METROLINK

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A5.6 Abnormal Load Route Survey Report

CONTENTS

1. Introduction

1.1. Purpose of Report

This report has been produced for the Environmental Impact Assessment for the Railway Order application for the MetroLink project, it provides information as to the considerations made toward the transportation of the most onerous abnormal loads to the various MetroLink construction sites. These loads being the:

- TBM front shield component being transported along proposed routes from Dublin Port to Dublin Airport South Portal and to Northwood Portal and the return from Dublin Airport North Portal to Dublin Port.

- A Bentonite silo, being transported to each of the deep station and shaft locations within the M50 boundary of Dublin city. Assumed dimensions for the study Ø3m 18.5m long.

A specialist transport and lifting company, Mammoet, was engaged to determine the most suitable routes to/from the various construction sites and identify any key features or street furniture that may need to be assessed or temporarily removed to allow for delivery of the afore mentioned components. Their route study forms appendix A of this document and includes their findings.

This analysis has been undertaken to inform the EIAR and to identify likely routes that could be utilised to transport Abnormal loads to the proposed construction compounds. These routes will be further refined by the contractor(s) in agreement with local authorities.

1.2. Sources of information

Information for this Report has been drawn from:

- The Mammoet Route Study – as given in Appendix A

2. Mammoet Route Study Findings

This section highlights any items from within the route study that LBA believe need to be considered as causing a potential impact to delivery of necessary plant to the construction sites.

2.1. TBM Front shield transportation

2.1.1. R131 East Wall Road, Rail bridge

With reference to Appendix A, Section 3.4, the height of the R131 East Wall Road, Rail bridge needs to be confirmed. The current available information gives a height restriction of 5.26m. This is currently lower than the 5.5m proposed height of the shield section for transport.

The exact height of this bridge will need to be confirmed by a physical route survey in the future, but LBA believe that mitigations can be made to allow transportation to proceed:

- The dimensions used for the TBM front shield component were based on past experience for TBM's used on similar tunneling projects to MetroLink, however with knowing route/transportation limitations in advance, the TBM manufacturers could ensure the TBM design incorporates any size restrictions as necessary.

- Adaptation of the trailer characteristics to allow the height of the transport to be lowered sufficiently to clear the bridge.

- Or if the TBM components could not be altered, there is the possibility of removing the wearing surface of the carriageway under the bridge to gain sufficient clearance for transportation. This would incur the need to plan street works with the local road authority ahead of transportation.

2.1.2. Tree Trimming

With reference to Appendix A, Sections 3.7 and 3.9, two locations along the TBM component transportation routes have been identified as having a potential need for tree trimming to be undertaken prior to the transportation taking place.

Such activity may need to be planned in advance as to ensure that they occur outside of specific periods such as bird nesting season.

2.1.3. Construction Site Entrances

With reference to Appendix A, Sections 3.14, 5.1 and 7.3, Mammoet have provided guidance as to the dimensions of the site entrance bell mouths to be no less than 16m in width to allow for the delivery vehicles to turn onto the site.

This information will need to be taken into consideration, however if such sizing cannot be permanently achieved then necessary temporary works may need to be planned in around the arrival/departure dates of the delivery vehicle at site to allow for the necessary space to be available for access/egress.

2.1.4. Late Works – Low Impact items

Along the TBM Components route within Appendix A, there are some items that have been categorized as Late Works – Low Impact (in-line with Mammoet's Work Classification Matrix, Appendix A, Section 1.5). Other than the tree trimming mentioned in Section 2.1.2 above, the remaining are concerning the temporary removal of street furniture, of which none are out of the ordinary for transportation activities of abnormal loads such as those being covered within this report. Therefore we do not deem these as a concern.

2.2. Bentonite Silo Transportation

Within the route study undertaken by Mammoet, no concerns or issues have been raised against the delivery of the bentonite silos to the various deep station and shaft sites.

Appendix A

A.1 Mammoet Route Study

Office Mammoet UK Ltd. – Hixon
New Road
Hixon
Staffordshire
ST18 0PE

Tel: +44 (0) 1889 272 500
Web: www.mammoet.com

Sap nr.
Doc. nr. MM15096243-RS01-0
Status Issued for information

Client London Bridge Associates
Project MM15096243-Dublin Metro Link Survey
Subject Route Study: Negotiability of 5 Axle Bed 5 Axle Vessel Bridge Trailer and most onerous indicative TBM component to various sites in Dublin

A	Review of Various Metro Link Sites included	26/02/2021	DT		MR	
0	Issued for Information	04/02/2021	DT		MR	
	Description	**Date**	**Author**	**Signature**	**Approved**	**Signature**

Without authorized signature(s) this document is uncontrolled, not binding and for indicative purposes only

Client	London Bridge Associates	Sap nr.		Page	2/26
Project	MM15096243 – Dublin Metro Link Survey	Doc. nr.	MM15096243-RS01-A	Date	26/02/2021
Subject	Route Study: Negotiability of 5 Axle Bed 5 Axle Vessel Bridge Trailer and most onerous indicative TBM component to various sites in Dublin			Rev.	A

Contents

1 Introduction

The following itemised lists have been developed for the transport operations of TBM components and the most onerous envisaged trailer configurations of a 5 Axle Bed 5 Axle Vessel Bridge Trailer delivery vehicle, from Dublin Ports - North Docks to two sites at Dublin Airport. As well as an extendible beam trailer from the M50 trunk road to various metro sites within the City. The document will act as a check sheet for each item of street furniture which will require modifications or removal in order to facilitate each transport. This document aims to identify key features of each item including:

- The location of the item, which will be highlighted in a separate mapping document found in the appendix.
- A description of the item including specific tag numbers.
- The owner of the item and responsible party for its modification / removal
- A reference photo.
- The works required to facilitate the move
- The current status of that particular item with regards to the work required
- A classification of the work required with regards to when the work can be conducted and how high an impact it will have on both the responsible party and the transport move itself.

The table below indicates the classification of the works required to facilitate the move.

1.1 Item Breakdown

Load	Dimensions	Weight	Indicative Transport Method	Max Transport Height	Transport Width
Front Shield	L9700 x W4000 x H4870	120t	5 Axle Bed 5 Axle Vessel Bridge Trailer	5500	4300

1.2 Transport Arrangement

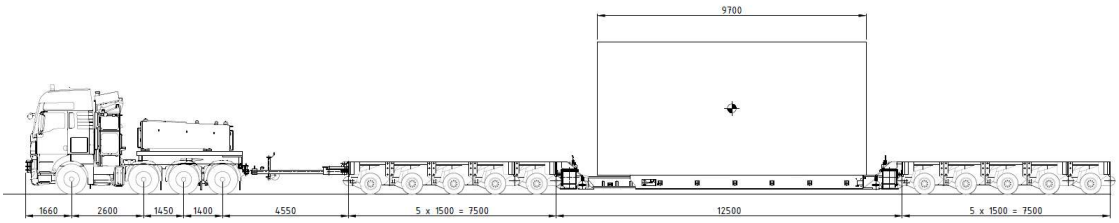


Figure 1. Indicative Side Elevation and Plan View of Mammoet's 5 Bed 5 Vessel Bridge Trailer

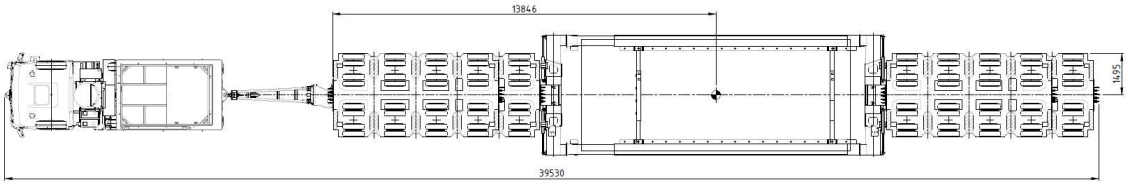


Figure 2. Indicative Plan View of Mammoet's 5 Bed 5 Vessel Bridge Trailer

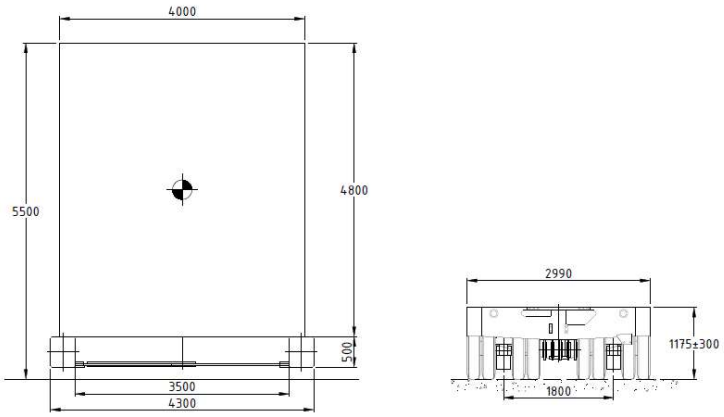


Figure 3. Indicative End View of Mammoet's 5 Bed 5 Vessel Bridge Trailer

1.2.1 ***The above load and trailer combination has been considered in the compilation of this report, and where the need for temporary street furniture removal/remedial works have been highlighted.***

1.3 Item Breakdown

Load	Dimensions	Weight	Indicative Transport Method	Max Transport Height	Transport Width
Bentonite Silos	L18500 x W3000 x H3000	11t	3 Axle Extendible Beam Trailer	4460	3000

1.4 Transport Arrangement

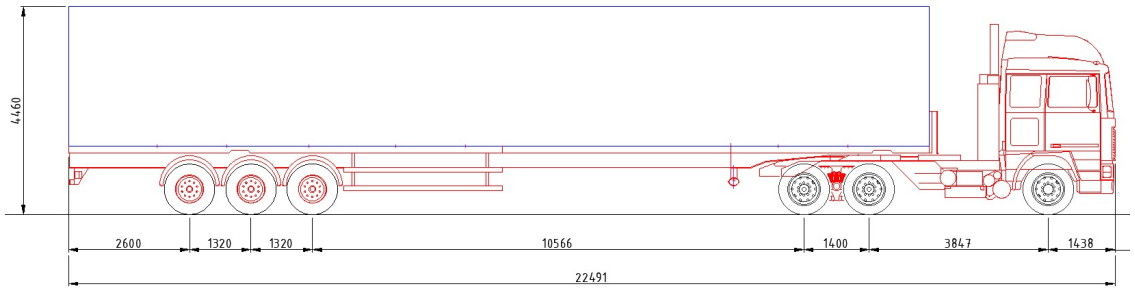


Figure 4. Indicative Side Elevation of Mammoet's 3 Axle Extendible Beam Trailer

1.5 Work Classification Matrix

Type	Title	Requirements
1	Early Works	Enabling works requirement can be expedited immediately, subject to planning and permit requirements. Completed works shall not have a major impact on the owner/public interface.
2	Early Pre-Works	Proprietary work that can be expedited immediately to reduce works during the transport operations (i.e. replacing existing cast-in posts with a bolted flange). Completed works will allow minimal disruption to the owner/public interface during transport operations in accordance with Type 4.
3	Late Works High Impact	Enabling works requirement will have a direct impact on the owner/public interface and shall therefore be implemented at an appropriate time prior to the commencement of the transport operation. Mitigation measures shall be in place to minimise the impact on the owner/public for the duration of transport operations.
4	Late Works Low Impact	Enabling works requirement can be carried out during the transport operations. (i.e. sign-posts can be removed on the day of the transport operation). .

2 Airport South Portal Site Entrance Delivery Route Overview

2.1 Proposed Abnormal Load route from Dublin North Docks to the Airport South Portal Site Entrance via; R131, R132 & M1, avoiding M50 tunnels 13.9km. Considerate of Front Shield delivery vehicle.

- **Exit Dublin North Docks onto Promenade Road**
- **Bear left towards City Centre**
- **Turn right R131 East Wall Road**
- **Turn right R132 Drumcondra Rd Lower**
- **Continue R132 Drumcondra Rd Upper**
- **Merge M1**
- **Exit M1 jct 2 onto Airport approach road**
- **Turn left R132**
- **Turn right Old Airport Road**
- **Turn left into Airport South Portal Site Entrance**

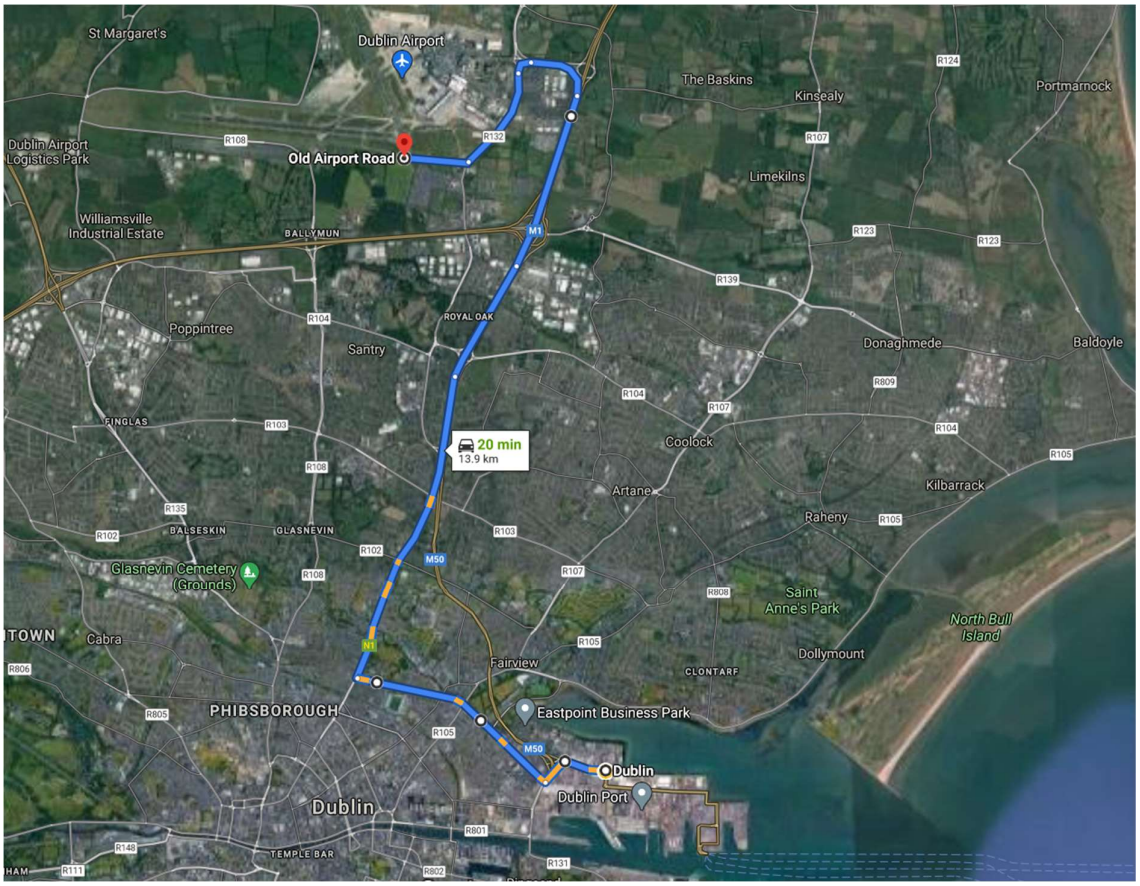


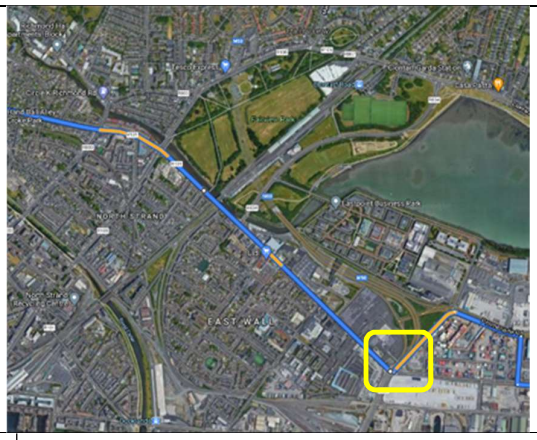
Figure 5. Airport South Portal Site Entrance Delivery Route Map

3 Structures and Street Furniture Log

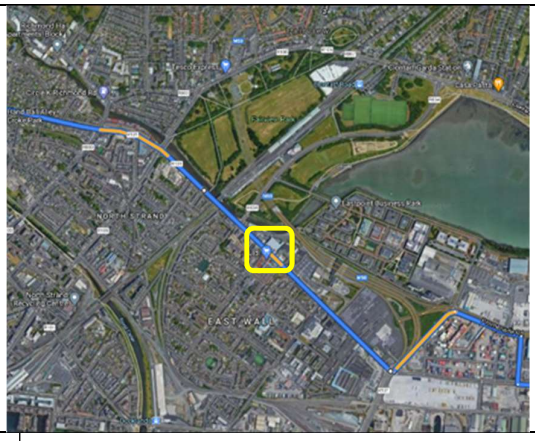
3.1 Log 1 – Promenade Road overhead signage height clearances to be confirmed.

Ref. Image	 		
Description	Signage height clearances	**Owner**	Dublin City Council
Preparation Works	Signage heights to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

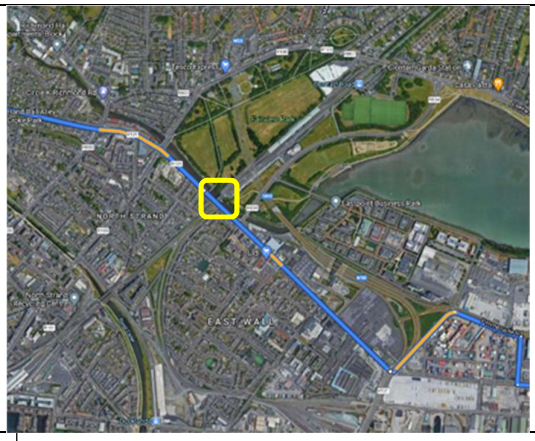
3.2 Log 2 – Promenade Road overhead bridge height clearances to be confirmed.

Ref. Image	 		
Description	Bridge height clearance	**Owner**	Dublin City Council
Preparation Works	Bridge height to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

3.3 Log 3 – R131 East Wall Road, Temporary removal of Traffic Signal and Keep Left bollard.

Ref. Image	 		
Description	Street furniture removal	**Owner**	Dublin City Council
Preparation Works	Temporary removal of Traffic Signal and Keep Left bollard required to facilitate negotiability of 4.0m wide loads and above.		
Classification	Late Works – Low Impact	**Status**	Ongoing – to be raised with DCC

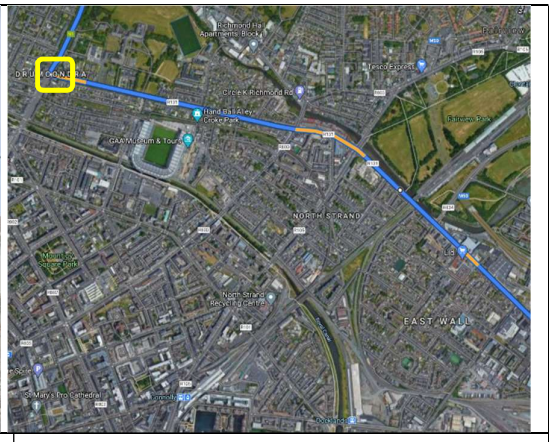
3.4 Log 4 – R131 East Wall Road, Rail bridge height of 5.26m to be confirmed.

Ref. Image	 		
Description	Bridge height clearance	**Owner**	Dublin City Council
Preparation Works	Bridge height restriction of 5.26m to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

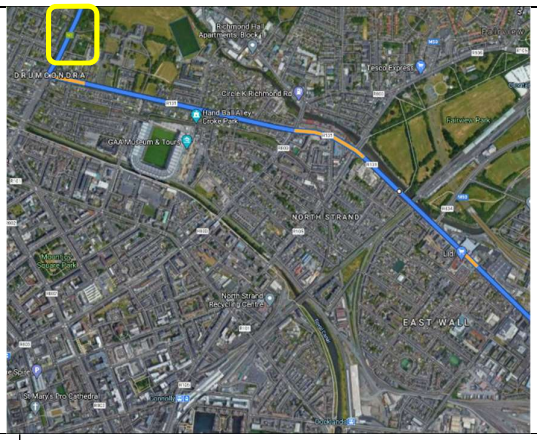
3.5 Log 5 – R131 Clonliffe Rd, temporary removal of Keep Left bollards and Road Sign.

Ref. Image	 		
Description	Street furniture removal	**Owner**	Dublin City Council
Preparation Works	Temporary removal of Keep Left bollards and Road Sign required to facilitate negotiability of 4.0m wide loads and above.		
Classification	Late Works – Low Impact	**Status**	Ongoing – to be raised with DCC

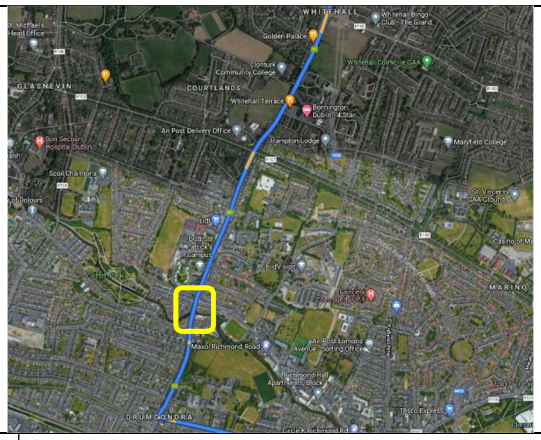
3.6 Log 6 – R131 Clonliffe Rd / R132 Drumcondra Rd Lower junction. Remedial works to facilitate right turn.

Ref. Image	 		
Description	Street furniture removal	**Owner**	Dublin City Council
Preparation Works	Temporary removal of Traffic Signal and Road Sign to accommodate vehicular overrun of footpath to outside of turn.		
Classification	Late Works - Low Impact	**Status**	Ongoing - to be raised with DCC

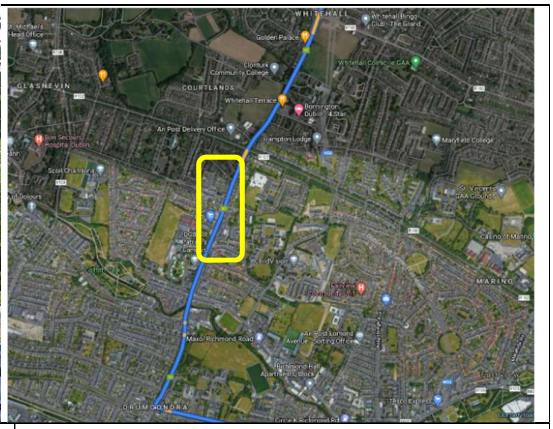
3.7 Log 7 – R132 Drumcondra Rd Lower. Possible Tree Trimming.

Ref. Image	 		
Description	Trimming of Tree Canopy	**Owner**	Dublin City Council
Preparation Works	Trimming of tree canopy may be required subject to seasonal growth prior to deliveries.		
Classification	Late Works - Low Impact	**Status**	Ongoing - to be raised with DCC

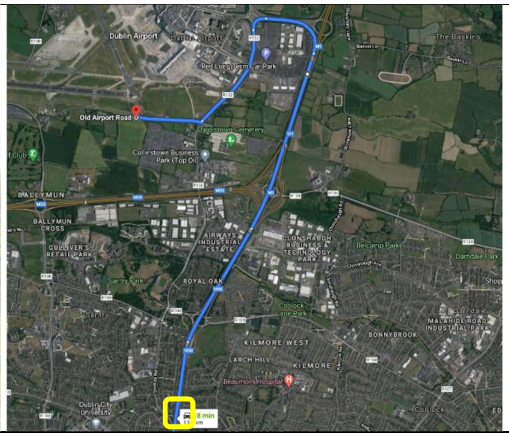
3.8 Log 8 – R132 Frank Flood Bridge, structural capacity to be confirmed.

Ref. Image	 		
Description	Structural capacity approval	**Owner**	Dublin City Council
Preparation Works	Structural capacity of bridge to be checked.		
Classification	N/A	**Status**	Ongoing - to be raised with DCC

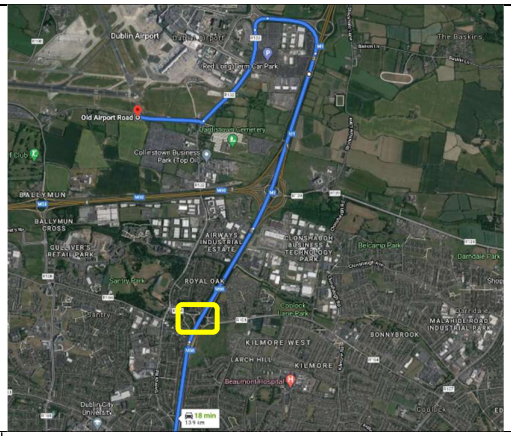
3.9 Log 9 – R132 Drumcondra Rd Upper. Possible Tree Trimming.

Ref. Image			
Description	Trimming of Tree Canopy	**Owner**	Dublin City Council
Preparation Works	Trimming of tree canopy may be required subject to seasonal growth prior to deliveries.		
Classification	Late Works - Low Impact	**Status**	Ongoing - to be raised with DCC

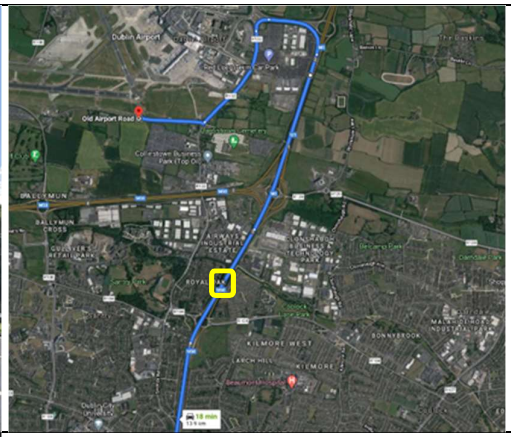
3.10 Log 10 – R132 Swords Road overhead bridge height clearance to be confirmed.

Ref. Image			
Description	Bridge height clearance	**Owner**	Dublin City Council
Preparation Works	Bridge height to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

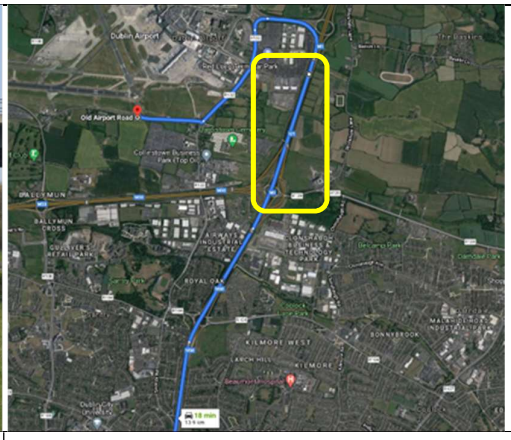
3.11 Log 11 – R132 / R104 Bridge height clearance to be confirmed.

Ref. Image	 		
Description	Bridge height clearance	**Owner**	Dublin City Council
Preparation Works	Bridge height to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

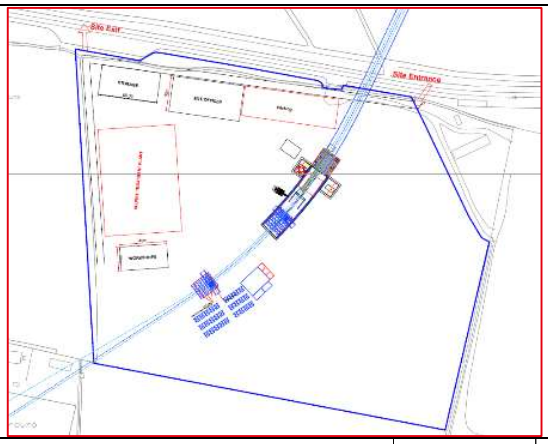
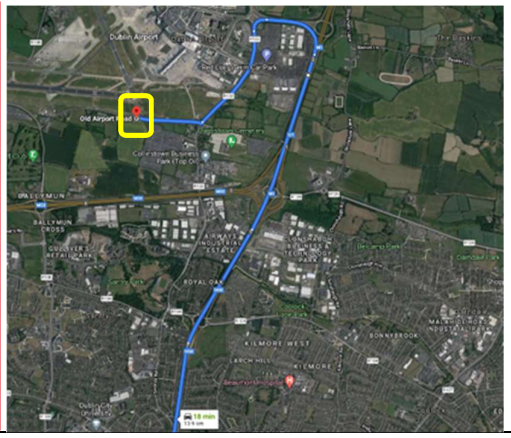
3.12 Log 12 – M50 overhead signage height clearance to be confirmed.

Ref. Image	 		
Description	Signage height clearances	**Owner**	Dublin City Council
Preparation Works	Signage heights to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

3.13 Log 13 – M1 Junction 3 overhead structural clearances to be confirmed.

Ref. Image	 		
Description	Structural height clearance	**Owner**	Dublin City Council
Preparation Works	Bridge heights and signage heights along the M1 to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

3.14 Log 14 – Proposed Airport South Portal Site Entrance.

Ref. Image	 		
Description	Site entrance bell mouth	**Owner**	TBC
Preparation Works	The site entrance bell mouth should be no less than 16.0m in width to accommodate negotiability of the delivery vehicle turning left into site.		
Classification	Late Works – High Impact	**Status**	Ongoing – to be raised with site developer.

4 Airport North Portal Return Route Overview

4.1 Proposed Abnormal Load return route from the Airport North Portal Site Entrance to Dublin North Docks via; M1, R132 & R131, avoiding M50 tunnels 13.3km. Considerate of Front Shield delivery vehicle.

- **Exit Airport North Portal onto Naul Road**
- **Turn right R132**
- **Turn right M1 junction 2 – southbound**
- **Merge R132 Drumcondra Rd Upper**
- **Continue R132 Drumcondra Rd Lower**
- **Turn left R131 Clonliffe Road**
- **Turn right R131 East Wall Road**
- **Turn left into Dublin North Docks Alexandra Road**

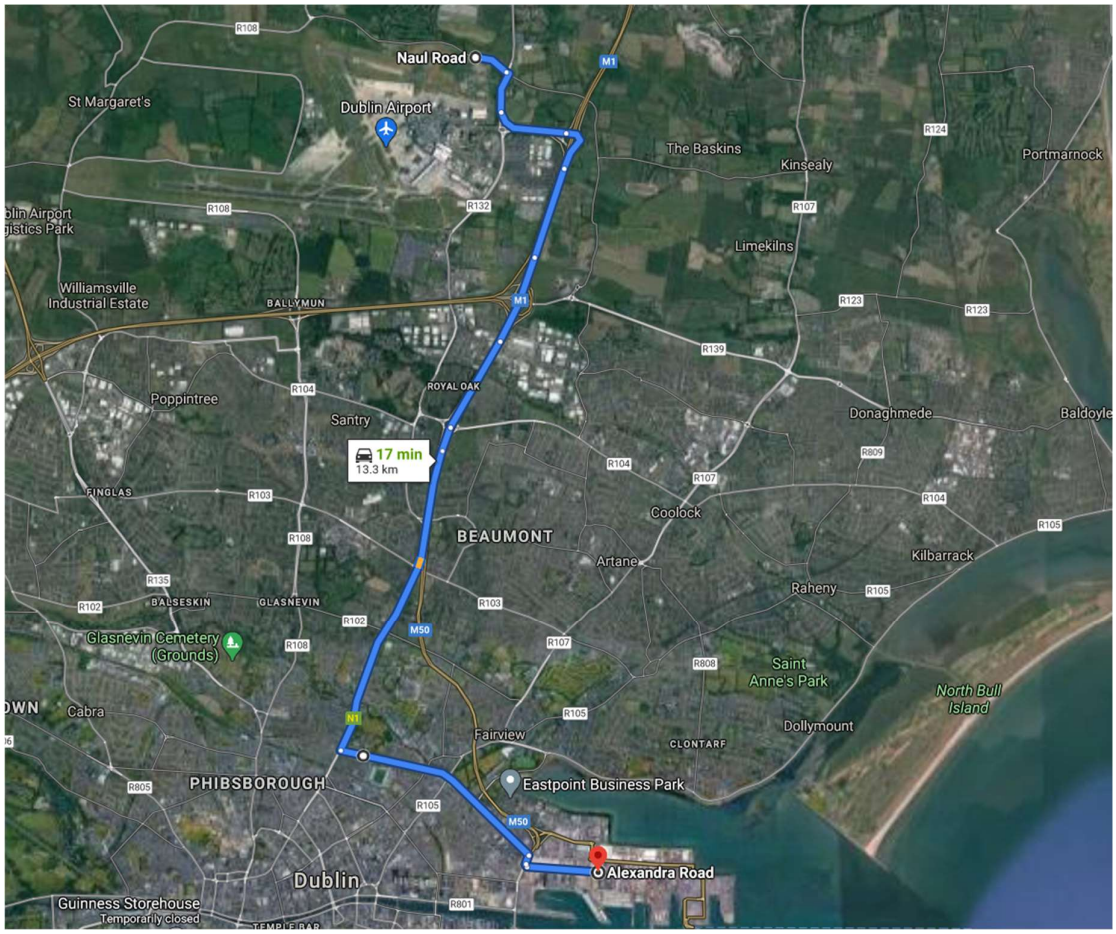
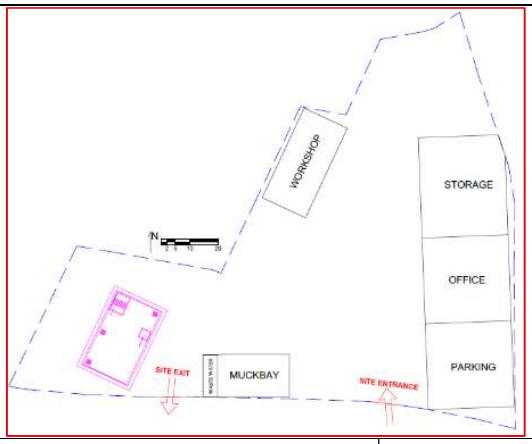


Figure 6. Airport North Portal Return Route Map

5 Structures and Street Furniture Log

5.1 Log 1 – Proposed Airport North Portal Site Exit onto Naul Road.

Ref. Image	 		
Description	Site exit bell mouth	**Owner**	TBC
Preparation Works	The site exit bell mouth should be no less than 16.0m in width to accommodate negotiability of the delivery vehicle turning left into site.		
Classification	Late Works – High Impact	**Status**	Ongoing – to be raised with site developer.

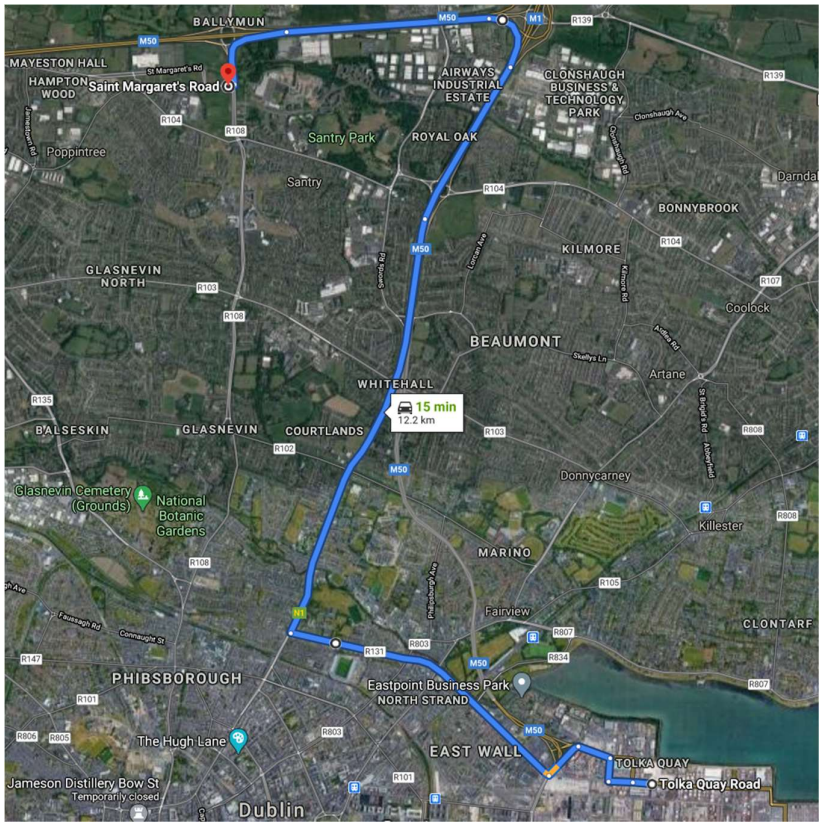
5.2 Log 2 – Return route to M1 junction 2.

Ref. Image			
Description	Negotiable	**Owner**	Dublin City Council
Preparation Works	The return route to junction 2 of the M1 is considered feasible with regards to both physical and structural negotiability, from here the vehicle negotiates the same route and obstacles highlighted previously in reverse order up to and including Log 3, beyond Log 3 there are no negotiability concerns in re-entering the port via Alexandra Road.		
Classification	N/A	**Status**	N/A

6 Northwood Portal North side Site Entrance Delivery Route Overview

6.1 **Proposed Abnormal Load route from Dublin North Docks to Northwood Portal North side Site Entrance via; R131, R132, M1 & M50, avoiding M50 tunnels 12.2km. Considerate of Front Shield delivery vehicle.**

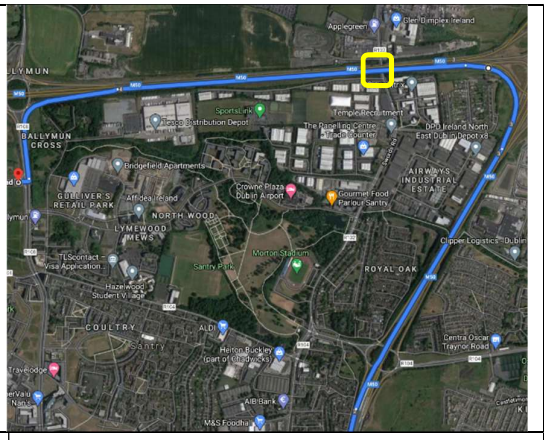
- **Exit Dublin North Docks onto Promenade Road**
- **Bear left towards City Centre**
- **Turn right R131 East Wall Road**
- **Turn right R132 Drumcondra Rd Lower**
- **Continue R132 Drumcondra Rd Upper**
- **Merge M50**
- **Exit M50 jct 4 onto R108**
- **Turn right into Northwood Portal Site Entrance**



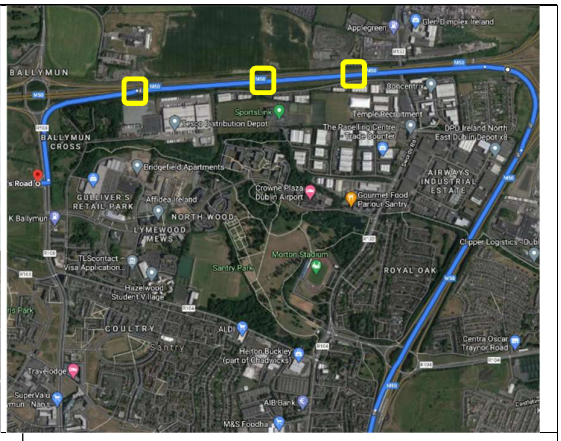
6.2 The above route is identical to the Airport South Portal Site Entrance Delivery Route up to the merger to the M1, and negotiability is subject to the same issues highlighted in pages 7 to 12 of this report. From this point, the Northwood Portal route merges onto the M50, the remainder of the route is detailed below.

7 Structures and Street Furniture Log

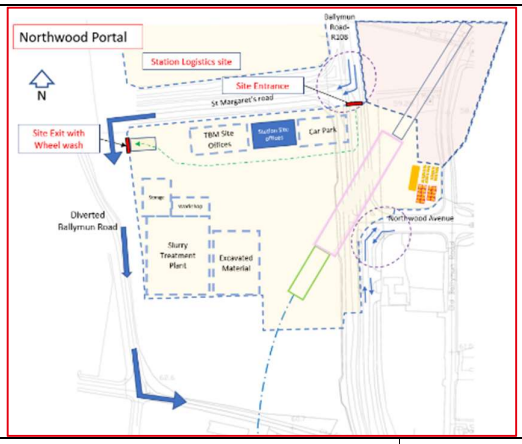
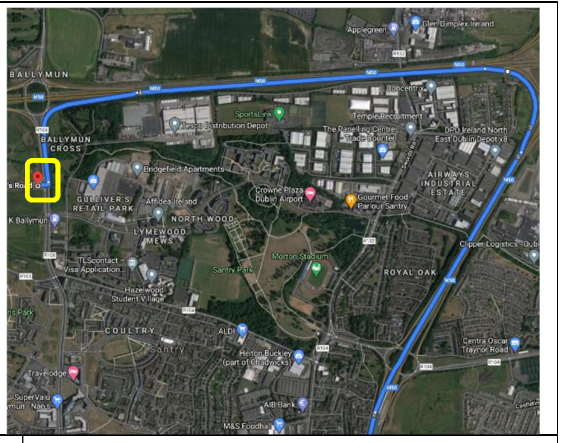
7.1 Log 1 – M50 Swords Road Bridge, structural capacity to be approved.

Ref. Image			
Description	Structural capacity approval	**Owner**	Dublin City Council
Preparation Works	Structural capacity of bridge to be checked.		
Classification	N/A	**Status**	Ongoing - to be raised with DCC

7.2 Log 2 – M50 overhead signage height clearances to be confirmed.

Ref. Image			
Description	Signage height clearances	**Owner**	Dublin City Council
Preparation Works	Signage heights to be confirmed.		
Classification	N/A	**Status**	Ongoing – heights TBC

7.3 Log 3 – Proposed Northwood Portal Site Entrance.

Ref. Image	 		
Description	Site entrance bell mouth	**Owner**	TBC
Preparation Works	The site entrance bell mouth should be no less than 16.0m in width to accommodate negotiability of the delivery vehicle turning left into site.		
Classification	Late Works – High Impact	**Status**	Ongoing – to be raised with site developer.

8 Dublin Airport Route Summary – Front Shield Delivery Vehicle

8.1 Physical Negotiability

Confirmation of physical negotiability will be subject to confirmatory measurements of the structural height clearance obstacles detailed above for each of the three routes. The biggest cause for concern is the 5.26m height restriction sign posted at the R131 East Wall Road Railway Bridge. While this would not facilitate negotiability of loads in excess of 5.2m, and despite the indicative transport drawing depicting an overall height of 5.5m, it is believed that with optimised design of the most onerous TBM components support arrangement and trailer characteristics, the overall transport heights could be reduced to less than 5.2m which should remove any concern with height clearances for all routes.

There are areas where temporary street furniture removal has been highlighted in order to facilitate negotiability of the proposed delivery vehicle. It is recommended that should these items have to be temporarily removed on numerous occasions, that early engagement with the Dublin City Council is sought, as it may be beneficial to replace the highlighted street furniture items with more easily removable items ahead of the deliveries to simplify their future removal.

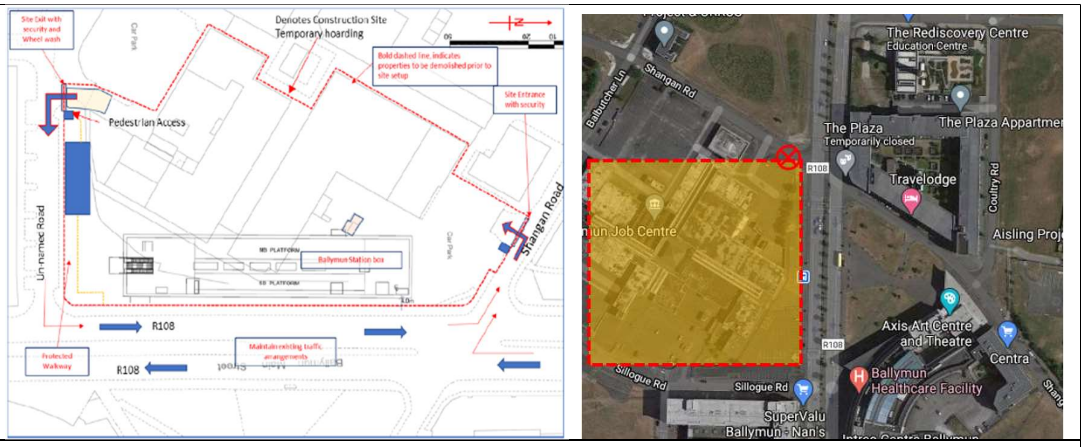
It is recommended that detailed Swept Path Assessments are conducted at the site entrances using either design or as built detailed CAD drawings of the proposed bell mouths, in order to confirm negotiability.

8.2 Structural Negotiability

A structural assessment of the various structures along the route considered within this report has not yet been submitted to the Irish Roads Authority.

9 Dublin Metro Link Station Sites Delivery Routes Overview

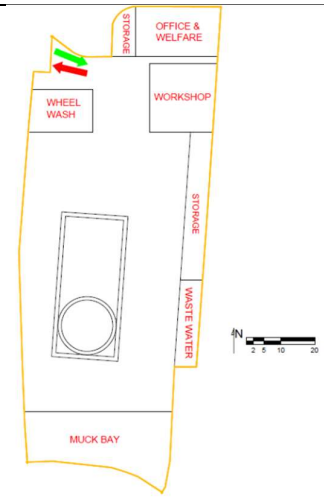
9.1 **Ballyum Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 4, travels south along the R108 for 1.3km, turns right onto Shangan Road, and left into site entrance.

Ref. Image	
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.

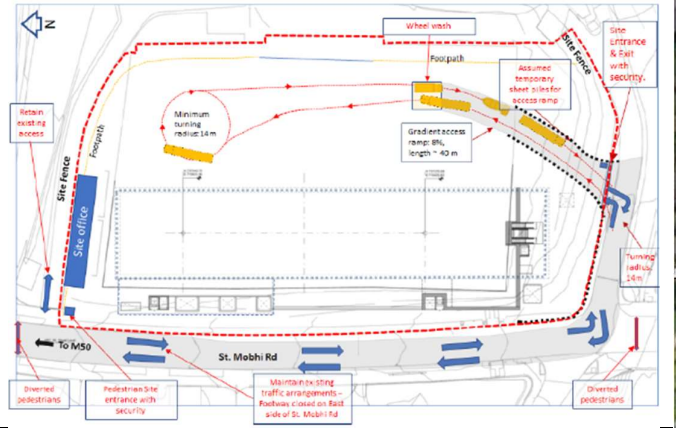
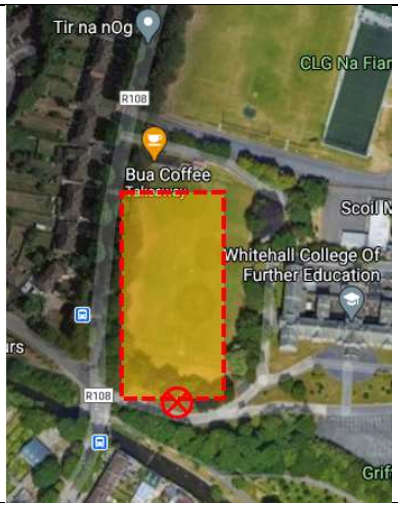
9.2 **Collins Avenue Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 4, travels south along the R108 for 2.3km, and turns left into site entrance.

Ref. Image	
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.

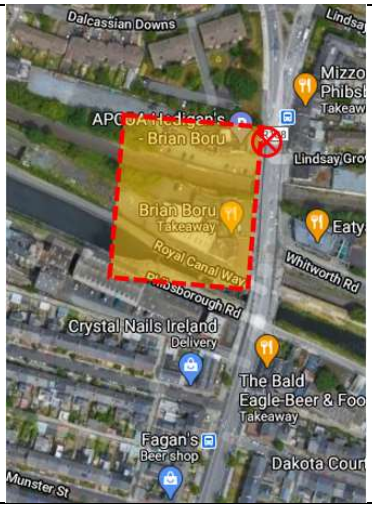
9.3 **Albert College Park Shaft Site.** Bentonite Silo delivery vehicle approaches from M50 junction 4, travels south along the R108 for 2.9km, and turns left into site entrance.

Ref. Image		
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.	

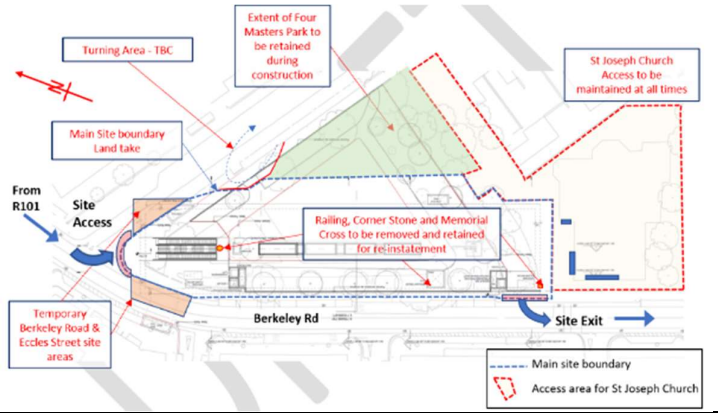
9.4 **Griffith Park Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 4, travels south along the R108 for 4.0km, turns left onto Whitehall College access road, and left into site entrance.

Ref. Image		
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.	

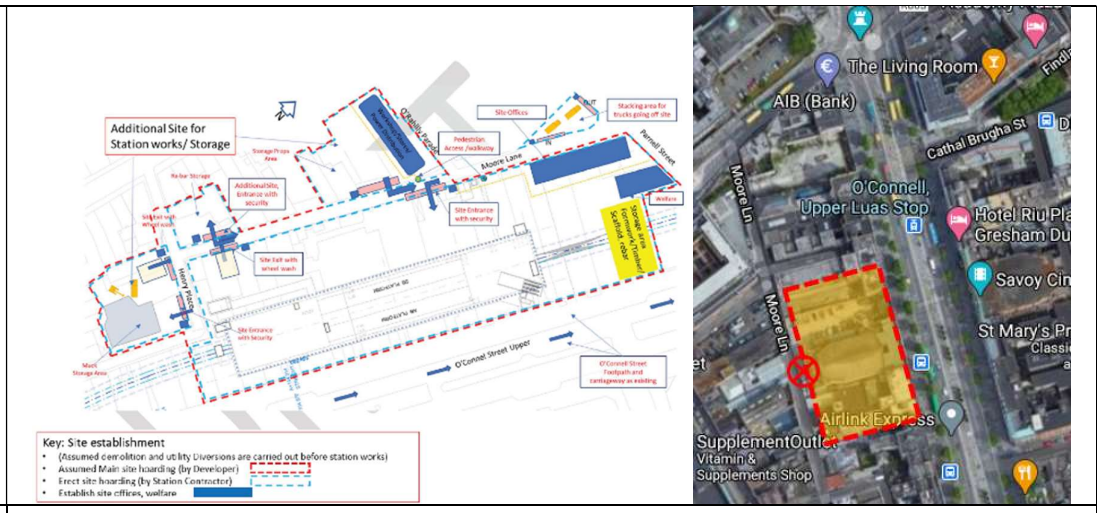
9.5 **Glasnevin Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 4, travels south along the R108 for 5.0km, and turns right into site entrance.

Ref. Image		
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.	

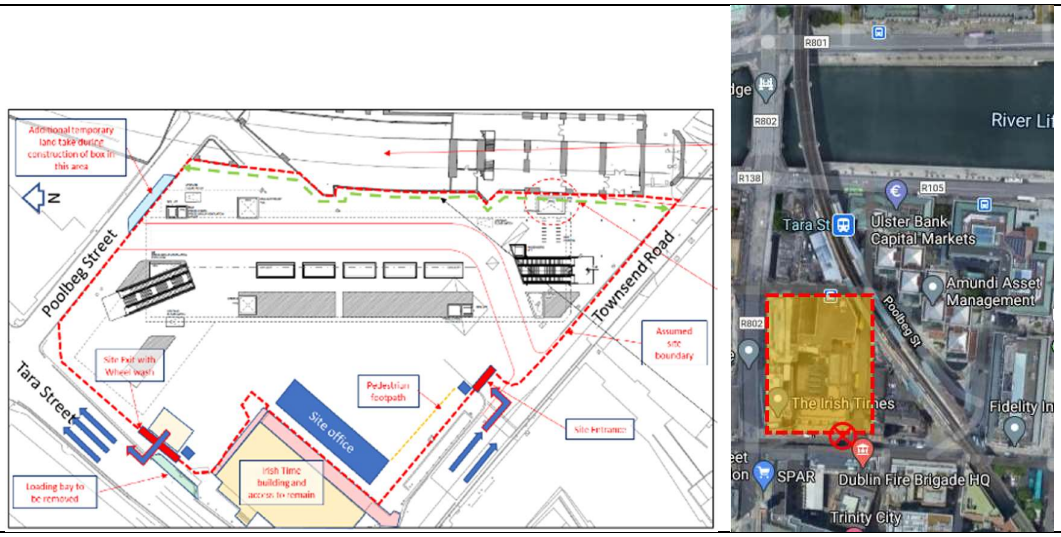
9.6 **Mater Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 6, travels east along the R147 for 6.6km, continues onto the R101, turns right onto Berkley Road and then left into site entrance.

Ref. Image	 	
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.	

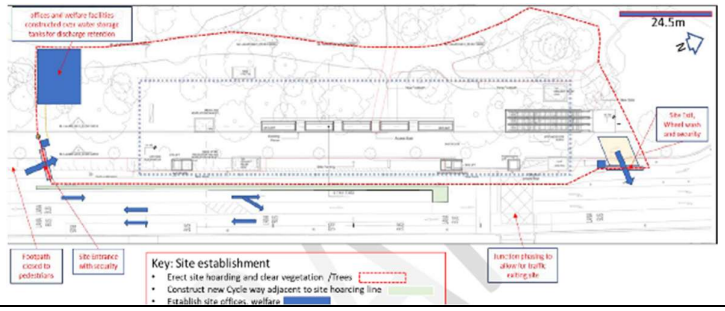
9.7 **O'Connell Street Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 2, travels south along the N1 for 5.0km, turns left onto Frederick Street North, right onto Parnell Street, left on Moore Lane and then left into site entrance.

Ref. Image	
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.

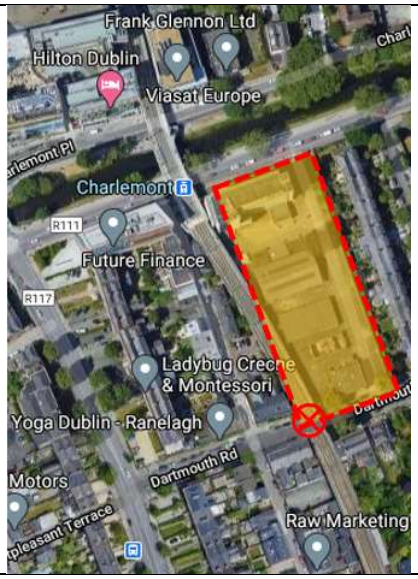
9.8 **Tara Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 1, travels south along the R131 for 0.7km, turns right onto the R801 for 1.6km, left over Talbot Memorial Bridge (R802), right onto Townsend Street, and then right into site entrance.

Ref. Image	
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.

9.9 **St Stephen's Green Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 1, travels south along the R131 for 2.5km, turns right onto the R802, left R111 for 2.3km, turns right onto the R138, and then left into site entrance.

Ref. Image	
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.

9.10 **Charlemont Station Site.** Bentonite Silo delivery vehicle approaches from M50 junction 1, travels south along the R131 for 2.5km, turns right onto the R802, left R111 for 2.8km, turns left onto the R117, left onto Dartmouth Road, then left into site entrance.

Ref. Image	
Comments	The existing access roads are considered negotiable for the delivery vehicle considered, without the requirement for any remedial works.

10 Dublin Metro Link Sites Route Summary – Bentonite Silo Delivery Vehicles

10.1 Physical Negotiability

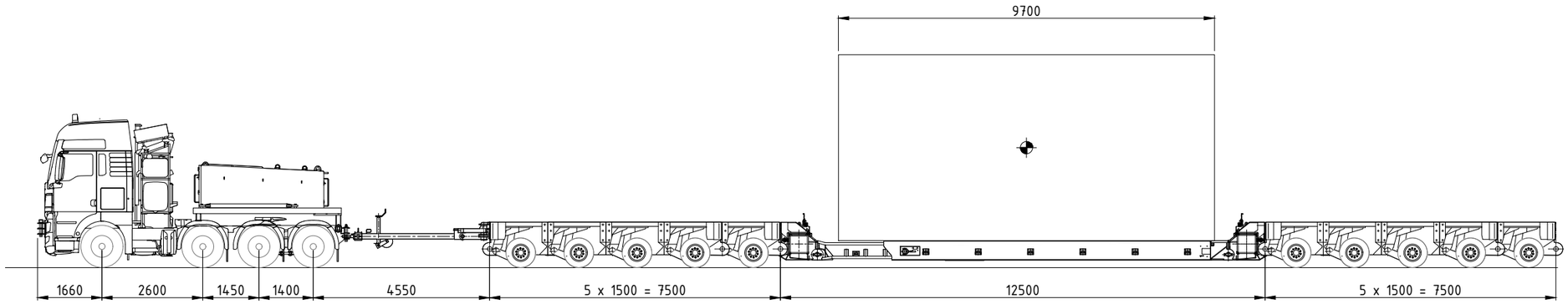
Each of the routes to the various Metro Link Sites outlined above, commencing from different junctions along the M50 trunk road, are considered negotiable for the most onerous components expected to be required at these sites, with no remedial works expected to be required.

10.2 Structural Negotiability

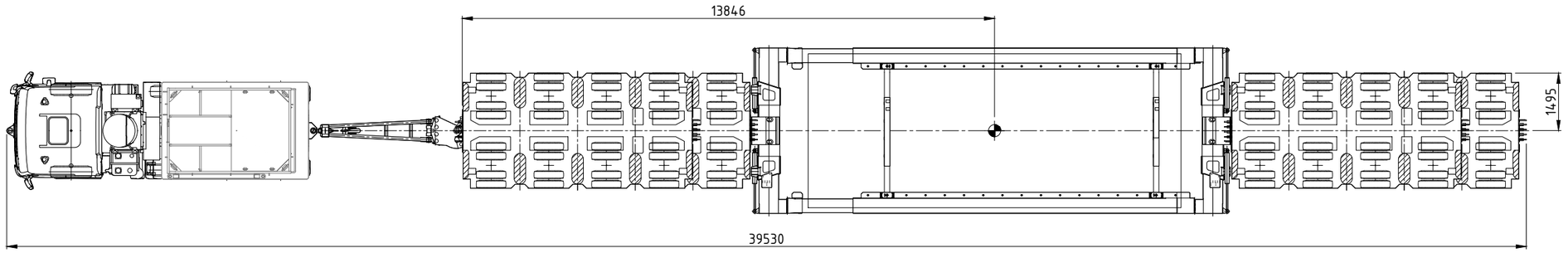
A structural assessment of the various structures along the routes considered within this report has not yet been submitted to the Irish Roads Authority. However given the anticipated weights of equipment destined to the various Metro Link Sites, structural capacity is not expected to be an issue.

11 Appendices

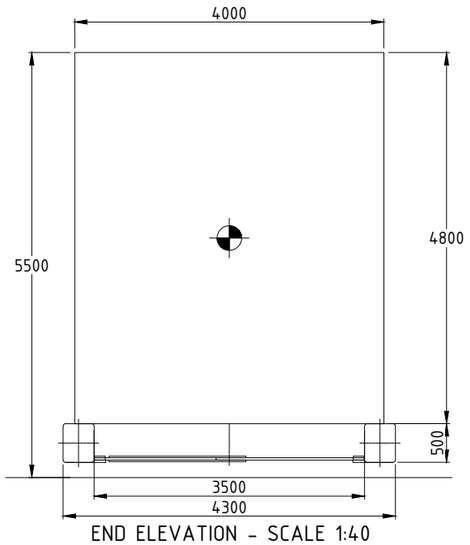
11.1 Appendix A – Transport Arrangement Drawing



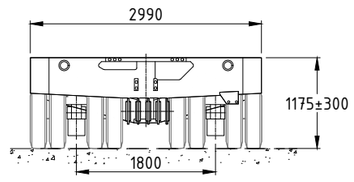
ELEVATION - SCALE 1:66



PLAN VIEW - SCALE 1:66



END ELEVATION - SCALE 1:40



END ELEVATION - TRAILER - SCALE 1:40

AXLE LOADINGS

TRAILER SPECIFICATION	
5 VB 5 GH	
all weights in t (metric tonnes)	Total
NUMBER OF AXLE LINES	10
NUMBER OF FILES	2
LOAD DETAILS	
PAY LOAD	120.0
TRANSPORTER WEIGHT	60.0
ENGINE WEIGHT	
AUXILIARY STEEL WEIGHT	
TOTAL LOAD	180.0
LOAD PER AXLE LINE / TRAILER	18.0
LOAD PER FILE	9.0
LOAD PER WHEEL	2.3
GROUND BEARING PRESSURE t/m²	4.1

GENERAL NOTES

1	THIS DRAWING IS PRELIMINARY AND IS RELEASED FOR INFORMATION ONLY.
2	THE WEIGHT AND COG OF THE LOAD HAS BEEN ASSUMED AND IS SUBJECT TO CONFIRMATION FROM THE CLIENT.
3	THIS DRAWING IS PREPARED ON THE INFORMATION RECEIVED FROM CLIENT.
4	CLIENT SHALL VERIFY AND CONFIRM THAT THE REFERENCE DRAWINGS ARE CORRECT AND ACCORDING TO LATEST REVISIONS.
5	THIS DRAWING IS FOR BID PURPOSES ONLY.

REFERENCE DRAWINGS

REF	DRAWING NUMBER	REV
01		

DRAWING STATUS

ISSUED FOR INFORMATION

REV.	DESCRIPTION:	DATE:	DRAWN:	CHECKED:
00	For Information	01FEB21	GEva 920938	SEll 920941

CLIENT:

PROJECT: DUBLIN METRO LINK

TITLE: TRANSPORTATION ARRANGMENT OF 120T TBM ON 5 - VB - 5 GH DRAWBAR TRAILER

MAMMOET
Mammoet UK LTD. - Maxima House, Earlsway
Thornaby on Tees, Stockton, TS17 9JU, United Kingdom
Tel. +44(0)1642 366 150 / Fax. +44(0)164 361 738
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SAP No: 7000237915	PROJECT No: 15096243	SUB: -	DOC: D	PART: T01	SHT. 1/1	REV. 00