materials etc will be subject to a procurement exercise which has not been undertaken and won't be undertaken until the point of construction. At the application stage, it is not possible to identify the potential location of HGV origins, but this is not relevant to the impact on the local network.

6.3 Abnormal Indivisible Loads

- 6.3.1 The largest items of plant that will be delivered as Abnormal Indivisible Loads (AILs) include the gas turbines, steam turbines, generators and transformers.
- 6.3.2 It is proposed for the AILs to arrive at the proposed development site via a new temporary causeway on the River Thames and to access the site from the south without using the highway network.
- 6.3.3 This CTMP does not therefore consider AILs.

7. Construction Vehicle Routing

7.1 Overview

HGV vehicle routing

- 7.1.1 There will be a number of compounds in use during the construction phase of the proposed development. The exact location and period of operation of these compounds would be determined in detailed design and the CTMP would be updated for approval by Thurrock Council to reflect these locations.
- 7.1.2 Nevertheless, it is expected that all construction HGVs, would access the site through the former Tilbury Power Station and Tilbury 2 access.
- 7.1.3 The intention is for all daily construction HGVs, to route from the A13 and then south on the A1089 Dock Approach Road, A1089 St Andrews Road and A1089 Ferry Road, then routing east onto the proposed Tilbury 2 road and into the Tilbury Power Station and Tilbury 2 access. Once within the Tilbury Power Station site the vehicles would proceed to the proposed development.
- 7.1.4 A secondary access point is proposed on Station Road, where vehicles would continue along Fort Road and access Station Road, through Coopers Shaw Road and Church Road. This would be used only in exceptional circumstances in the event that the Fort Road access was unavailable for any reason.
- 7.1.5 The only exception to this is Station Road, East Tilbury, given that the only construction vehicles on this link are in relation to works for the gas compound and gas pipeline. It is estimated these works would take place over a few months and generate up to ten HGV movements per day.
- 7.1.6 HGVs which deliver material from the Port of Tilbury could arrive to the port from the A13, collect the load, turn left onto the A1089 to exit the port, perform a U-turn at the ASDA roundabout, continuing southbound on the A1089 to the site and then exit the site northbound from the site to the A13 via the A1089.
- 7.1.7 All HGV construction vehicles would be required to follow the stated routes. The primary aim would be to ensure HGV construction vehicles remain on the strategic and primary highway network, for as long as practically possible.

- 7.1.8 In order to minimise the impact of construction HGV movements to and from the site, a recommended route strategy is proposed. All drivers will be advised of the route that all vehicles should follow between the site access and the strategic highway network. See Figure 7.1 below for proposed route.

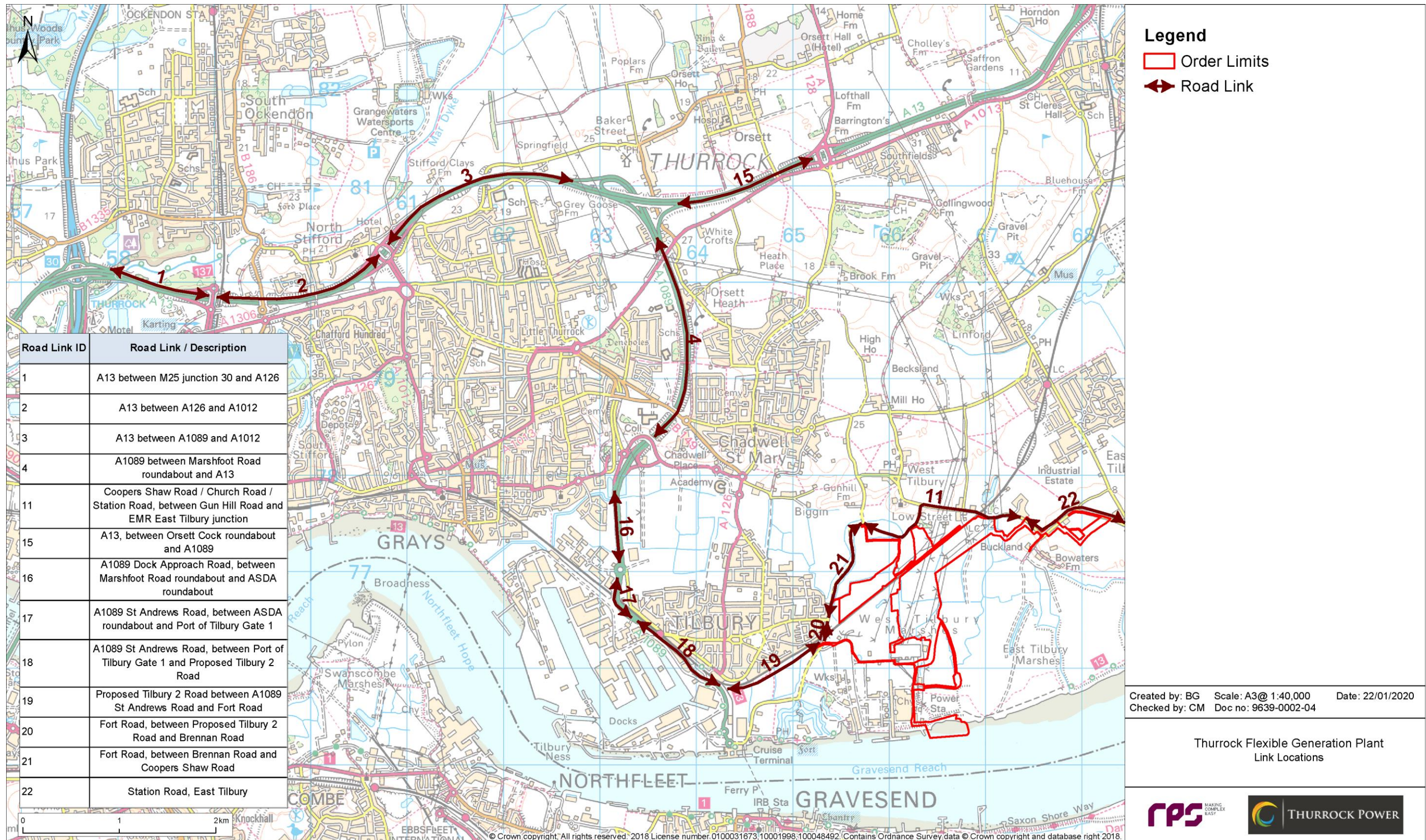


Figure 7.1: Link Locations.

8. Management Measures

8.1 Introduction

8.1.1 This section sets out the measures, management structure and control processes that will be put in place to implement, monitor and manage the CTMP. The site Construction Site Manager will ensure that the control processes are efficiently communicated and implemented.

8.2 Transport Co-ordination

8.2.1 The developer will appoint a Construction Site Manager for the project, the Construction Site Manager will undertake the transport co-ordination role for the site. In this respect, their main responsibilities will include:

- Managing the implementation of the CTMP;
- Vehicle scheduling;
- Checking for scheduled road works on: <http://www.roadworks.org>;
- Handling any complaints; and
- Acting as a point of contact for employees, contractors and the general public.

8.2.2 The Construction Site Manager will ensure that there is adequate liaison between the following key stakeholders throughout the construction period:

- Contractors;
- The developer;
- Site neighbours;
- Other local stakeholders such as emergency services or local transport providers; and
- Thurrock Council and Highways England.

8.2.1 Regular review meetings and telecommunication will be held between the Construction Site Manager, Thurrock Council and Highways England if requested. It is envisaged that update meetings / telecommunication will be held on an ad-hoc basis as required. Furthermore, the Construction Site Manager will provide any monitoring data, delivery schedules, complaints or breaches of agreements to Thurrock Council if requested.

8.2.2 The Construction Site Manager will work with the other users of the site access road, in order to co-ordinate deliveries, to minimise potential for congestion on the internal access road and consequent risk of queuing on the public highway.

8.2.3 The Construction Site Manager will be responsible for the layout during construction, including ensuring laydown areas are kept clear for loading and unloading, that suitable site offices and welfare facilities are erected, and areas of vehicle circulation are kept separate to pedestrian areas etc. A parking area for construction staff will be provided within the laydown area, such that this does not interfere with or block construction HGVs.

8.2.4 Full details of the layout and internal arrangements will be set out in the final Construction Traffic Management Plan, by the appointed contractor.

8.3 Construction Site Access

8.3.1 The construction site access will comply with the following general principles:

- Have sufficient areas available at all times for all vehicles to enter and exit in a forward gear;
- To be accepted into the works area directly without waiting on the highway;
- Suitable surface finish;
- Suitable fluming arrangements for any ditches at the side of the road; and
- Provide for road-sweeping activity in the vicinity of the access.

8.3.2 HGVs will all access via the Fort Road access unless in exceptional circumstances. Such occasions will be communicated to construction contractors only over the period for which the Fort Road access is unavailable to ensure that the Fort Road access is used at all times, unless in exceptional circumstances.

8.4 Booking System

8.4.1 On a weekly basis, the Construction Site Manager will evaluate details of the daily profile of deliveries proposed for the upcoming week. Through discussions with hauliers, the Construction Site Manager will, as far as practicable, ensure that the deliveries are spread out across the week and across the day to minimise any potential disruption.

8.4.2 The proposed deliveries will be checked against the weekly delivery schedule. This will be overseen by the Construction Site Manager to ensure that construction deliveries are managed in an efficient manner with minimal disruption and delays.

8.4.3 The proposed construction compound will provide an area for vehicles to wait and undertake deliveries off the highway. Hauliers will be required to contact the Construction Site Manager to give an indicative delivery time to ensure that the delivery space and banksmen (if required) are ready for their arrival on site. Where possible, sufficient time will be given between deliveries to allow for any delays as a result of the delivery vehicle getting stuck in traffic or the loading / unloading taking longer than expected and to avoid any vehicles waiting.

8.4.4 The developer will provide banksmen to assist with the manoeuvring of delivery vehicles in to and out of the construction compound, as well as internal movements throughout the main site.

Station Road East Tilbury Access

8.4.5 As stated previously a small number of construction vehicles will use Station Road, East Tilbury link to access a gas compound and pipeline. A banksmen will be provided at the access to guide construction vehicles entering and departing.

8.4.6 A booking system will also be put in place to ensure that HGVs avoid meeting another HGV on Station Road when arriving or departing. Departing HGVs will be held on site if an arriving HGV is expected.

8.5 Route Compliance

8.5.1 The use of the routes previously mentioned, ensuring HGV construction vehicles remain on the strategic highway network for as long as feasible, will be included as a contractual requirement of contractors and will be communicated to all drivers. This will include information on the times of operation, delivery routes and the vehicle booking system.

8.5.2 If deemed necessary by the relevant Local Highway Authority, where routine HGV vehicle movements are generated, e.g. during groundworks, the supplier will be requested to maintain a log, the purpose of which is to demonstrate compliance with following prescribed accesses off the A road network and delivery times.

8.5.3 The appointed Construction Contractor will look to procure local contractors for the project, thereby minimising transport costs and impact on the local environment. The use of a booking system for deliveries will also help to ensure that the construction site is serviced in an efficient manner which will help to minimise the number of vehicle movements that would be generated.

8.5.4 In the event of a major incident in the local area that requires good accessibility along the road network, or in the event of road closures following an incident, the emergency services can direct construction vehicles to make use of alternative routes. In certain circumstances the emergency services may wish to restrict the volume of traffic in the road network. Under such circumstances, the construction contractor can be instructed to temporarily delay or cancel deliveries to reduce the burden on the wider highway network.

8.6 Waste Management

8.6.1 In order to seek to reduce the number of HGV trips that are generated, material / aggregates generated on site during works will be re-used where practical.

8.7 Construction Vehicle Debris and Mitigation Measures

8.7.1 The principal concerns of construction traffic are considered to be materials escaping from the back of vehicles whilst on the road network, dust and dirt migrating onto the public highway from the construction site (mainly being carried by the tyres of vehicles visiting the site). The following elements of mitigation will be employed to ensure that these temporary construction phase impacts are minimised:

- Provision of appropriate wheel cleaning facilities at the site e.g. mobile pressure washer or wheel wash;
- A regular programme of road cleaning;
- A regular programme of inspection of the site entrance and public highway in the vicinity of the site; and
- A requirement that all open topped vehicles carrying granular or loose materials to/from the site are covered/sheeted when on the public highway.

8.7.2 The Construction Site Manager will be responsible for ensuring these measures are undertaken.

8.8 Communication

8.8.1 The Construction Site Manager will be responsible for setting up a means of communication with major road users on any construction works which may affect the local road network. This will include for any road closures or diversions that may affect travel on those routes. Full details on the means of communication will be set out in the final Construction Traffic Management Plan.

8.8.2 Royal Mail will be pre-consulted by ~~the County Council~~ Thurrock Power or its contractors on any proposed road closures/diversions/alternative access arrangement, hours of working and content of the final CTMP. The Construction Site Manager will provide one month's notice to Royal Mail of the closure and diversion being put into place and will advise at that time also of any other known works affecting the diversion.

8.8.3 The final CTMP will include a provision for a mechanism to inform major road users about works affecting the local network.

8.8.4 Thurrock Power will liaise with the Local Highway Authority and other major projects, such as Tilbury 2.

8.9 ASDA Roundabout

8.9.1 Construction vehicles will be required to route through the ASDA roundabout, from the A1089 Dock Road to the A1089 St Andrews Road, including a number of HGV vehicles which may also be required to perform a U-turn at the roundabout from A1089 St Andrews Road.

8.9.2 A swept path analysis has been undertaken to show an HGV performing a U-turn at the ASDA roundabout from A1089 St Andrews Road, shown at Annex A. This shows that an HGV can negotiate the circulatory carriageway of the roundabout simultaneously with another HGV alongside. The northbound entry arm of the A1089 is unable to accommodate two HGVs travelling alongside each other.

8.9.3 As previously stated, there is an adverse camber on the ASDA roundabout which is addressed through the measures below.

8.9.4 All drivers navigating the ASDA roundabout will be instructed as follows:

- HGV drivers will be advised of the adverse camber signs on the roundabout and to take care when circulating the roundabout;
- HGV drivers will be instructed to slow down on approach and when circulating the roundabout, ensuring that the 30mph speed limit is enforced;
- HGV drivers will be informed of the layout of the roundabout.

8.9.5 All HGV drivers which may undertake the U-turn from A1089 St Andrews Road will be instructed to not travel alongside another HGV when entering the roundabout.

8.10 Gas Pipeline over Station Road

8.10.1 The gas pipeline crosses Station Road East Tilbury in two locations. It is expected that these works would be undertaken by way of open cut trenching. Given the width of Station Road East Tilbury, the length of time to undertake the open cut trenching is expected to be short and a matter of days. During the open cut trenching works, Station Road East Tilbury will have to be closed and a local diversion put in place. The contractor may choose to undertake these works over a series of nights meaning that the local diversion is only in place at nights. This method will be developed with Thurrock Council, as the Local Highway Authority. The management measures will be finalised post consent as a final CTMP in agreement with Thurrock Council.

8.10.2 One temporary haul road will be constructed at the time of construction for the gas compound and gas pipeline as previously stated. This will provide for HGV access to undertake trenching works and install the pipeline. The haul road will enable vehicles to move along the Haul road as opposed to Station Road and relieve the need for construction traffic to rely on longer sections of the local road network during construction.

8.10.3 The haul road would operate with a low speed limit to ensure the safety of the construction workforce in the vicinity. Where the haul road crosses existing highway links, traffic management would be used to ensure safe crossing by highway traffic and haul road vehicles. Details are set out in Figure 8.1, extracted from The Traffic Signs Manual, Chapter 8, Part 1, Traffic Safety Measures and Signs for Road Works and Temporary Situations, Department for Transport / Highways Agency, 2009.

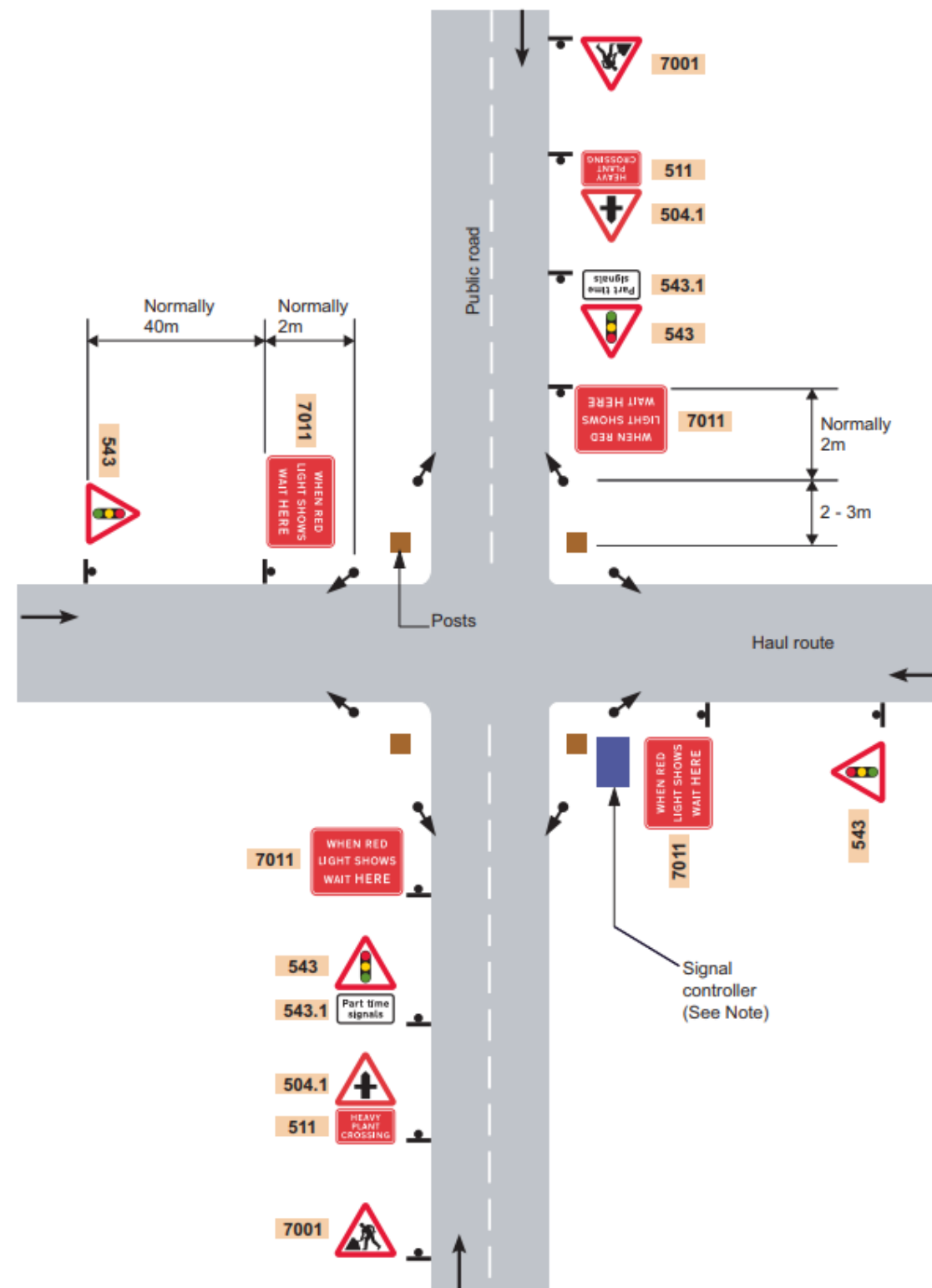


Figure 8.1:Haul Road Traffic Management Measures.

8.11 Fort Road, Coopers Shaw Road and Station Road

- 8.11.1 As previously stated with regards to the routing of construction vehicles, a secondary access point is proposed on Station Road for any exceptional circumstances should the Fort Road access be unavailable for any reason. This would require vehicles to route along Fort Road, Coopers Shaw Road and Station Road.
- 8.11.2 The secondary access point would be located 45 m to the east of the railway crossing to enable space for two northbound HGVs queuing to cross the railway without blocking the access. Inbound and outbound HGV movements can be achieved simultaneously, and a visibility splay of 2.4 m x 69 m would be provided to the right (to the east), commensurate with 85th percentile vehicle speeds of 40mph using Manual for Streets 2 principles.
- 8.11.3 A number of construction vehicles will be associated with the works for the gas compound and the gas pipeline accessed from Station Road East Tilbury. It is estimated that these works will be over a few months and would generate up to 10 HGV movements per day. During this period, the 7.5 tonne weight restriction on Station Road would be temporarily suspended.
- 8.11.4 Fort Road (north of Brennan Road), Coopers Shaw Road, Church Road and Station Road are of variable width, therefore, an analysis of the ability for two-way vehicle movements along them have been considered in more detail. The analysis is set out in Volume 6, Appendix 10.1: Transport Assessment of the ES.
- 8.11.5 There are six sections along Fort Road (north of Brennan Road), Coopers Shaw Road, Church Road and Station Road where the carriageway is less than 4.8 m wide, which are identified at Annex A. These are:
- Coopers Shaw Road to the south of Church Road;
 - Church Street between Coopers Shaw Road and Low Street Lane (three locations); and
 - Station Road between Low Street Lane and railway crossing (two locations).
- 8.11.6 For all of these six locations, Annex A demonstrates that there is clear forward visibility either side of the narrow sections, meaning that oncoming drivers can see one-another, and self-manage passing accordingly. There is therefore no requirement for vehicles to reverse on the public highway, because drivers can see one-another from locations where they can pass one-another, and give way accordingly.

- 8.11.7 The Construction Site Manager will advise all HGV drivers of the variable width of the road so they are aware and instruct them to be courteous to other oncoming drivers and give way without creating a need for any vehicle to have to reverse on the highway at these locations.

8.12 Footpath 146 (Two Forts Way)

- 8.12.1 During construction of the causeway, construction plant and HGVs will need to cross Footpath 146, otherwise known as Two Forts Way. There is no requirement for a permanent or temporary Public Rights of Way (PRoW) closure or diversion. A managed crossing point of the PRoW will be put in place during the temporary construction period.
- 8.12.2 Construction HGVs will be subject to a booking system with fixed arrival times. This will enable banksmen to be at the footpath crossing point to forewarn any users of the footpath at that time and manage the arrival of construction HGVs or plant in conjunction with any such users of the footpath accordingly. This will ensure that the safety of users of the footpath is maintained.
- 8.12.3 In these instances, footpath users would normally receive priority but may on occasion have to wait for a short period of time when construction HGVs or plant cross the footpath. Users of the footpath will be advised when the crossing of construction HGVs or plant is complete, and it is safe to continue along the footpath.
- 8.12.4 Fencing will be erected around the construction area to segregate users of the footpath from the construction area and a signage scheme will be implemented to alert the users of the footpath that it will be used for construction traffic for a limited period. Signs will be regularly inspected to ensure that they remain in place, are legible and have not been tampered with. Signage will also alert construction drivers of locations where there is an interface between construction traffic and the PRoW. All signage will be removed once construction is complete.

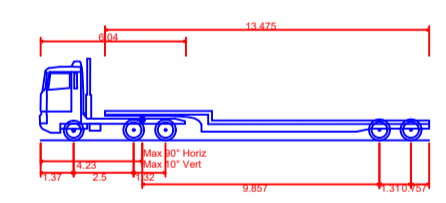
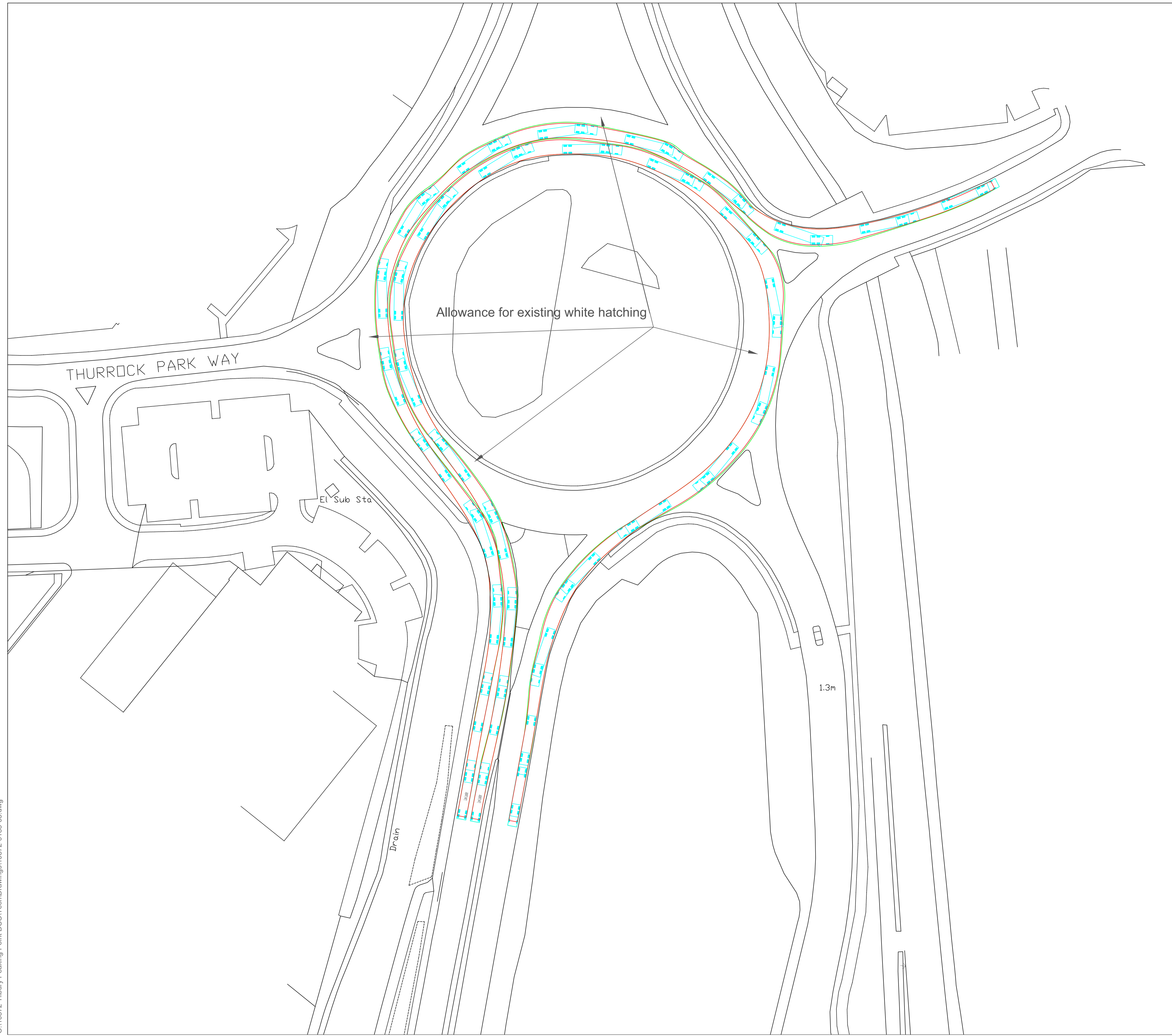
9. References

Crashmap (n.d) Crashmap Search. [Online] Available at: <https://www.crashmap.co.uk/Search>
[Accessed 04 November 2019]

Department for Transport / Highways Agency (2009). Traffic Signs Manual, Chapter 8, Part 1, Traffic Safety Measures and Signs for Road Works and Temporary Situations. UK.

Annex A RPS Drawings

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Low Loader
 Overall Length 10.150m
 Overall Width 2.520m
 Overall Body Height 3.950m
 Min Body Ground Clearance 0.310m
 Max Track Width 2.500m
 Lock to Lock Time 6.00s
 Kerb to Kerb Turning Radius 6.650m

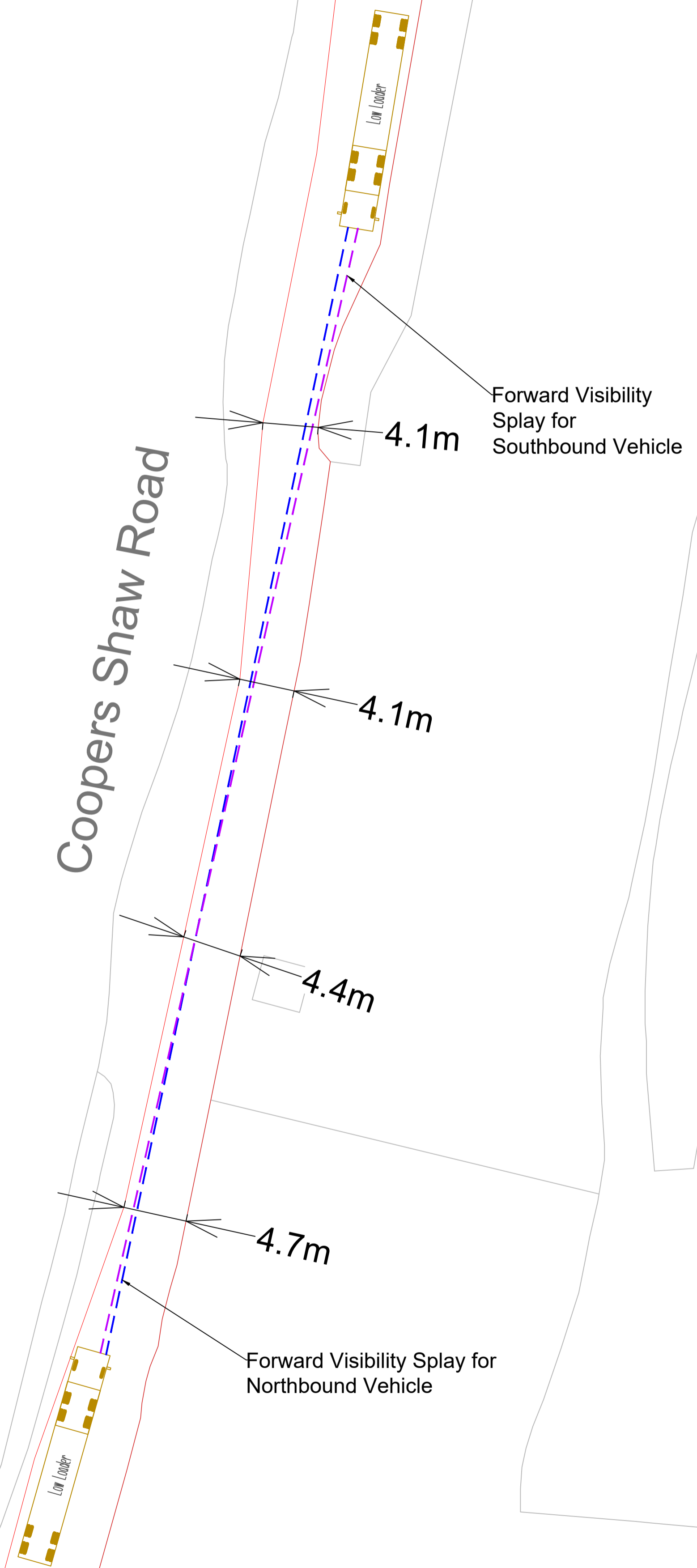
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Thurrock Flexible Generation Plant
 Low Loader Swept Path Analysis ASDA roundabout



Coopers Shaw Road



Forward Visibility Splay for Southbound Vehicle

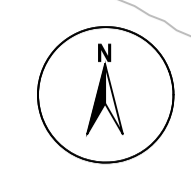
4.1m

4.1m

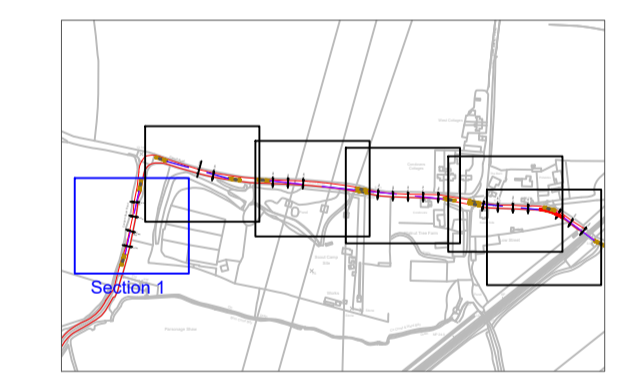
4.4m

4.7m

Forward Visibility Splay for Northbound Vehicle



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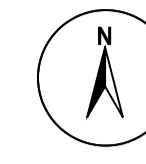


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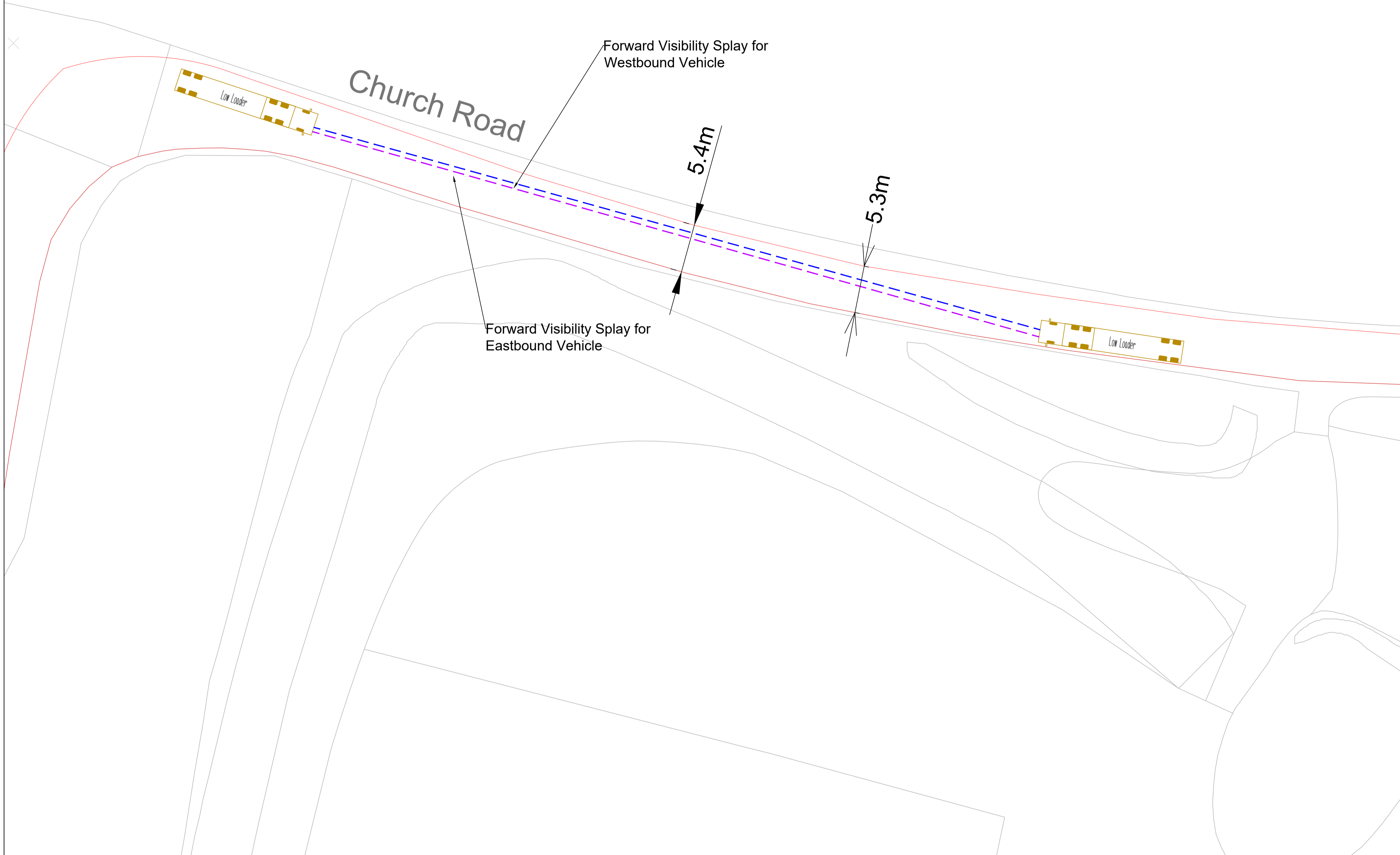
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Thurrock Flexible Generation Plant
 Forward Visibility
 Section 1



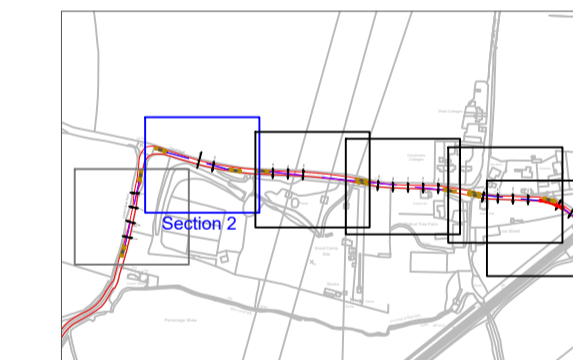


1m



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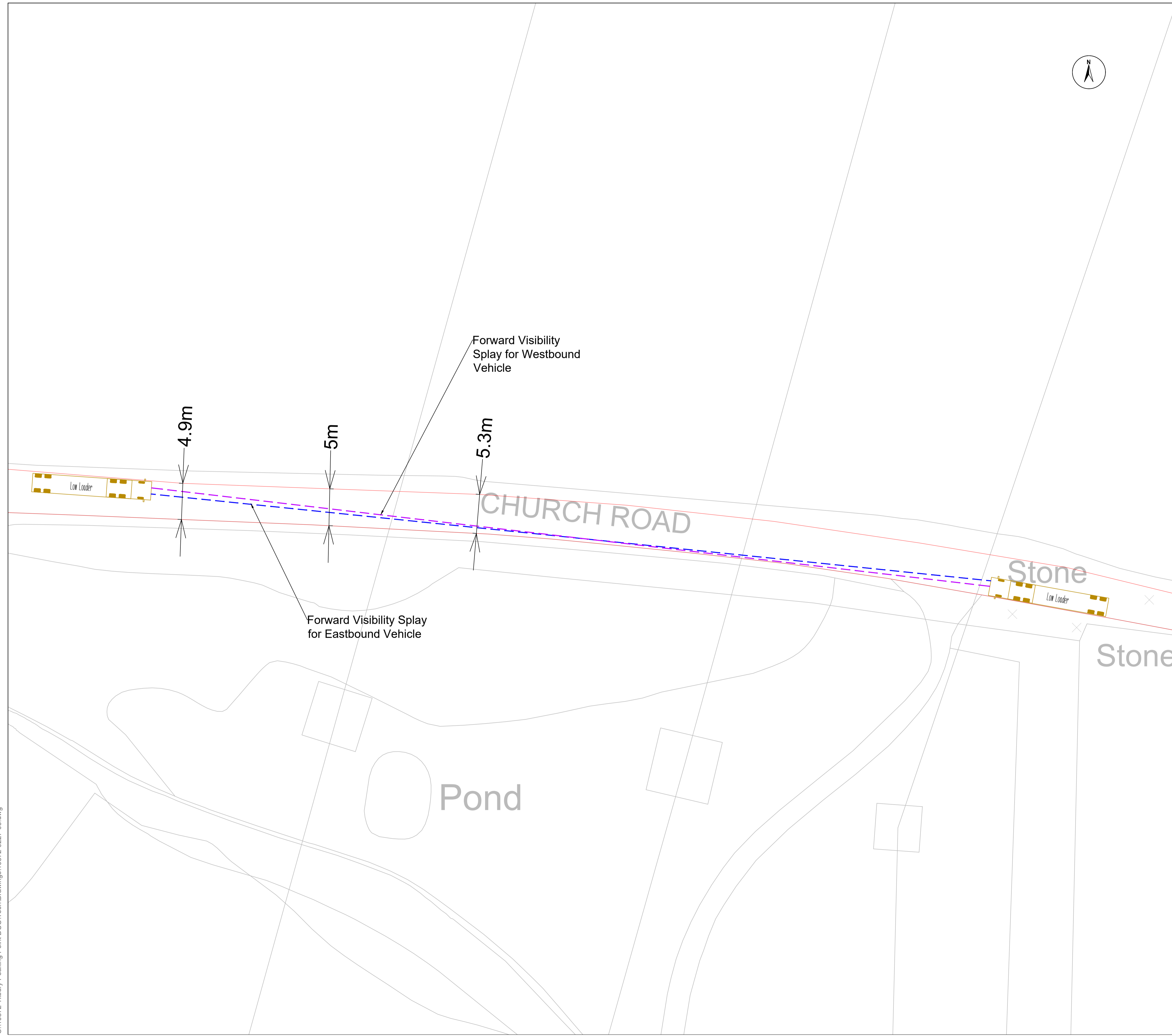
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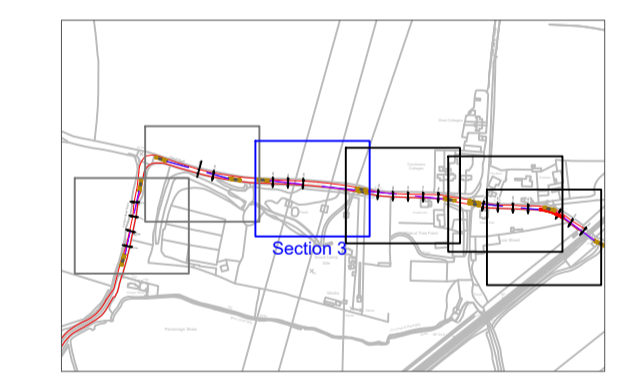
Thurrock Flexible Generation Plant
 Forward Visibility
 Section 2



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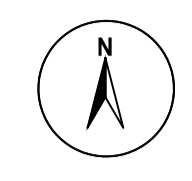


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Thurrock Flexible Generation Plant
 Forward Visibility
 Section 3





Condovers Cottages

Stone

Stone

Condovers

Walnut Tree Farm

Forward Visibility Splay for Westbound Vehicle

Forward Visibility Splay for Eastbound Vehicle

9.1m

4.6m

4.4m

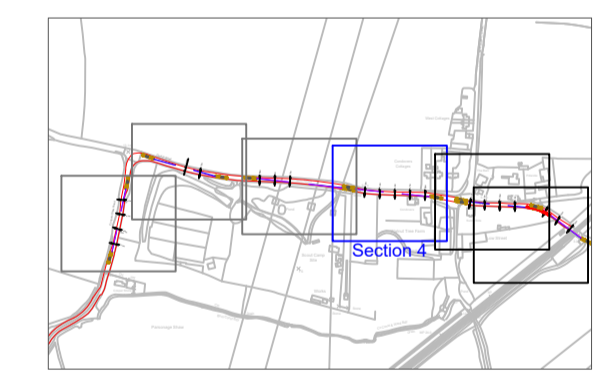
4.2m

4.7m

5.3m

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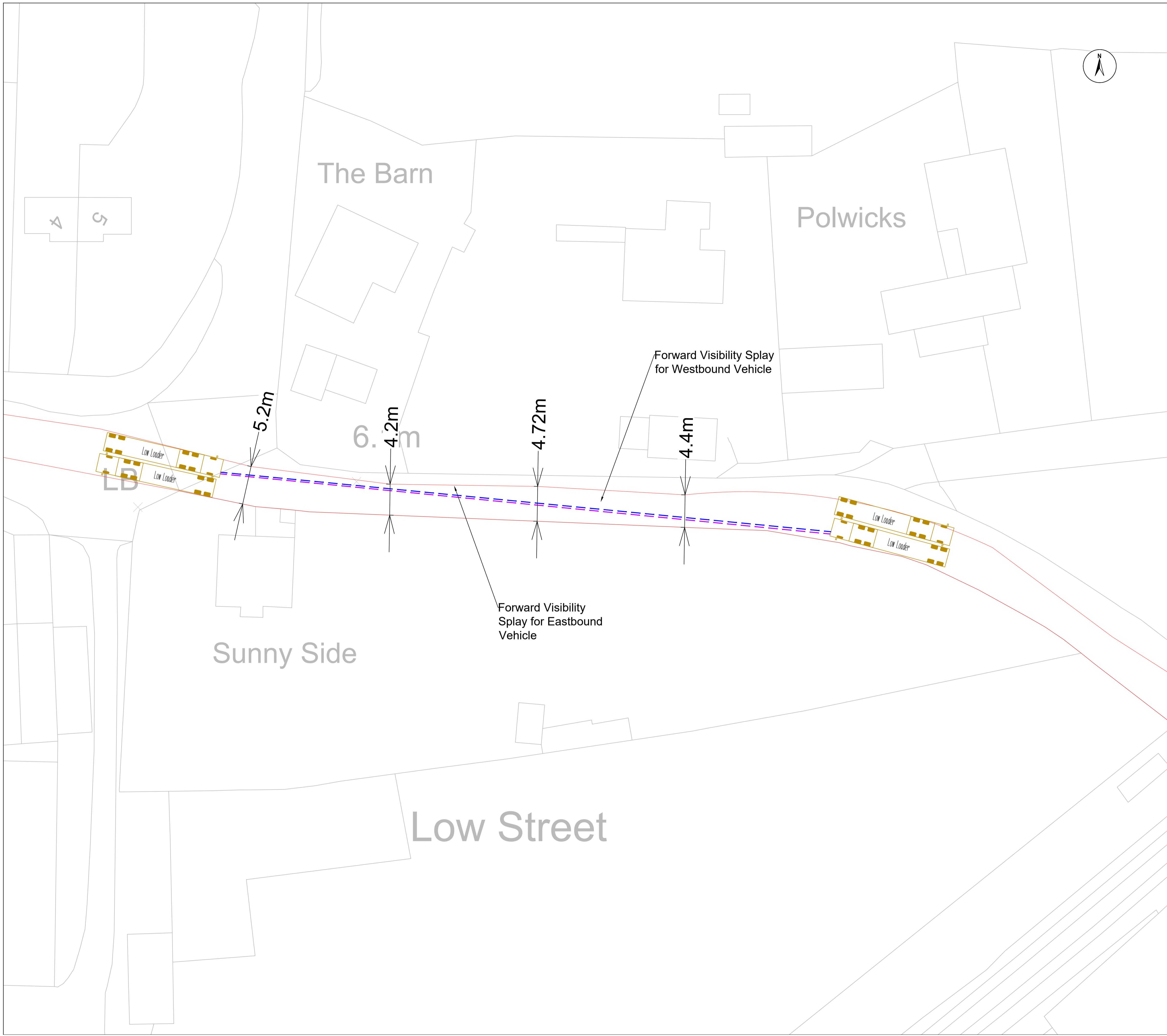
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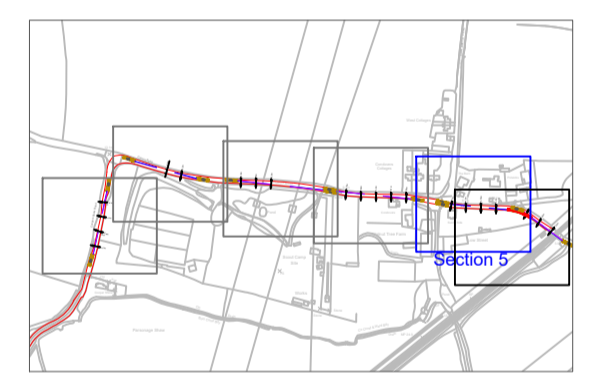
Thurrock Flexible Generation Plant
 Forward Visibility
 Section 4



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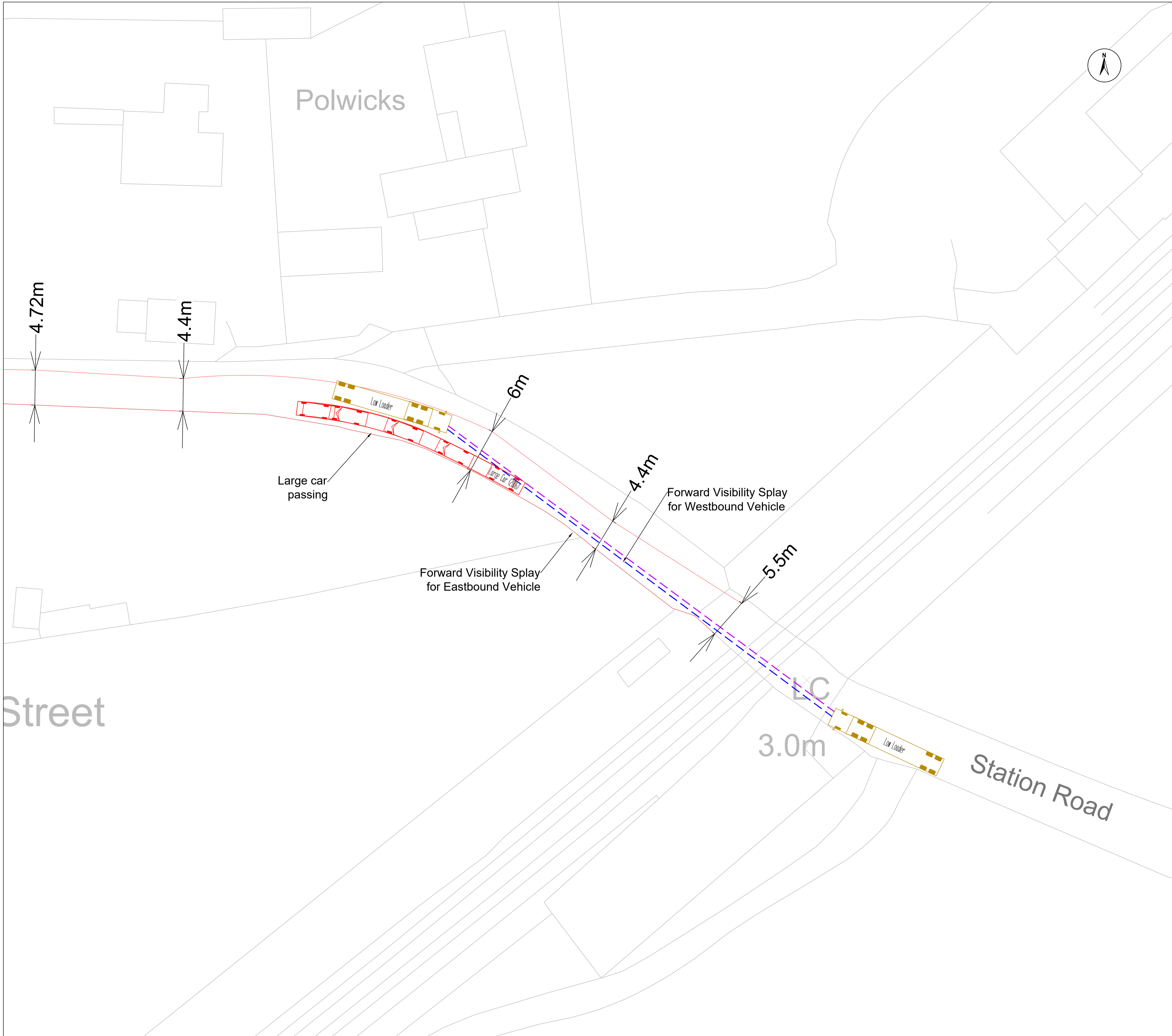


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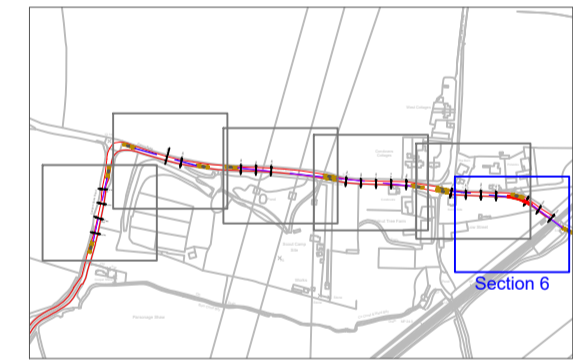
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Thurrock Flexible Generation Plant
 Forward Visibility
 Section 5





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Thurrock Flexible Generation Plant
 Forward Visibility
 Section 6

