AECOM

Shannon Technology and Energy Park (STEP) Power Plant

Appendix A11.2: Abnormal Indivisible Load (AIL) Assessment Report

Shannon LNG Limited

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Shannon Technology and Energy Park (STEP) Power Plant

Environmental Impact Assessment Report - Appendix A11.2, Volume 4
Abnormal Indivisible Load (AIL) Assessment Report

Shannon LNG Limited

April 2024

Delivering a better world

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Shannon LNG Limited

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1. Introduction

1.1 Background

AECOM Ireland Limited (herein referred to as "AECOM") has been commissioned by Shannon LNG Limited (herein referred to as "the Applicant") to investigate the feasibility of Abnormal Indivisible Load (AIL) access to the proposed Combined Cycle Gas Turbine (CCGT) gas-powered power plant capable of 600 MW of electricity generation, 120 MWh (1-hr) Battery Energy Storage System (BESS), Above Ground Installation (AGI), and associated plant, equipment and infrastructure which will be known as the Shannon Technology and Energy Park Power Plant (STEP Power Plant) (herein referred to as the "Proposed Development").

The Proposed Development will be situated west of Tarbert along the L1010 road. The Site of the Proposed Development (herein referred to as "the Site") is located in the townlands of Kilcolgan Lower and Ralappane, between Tarbert and Ballylongford, Co. Kerry.

This AIL Access Report should be read in conjunction with Chapter 11 (Traffic and Transport) of the Environmental Impact Assessment Report (EIAR), Volume 2. Chapter 11 (Traffic and Transport) of the EIAR assesses the most robust construction phase scenario for the Proposed Development which is anticipated to cover a 32-month programme commencing in January 2026. The assessment focusses on the transportation impacts and likely significant environmental effects during construction and operation and considers Heavy Goods Vehicles (HGVs), Light Goods Vehicles (LGVs) and cars.

This report focusses on the AIL components required to access the Site during construction. These AIL components will require to be transported by specialised vehicles. The largest of these are the Steam Turbine and Heat Recovery Steam Generator (HSRG) Module. It is expected that AIL vehicles will not need to egress the Site; they will be separated into smaller units for the return leg of the journey. Therefore, this report assesses the outbound journey only. A full summary of AIL components is detailed in Chapter 2 of this report.

The objectives of this report are:

- To set out the feasibility of the public road network to accommodate these specialised vehicles for access to the Site from the nearest suitable Port of Entry (Foynes Port) to the L1010 road Site access.
- To highlight possible areas of constraint and to set out a de-risking strategy for the next stage of the project.

The next stage of the project, from an AIL perspective, and subject to consenting of the Proposed Development would be to undertake a detailed access assessment which could involve detailed design and a 'dry run' of the route by a suitable qualified road haulier.

The feasibility of the road network to accommodate AIL specialised vehicles has been based on an initial engagement exercise with Kerry County Council (KCC), discussions with Foynes Port and a desktop exercise to establish potential pinch points and hazards along the delivery route. These have then been assessed using Swept Path Analysis (SPA) over OS mapping to determine whether the most robust components can be delivered using specialist vehicles and whether any enabling works would be required to accommodate this. A Site visit has also been conducted to measure road widths at pinch points and confirm these findings.

It should be noted that engagement with KCC and Foynes Port was only undertaken in 2021 as part of a planning application for separate power related development at this Site (Planning Ref. ABP-311233-21)[1], which included the submission of an EIAR. In the preparation of this application, cognisance has been undertaken of relevant formal consultation, consultee responses and third-party comments in relation to that separate project. Therefore, this consultation still remains relevant for the Proposed Development (*i.e.*, the Power Plant) application.

1.2 Site Location

The Site is situated approximately 4.5 km to the west of Tarbert Town and 3.5 km to the north of Ballylongford Village and would be accessed off the L1010 road (Coast Road) via a priority-controlled junction. A section of the L1010 road is currently subject to an improvement scheme by KCC which extends from Tarbert Town to the Site access. It is anticipated that these improvements (road widening and access junction to the Site) would be complete

[1] ABP Ref No. ABP-311233-21, for a 10-year permission for a Strategic Infrastructure Development (SID) comprising a power plant, battery energy storage system, regasification unit, jetty and onshore receiving facilities, and an AGI, which was refused by the Board on 15th September 2023, and is currently subject to Judicial Review proceedings.

prior to the commencement of the Proposed Development's main construction elements and prior to access by any AIL specialised vehicles.

The location of the Site, study area and transport network context are shown in Figure 1-1 and Figure 1-2 below.

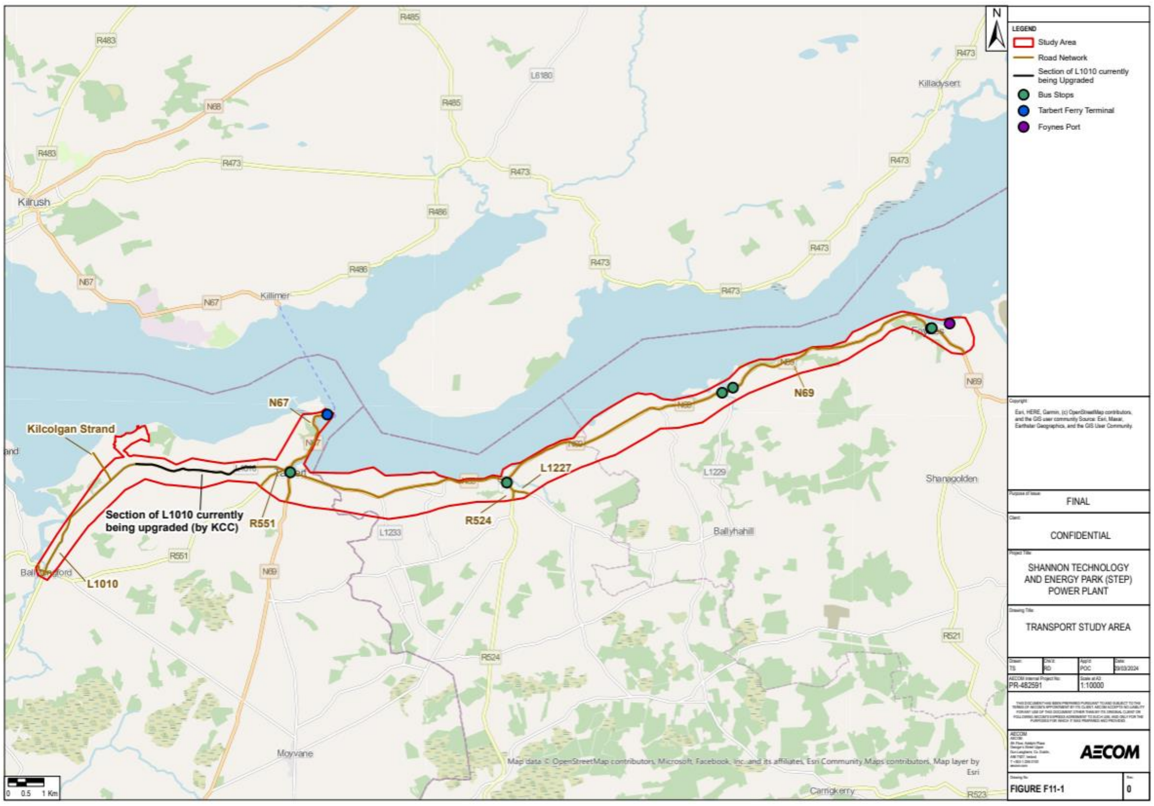


Figure 1-1: Transport Study Area

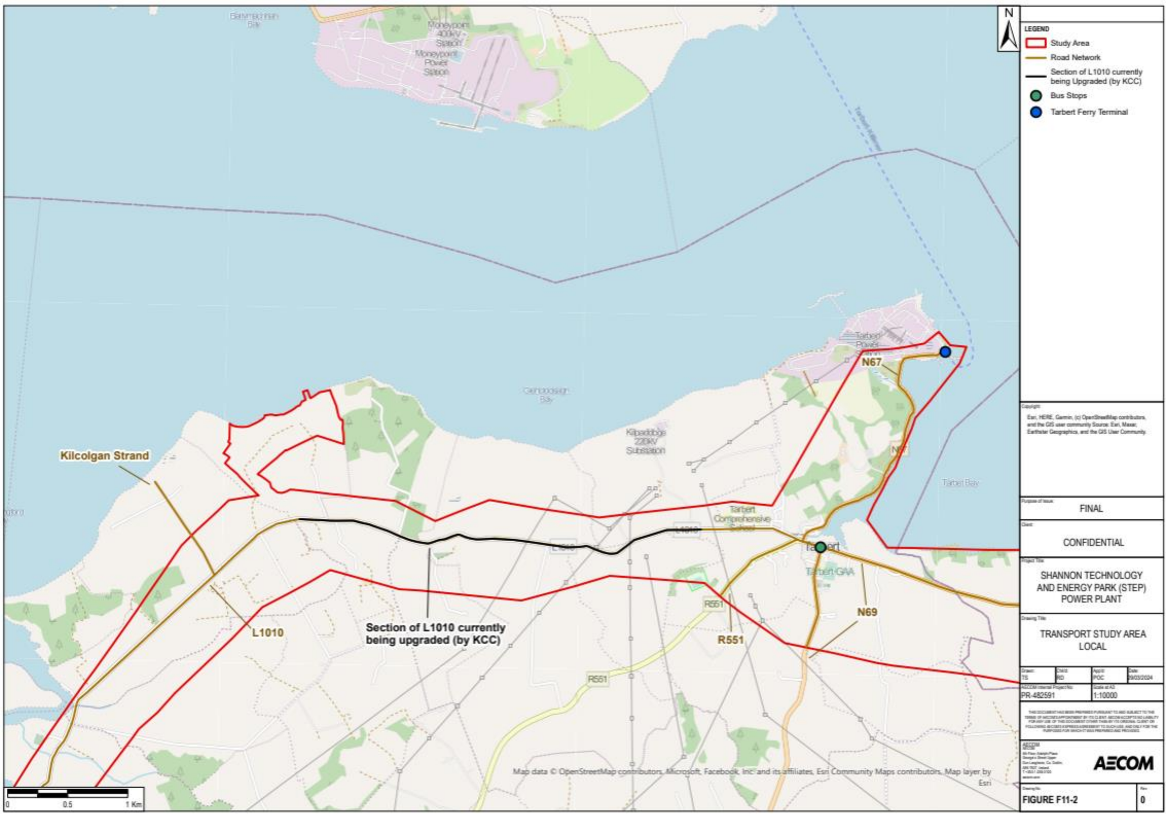


Figure 1-2: Transport Study Area Local

1.3 Report Structure

Following this introductory chapter this report is structured as follows:

- **Chapter 2** reviews the outcomes of engagement with Foynes Port representatives and sets out the AIL component specifications.
- **Chapter 3** presents the description of the specialised vehicle route from Foynes Port to the Site.
- **Chapter 4** presents the review of the route to Site summarising potential risks at key pinch points.
- **Chapter 5** summarises and concludes the report including a de-risking strategy for the next steps of the project.

2. Engagement with Port Authorities and Component Specification

2.1 Overview

As identified in Chapter 1, AECOM undertook initial engagement with representatives from Foynes Port in 2021.

This consultation involved an initial phone call to verify the ability of the Port to accommodate the delivery of AIL components anticipated to be required as part of the construction of the Proposed Development. Consultation was undertaken with Jerry Hallissey, Business Development Manager for Foynes Port via telephone call. Notes from the discussion are provided below.

AECOM was provided with the below summary of anticipated AIL components (Table 2-1) by SISK. This shows that the longest load is anticipated to be the HRSG Module which measures 20 m in length. The widest and heaviest load would be the Steam Turbine which measures 6.45 m in width, 6 m in height and weighs approximately 238,000 kg.

The Steam Turbine and HSRG module have been considered throughout this report as the most robust components for consideration and analysis.

Table 2-1: Anticipated AIL Components

Description	Length (mm)	Width (mm)	Height(mm)	Weight (kg)
Gas turbine (CCGT)	8300	4760	4010	60,000
GT Generator (CCGT)	6000	3650	3100	88,300
Steam Turbine	8600	**6450**	**6000**	**238,000**
ST Generator	8800	5400	5500	150,000
HRSG Module (Largest)	**20000**	5000	3000	130,000
Transformer	7800	3800	5200	190,000

The maximum length, width and weight components were discussed at high level, and it was confirmed by the Port representative that there would be no perceived issue with these components based on previous deliveries to the Port and the capacity of available cranes and port facilities.

Egress from the Port to the N69 was also discussed. Foynes Port has two connection points to the N69 via a Western Gate and an Eastern Gate. It is understood from initial discussions that either gate is available for use, however, the Eastern Gate is most commonly used by hauliers delivering larger components. Both gates have been assessed as part of this report and are further detailed in Chapter 3.

Further consultation was also had with local hauliers via SISK in order to determine the most appropriate delivery vehicles which could be used to transport the most robust AILs from Foynes Port to Site. For the Steam Turbine and HRSG units the same vehicle type has been recommended. These would be modular 6 axle and 3 axle trailers in combination pulled by tow bar on a standard 4 axle lorry as shown in Figure 2-1.

The vehicle has been recreated in AutoCad 2020 Vehicle Tracking software to support Swept Path Analysis (SPA) detailed further in Chapter 4. Details regarding the overall height and width of the vehicles and load combinations are provided in Appendix A of this report. The largest HSRG module has been used for the SPA.

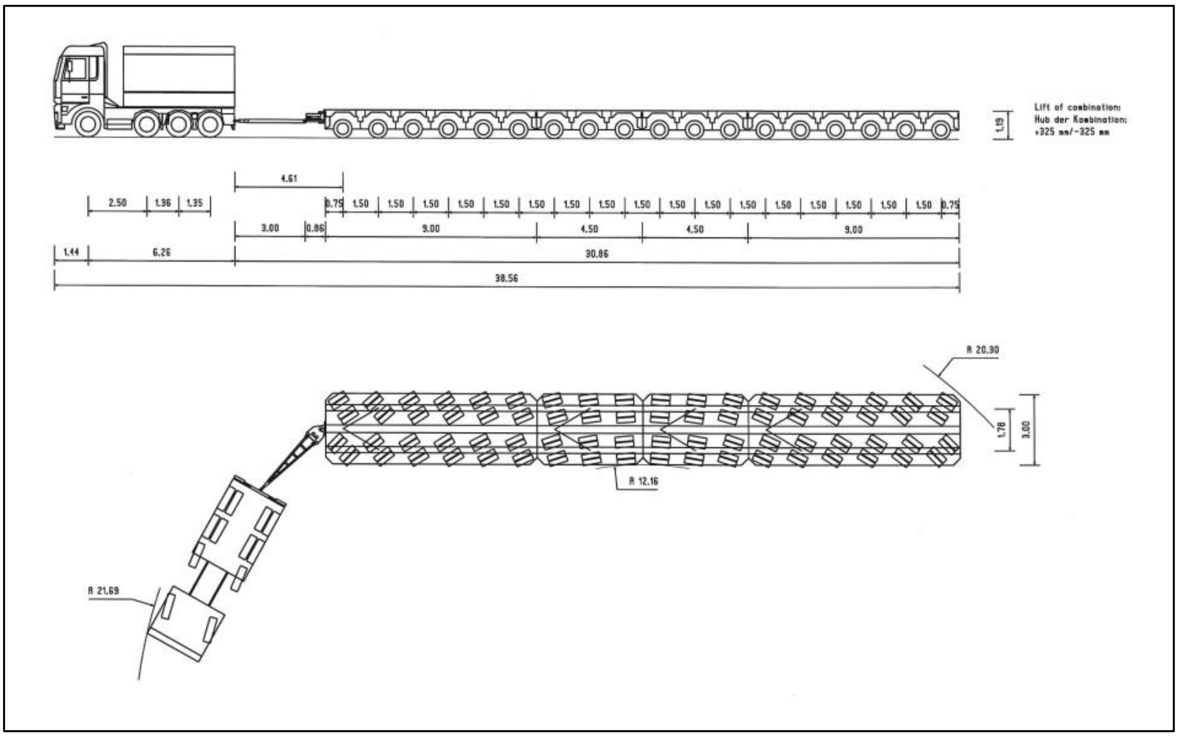


Figure 2-1: Modular Trailer Arrangement for HRSG Unit and Steam Turbine

Source: SISK

2.2 Summary

Initial contact with Foynes Port has determined that there would be no perceived issues with the handling of AILs associated with the Proposed Development. SISK have provided details of the specialised vehicles which could be used to deliver the most robust AIL components to the Site from Foynes Port.

These have been identified as the HRSG Module and Steam Turbine. The key dimensions for each component and vehicle assumed to be used (based on advice from hauliers) is included below:

Table 2-2: Component & Vehicle Dimensions

Description	Length (mm)	Width (mm)	Height (mm)	Weight (kg)	Assumed Vehicle
Steam Turbine	8600	**6450**	**6000**	**238,000**	Modular Trailer Arrangement
HRSG Module (Largest)	**20000**	5000	3000	130,000	Modular Trailer Arrangement

The delivery of these components has been considered using SPA which is detailed in Chapter 4.

3. Description of AIL Route

3.1 Foynes Port – Proposed Site

The proposed route for delivery of AILs to Site is via the public road network upon exiting Foynes Port. The route extends from Foynes Port, County Limerick in a westerly direction along the N69, until it reaches the settlement of Tarbert. From this point the proposed route continues along the L1010 road where access is provided to the Site near Ralappane. A desktop survey has initially been carried out to highlight any perceived constraints along this 26 km route.

Pinch points, areas of conflict or lack of space, have been identified through this desktop study and a further site visit, taking into consideration road alignment, overhead obstructions and existing street furniture has been carried out. The proposed route is shown in Figure 3-1.

Figure 3-1: Proposed AIL Route to Site

3.2 Road Alignment and Geometry

Based on a desktop review and Site visit there are 16 potential pinch points along the proposed route which could create a risk to the delivery of AILs. Pinch points in the road geometry (as measured using OS mapping and subsequently confirmed on site) have been identified where it is considered that the available road carriageway, highway boundary and roadside furniture may be compromised by vehicle over sail or overrun. The pinch points are shown in Table 3-1 and Figure 3-2. The first four pinch points are located at Foynes Port and represent the two potential egress routes from the Port, with points 1 and 2 relating to the Eastern Gate and points 3 and 4 relating to the Western Gate as described in Chapter 2. SPA of these pinch points are summarised in Chapter 4.

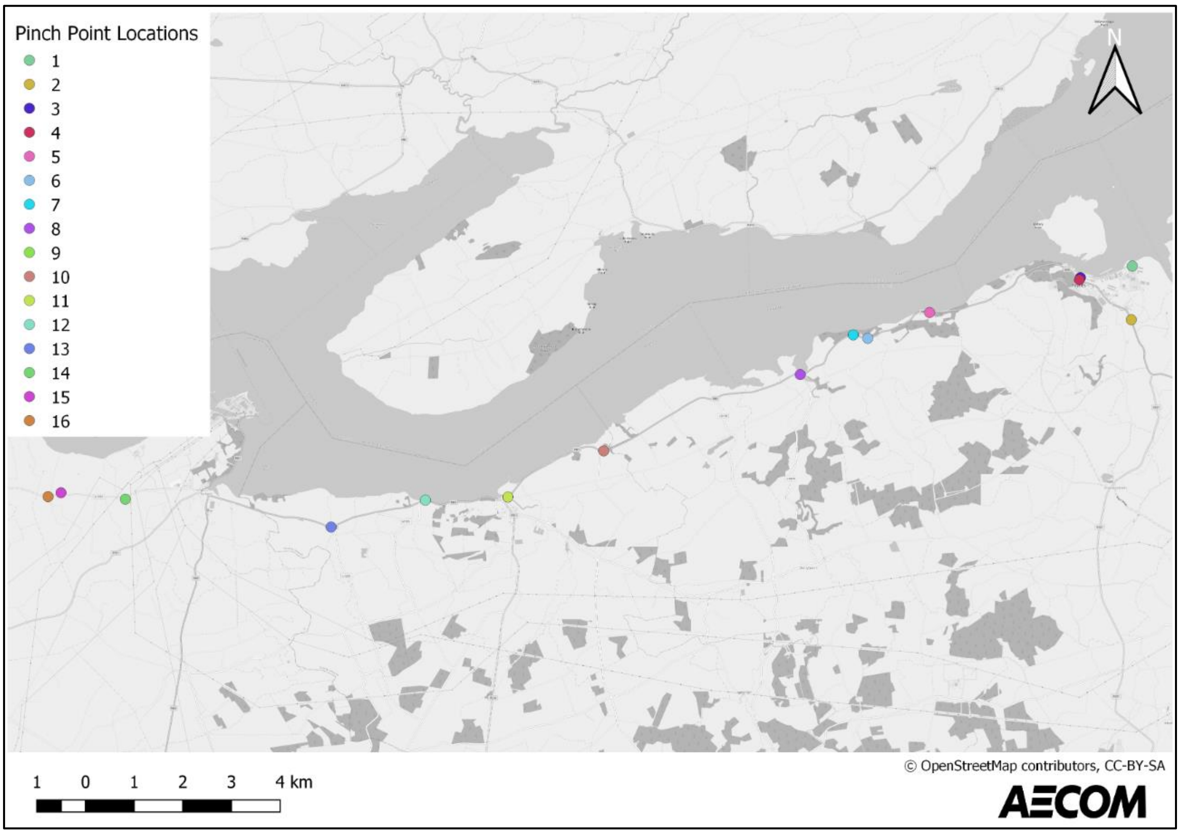


Figure 3-2: Pinch Points on Delivery Route

Table 3-1: Approximate Location of Pinch Points

Number	Latitudinal	Longitudinal	Description
1	52.61457	-9.09465	Eastern Access Gate Foynes Port
2	52.60476	-9.09506	Eastern Access Gate Foynes Port
3	52.61249	-9.1105	Western Access Gate Foynes Port
4	52.61211	-9.11078	Western Access Gate Foynes Port
5	52.60606	-9.1562	N69
6	52.60136	-9.17484	N69
7	52.60196	-9.17929	N69
8	52.5947	-9.19513	N69
9	52.59044	-9.22481	N69
10	52.58061	-9.25509	N69
11	52.57216	-9.28391	N69
12	52.57154	-9.3089	N69
13	52.56663	-9.33729	N69
14	52.57177	-9.39975	L1010
15	52.57285	-9.4193	L1010
16	52.5722	-9.4232	L1010

3.3 Bridges & Structures

From a desktop review, a total of four bridges and structures have been identified along the route. The approximate locations of bridges and structures on the N69 are shown in Table 3-2. There are currently no bridge structures on the L1010 road east of the Site access.

Table 3-2: Approximate location of Bridges and Structures on N69

Number	Latitudinal	Longitudinal
1	52.5947	-9.19513
2	52.57216	-9.28391
3	52.571950	-9.371513
4	52.573367	-9.378677

The use of multi-axle delivery vehicles would assist in mitigating the impact of AIL specialised vehicles on bridges and structures by reducing axle loading. A detailed bridge inspection would be required at each structure identified prior to delivery of loads to confirm suitability.

3.4 Roadside Trees and Vegetation

A desktop investigation was carried out to determine the location of tree canopies which encroach the road carriageway. The locations identified are shown in Table 3-3 as forestation.

3.5 Overhead Utilities

The approximate locations of Overhead Lines (OHLs) are shown in Table 3-3. These are considered as part of this report to identify the risk of OHL diversion being required which can be substantial in terms of cost. The steam turbine represents the tallest load to be delivered to site at a height of 6.0 m. Loaded on to a trailer, the total height is approximately 7.19 m. This would likely encroach on OHLs along the delivery route which generally have a minimum height of 4.3 m.

Table 3-3: Geographical Location of Overhead Lines and Obstructions between Foynes Port and Site

Number	Latitudinal	Longitudinal	Conflict
1	52.612582	-9.111952	Overhead Lines
2	52.614065	-9.115012	Overhead Lines
3	52.614560	-9.115973	Overhead Lines
4	52.614560	-9.115973	Forestation
5	52.611882	-9.129841	Overhead Lines
6	52.611562	-9.130186	Overhead Lines
7	52.611172	-9.130663	Overhead Lines
8	52.610765	-9.131459	Forestation
9	52.610177	-9.133195	Overhead Lines
10	52.610060	-9.133617	Overhead Lines
11	52.609469	-9.135913	Overhead Lines
12	52.606707	-9.146719	Forestation
13	52.606374	-9.150524	Forestation
14	52.606203	-9.153762	Forestation
15	52.601695	-9.181144	Forestation
16	52.600450	-9.184313	Forestation
17	52.600173	-9.184637	Overhead Lines
18	52.598321	-9.187092	Overhead Lines

Number	Latitudinal	Longitudinal	Conflict
19	52.597777	-9.187489	Overhead Lines
20	52.597164	-9.187796	Overhead Lines
21	52.596307	-9.189921	Overhead Lines
22	52.595969	-9.191426	Overhead Lines
23	52.595699	-9.192064	Overhead Lines
24	52.595341	-9.192885	Overhead Lines
25	52.594757	-9.194768	Overhead Lines
26	52.594628	-9.195859	Overhead Lines
27	52.594714	-9.196758	Overhead Lines
28	52.594772	-9.197108	Overhead Lines
29	52.594564	-9.197799	Overhead Lines
30	52.594210	-9.198868	Overhead Lines
31	52.593942	-9.199582	Overhead Lines
32	52.593144	-9.201910	Overhead Lines
33	52.591357	-9.213504	Overhead Lines
34	52.584006	-9.243373	Overhead Lines
35	52.582862	-9.246549	Overhead Lines
36	52.580931	-9.253187	Overhead Lines
37	52.581452	-9.259572	Overhead Lines
38	52.581405	-9.260295	Overhead Lines
39	52.574459	-9.280599	Overhead Lines
40	52.571824	-9.285372	Traffic Light Gantry
41	52.571721	-9.286864	Streetlights
42	52.571744	-9.287255	Streetlights
43	52.572016	-9.288956	Forestation
44	52.570870	-9.312004	Overhead Lines
45	52.569966	-9.318364	Forestation
46	52.569825	-9.319617	Forestation
47	52.568753	-9.328331	Overhead Lines
48	52.568075	-9.332073	Overhead Lines
49	52.567837	-9.332900	Overhead Lines
50	52.566599	-9.337388	Overhead Lines
51	52.566981	-9.339546	Overhead Lines
52	52.567644	-9.342403	Overhead Lines
53	52.568103	-9.345125	Overhead Lines
54	52.568360	-9.348398	Overhead Lines
55	52.568431	-9.351314	Overhead Lines
56	52.568448	-9.352131	Overhead Lines
57	52.568795	-9.354280	Overhead Lines
58	52.569556	-9.359354	Forestation and Overhead Lines
59	52.570139	-9.362032	Overhead Lines
60	52.570555	-9.363911	Overhead Lines

Number	Latitudinal	Longitudinal	Conflict
61	52.571628	-9.369706	Overhead Lines
62	52.572027	-9.372129	Overhead Lines
63	52.571961	-9.371623	Overhead Lines
64	52.571526	-9.369112	Overhead Lines
65	52.571988	-9.371897	Overhead Lines
66	52.572433	-9.374146	Overhead Lines
67	52.572500	-9.374670	Overhead Lines
68	52.572587	-9.375161	Overhead Lines
69	52.572750	-9.376086	Overhead Lines
70	52.572902	-9.376899	Multiple Overhead Lines (N69 turns into L1010)
71	52.573488	-9.379241	Forestation
72	52.573608	-9.379581	Overhead Lines
73	52.573796	-9.380741	Overhead Lines
74	52.573735	-9.385907	Overhead Lines
75	52.573602	-9.391412	Overhead Lines
76	52.571936	-9.399406	Overhead Lines
77	52.572138	-9.405046	Overhead Lines
78	52.572727	-9.413825	Forestation

The diversion of overhead lines may be required where insufficient headroom is evident. Discussions with ESB and any other relevant energy suppliers would be required to determine the most appropriate routes for diversion of OHLs.

3.6 L1010 Upgrade Scheme

The proposed L1010 road Improvement scheme incorporates widening a 4.36 km long section of the existing road carriageway to 8 m wide. To date approximately 0.89 km of the upgrade works have been undertaken by KCC. Figure 3-3 below provides an example of a typical cross section of the improvements. KCC have provided AECOM with plans of the improvements scheme for the L1010 road, and these have been used to inform the SPA in the next chapter.

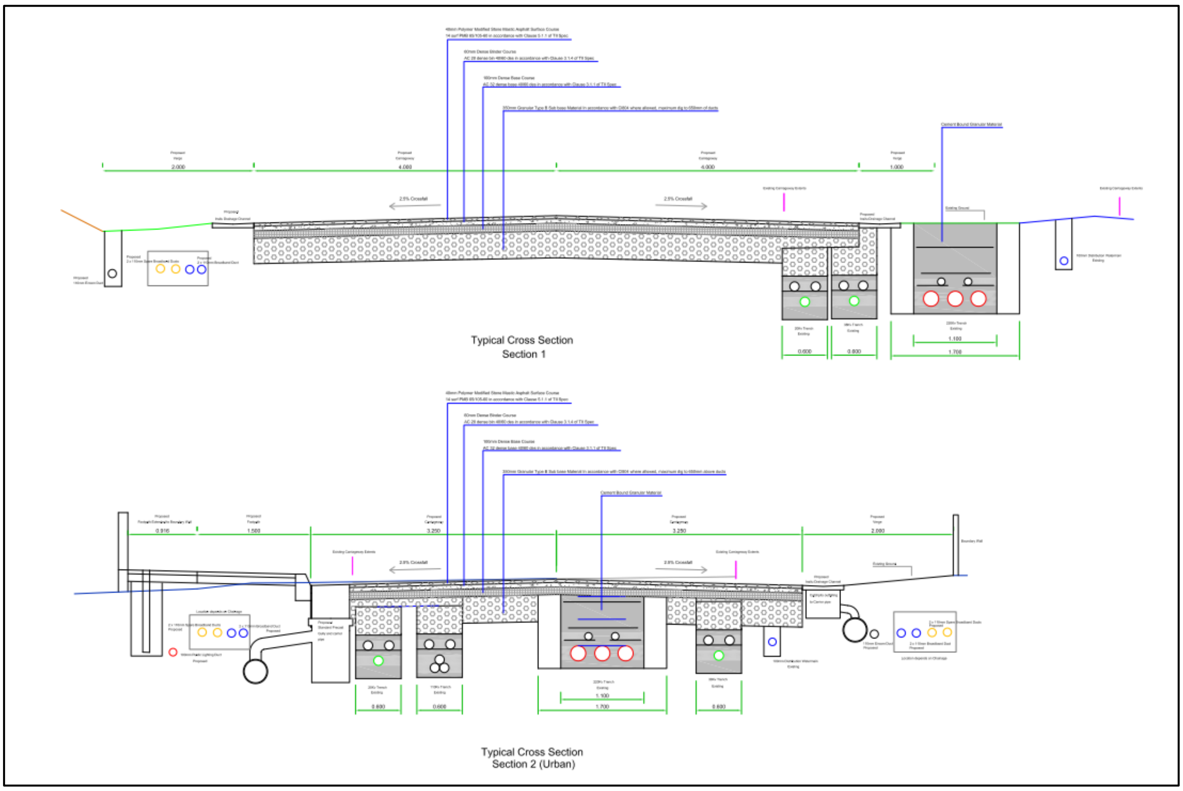


Figure 3-3: Typical Cross Section L1010

Source: KCC

4. Access Assessment

4.1 Introduction

This chapter identifies the more detailed assessment of the proposed route to the Site from Foynes Port including the results of SPA. The findings are presented below in Table 4-1 at the 16 pinch points identified in Chapter 3, plus at the Site access from the L1010 road. Table 4-1 should be read in conjunction with the SPA drawings and specifications shown in Appendix A. Overhead obstructions such as OHL diversion are not included in the scope of 2D SPA and as such are included in the De-Risking Strategy described in Chapter 5.

The pinch points are rated under three categories:

- **Low** – Impact will be minimal but may require temporary or smaller permanent enabling works.
- **Medium** - Impact may require land acquisition beyond the development area / highway boundary or weight of the vehicles may be an issue for highway structures.
- **High** – Impact has no feasible engineering solution or where significant cost would be incurred or where a solution would be deemed publicly unacceptable.

The high and medium risk constraints along the route are locations which may not accommodate the movement of the AIL without significant intervention. The HRSG Module and Steam Turbine loaded on to a modular trailer arrangement has 18 total axles with the dimensions 20 x 5 x 3 m and weighs 130,000 kg.

Table 4-1: Pinch Point Risk Rating

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
125913, 152011 Pinch Point 1: Exit route 1 from Foynes Port (Eastern Gate) 60619377-SPA-C-SNLNG-1001 	Right bend within Foynes Port. No significant impact anticipated.	Low

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
125869, 150919 **Pinch Point 2: Exit route 1 from Foynes Port – Junction to N69 (Eastern Gate)** **60619377-SPA-C-SNLNG-1002**  	Right turn on to N69. Requirement for temporary signage removal and provision of load bearing surface and ramps to protect kerbs and traffic islands.	Medium
124836, 151795 **Pinch Point 3: Exit route 2 from Foynes Port (Western Gate)** **60619377-SPA-C-SNLNG-1003** 	Left turn within Foynes Port. Available road space insufficient for large vehicles to carry out manoeuvre. Temporary increase in space not feasible due to existing infrastructure.	High

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
124817, 151754 **Pinch Point 4: Exit Route from Foynes Port (Western Gate)** **60619377-SPA-C-SNLNG-1004**  	Right turn from Foynes Port to N69. Overrun of 3rd party land and collision with existing barriers and other infrastructure would be required to allow abnormal loads to carry out manoeuvre.	High
121729, 51130 **Pinch Point 5: N69 Coast Road west of Foynes** **60619377-SPA-C-SNLNG-1005** 	Left bend on N69. No impact anticipated.	Low

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
120458, 150627 **Pinch Point 6: N69 Coast Road west of Foynes** **60619377-SPA-C-SNLNG-1006** 	Right bend on N69. No significant impact anticipated.	Low
120158, 150698 **Pinch Point 7: N69 Coast Road west of Foynes** **60619377-SPA-C-SNLNG-1007** 	Left bend on N69. No impact significant anticipated.	Low

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
119071, 149908 **Pinch Point 8: N69 through Loghill** **60619377-SPA-C-SNLNG-1008**   	Bridge followed by S-bend through Loghill. Tight road space may result in conflict with vegetation or street furniture. Requirement for temporary removal of these hazards.	Medium

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
117052, 149468d **Pinch Point 9: N69 Coast Road west of Loghill** **60619377-SPA-C-SNLNG-1009**  	S-bend on N69 west of Loghill. No impact anticipated.	Low
114982, 148409 **Pinch Point 10: N69 Coast Road East of Glin** **60619377-SPA-C-SNLNG-1010**  (*Source: Bing Maps*)	S-bend on N69 east of Glin. No significant impact anticipated.	Low

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
113011, 47503 **Pinch Point 11: N69 Coast Road through Glin** **60619377-SPA-C-SNLNG-1011**   	Right bend on N69 through Glin, over bridge. Limited road space available.	Medium
111316, 147466 **Pinch Point 12: N69 Coast Road west of Glin** 	Left bend on N69 west of Glin. No significant impact anticipated.	Low

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
109382, 46954 **Pinch Point 13: N69 Coast Road east of Tarbert** 	Right bend on N69 east of Tarbert. No significant impact anticipated.	Low
105158, 147606 **Pinch Point 14: L1010 West of Tarbert (SPA Assumes L1010 Improvement Scheme Completion)**   	Bend on L1010 west of Tarbert. Existing alignment may not be suitable for abnormal loads. Risk Rating provided subject to L1010 Improvement Scheme SPA also undertaken with L1010 improvement scheme cross section provided by KCC.	Medium

Location Description (Easting, Northing) Location Description Drawing Reference Site Image	Comments	Potential Risk Rating HRSG Module
103835, 147752 **Pinch Point 15: L1010 east of site access junction (SPA Assumes L1010 Improvement Scheme Completion)** 	Bend on L1010 west of Tarbert. Existing alignment may not be suitable for abnormal loads. Risk Rating provided subject to L1010 Improvement Scheme. SPA also undertaken with L1010 improvement scheme cross section provided by KCC.	Medium
103570, 147686 **Pinch Point 16: L1010 east of site access junction (SPA Assumes L1010 Improvement Scheme Completion)** 	Bend on L1010 west of Tarbert. Existing alignment may not be suitable for abnormal loads. Risk Rating provided subject to L1010 Improvement Scheme SPA also undertaken with L1010 improvement scheme cross section provided by KCC.	Medium

4.2 Site Access Junction

In addition to the delivery route, further SPA has been undertaken to determine the suitability of the proposed access junction to Site. A priority-controlled T-Junction is proposed to connect to the L1010 road to provide access to the Site which would be formed as part of the L1010 improvements by KCC. This has initially been designed to accommodate general traffic including standard construction vehicles (but not AIL vehicles).

SPA of the priority-controlled access junction has been undertaken using the same candidate vehicle and loads as for the haulage route. The vehicle has been modelled turning right towards the Site based on the delivery route from Foynes Port.

The AIL delivery vehicle tested would overrun the road carriageway when making the right turn manoeuvre. Therefore, an area to the eastern side of the site access route carriageway would be needed to accommodate overrunning vehicles. The extent of the overrun is shown in Drawing 60619377-SPA-C-SNLNG-4001 (refer to Figure 4-1). As such an area of land would require preparation to accommodate the overrun as shown below in Figure 4-1.

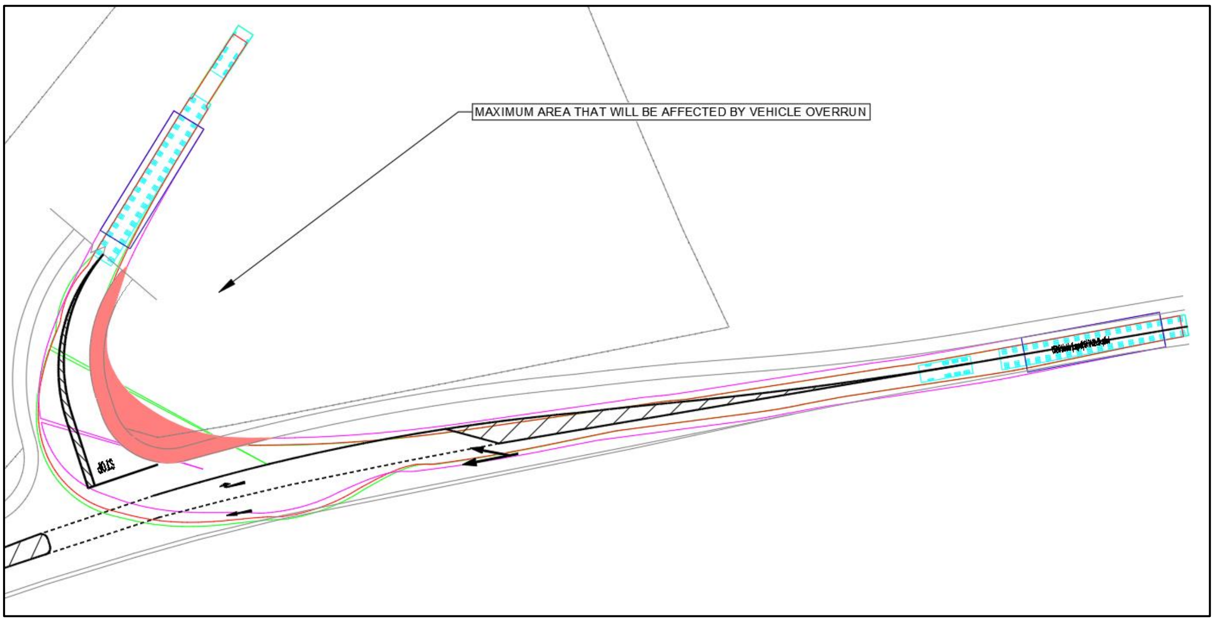


Figure 4-1: Overrun Area at Access Junction to Site from the L1010 road

4.3 Summary

In summary, SPA has been prepared of all 'Pinch Points' identified on the proposed route from Foynes Port to Site. It has been identified that the Eastern Access Gate to Foynes Port would be the most suitable for all AIL specialised vehicles. Along the route from Foynes Port some minor mitigation requirements have been identified such as the removal of signage and street furniture to accommodate AIL movements, however, the majority of the route is considered accessible to large vehicles carrying the most robust component deliveries as established in Chapter 2. SPA undertaken on the L1010 road assumes the widened cross section associated with the on-going L1010 Improvement Scheme as KCC have advised this would be fully completed prior to construction of the Proposed Development.

Further detailed inspections of bridges and structures on the route would be required to confirm their suitability with regards to loading, however, from the perspective of the horizontal SPA exercise carried out there are no identified issues on the entire route which would be considered as a cause of major risk to the project.

5. Summary of Assessment and Next Steps

5.1 Summary

AECOM has been commissioned by Shannon LNG Limited to investigate the feasibility of abnormal indivisible load access to the Proposed Development that will consist of a Power Plant and associated infrastructure. This will be situated west of Tarbert along the L1010 road and occupies part of two townlands, Kilcolgan Lower and Ralappane. The preferred route to the Site would be from Foynes Port travelling westbound on the N69 to Tarbert before joining the L1010 road which will provide access to the Site via a new priority junction. The L1010 itself is subject to improvement works by Kerry County Council (KCC) and would be complete prior to delivery of any abnormal loads to the Site.

AECOM has engaged with Foynes Port and identified they could accommodate the delivery of all anticipated AIL components associated with construction of the Site. Key components which have been considered are the HRSG Module and Steam Turbine which represent the most robust components in terms of delivery dimensions.

Initially the road network surrounding the Site has been reviewed by means of a desk top assessment which identified the most arduous constraints along the delivery route. The route was then assessed in more detail using Swept Path Analysis (SPA). SPA findings were then confirmed with a site visit.

The SPA was used to identify of areas where improvement works may be required and / or where additional land acquisition is needed to accommodate abnormal loads along the preferred route.

High and medium risk constraints along the route are those locations which potentially cannot accommodate the movements of the largest components being delivered and may require permanent enabling works to be undertaken or those areas requiring land acquisition beyond the development area / highway boundary. Locations where the impact should be minimal requiring only temporary works or smaller permanent enabling works are regarded as being of a low risk.

The majority of the route has been allocated with a low-risk rating requiring only minor levels of mitigation, if any, to accommodate the AILs tested. Only two pinch points have been identified as having a high-risk rating. These are both located at the Western Access Gate to Foynes Port. The Eastern Gate can instead be used as an alternative egress point from the port to join the N69 and therefore there would be no requirement to traverse the areas defined as a red risk.

From the L1010 road, a new priority junction is to be created to provide access to the Site. This has also been assessed using SPA and it has been determined that an overrun area would be required to accommodate the largest AIL deliveries. This area has been defined using SPA and is provided in Appendix A and correspond to the area required to deliver the steel pile foundations.

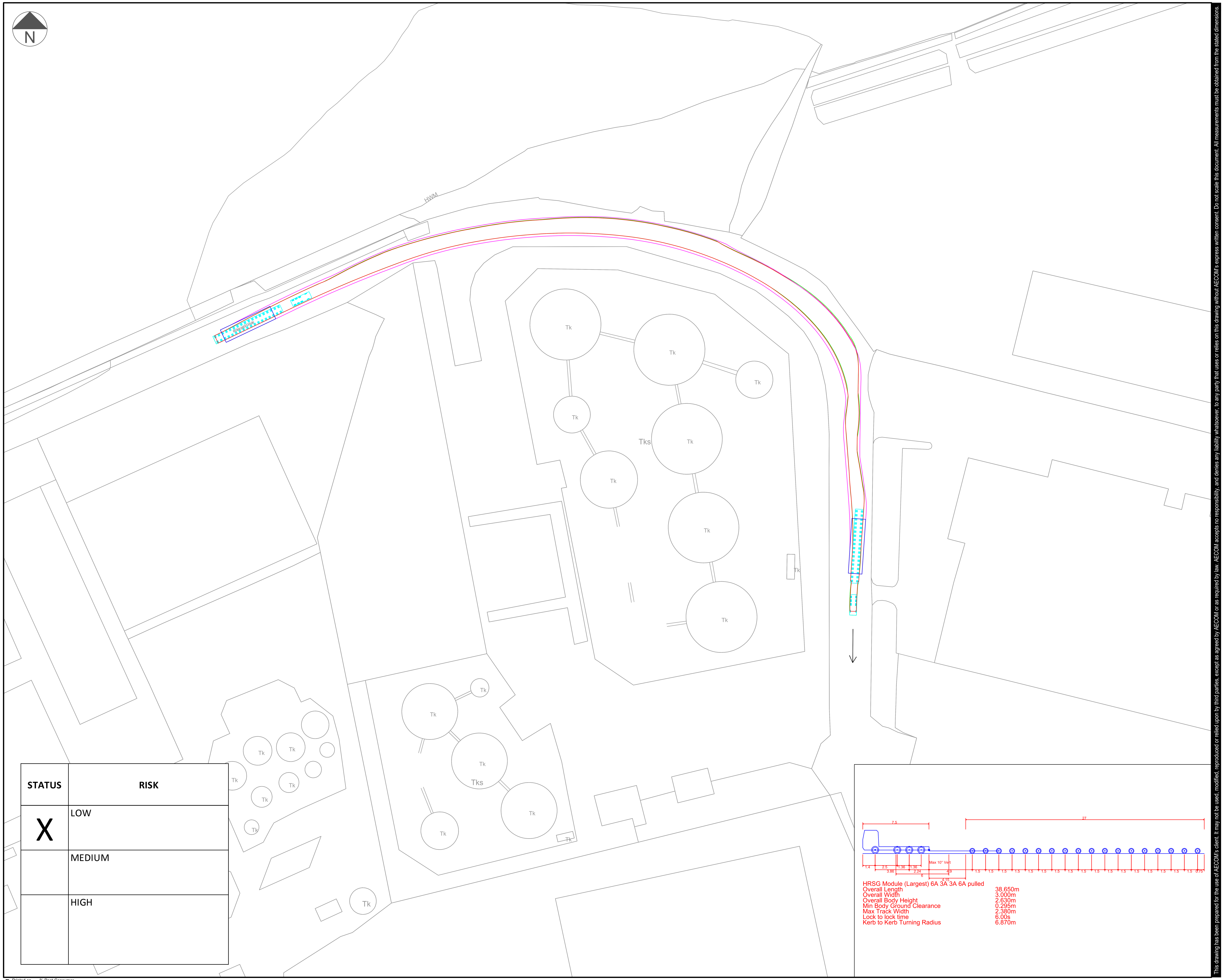
5.2 De-Risking Strategy

Whilst the majority of the route is deemed to be feasible for the transportation of the AILs, there are a series of actions which would require to be undertaken to determine the full suitability of the route. These include:

- Prior to delivery of the components categorised as AILs detailed bridge inspections would be required at all bridges and structures on the delivery route. This includes bridges located in Loghill and Glin.
- Improvement works on the L1010 road require to be completed prior to delivery of AIL components to Site.
- Further consultation with Foynes Port should be undertaken to establish delivery programmes, storage capabilities and mooring and equipment costs.
- Detailed discussion with other stakeholders such as ESB with regards to OHLs on the delivery route would also be required to establish the full impact of any required diversion of services.
- A competent haulier would require to be appointed to undertake the delivery of AILs with the results of this review used for guidance purposes only. A haulier may wish to undertake additional SPA and ‘dry runs’ of the route prior to delivery of components to site.

Appendix A Swept Path Analysis

Project Management Initials: Designer: SC Checked: KB Approved: JH



STATUS	RISK
X	LOW
	MEDIUM
	HIGH

HRSG Module (Largest) 6A 3A 3A 6A pulled

Overall Length	38.650m
Overall Width	3.000m
Overall Body Height	2.630m
Min Body Ground Clearance	0.295m
Max Track Width	2.380m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

AECOM

PROJECT

Shannon Technology and Energy Park

CLIENT

Shannon LNG Limited

CONSULTANT

AECOM
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George's Street Upper
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ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	19.01.2024	FOR REVIEW

PROJECT NUMBER

60619377

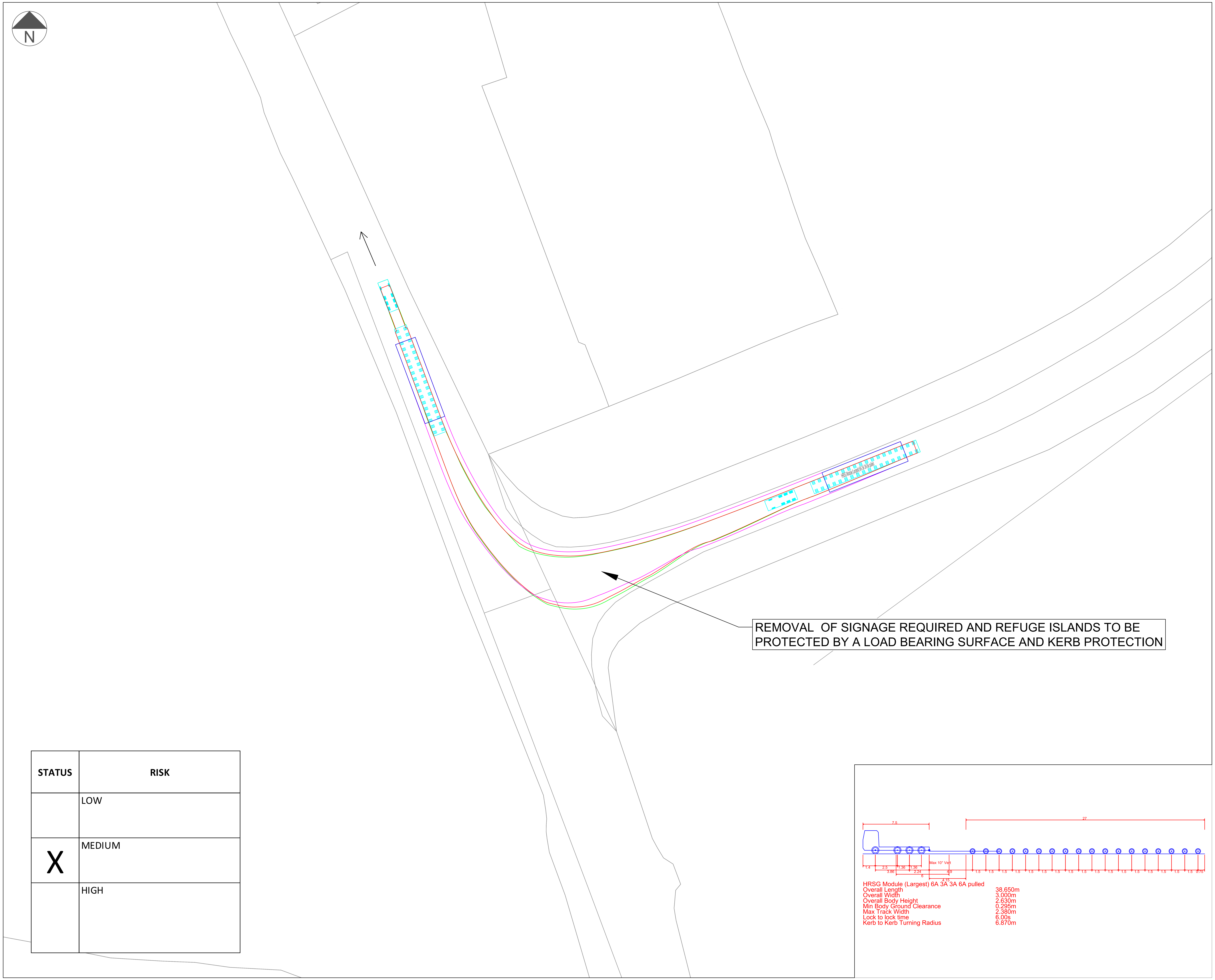
SHEET TITLE

STEP
ABNORMAL LOAD ACCESS
PINCH POINT 1

SHEET NUMBER

60619377-SPA-C-SNLNG-1001

Project Management Initials: Designer: SC Checked: KB Approved: JH



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X	MEDIUM
	HIGH

AECOM

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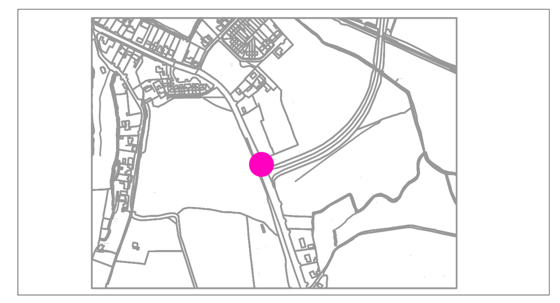

SHEET TITLE

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SHEET NUMBER

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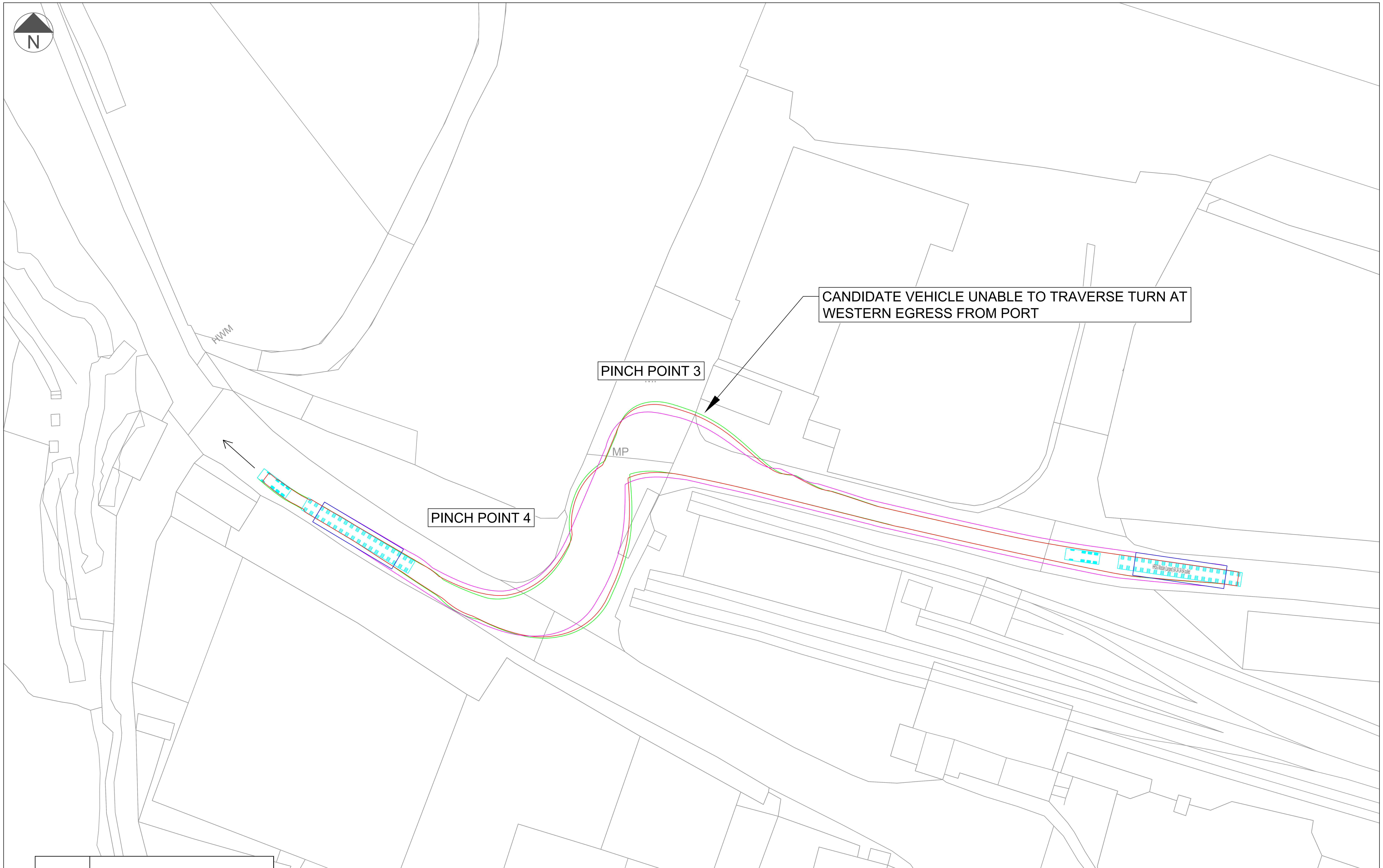

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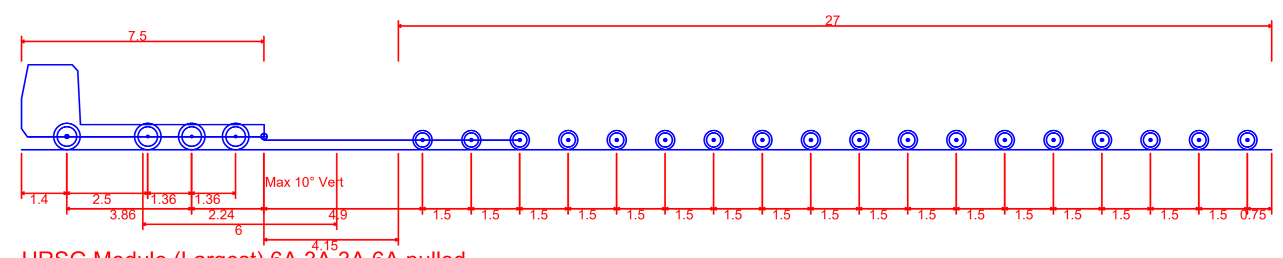
	MEDIUM
X	HIGH



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Project Management Initials: Designer: SC Checked: KB Approved: JH

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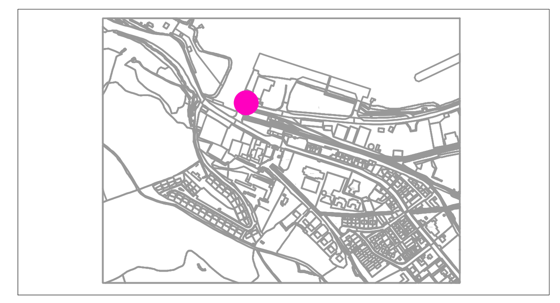

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PINCH POINT 3

SHEET NUMBER

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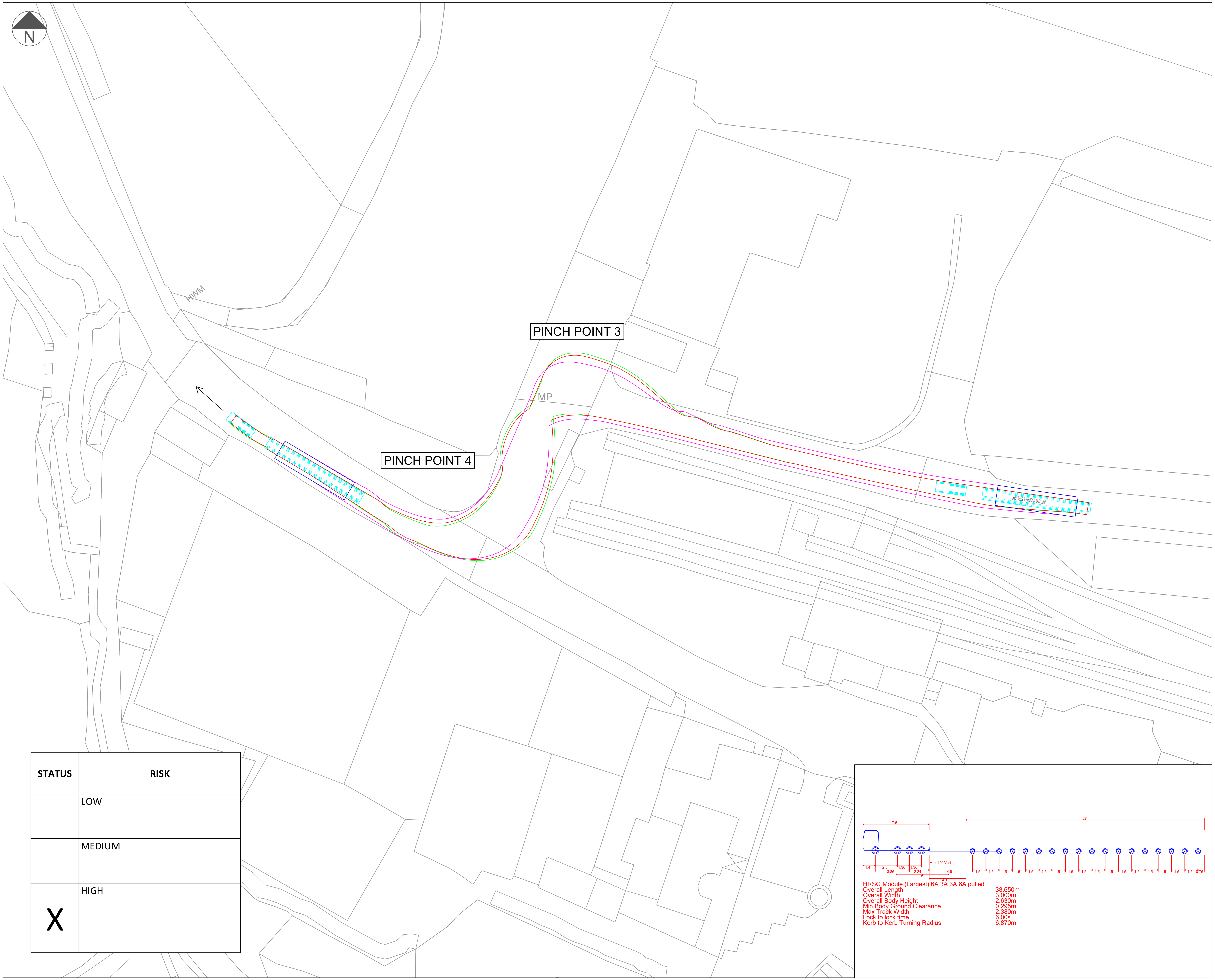
Project Management Initials: Designer: SC Checked: KB Approved: JH



STATUS	RISK
	LOW
	MEDIUM
X	HIGH

HRSG Module (Largest) 6A 3A 3A 6A pulled

Overall Length	38.650m
Overall Width	3.000m
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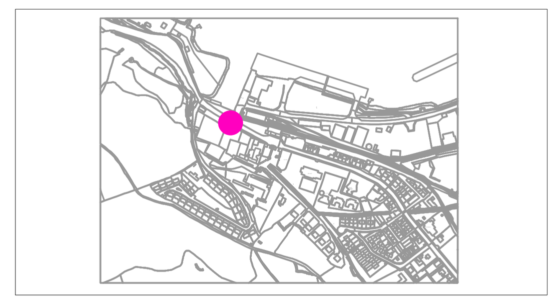

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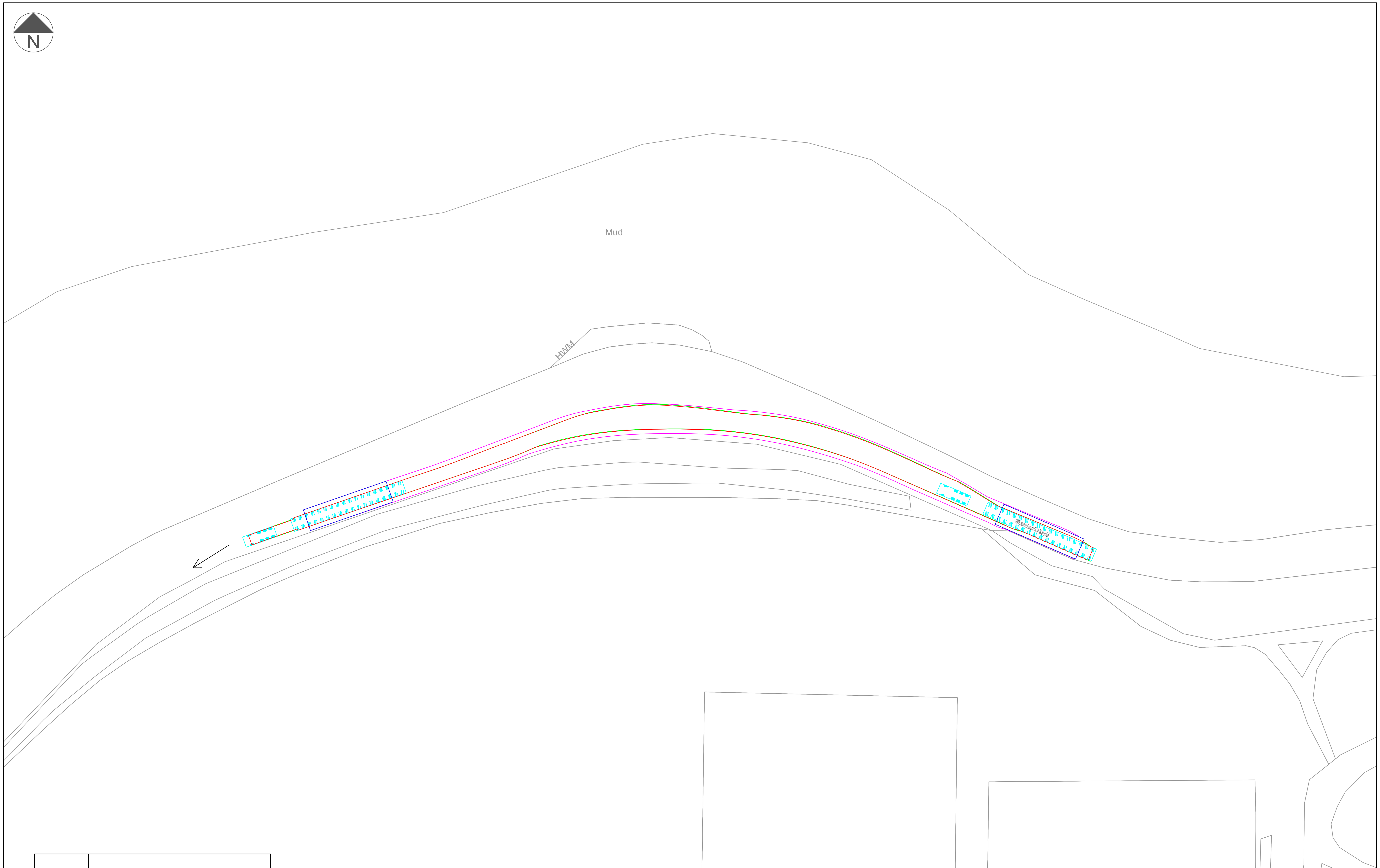

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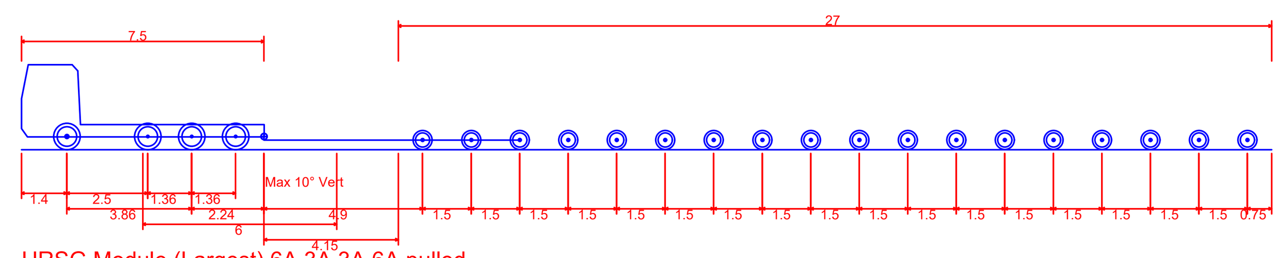
	MEDIUM
	HIGH



HRSG Module (Largest) 6A 3A 3A 6A pulled

Overall Length	38.650m
Overall Width	3.000m
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Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

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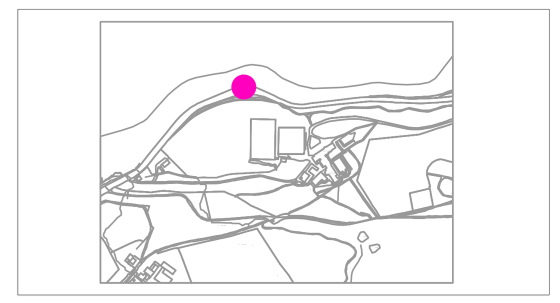

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STEP
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PINCH POINT 5

SHEET NUMBER

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Project Management Initials: Designer: SC Checked: KB Approved: JH

STATUS	RISK
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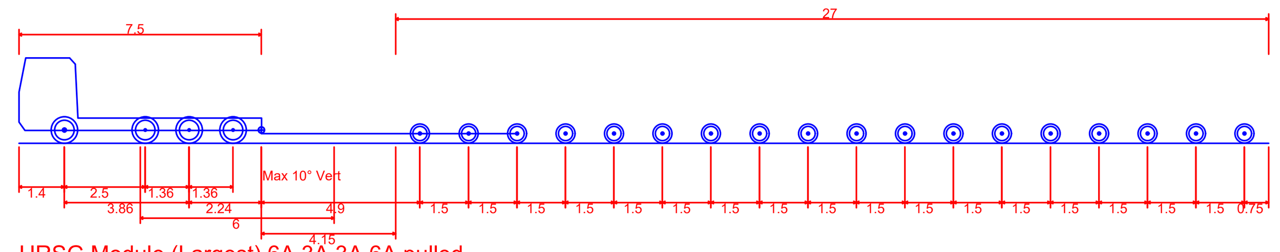
	MEDIUM
	HIGH



HRSG Module (Largest) 6A 3A 3A 6A pulled

Overall Length	38.650m
Overall Width	3.000m
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Min Body Ground Clearance	0.295m
Max Track Width	2.380m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

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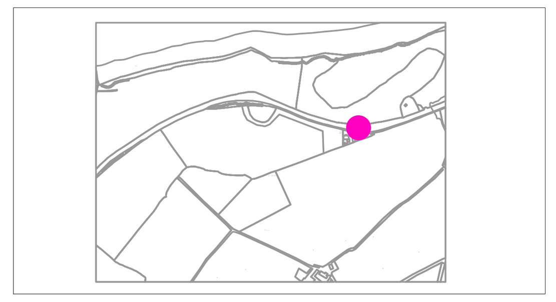

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STEP
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PINCH POINT 6

SHEET NUMBER

60619377-SPA-C-SNLNG-1006

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Project Management Initials: Designer: SC Checked: KB Approved: JH

STATUS	RISK
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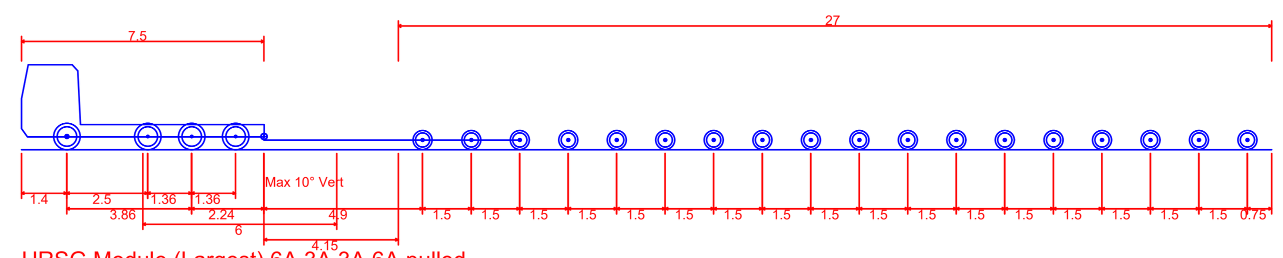
	MEDIUM
	HIGH



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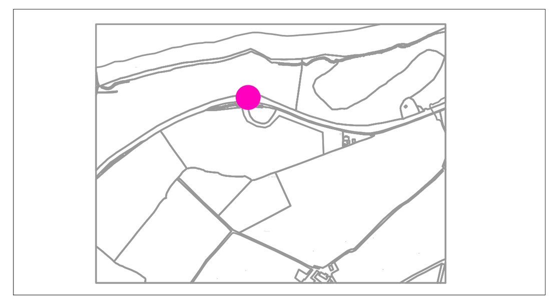

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STEP
ABNORMAL LOAD ACCESS
PINCH POINT 7

SHEET NUMBER

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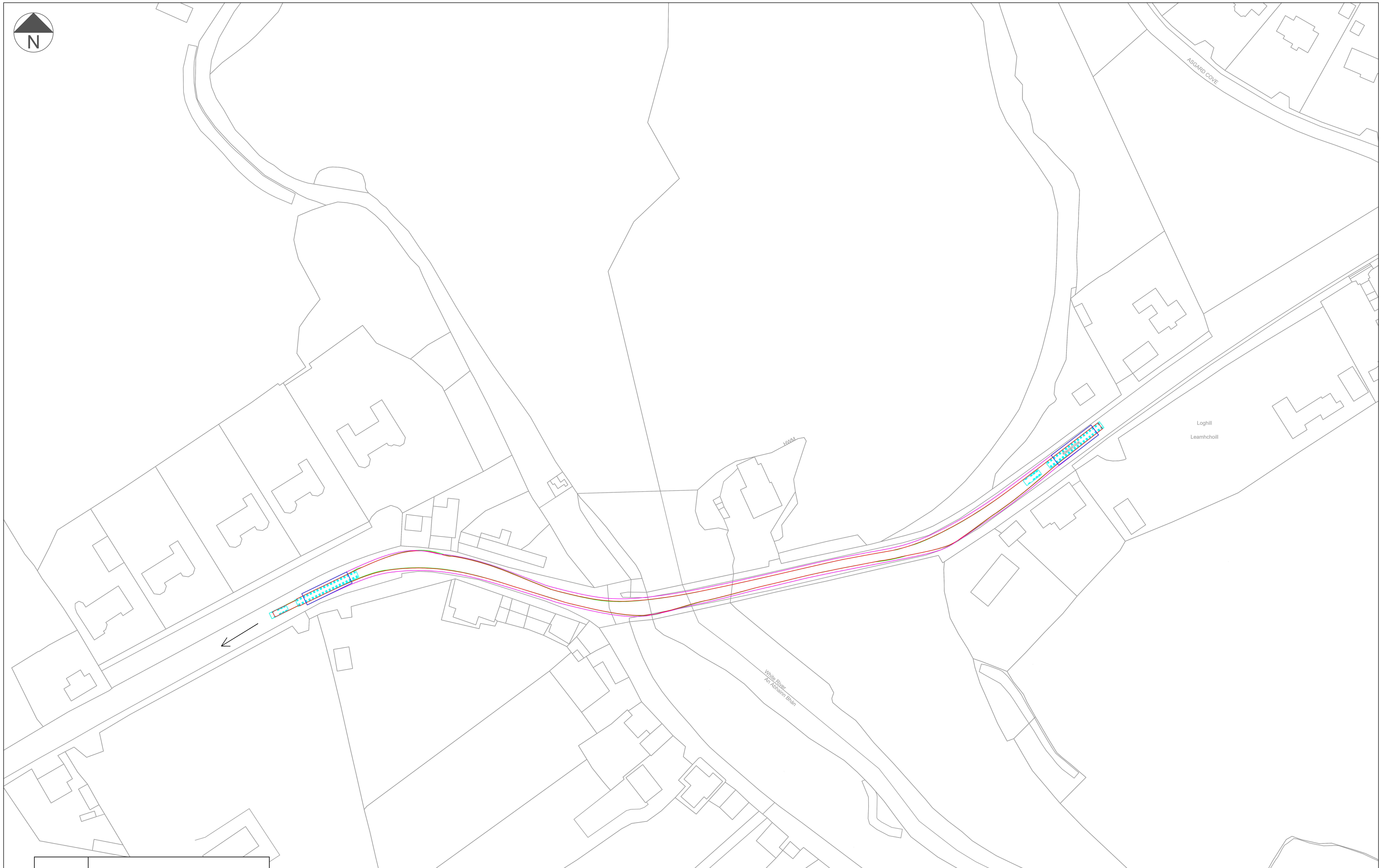
Project Management Initials: Designer: SC Checked: KB Approved: JH



STATUS	RISK
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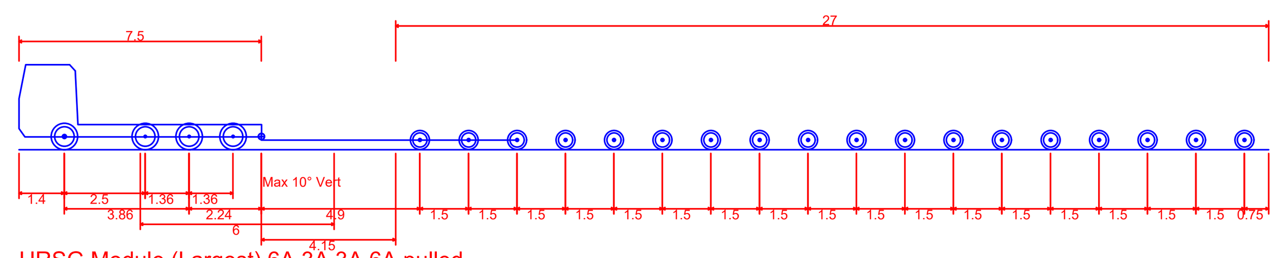
X	MEDIUM
	HIGH



HRSG Module (Largest) 6A 3A 3A 6A pulled

Overall Length	38.650m
Overall Width	3.000m
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Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

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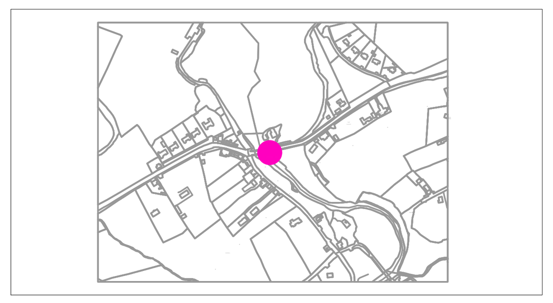

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STEP
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PINCH POINT 8

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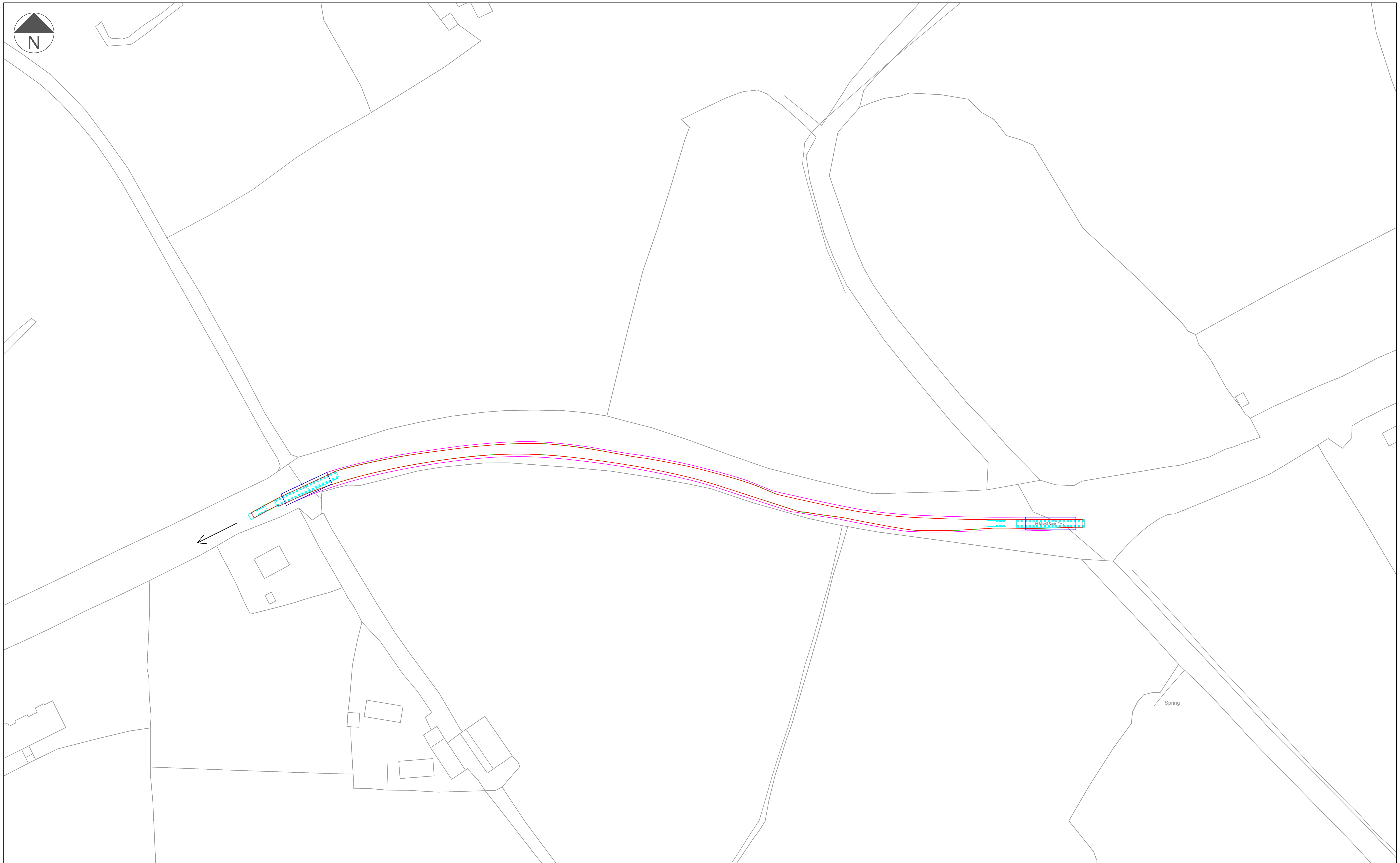

STATUS	RISK
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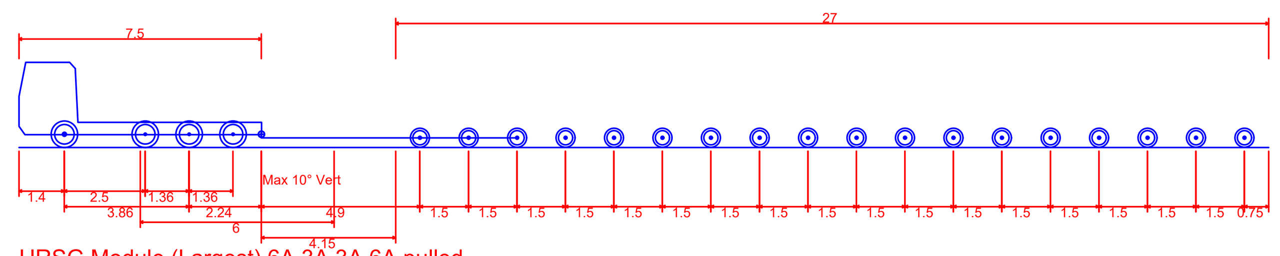
	MEDIUM
	HIGH



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Project Management Initials: Designer: SC Checked: KB Approved: JH

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SHEET TITLE

STEP
ABNORMAL LOAD ACCESS
PINCH POINT 9

SHEET NUMBER

60619377-SPA-C-SNLNG-1009

Project Management Initials: Designer: SC   Checked: KB   Approved: JH

STATUS	RISK
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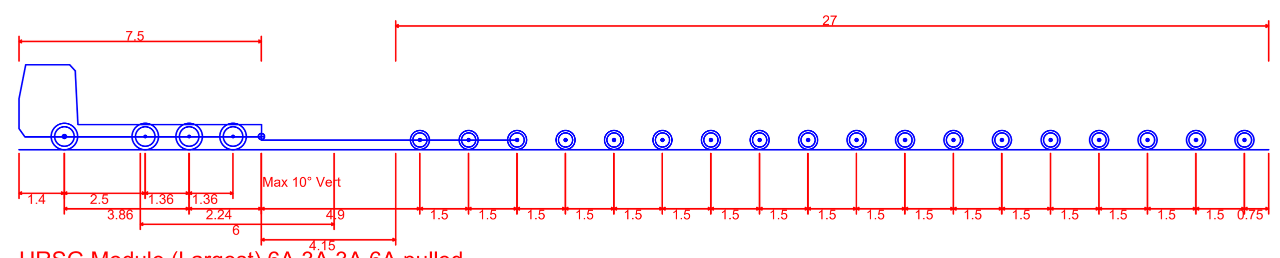
	MEDIUM
	HIGH



HRSG Module (Largest) 6A 3A 3A 6A pulled

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Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

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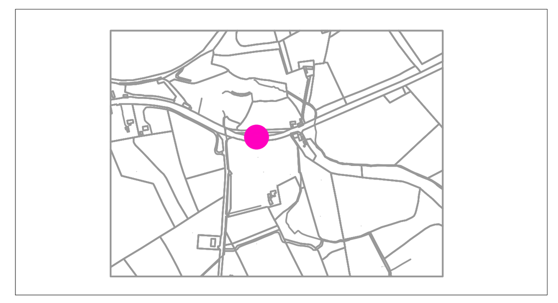

SHEET TITLE

STEP
ABNORMAL LOAD ACCESS
PINCH POINT 10

SHEET NUMBER

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Project Management Initials: Designer: SC Checked: KB Approved: JH

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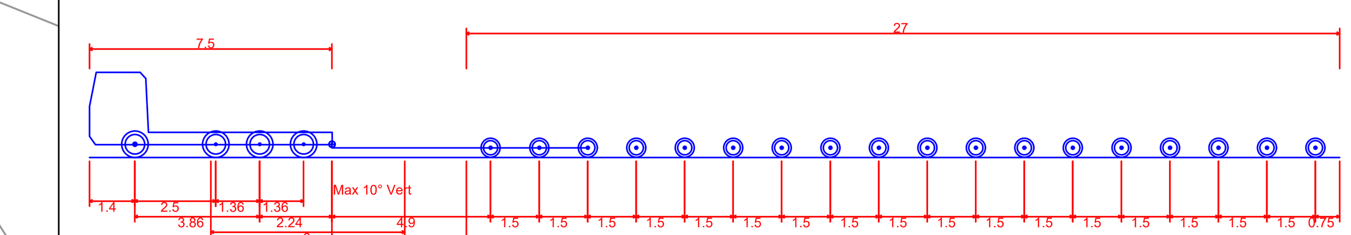
	HIGH



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Lock to lock time	6.00s
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SHEET TITLE

STEP
ABNORMAL LOAD ACCESS
PINCH POINT 11

SHEET NUMBER

60619377-SPA-C-SNLNG-1011

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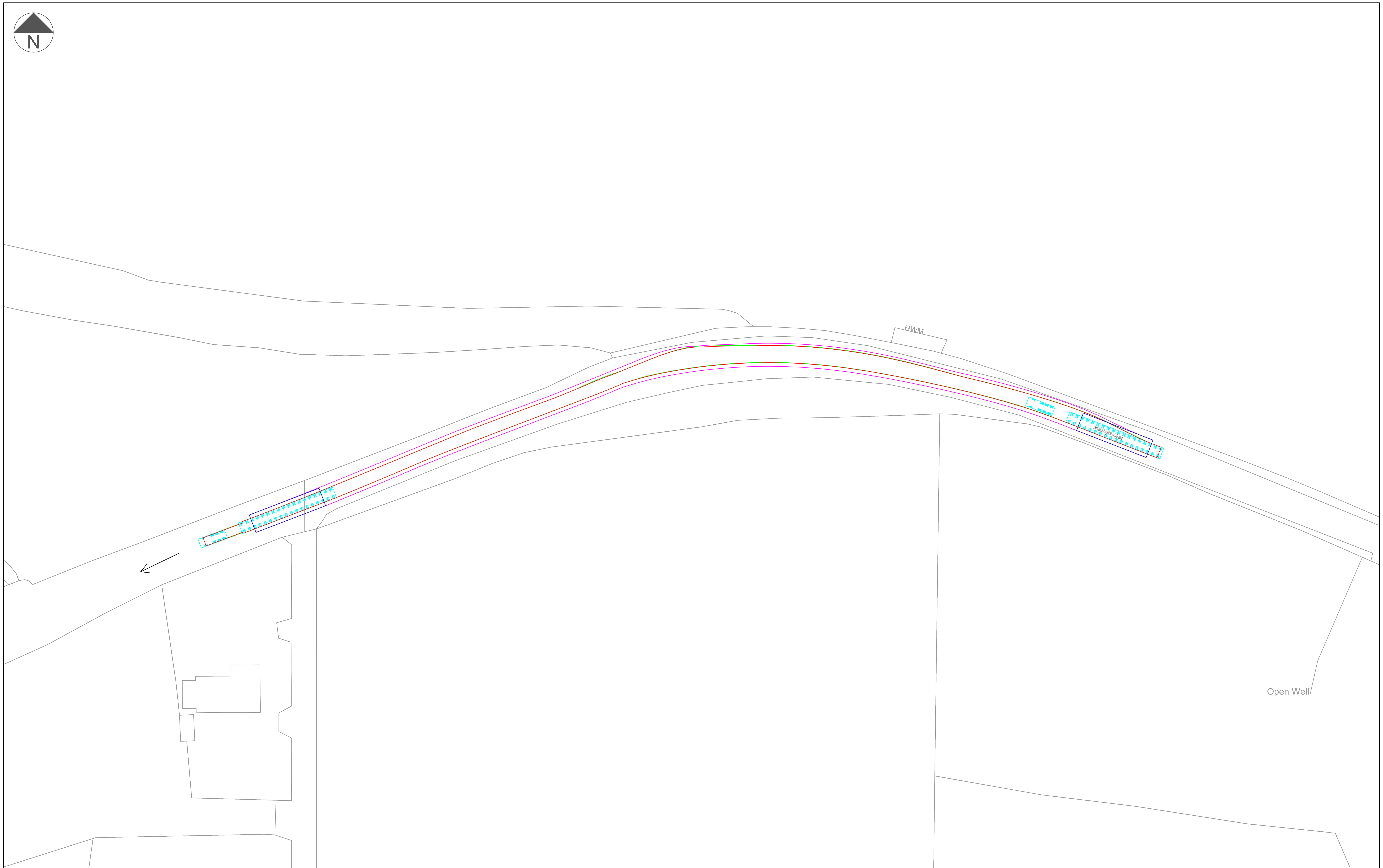

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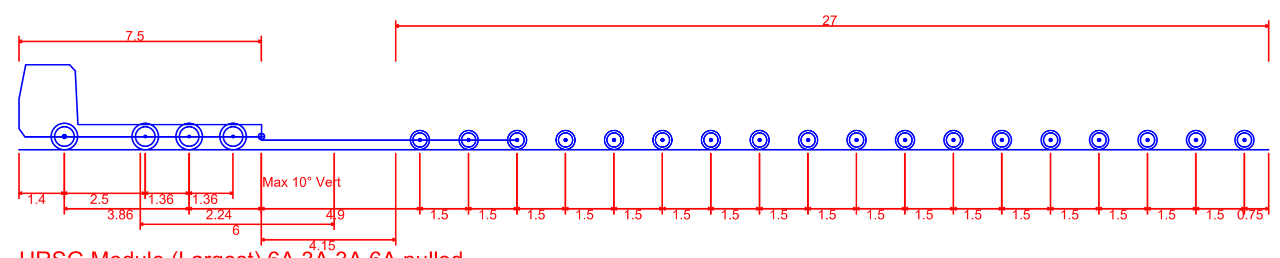
	HIGH



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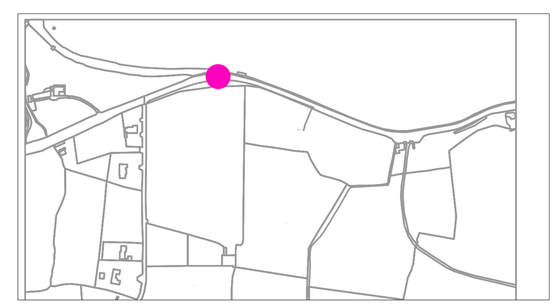

SHEET TITLE

STEP
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PINCH POINT 12

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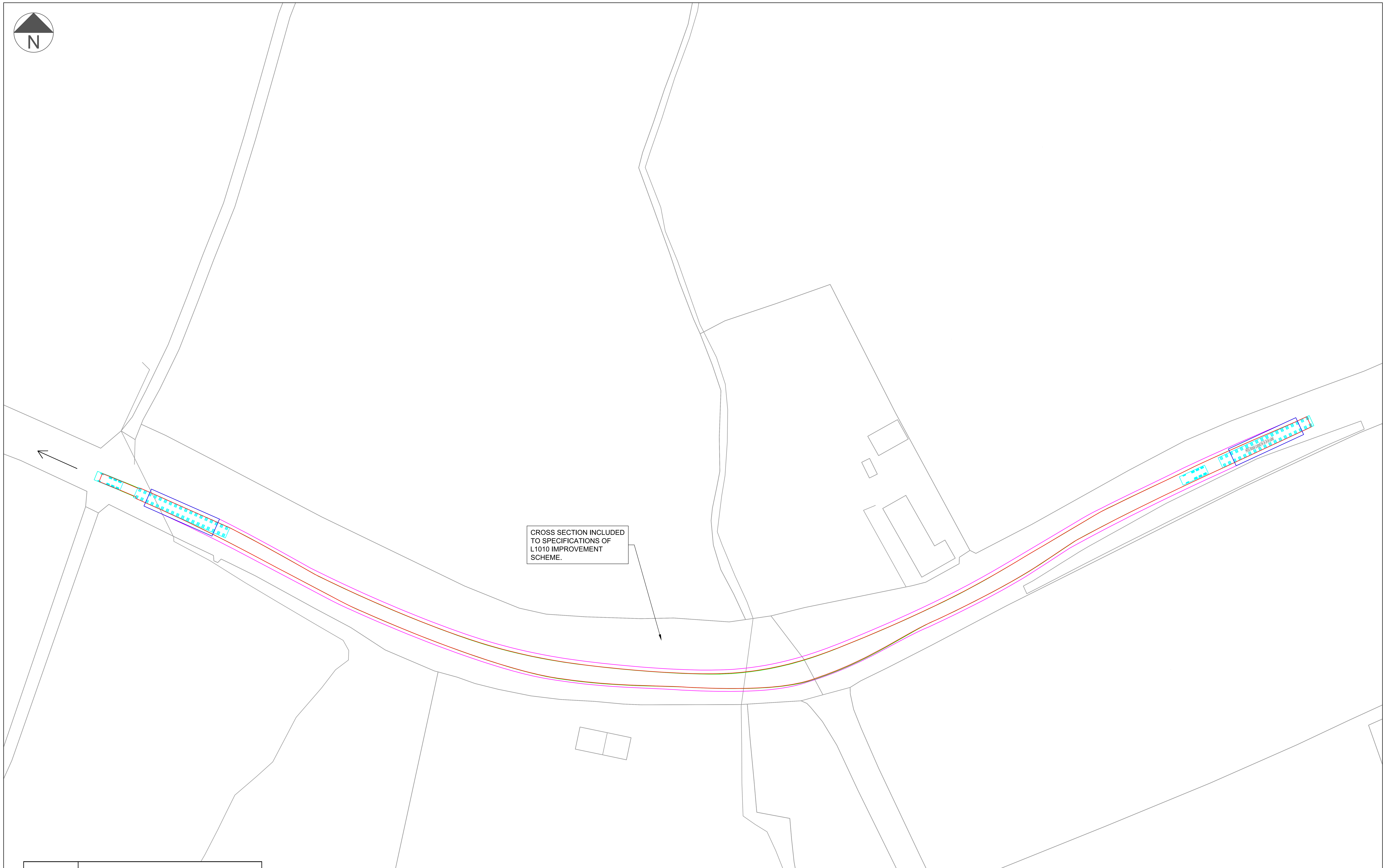
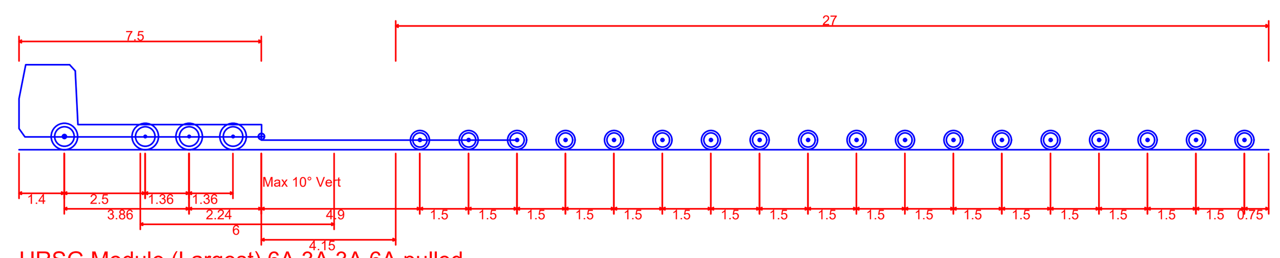


STATUS	RISK
	LOW
X	MEDIUM
	HIGH



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Project Management Initials: Designer: SC Checked: KB Approved: JH

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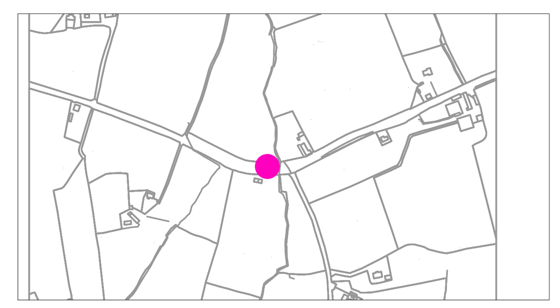

SHEET TITLE

STEP
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PINCH POINT 13

SHEET NUMBER

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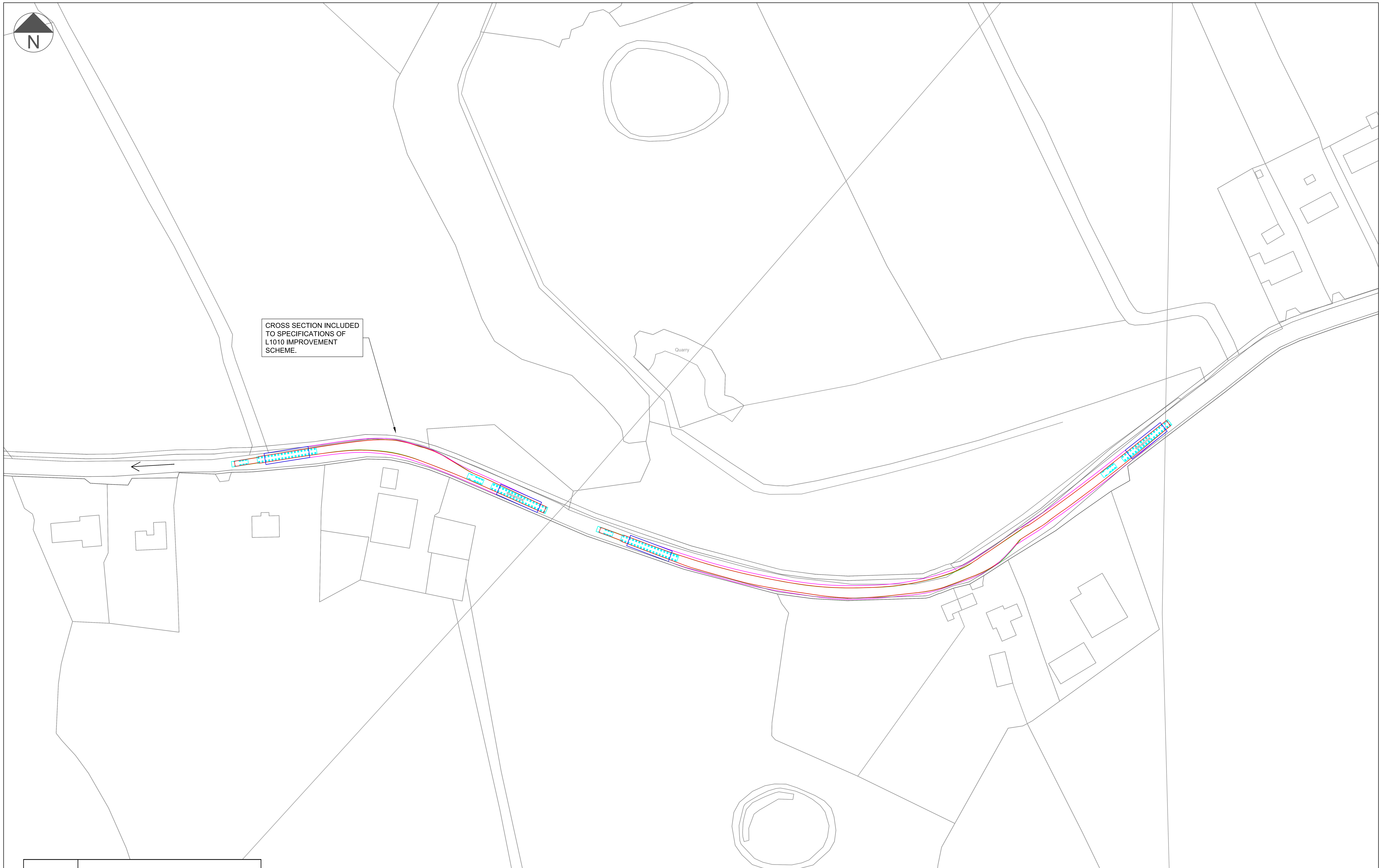
Project Management Initials: Designer: SC Checked: KB Approved: JH



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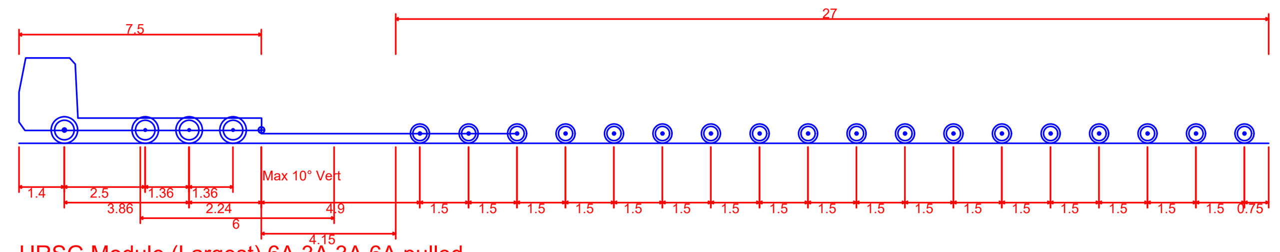
X	MEDIUM
	HIGH



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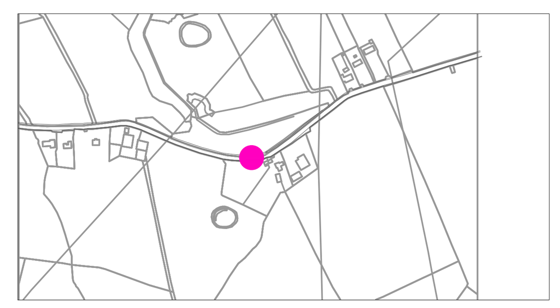

SHEET TITLE

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PINCH POINT 14

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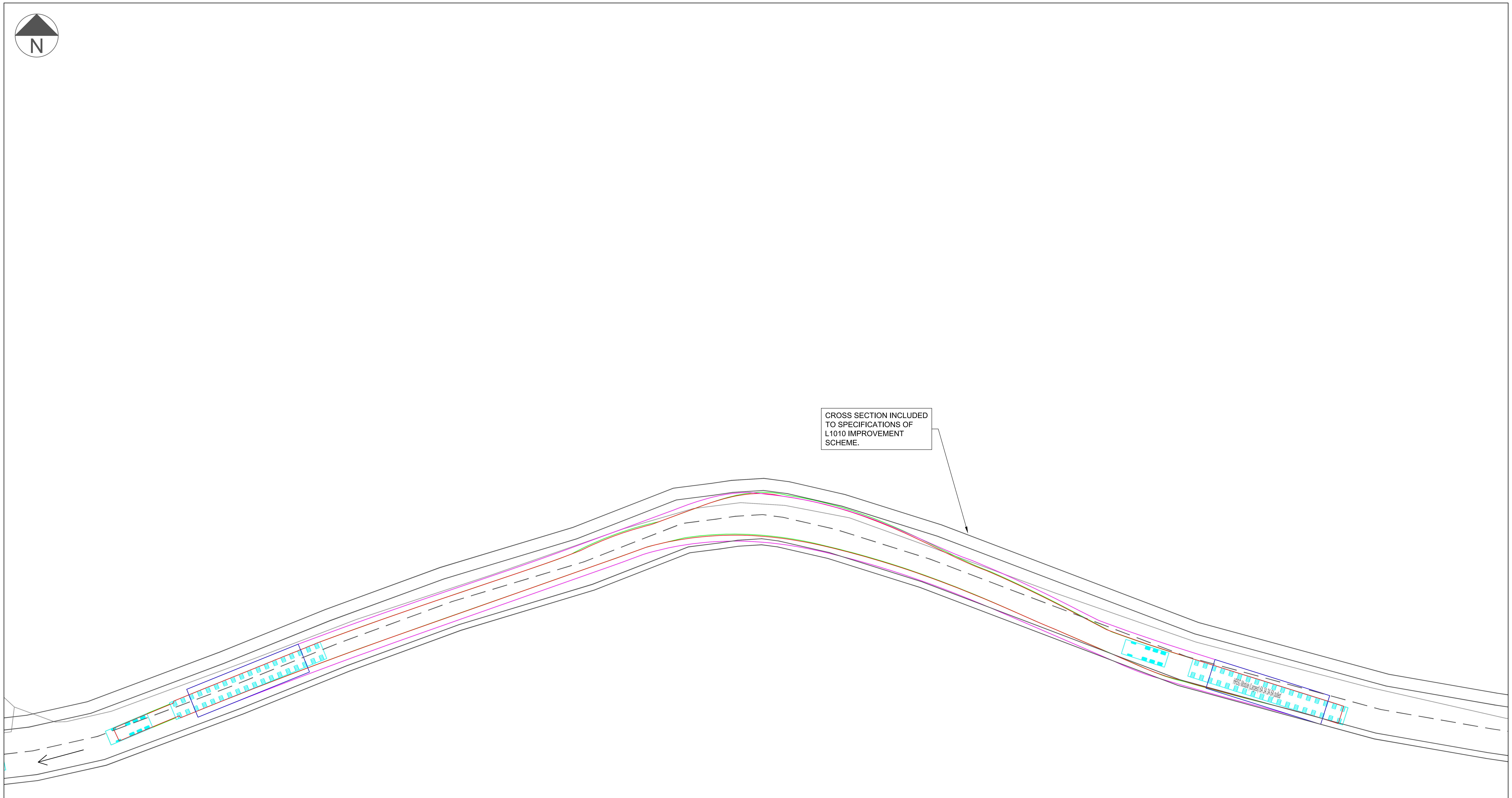

STATUS	RISK
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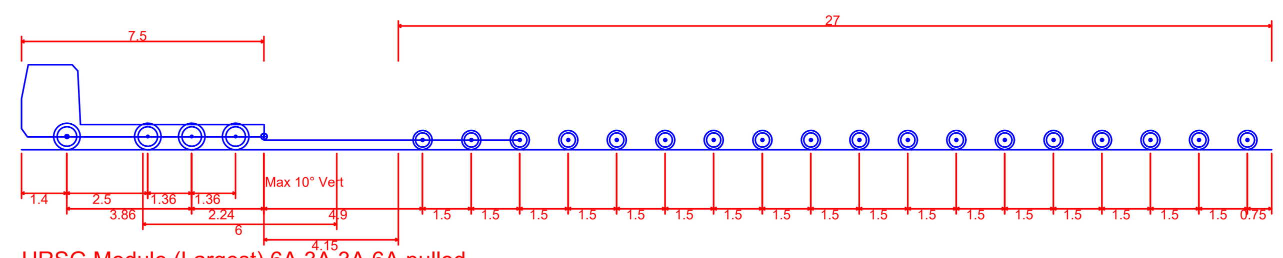
X	MEDIUM
	HIGH



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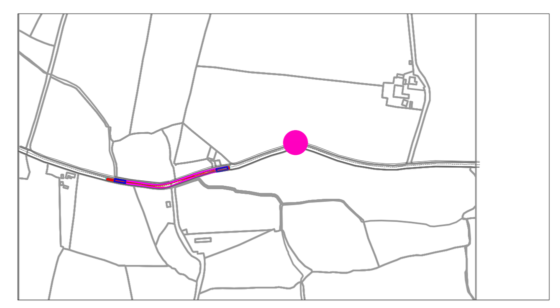

SHEET TITLE

STEP
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PINCH POINT 15

SHEET NUMBER

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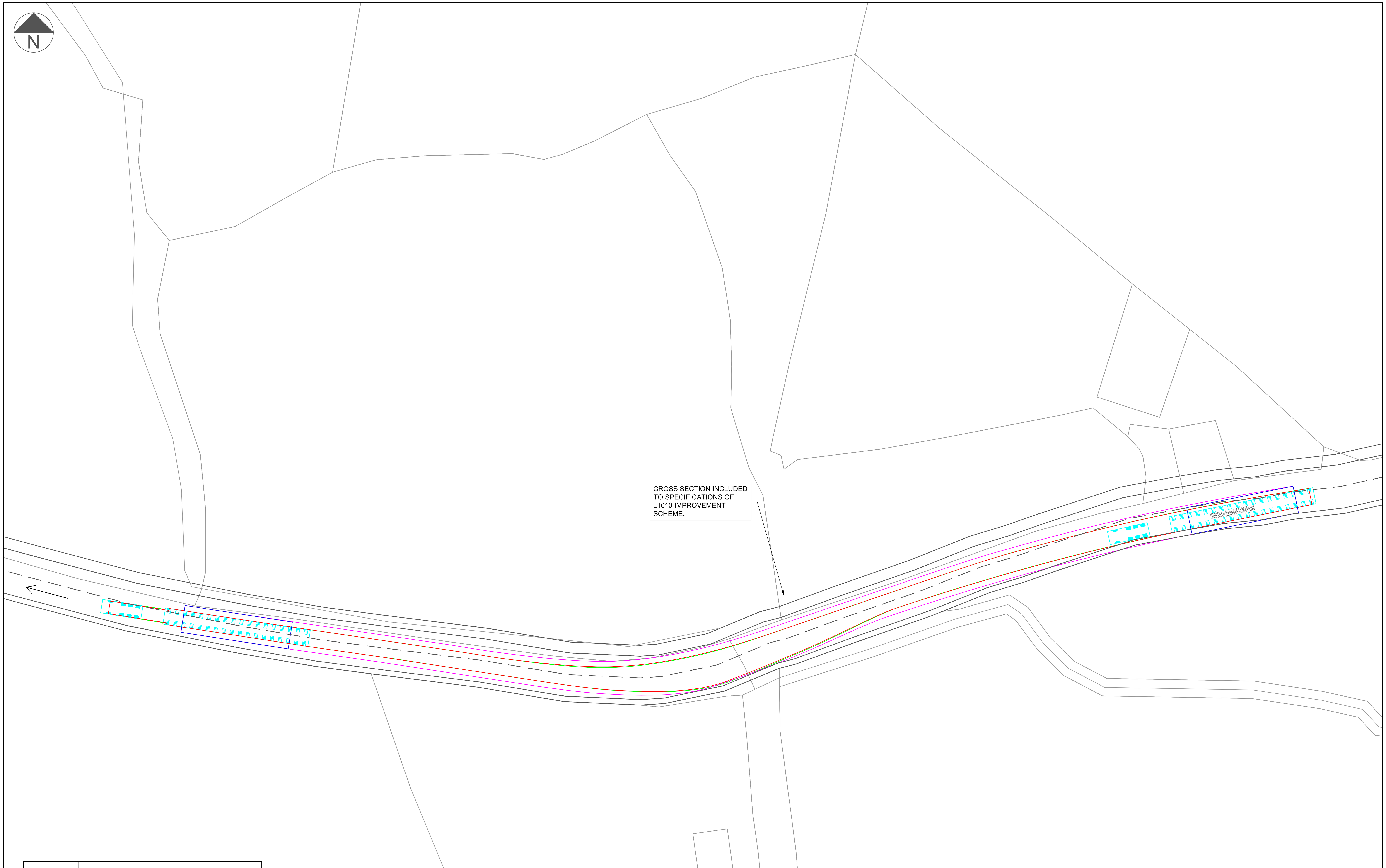
Project Management Initials: Designer: SC Checked: KB Approved: JH



STATUS	RISK
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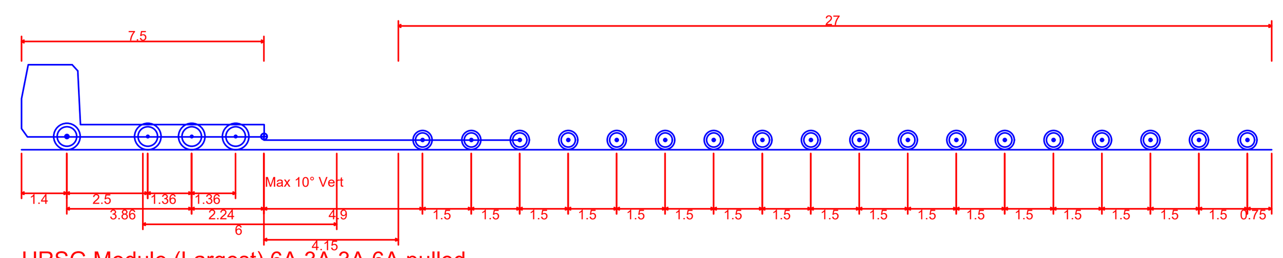
X	MEDIUM
	HIGH



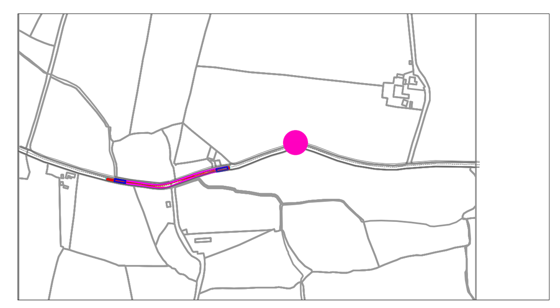
HRSG Module (Largest) 6A 3A 3A 6A pulled

Overall Length	38.650m
Overall Width	3.000m
Overall Body Height	2.630m
Min Body Ground Clearance	0.295m
Max Track Width	2.380m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.870m

AECOM

ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	19.01.2024	FOR REVIEW

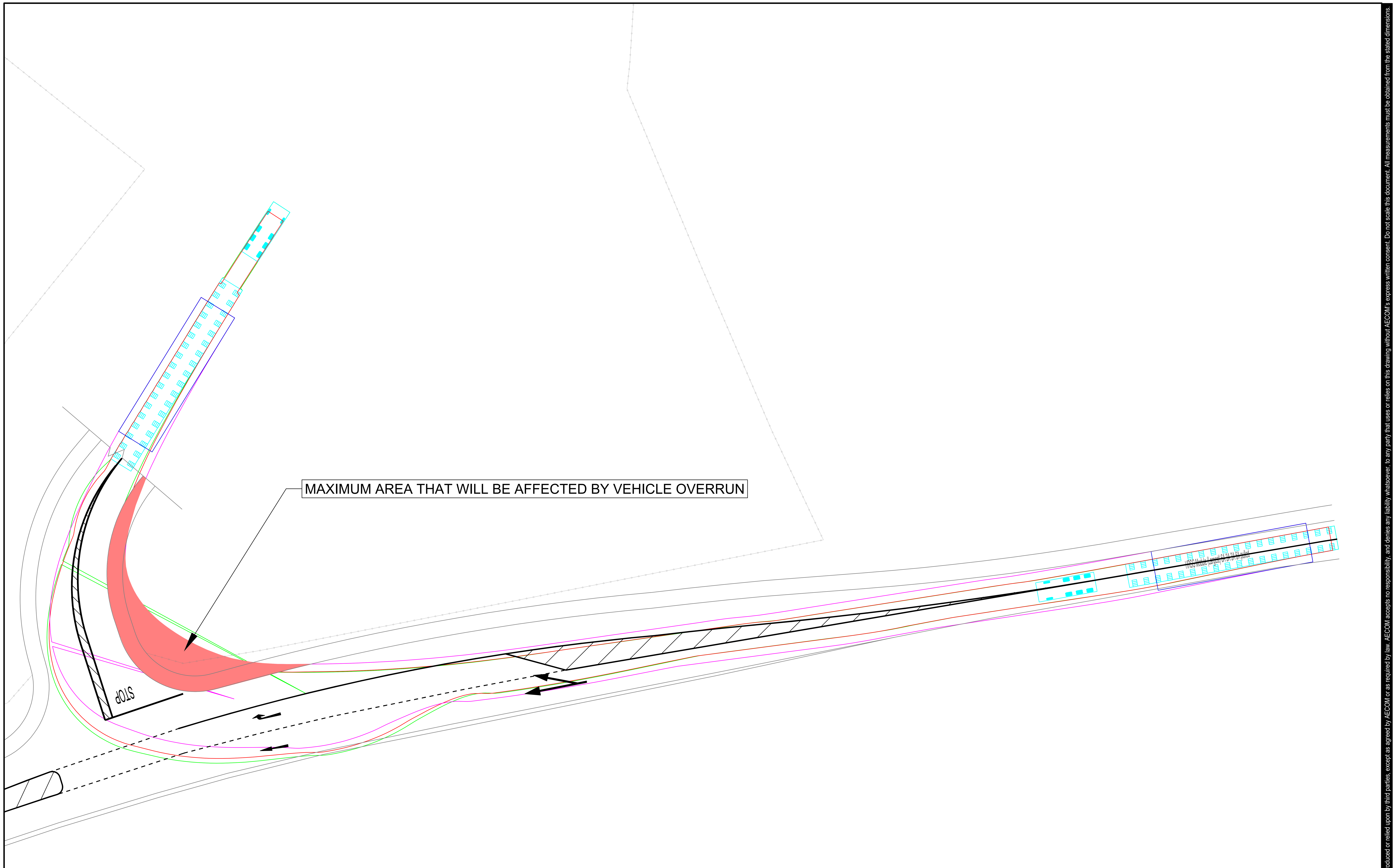


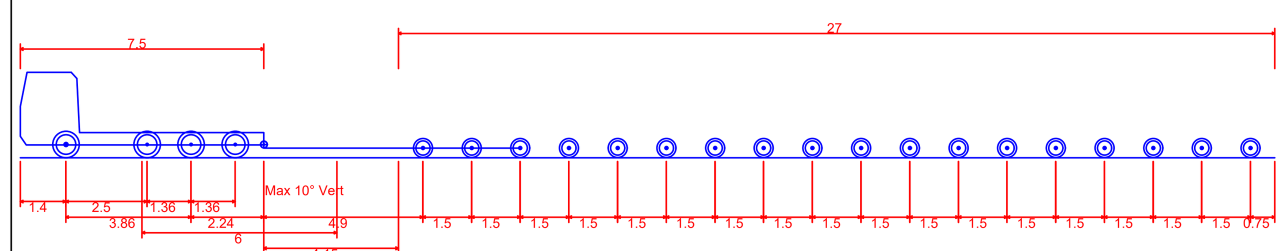
SHEET TITLE

STEP
ABNORMAL LOAD ACCESS
PINCH POINT 16

SHEET NUMBER

60619377-SPA-C-SNLNG-1016





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AECOM

PROJECT

Shannon Technology and Energy Park

CLIENT

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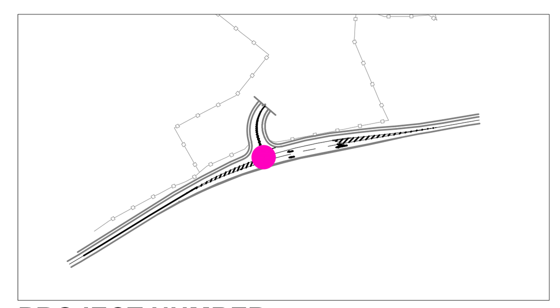
ISSUE/REVISION

I/R	DATE	DESCRIPTION
1	19.01.2024	FOR REVIEW



PROJECT NUMBER

60619377

SHEET TITLE

STEP
PROPOSED JUNCTION
HRSG MODULE (LARGE)

SHEET NUMBER

60619377-SPA-C-SNLNG-4001

ISO A1 594mm x 841mm
Project Management Initials: Designer: SC Checked: KB Approved: JH
Filename: C:\USERS\CLEZYS\DOCUMENTS\SHANNON LNG ACCESS REVIEW SPA (PROPOSED JUNCTION) 2024..DWG
Last saved by: CLEZYS Last Plotted: 2024-02-22