

Land at Tyn-y-Caeau, Margam

Transport Assessment

Client: **Western Bio-Energy Limited**

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REPORT DETAILS

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1. INTRODUCTION

1.1 Background

- 1.1.1 Apex Transport Planning Ltd ('Apex TP') has been commissioned by Western Bio-Energy Limited to produce a Transport Assessment (TA) to accompany a full planning application for a proposed data centre on the site known as Tyn-y-Caeau. The site is located to the south of the A48 Margam Road and northwest of Junction 38 of the M4 in Margam, Port Talbot.
- 1.1.2 The proposals are for a full application for a new data centre and conversion of existing dwelling on the site to serve as its ancillary office use. The site would be operational for 24 hours a day between 6 and 7 days a week. The site is accessed from an existing established vehicular access with the A48 Margam Road and is within proximity of the strategic road network, which will assist in minimising the impact of the development on the local network.
- 1.1.3 This TA provides an assessment of the sustainable connectivity and transport impacts of the proposed development and sets out details of the proposed access arrangements, car and cycle parking and servicing requirements. This TA has been produced to inform the Local Highway Authority (LHA), Neath Port Talbot County Borough Council (NPTCBC), of the highways and transport implications of the proposals.
- 1.1.4 The site also has a live planning application (ref: P2022/1061), which remains undetermined. The proposals seek the delivery of a HGV truck stop on the site with associated access onto the A48 Margam Road. This application informed some of the discussions with the highway authority in relation to access onto the A48, as the highway authority were objecting to the application on road safety grounds. Further details of this application are set out in Section 2. The proposals for a data centre are significantly different in that the level of operational HGV movements and total vehicle movements would be significantly lower, which is considered to change the context of the access and road safety matters.

1.2 Pre-Application Discussions

Overview

- 1.2.1 A pre-application advice submission was made by the applicant to NPTCBC in July 2024 for the data centre proposals. On the 4th September 2024, a meeting between the design team and the NPTCBC planning case officer took place. The LHA were not present at the initial pre-application meeting.
- 1.2.2 This section of the TA sets out the chronological order of engagement with the LHA throughout the pre-application process.

Meeting (September 2024)

- 1.2.3 To follow up the initial pre-application advice meeting, the LHA agreed to a specific transport meeting, which took place with Apex on the 25th September 2024. A summary of the key feedback provided by the LHA during the meeting is set out as follows:
- *The LHA accept that the site is provided with an existing access on to the A48.*
 - *The LHA would be reluctant to support any access on the A48.*
 - *The LHA set their views associated with the recent planning application on the site, which sought the delivery for a HGV truck stop and was to be refused on road safety grounds, despite a Road Safety Audit, whereby all issues and recommendations were fully considered.*
 - *Concerns were raised over slow moving HGVs using the access with the A48.*

- *Queries over whether the appropriate vehicular visibility at the site access can be achieved due to highway signage, public highway extent and third-party land issues.*
- *The LHA suggested that visibility splays are obstructed by existing highway signage, which were stated as being fixed in strategic locations on approach to the roundabout.*
- *Additional information could be provided to demonstrate vehicular visibility splays, which may require speed surveys and additional drawing work.*
- *The LHA accept that a data centre generates limited daily and peak hour vehicle movements (including HGVs), however, have concerns of the use of an access onto the A48.*
- *The LHA suggested that the applicant should consider the land to the north of the site for access, which would be supported by the LHA.*

1.2.4 On these matters, it was agreed that Apex would prepare and provide additional evidence to support an access onto the A48 Margam Road. The access is broadly in the location of the existing and long established access into the site. This evidence was summarised in a Transport Note to provide additional information for consideration by the LHA, with a follow up meeting agreed for the 11th December 2024.

Local Highway Authority Pre-Application Response

1.2.5 On the 4th November 2024, a formal pre-application response was provided by the LHA, a copy of this is provided at Appendix A. In summary the key points raised by the LHA are as follows:

- *Visibility splays of 4.5m x 160m should be provided.*
- *Visibility to the south cannot be achieved due existing highway signage, which are in fixed locations.*
- *The 'y' distance coordinate is within land outside of the applicant control.*
- *The A48 is heavily vegetated, which leads to visibility obstruction.*
- *In the view of the LHA, the proposed access cannot meet the required standards.*
- *The proposed access is within the vicinity of the Harbour Way roundabout. This reduces the lead in length for HGVs to manoeuvre and change lanes to head in the direction of the M4.*
- *The proposed access encourages HGVs to undertake a sudden lane change within such a short distance would seek to create vehicular braking and possible shunting of motor vehicles to the detriment of highway safety.*
- *Parking standards to be in line with the parking Supplementary Planning Guidance.*
- *A construction method statement should be provided.*
- *Proposals should encourage walking and cycling.*

1.2.6 The LHA consider that the proposals are contrary to Policy TR2 of the Local Plan, which states that new development should not compromise the safe, effective and efficient use of the highway network, resulting in an adverse impact on highway safety or create unacceptable levels of traffic generation.

1.2.7 However, whilst many of the comments provided by the LHA are similar to what was discussed at the meeting on the 25th September 2024, some comments are considered to be more associated with the live truck stop application on the site (ref: P2022/1061). The traffic characteristics of a truck stop and the proposed data centre are significantly different, with the proposals generating a minimal level of HGVs and significantly lower total vehicle movements.

Transport Note (November 2024)

1.2.8 As agreed with the LHA a Transport Note (TN) dated November 2024 (Apex Report Ref: C24103.TN01) was submitted to NPTCBC on the 2nd December 2024. The purpose of the TN was specifically to

consider access with the A48 Margam Road aligning with discussions as well as a summary of an alternative access via land to the north.

1.2.9 The Transport Note provided evidence and detailed information summarised as follows:

- A review of the existing conditions within the immediate vicinity of the site such as the characteristics of the A48 Margam Road and the existing site access.
- A summary of the existing planning history of the site.
- A detailed review of existing road safety conditions, which included the site access and wider highway network.
- Details of traffic survey data for vehicle flows and speeds on the A48 Margam Road.
- Detailed drawings of existing and proposed accesses with the A48 Margam Road.
- The appropriateness and suitability of access with the A48 Margam Road from a design perspective.
- An independent Stage 1 Road Safety Audit inclusive of Audit Brief, Designers Response, with recommendations fully considered in the access design.
- A summary of trip generation for the proposed data centre (as well as the live truck stop application).
- Consideration and a summary from wider team specialist disciplines with regard to an alternative access option which the LHA requested was considered to the north of the site, which does not form part of the application boundary.

1.2.10 In summary, the TN concluded that the access design to serve the development site with the A48 Margam Road is suitable and safe to serve the proposed data centre development. As such, the proposals are in accordance with Policy TR2 of the Local Plan as they would not result in an adverse impact on highway safety or create unacceptable levels of traffic generation.

1.2.11 Where appropriate, the TN has been referred to within this TA.

Meeting (December 2024)

1.2.12 The agreed follow up meeting between the LHA and Apex took place on the 11th December 2024, with the purpose of the meeting to discuss the additional evidence submitted within the TN.

1.2.13 At the meeting, the LHA confirmed that due to existing ongoing workloads, the additional information submitted it was not possible to review or consider the TN. The LHA stated that in order to provide further comment and consider the information issued in more detail this can only be achieved via the application process / PAC.

1.2.14 During the meeting, Apex provided a summary of the evidence set out in the TN, the access proposals, speed survey information and the reasons why the A48 access was the preferred option. Apex confirmed that the formal application submission would be supported by a proposal where access to serve the site is from the A48 Margam Road.

Meeting (January 2025)

1.2.15 Following the meeting in December 2024, additional engagement with the LHA was sought to discuss the TN allowing the time for its review by the LHA. A meeting took place on the 20th January 2025 between Apex and the LHA along with the NPTCBC planning case officer and additional members of the applicant team.

- 1.2.16 During the meeting, Apex discussed the key points of the TN associated with the data centre submission, which include the existing context of the location, road safety, the access design and outcome of the independent road safety audit.
- 1.2.17 Following a review of the TN and the meeting, the LHA confirmed that they would raise no objection to the proposals subject to the following requirements:
- the scheme is subject to a full RSA (all 4 stages). The LHA accepted that the TN contains Stage 1 and its findings/outcome.
 - A restriction to a two HGV's per day.
 - The 2.4m x 144m visibility splay to the southeast, which is based on recorded 85th percentile approach speeds is acceptable.
 - The potential to provide advance advisory signage on the A48 on approach to the site from the south, to advise on the new access. This would be identified and implemented as part of the Stage 2 RSA.
 - The existing vegetation on the southern side of the A48 is maintained via a planning condition.
- 1.2.18 Additional queries were also raised by the LHA relating to construction. A copy of the LHA response is provided at Appendix B.

Planning Application Consultation (PAC) (February 2025)

- 1.2.19 The Transport Assessment was submitted as part of the PAC process to NPTCBC in February 2025. The feedback received from the LHA is comparable to the pre-application engagement and discussions undertaken to date. As such, where appropriate this TA considers those comments received.

1.3 Scope of Assessment

- 1.3.1 The TA has been informed based on Apex's experience of similar sites as well as the discussions and evidence prepared as part of the pre-application process. This TA therefore broadly includes the following:
- Description of the existing site use and location.
 - Review of the existing conditions, including a review of relevant planning applications, highway network characteristics, highway safety and existing travel behaviour.
 - Review of the sustainable connectivity of the site including walking and cycling routes and public transport connections.
 - Description of the development proposals, demonstrating safe and appropriate access by all modes, car and cycle parking and servicing and delivery arrangements.
 - Forecast of vehicle trip generation and consideration of the impact of the proposals on the local highway network.

1.4 Relevant Planning Policies

- 1.4.1 Key policy and guidance documents in relation to transport at a national and local level have been considered when assessing the impact of the development proposals which include:
- Future Wales: The National Plan 2040 (February 2021)
 - Planning Policy Wales 12 (PPW12) (July 2024)
 - NPTCBC Local Development Plan 2011-2026 (Adopted 2016)
 - NPTCBC Supplementary Planning Guidance – SP20 Parking Standards
 - Manual for Streets 2 (2011)

- Design Manual for Roads and Bridges (2021)

1.4.2 The key policy documents promote development where there is a choice of sustainable transport modes such as walking, cycling, public transport and electric vehicles.

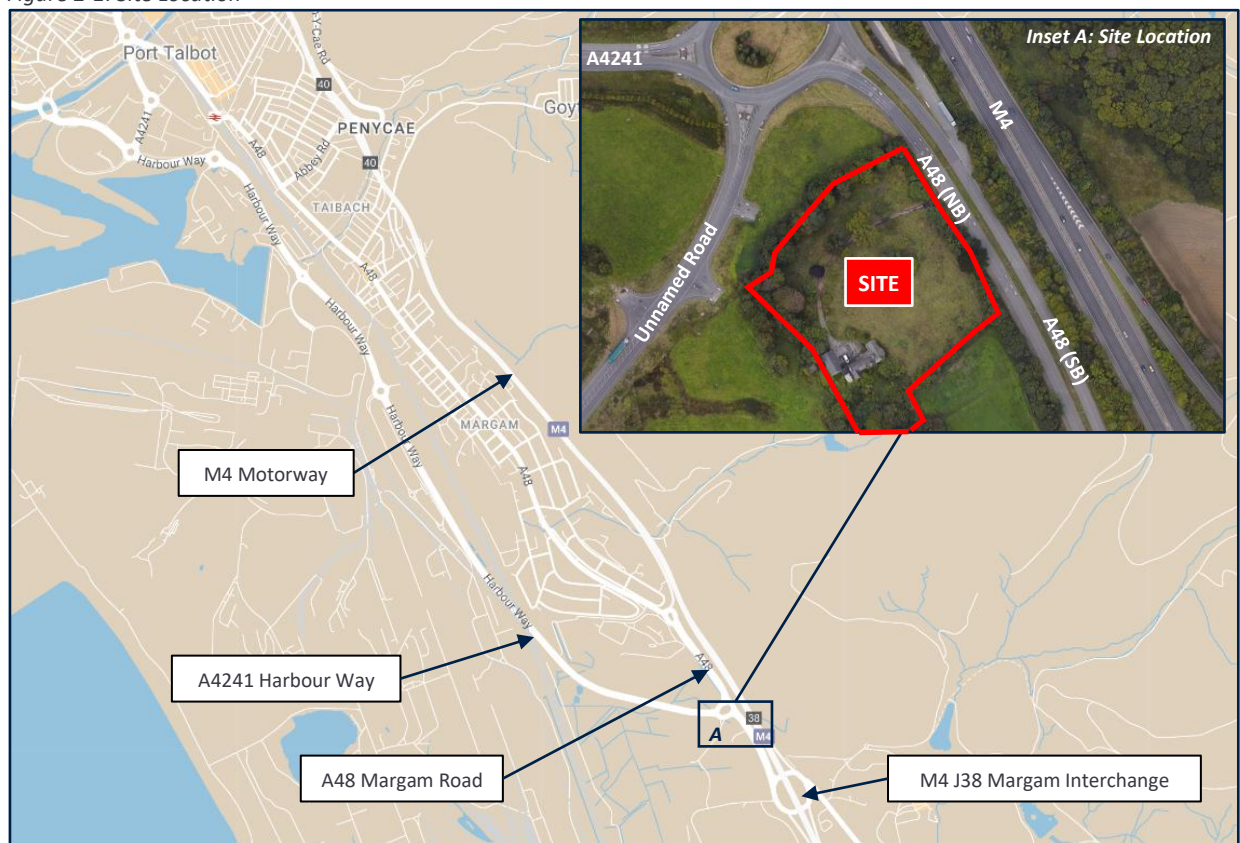
2. EXISTING SITUATION

2.1 Site Location, Use and Access

Site Location

- 2.1.1 The site is located approximately 6.5km to the south of Port Talbot centre. It is situated to the northwest of Junction 38 of the M4 and has an existing access directly onto the A48 northbound carriageway from its eastern boundary.
- 2.1.2 The site is currently used as a private residence. To the immediate west of the site are Margam Green Energy Plant and Western Bio Energy Plant and to the southwest a large industrial unit. As such, there are existing industrial uses situated within the immediate vicinity of the site. The indicative location of the site is shown in Figure 2-1.

Figure 2-1: Site Location



Source: Google Maps

Existing Site Use / Planning Use

- 2.1.3 The lawful use of the site is contested but would appear to be a combination of a private residence (Use Class C3 - main house) and guest accommodation (the annexe). The guest house use was permitted under planning application P2005/0449, although a Lawful Development Certificate (Ref: P2021/0861) suggested that this is a residential use (although this certificate was not issued by NTPCBC). The truck stop application described the existing use as a “*Dwellinghouse with detached former Studio Apartments extended to form Guest House accommodation, but not yet in use.*” As such, it is considered that a combination of private residence with some guest accommodation is the permitted use for the site. Regardless, a guest house use has been permitted previously by NPTCBC, which utilised the access onto the A48.

- 2.1.4 A summary of the relevant applications is set out as follows.
- 2.1.5 In March 2005, a planning application was submitted to NPTCBC seeking approval for the conversion of an existing single dwelling to a guest house with extensions to the existing building (App Ref: P2005/0449). The application site retained its access to the A48 Margam Road and was approved by NPTCBC in May 2005.
- 2.1.6 A certificate of lawful use submission was made to NPTCBC in August 2021, which confirmed commencement of Condition No. 1 of the 2005 permission (App Ref: P2021/0861). The lawful development certificate was granted permission in September 2021.

Existing Access

- 2.1.7 The site is provided with an existing access onto the A48 Margam Road, which is c.110m south of the A4241 Harbour Way / A48 Margam Road roundabout. The access is in a location where only northbound flows are permitted, due to the dual carriageway arrangement. As such, even prior to the implementation of the 'Port Talbot Peripheral Distributor Road' the access operated as a left in and left out access.
- 2.1.8 In terms of its geometry, the existing site access at its frontage with the A48 is c.7m in width and provided with a c.4m corner radii at its southern boundary and a c.6m radii to the northern boundary. As the access heads west from the A48, it is c.5m in width. Entrance gates are provided at the access, which are set back c.9.5m from the carriageway edge.
- 2.1.9 An existing shared user pedestrian and cycle route passes the site access frontage, which is c.3.0m in width within immediate vicinity of the site access. To the north and south varies to a minimum of c.2.0m. A dropped kerb crossing facility is provided at the existing site access.
- 2.1.10 Context should be given that the A48 Margam Road at this point is not a trunk road and so interpretation of the Design Manual for Roads and Bridges (DMRB) and the Manual for Streets 2 (MfS2) guidance is appropriate in this location and not a strict adherence to the guidance.
- 2.1.11 When considering vehicular visibility, the site access is only required to provide splays to the south due to the dual carriageway arrangement whereby the access connects to the northbound carriageway. The southbound carriageway is separated by a central reservation and crash barriers.
- 2.1.12 A review of the site's redline boundary based on land registry title, the adopted highway extents, topographical survey data and on-site observations has also identified that there are existing road traffic signs located within the southwestern verge on the A48 Margam Road, to the south of the access.
- 2.1.13 A historical review of the A48 Margam Road within the vicinity of the existing access, indicates that in c.2009, no road side signage was provided along the southwestern verge, which predates the delivery of the A4241 Harbour Way distributor road (Port Talbot Peripheral Distributor Road) and its roundabout. Figure 2-2 offers photographic context of the characteristics of the A48 Margam Road, over the past 15 years, and shows the changes since the introduction of the A4241 scheme, roundabout and traffic signage.

Figure 2-2: Characteristics of the A48 Margam Road



2009 A48 Margam Road Signage



2011 A48 Margam Road Signage



2015 A48 Margam Road Signage



2022 A48 Margam Road Signage

Source: Google Streetview

- 2.1.14 It is also assumed that during the development of and implementation of the 'Port Talbot Peripheral Distributor Road', the existing site access on the A48 Margam Road would have been considered in detail with regard to any new signage for approach traffic to the new roundabout junction. The signage would/should be positioned so not to obstruct the visibility of the existing established private access.
- 2.1.15 As such, following the implementation of the A4241, the frequency, size and location of signage delivered for approach traffic on the A48 northbound to the roundabout, would have been deemed acceptable to the LHA. The locations of the existing road signs have been identified as part of the topographical survey undertaken of the site for this application, together with an on-site review. These have been summarised in context to their type and position from the existing access in Table 2-1.

Table 2-1: Summary of Existing Road Signage South of Site Access

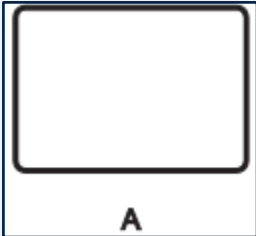
Diagram	TSRGD Ref	Signage Description	Distance from Site access (m)
	Item (1) 3	Map type directional signage for non-primary routes indicating feature ahead (trunk roads are green and motorways are blue).	52m

	Diagram 824	Countdown markers indicate the distance to the start of the deceleration lane. Each bar represents c.100 yards. These signs may also be used on the approach to a roundabout or crossroads. On non-primary routes, the bars are black on a white background.	65m
	Diagram 7014	Indicates a permanent change in road layout ahead. Part 12 'The Schedule 13 General Directions' of the Traffic Signs Regulations and General Directions 2016 states that: (2) "The sign may only be retained in place for so long as the hazard indicated by the sign continues to exist or is expected to recur in the near future". (4) "The sign may only be placed in connection with the execution of works on or near a road, or a temporary obstruction" and 16. "(1) Subject to sub-paragraphs (2) to (4), the sign may remain in place for a period of six months beginning with the day the sign is placed. (2) The period may be extended with the approval of (c) Welsh Ministers in relation to a road in Wales".	87m

Source: DfT Circular 01/2016 The Traffic Signs Regulations and General Directions (2016)

- 2.1.16 Considering the criteria of the signage set out in Table 2-1, the 'New Roundabout Ahead' signage should be removed as it is nine years since the delivery of the 'Port Talbot Peripheral Distributor Road' scheme and associated infrastructure (based on google street evidence as 2015 indicates the earliest available confirmation of installation). However, should this remain it is provided with c.2.0m clearance from the footway, so does not obstruct visibility splays.
- 2.1.17 The non-primary route directional signage located c.52m south of the access has c.2.0m clearance from the footway, which would not obstruct a driver's eye with reference to paragraph 10.2.3 of the Manual for Streets 2 (September 2010), which states that "driver eye height and the height range of obstructions. Eye height is assumed to range from 1.05m (for car drivers) to 2m (for bus and HGV drivers)". As such, this does not obstruct visibility.
- 2.1.18 The Countdown marker signage is lower, however, with reference to paragraph 10.7.2 of the Manual for Street 2 considers that "obstacles, such as street trees and street lighting columns, should be assessed in terms of their impact on the overall envelope of visibility" and "occasional obstacles to visibility that are not large enough to fully obscure a whole vehicle or a pedestrian, including a child or wheelchair user, will not have a significant impact on road safety". As such, it is not considered that the existing countdown signage represents a significant obstruction to driver visibility within the overall envelope.
- 2.1.19 The existing access can achieve visibility at 2.4m x 160m to the south, subject to vegetation maintenance within land in the adopted highway. The highway authority has a responsibility for maintaining this visibility within the verge to ensure the splays from the existing access remain appropriate. There is a road sign within the visibility splay, although it is not considered to be an

obstruction for drivers as the signage height either offers a minimum clearance of c.2m or does not provide a significant obstruction to the overall visibility splay envelope.

- 2.1.20 A plan showing the existing available level of vehicular visibility for drivers emerging from the existing access is shown at Appendix C.
- 2.1.21 The site would generate a relatively low level of vehicle movements associated with a single dwelling, although there may be some larger vehicles accommodated, for example for deliveries of fuel or other goods. However, the lawful use of the site would generate a higher level of movements, if a guest house were implemented, for example, and this would also potentially accommodate larger vehicles for servicing and refuse collection.

2.2 Live Truck Stop Planning Application (App Ref: P2022/1061)

- 2.2.1 A full planning application was submitted to NPTCBC in December 2022, which sought permission for the change of use of the property to guest house, café, spa and HGV truck stop. The proposals included an HGV parking area, electric vehicle charging points, internal access roads and access with A48 Margam Road.
- 2.2.2 A TA accompanied the application which was prepared by LvW Highways dated October 2021 (LvW TA).
- 2.2.3 The proposals were to provide a new left-in, left-out access broadly in the location of the existing and established access point onto A48 Margam Road. This was designed to accommodate large vehicles and the high level of vehicle movements associated with the proposed use. The access proposals included the relocation of signage outside of the visibility splay envelope.
- 2.2.4 A combined Stage 1 and Stage 2 Road Safety Audit (RSA), dated February 2023, was undertaken by JBartlett Consulting Ltd. The RSA was based on the LvW TA and supporting access drawings (drawing no. 2020-547 SK04 Rev B). The finding of the RSA was concluded as follows “*After due and careful consideration, the audit team have been unable to identify any areas of concern with regard to the information provided for this audit*”.
- 2.2.5 In terms of traffic generation, a truck stop would not necessarily generate ‘new’ vehicle trips as these would already be on the local and strategic road networks. However, it would generate a significant level of turning movements into and out of the access, as well as along the A48, that may not make these movements currently.
- 2.2.6 The LvW TA forecast traffic movements based on survey data from an existing HGV truck stop. Table 11 of the LVW TA sets out vehicle arrivals and departures by type, which has been summarised at Table 2-2.

Table 2-2: Truck Stop Application - Forecast Traffic Movements

Periods	Arrivals (Cars & LGV)	Departures (Cars & LGV)	Two-way (Cars & LGV)	Arrivals (HGVs)	Departures (HGVs)	Two-way (HGVs)
AM Highway Network (0800-0900)	6	5	11	8	8	16
Development Peak (1100-1200)	6	0	6	21	16	37
PM Highway Network (1700-1800)	6	7	13	7	6	13
Daily (0000-2300)	88	85	173	131	138	269

Source: LvW Highways Transport Assessment

- 2.2.7 A total of 27 two-way movements were forecast during the AM highway network peak hour and 26 two-way movements during the PM highway network peak hour. During the development peak hour, a total of 43 two-way movements were forecast.

- 2.2.8 This includes at least 50% of the movements being HGVs, including 37 HGV movements in one hour during the development peak.
- 2.2.9 Over a daily period, the Truck Stop is forecast to have a total of 442 two-way movements. This includes a total of 269 two-way HGV movements (c.61% of all vehicles). This is a significant level of HGV movements to and from the access.
- 2.2.10 The LvW TA also included junction capacity assessments of the A4241 Harbour Way / A48 Margam Road roundabout to the north of the site and the M4 Junction 38 Margam Interchange. A 2021 base year, 2023 opening year and 2033 future year were assessed which showed the proposals would not have a material impact on capacity.
- 2.2.11 The LHA has not provided a formal response to the application in the public domain. However, from discussions during the Apex / LHA meeting on the 25th September 2024, the LHA confirmed they are objecting to the proposals on the basis of the access onto the A48 Margam Road and did not agree with the conclusions of the road safety audit.

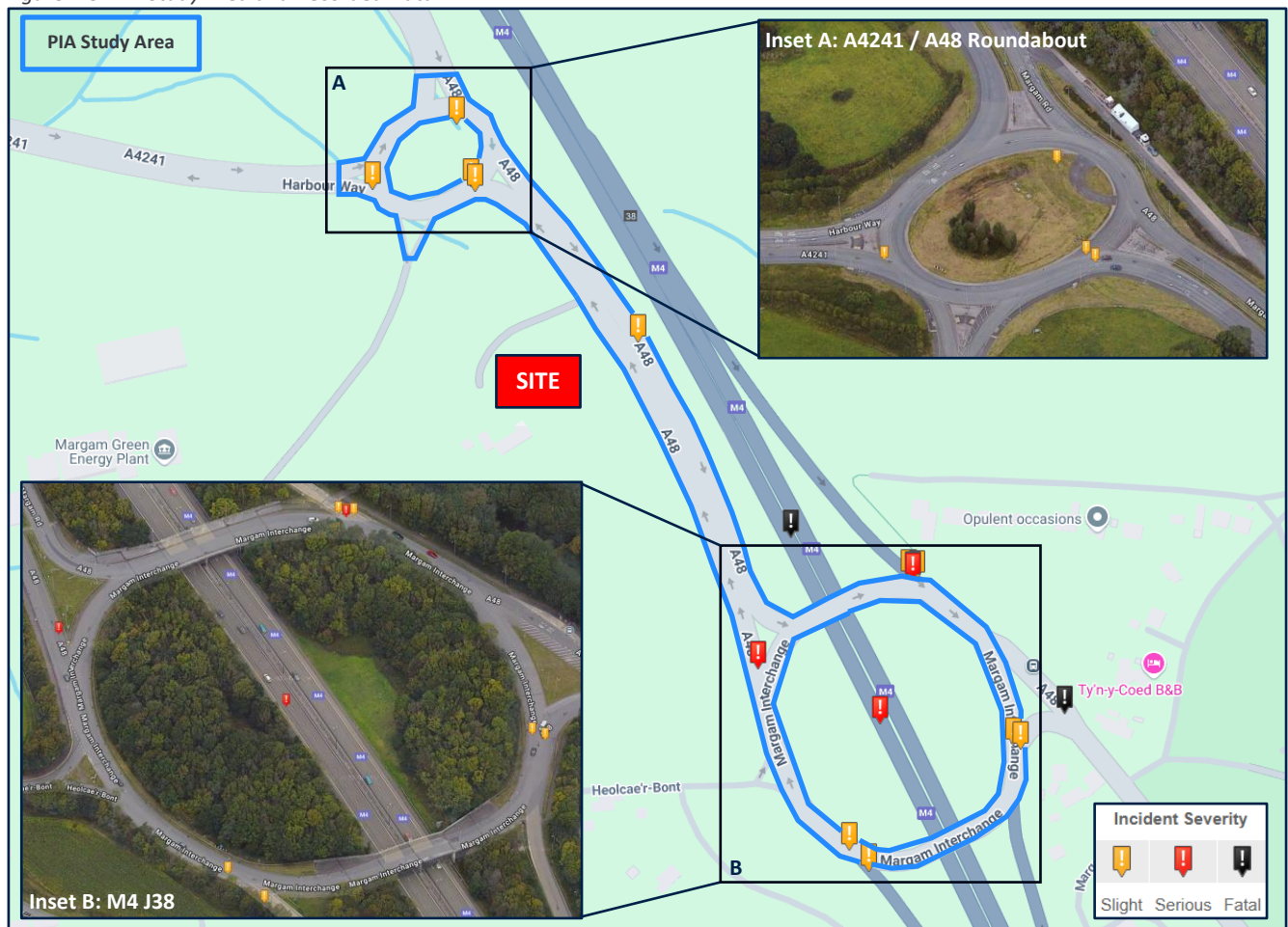
2.3 Local Highway Network

- 2.3.1 The site is situated to the northwest of Junction 38 of the M4 and is accessed from the northbound carriageway of the A48 Margam Road, which to the north links to the A48 / A4241 roundabout.
- 2.3.2 To the north of the existing site access, the A48 continues for c.110m where it meets the A48 / A4241 roundabout. To the north of the roundabout, the A48 continues into central Margam and to the west of the roundabout the A4241 Harbour Way forms a key dual carriageway link which routes to the south of Margam and Port Talbot connecting to industrial areas and Baglan. South of the roundabout, the A48 continues for c.400m where it meets Junction 38 of the M4 at a grade separated junction also known as the Margam Interchange.

2.4 Road Safety Analysis

- 2.4.1 Personal Injury Accident (PIA) data has been obtained from road safety data published annually by the Department for Transport (DfT). The statistics provide PIA data which has been recorded using the STATS19 accident reporting form. This review covers the four-year period prior to the pandemic between 1st January 2016 and 31st December 2019, data from the two years during the pandemic between 1st January 2020 and 31st December 2021, as well as the most recent publicly available data which covers up to 31 December 2022 (on Crashmap). In addition, the data from 2023 has been reviewed on the DfT 'Mapping Application for Visualising Road Injury Casualties', which provides the most up to date publicly available data. As such, the most recent 8 years of data has therefore been reviewed, which includes the most recent six full years of data outside of the pandemic.
- 2.4.2 The study area considered within the analysis covers the north and southbound section of the A48 along with the A4241 Harbour Way and A48 Margam Road roundabout and J38 Margam Interchange. The study area does not include the M4 or A38 south of the strategic road network as shown at Figure 2-3.

Figure 2-3: PIA Study Area and Recorded Data



Source: Crash Map

- 2.4.3 Over the eight year period there were a total of 14 PIAs within the entire study area. Two of these were recorded as serious, and 12 were classified as slight injury accidents. There were no fatal PIAs within the study area.
- 2.4.4 The accident analysis has been split into three locations, which include the A48 Margam Road between both roundabout junctions, the A48 Margam Road / A4241 Harbour Way roundabout and the M4 J38 Margam Interchange.
- 2.4.5 Context should be given to the Welsh Government Transport Wales 'Guidelines for the submission of Road Safety Schemes' (Revised October 2011) and Welsh Government Statistical Bulletin 'accident cluster sites and fatal road accidents on the Welsh TransEuropean Road Network' which provides clarification on cluster identification as:
- "The current criterion used for considering clusters has been 4 personal injury collisions in a 3-year period within a 100m radius"*
- 2.4.6 The 'Guidelines for the submission of Road Safety Schemes' also states that *"The assessment of the network should involve the study of collision patterns for a specified period (e.g. 3 years) according to location, circumstances and the vehicles and casualties involved"*.

A48 Margam Road

- 2.4.7 No accidents have occurred on the northbound carriageway of the A48 Margam Road where the existing and proposed site accesses are located. As such, there is no evidence of a safety issue in relation to the existing site access.
- 2.4.8 A single slight collision occurred on the southbound carriageway of the A48 Margam Road, approximately 180m south of the A4241 Harbour Way and A48 Margam Road roundabout, which involved a car and a cyclist.
- 2.4.9 There were no other collisions within a 100m radius of this recorded accident. As such, there is no evidence of an existing road safety issue on the A48 Margam Road within the study area.

A48 / A4241 Roundabout

- 2.4.10 A total of four collisions have occurred at the A48 / A4241 roundabout, which were all recorded as slight in severity.
- 2.4.11 In 2016 a single collision occurred on the roundabout adjacent to the A4241 Harbour Way arm of the roundabout. This involved a motorcyclist who lost control of the vehicle when traversing the roundabout.
- 2.4.12 A further single collision occurred 2020, adjacent to the A48 Margam Road northern arm of the roundabout, which involved a single motorcyclist losing control of the vehicle whilst traversing the roundabout.
- 2.4.13 Two collisions occurred adjacent to the A48 Margam Road southern arm of the roundabout. In 2016, an accident occurred involving a single goods vehicle and in 2022 a collision between a car and cyclist occurred.
- 2.4.14 On review of the collisions at this existing roundabout, whilst all are within a 100m radius, these did not occur within a three year period, and they are all located on different arms of the junction with varying factors and vehicle types. As such, when considering the severity of collisions, time periods, patterns and vehicles involved it is not considered that there is an existing road safety issue at this roundabout.

M4 J38 Margam Interchange

- 2.4.15 A total of nine collisions have occurred at the Margam Interchange within the study area and review period, which have been summarised at Table 2-3.

Table 2-3: Summary of Severity Type at the M4 J38 Margam Interchange

Year	Slight	Serious	Fatal	Totals
2016	1	0	0	1
2017	0	0	0	0
2018	2	1	0	3
2019	1	0	0	1
2020	1	0	0	1
2021	2	1	0	3
2022	0	0	0	0
2023	0	0	0	0
Totals	7	2	0	9

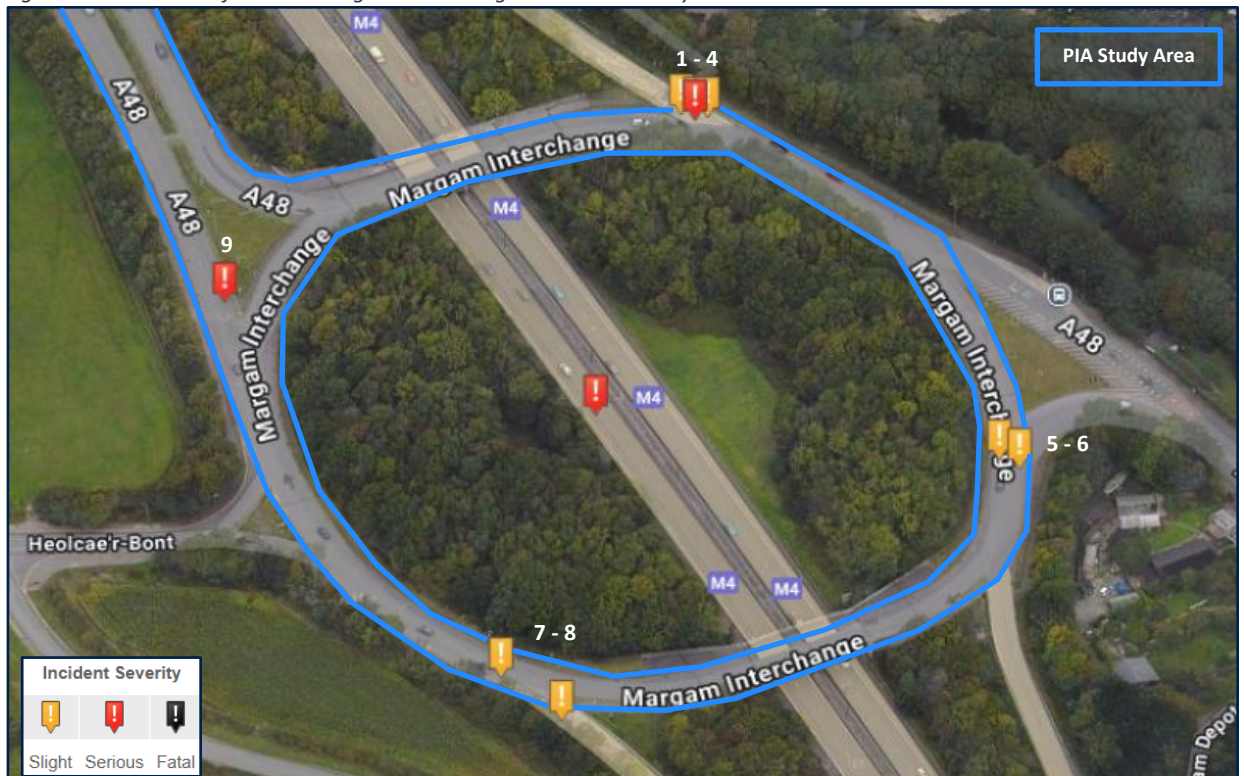
- 2.4.16 A summary of the casualty severities by vehicle type has also been reviewed and summarised at Table 2-4.

Table 2-4: Summary of Casualty Type by Severity at the M4 J38 Margam Interchange

Vehicle Type	Slight	Serious	Fatal	Totals
Pedestrian	0	0	0	0
Cyclist	1	1	0	2
Motorcycle	1	0	0	1
Car	5	1	0	6
Bus	0	0	0	0
Good Vehicle	0	0	0	0
Totals	7	2	0	9

- 2.4.17 Figure 2-4 provides an overview of the M4 J38 Margam Interchange and the study area.

Figure 2-4: Overview of M4 J38 Margam Interchange PIAs within Study Area



Source: Crashmap

2.4.18 In context to Figure 2-4, Table 2-5 provides a summary of the collision by date, location and vehicles involved.

Table 2-5: PIA Summary of location, vehicle type and vehicles involved at the M4 J38 Margam

Collision Ref	Date	Location	Severity	Vehicles Involved					
				Ped.	Cyclist	M/C	Car	Bus	Goods Vehicle
1	2021	M4 Southbound Entry Arm	Serious	0	1	0	0	0	1
2	2021	M4 Southbound Entry Arm	Slight	0	0	0	2	0	0
3	2018	M4 Southbound Entry Arm	Slight	0	0	0	2	0	0
4	2016	M4 Southbound Entry Arm	Slight	0	0	0	2	0	0
5	2019	A48 Northbound Entry Arm	Slight	0	0	0	2	0	0
6	2018	A48 Northbound Entry Arm	Slight	0	0	1	1	0	0
7	2021	M4 Northbound Entry Arm	Slight	0	1	0	1	0	0
8	2020	M4 Northbound Entry Arm	Slight	0	0	0	2	0	0
9	2018	A48 Northbound Exit Arm	Serious	0	0	0	1	0	0

2.4.19 The analysis indicates that no collision involved more than two vehicles, none were fatal, and none involved pedestrians or public transport vehicles. Additionally, when considering the geometric layout of the grade separated junction, only recorded collisions 1 to 4 as set out at Table 2-5 have occurred within 100m of one another and these occurred over a longer period than four years on the southbound off-slip entry to the roundabout. As such, these do not represent a cluster of incidents.

2.4.20 There was also only one incident involving an HGV at the junction.

Road Safety Summary

2.4.21 No pedestrians were involved in any of the PIAs and there were no clusters of four or more PIAs occurring in the same location that represent a repeat occurrence, therefore there is no evidence to suggest a re-occurring road safety issue within the study area.

2.4.22 Although all incidents are regrettable, the PIAs that occurred do not indicate a specific pattern or issue with the geometry of the highway, particularly for vulnerable road users, that would be exacerbated by the proposals.

2.5 Traffic Flow and Speed Data

Automatic Traffic Counts

2.5.1 In the context of the discussions with the LHA at the September meeting, regarding sight stopping distances for vehicles emerging from the site access on to the A48 Margam Road, two Automatic Traffic Counters (ATCs) were commissioned to record both speeds and flows for a seven day period.

2.5.2 The ATC equipment was installed to the south and north of the existing access, broadly at the end of the visibility splay to the south, recording northbound flows only, as shown at Figure 2-5. The ATCs were laid for a seven day period between Thursday 10th October and Wednesday 16th October 2024 and were undertaken by independent specialist survey company PCC Traffic Information Consultancy.

Figure 2-5: ATC Locations in the context of the indicative site location



Source: Google Maps

- 2.5.3 The traffic survey results for Site 1 and Site 2 are provided at Appendix D.
- 2.5.4 On the 22nd October, PCC informed Apex that both ATC sites were damaged on two separate occasions where the pneumatic tubes were being unplugged from the logging equipment. This damage would not occur from a vehicle and would have been done by hand from the kerbside.
- 2.5.5 This resulted in the equipment not recording data from a period between 07:00 on Saturday 12th October until the surveyor reinstalled the data on Monday 14th October at 05:00. On Wednesday 16th October, the tube was unplugged again at 09:00. As such, a summary of the recorded data is set out in Table 2-6.

Table 2-6: Summary of Recorded Data for both ATC Sites

Day / Date	Data Recorded	Time Period	No. Hours
Thursday 10th October 2024	✓	11:00 to 23:59	13
Friday 11th October 2024	✓	00:00 to 23:59	24
Saturday 12th October 2024	✓	00:00 to 07:00	8
Sunday 13th October 2024	✗	-	0
Monday 14th October 2024	✓	05:00 to 23:59	19
Tuesday 15th October 2024	✓	00:00 to 23:59	24
Wednesday 16th October 2024	✓	00:00 to 08:00	8

- 2.5.6 On Sunday 13th October no data was collected, and partial data has been recorded for Thursday (10th), Saturday (12th), Monday (14th) and Wednesday (16th) October. A full day of data was recorded on Friday (11th) and Tuesday (15th) October.
- 2.5.7 The partial data collected on Saturday (12th) and Wednesday (16th) captured a minimum of eight hours of data, with the remaining partial days collecting over 12 hours data. Based on these recorded

flows together with the two full days of data, the data is sufficient to allow for an average weekday period across the equivalent of four full days.

- 2.5.8 It is considered that this is an appropriate level of data for analysing speeds and flows in this location.

Vehicle Flows

- 2.5.9 The average recorded weekday vehicle flows during the network peak hours, as well as the daily periods for each survey site are set out at Table 2-7 and Table 2-8. The daily periods have taken the averages from the two full recorded weekdays, the peak hours have utilised the average of the four recorded days (excludes Thursday for the AM peak and Wednesday for the PM peak).

Table 2-7: Site 1 (south of access) – A48 Margam Road Vehicle Flows (Weekday average)

Time Period	Northbound (Vehicles)
AM Peak (08:00-09:00)	743
PM Peak (16:00-17:00)	1,198
Daily (00:00-23:00)	10,529

Table 2-8: Site 2 (north of access) – A48 Margam Road Vehicle Flows (Weekday average)

Time Period	Northbound (Vehicles)
AM Peak (08:00-09:00)	735
PM Peak (16:00-17:00)	1,187
Daily (00:00-23:00)	10,490

- 2.5.10 The differences in flows between the two survey sites were 1% or less and as such, well within the tolerances of accuracy for the ATC surveys and the survey results therefore considered appropriate for use.

Vehicle Speeds

- 2.5.11 The vehicle speeds were recorded at each survey site, and the 85th percentile speeds are summarised in Table 2-9. For robustness, given the partial completion of the data, the highest daily mean 85th percentile speeds have been shown at each location, as well as the overall average.

Table 2-9: Site 1 – A48 Margam Road 85th Percentile Vehicle Speeds (mph)

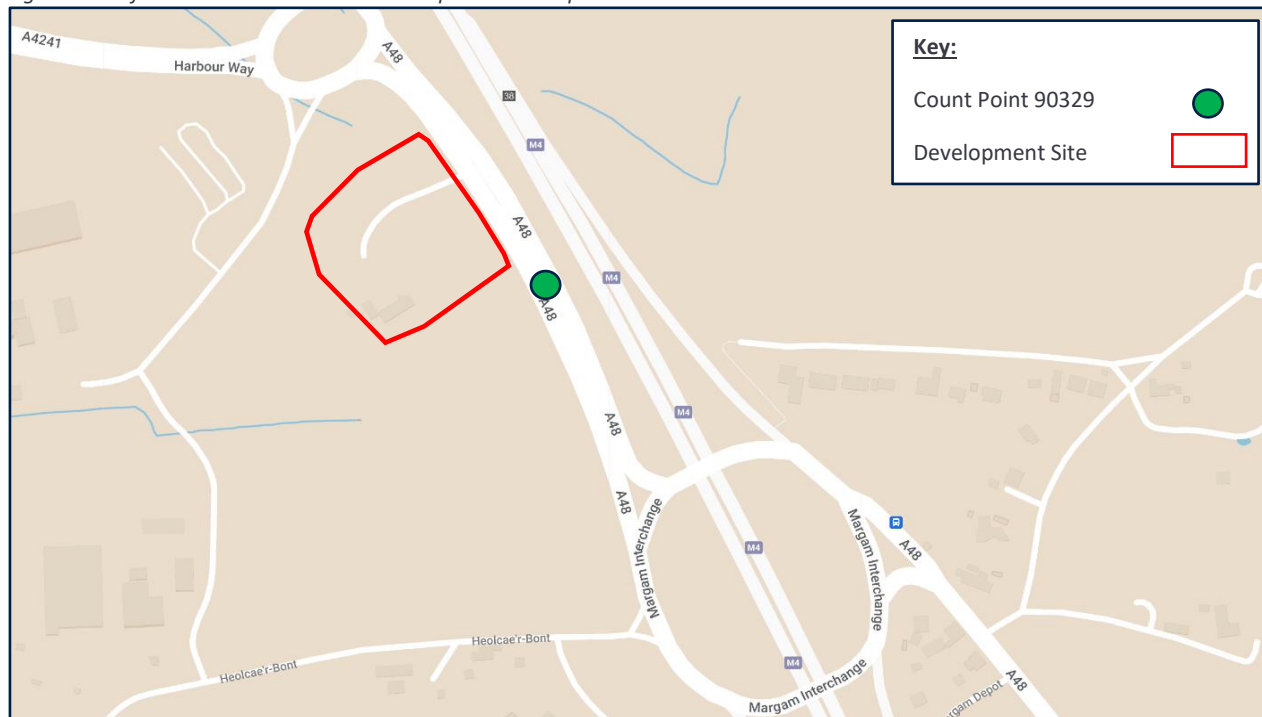
Measurement	Northbound (overall average)	Northbound (Highest Day)
Site 1 (south of access)	48.3	48.8
Site 2 (north of access)	41.5	42.8

- 2.5.12 The recorded 85th percentile vehicle speeds have been identified to be below the speed limit of 50mph within the vicinity of the proposed site access. Between the two survey locations vehicles are also slowing down, with the speeds reducing by between 6-7mph as vehicles approach the roundabout north of the existing site access. As such, the 85th percentile speed is already below the speed limit to the south of the access, and vehicles are slowing as they travel past the access.
- 2.5.13 The weather conditions during the survey were dry, as such in line with paragraph 3.1.1 of “CA 185 Vehicle Speed Measurement” of the Design Manual for Road and Bridges (DMRB), no wet weather adjustment factor (4 kph) has been applied to the recorded data. Additionally, in line with paragraph 2.6 of CA 185, both sites captured well in excess of 200 vehicle movements, which is the minimum number of vehicles required when considering speed data. As such, the data is considered appropriate for use in considering visibility splays and stopping sight distances from the proposed site access.

Department for Transport Data

- 2.5.14 The Department for Transport (DfT) publish traffic flow data across England and Wales and the closest data point is c.100m south of the site access, on the A48 Margam Road. Count Point 84067 provides data for existing Annual Average Daily Flows (AADF). Its context to the proposed development is shown at Figure 2-6.

Figure 2-6: DfT Count Point Location and Proposed Development



Source: Google Maps

- 2.5.15 The data provided for Count Point 90329 covers 2014 to 2023, however, the data for 2023 provides an obtained manual count rather than an estimation. The total AADF's recorded within this survey are summarised at Table 2-10.

Table 2-10: DfT 2023 Traffic Count - Average Annual Daily Flows on A48 Margam Road

Link	Northbound	Southbound	Two-way
A48 Margam Road	9,228	5,866	15,494

- 2.5.16 The DfT survey shows an AADF of 15,494 two-way vehicle movements. For northbound vehicles past the site, this was shown at 9,228 movements. Given that AADF flows are typically 7-10% lower than weekday flows (as weekend traffic is typically lower), this would put the DfT count at a similar level to the flows recorded in the ATC.
- 2.5.17 As such, this further verifies that the recorded ATC data is robust suitable for use in considering the impacts of the proposed development, and the suitability of the site access.

2.6 Existing Modal Share

- 2.6.1 The site is located within the Neath Port Talbot 019 middle layer super output area (MSOA). Census 2011 data has been analysed for the Neath Port Talbot 019 MSOA to establish the journey to work modal split for the workplace population. This has been compared with the data for the entire of NPTCBC. The analysis is shown in Table 2-11.

Table 2-11: Journey to Work Mode Split (Census 2011)

Mode	Neath Port Talbot 019 %	NPTCBC %
Public Transport	1.8%	4.0%
Car Driver	82.6%	75.3%
Car Passenger	8.0%	8.4%
Motorcycle	1.5%	0.8%
Bicycle	2.7%	1.5%
On Foot	3.1%	9.1%
Other	0.2%	1.0%
Total	100%	100%

- 2.6.2 Table 2-11 shows that 83% of existing employees travel to work to the Neath Port Talbot 019 MSOA as a car or motorcycle driver and an additional 8% travel to work as a car passenger. A total of 8% travel by sustainable modes of transport, of which 3% travel on foot, 2% travel by public transport and 3% by bicycle.
- 2.6.3 The data shows that the method of travel is similar in Neath Port Talbot 019 MSOA and across the wider NPTCBC area.
- 2.6.4 The data shows that employees in this area travel by sustainable modes and the level of cycling is higher than across the wider NPTCBC area. As such, this demonstrates that there is potential for walking, cycling, and public transport trips to be made to and from the site and that these movements already occur in this area.

3. PLANNING POLICY

3.1 Planning Policy

Future Wales: The National Plan 2040

- 3.1.1 This is the national development framework, setting the direction for development in Wales to 2040. It provides an overarching development plan with a strategy for addressing key national priorities through the planning system. Planning decisions at every level of the planning system in Wales must be taken in accordance with the development plan as a whole.
- 3.1.2 In relation to transport, it states on page 51 that *“Growth should be shaped around sustainable forms of transport and places that make us and the environment healthier”*. Page 55 continues on to state that *“Development will focus on active travel and public transport, allied with a reduced reliance on private vehicles”*.
- 3.1.3 On page 174, supporting Policy 36, it is stated that *“Welsh Government wishes to see development built in sustainable locations that are supported by the active travel and public transport infrastructure and services needed to enable people to live active and healthy lives.”*
- 3.1.4 As such, the key themes are that development should be sited where it can benefit from active travel and public transport connections and reduce the need to travel by car.

Planning Policy Wales 12th Edition (PPW12)

- 3.1.5 PPW12 provides overarching Welsh Government policies with transport policies set out in Section 4.1. This states in paragraph 4.1.10 *“The planning system has a key role to play in reducing the need to travel and supporting sustainable transport, by facilitating developments which:*
 - * are sited in the right locations, where they can be easily accessed by sustainable modes of travel and without the need for a car*
 - * make it possible for all short journeys within and beyond the development to be easily made by walking and cycling.”*
 - 3.1.6 PPW12 sets out a *“Sustainable Transport Hierarchy for Planning”* in Figure 9. This states in paragraph 4.1.12 *“It is Welsh Government policy to require the use of a sustainable transport hierarchy in relation to new development, which prioritises walking, cycling and public transport ahead of the private motor vehicles. The transport hierarchy recognises that Ultra Low Emission Vehicles also have an important role to play in the decarbonisation of transport, particularly in rural areas with limited public transport services.”*
 - 3.1.7 It continues to state that *“The sustainable transport hierarchy should be used to reduce the need to travel [and] prevent car-dependent developments in unsustainable locations”*.
 - 3.1.8 PPW12 also states in paragraph 3.39 that development should *“where possible, offer good active travel connections to the centres of settlements to reduce the need to travel by car for local journeys.”*
 - 3.1.9 The site is situated in a location which is accessible by walking, cycling and public transport, with good active travel links and the proposals are fully compliant with PPW12 as demonstrated in Section 4.
- ##### *Technical Advice Note 18: Transport (TAN18)*
- 3.1.10 The importance of walking and cycling in contributing towards sustainable travel patterns is detailed in the guidance contained within TAN18: Transport (March 2007). The guidance emphasises not only the

role walking and cycling can have as main modes of transport for local journeys but also the considerable contribution they play in forming parts of longer journeys by public transport.

- 3.1.11 Paragraph 3.8 states that *“Locations that are highly accessible by a variety of travel modes offer significant opportunities to make travel patterns more sustainable.”* As such it is recognised by TAN18 that the sustainable location of a site can assist in facilitating sustainable travel habits.

4. CONNECTIVITY BY SUSTAINABLE MODES OF TRAVEL

4.1 Introduction

- 4.1.1 This section describes the opportunities to make trips to and from the site by non-car modes. It considers the likelihood of trips being made on foot, by cycle, bus and rail.
- 4.1.2 There are alternative modes to the car available to potential employees of the site which will assist in minimising the level of vehicle trips to and from the site. Public transport services can be accessed by continuous walking and cycling routes.

4.2 Walking and Cycling

- 4.2.1 At the top of the PPW12 hierarchy is the consideration of active travel (walking and cycling). Walking and cycling are the most important modes of travel at a local level and offer the greatest potential to replace short car journeys.

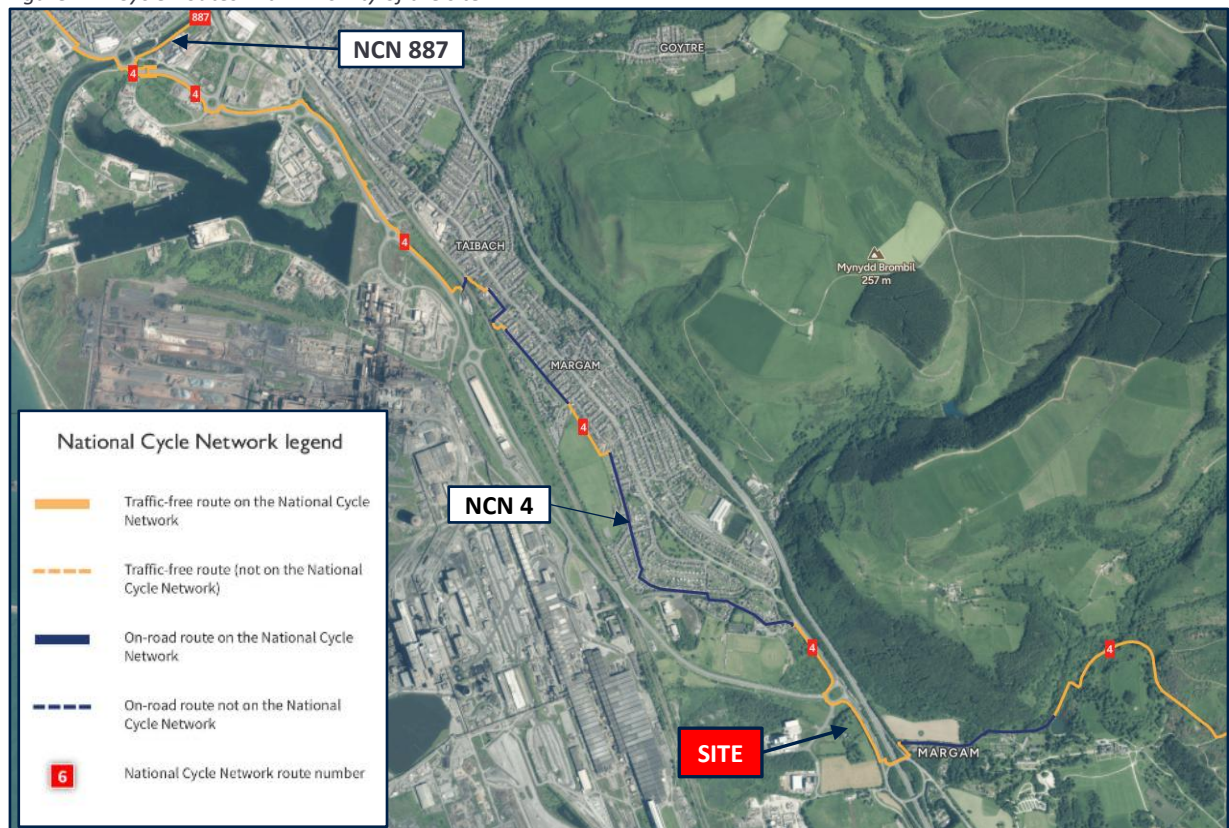
Walking infrastructure and Routes

- 4.2.2 The development site is connected by a shared footway / cycleway, which is provided on the western side of the A48 Margam Road, adjacent to the northbound carriageway. To the north, the existing shared user path, which is 3.0m in width, continues for c.110m where it meets the A48 / A4241 roundabout. At the roundabout, tactile crossing facilities are provided on the unnamed western arm and the Harbour Way arms of the roundabout, which enable a route to the north via the A48 Margam Road towards central Margam.
- 4.2.3 South of the site access, the existing shared user path continues for c.240m where a tactile crossing facility is provided immediately north of Junction 38 of the M4 at the Margam Interchange. A footway / cycleway route is provided on the northern side of the interchange, where a further tactile crossing is provided to the eastern side of the A48 Margam Road.
- 4.2.4 The A4241 Harbour Way or the southbound dual carriageway of the A48 Margam Road are not provided with footway (or cycle) facilities.
- 4.2.5 There are no public rights of way which intersect the development site.

Cycling Infrastructure and Routes

- 4.2.6 At the sites frontage with the A48 Margam Road a cycleway forms part of the National Cycle Network (NCN) route 4, as shown at Figure 4-1. The NCN route 4 provides a link to Margam and Port Talbot to the north via a on road and traffic free route. In addition, the NCN route 4 also connects to NCN route 887 within Port Talbot which provides further connections to Cwmafan and Pontrhydyfen to the northeast.
- 4.2.7 The cycle routes within the vicinity of the site, taken from the National Cycle Network Route map, are shown in Figure 4-1.

Figure 4-1: Cycle Routes within vicinity of the site



Source: Sustrans

4.3 Active Travel Network

- 4.3.1 The Welsh Government have produced active travel maps to identify existing suitable routes for walking and cyclists and suggests other proposed future routes that would help create an integrated network of active travel routes in Margam.
- 4.3.2 The Active Travel Network Map (ATNM) shows the active travel routes in proximity to the site. As shown in Figure 4-2, the current active travel routes within close proximity to the site are walking routes approximately 2.5km north of the site.
- 4.3.3 There are future proposals to introduce a formal ATNM walking and cycling route directly adjacent to the site, recognising that a shared route already exists which runs north to south along the A48. This formal ATNM route would connect to a comprehensive active travel network to the north of the site which would allow for a wider number of facilities to be accessed to the north of the site via walking and cycling.
- 4.3.4 These routes would therefore provide active travel connections linking to Margam and Port Talbot from the site.
- 4.3.5 The ATNM routes have been considered appropriate by NPTCBC for walking and cycling. The site is therefore positioned to benefit from an existing high-quality walking / cycling link, which connects to proposed further ATNM routes, as well as key local residential areas and facilities. This will encourage potential future employees to walk and cycle to and from the site as well as reduce the reliance on travelling by car.
- 4.3.6 The ATNM showing the existing and proposed routes within the vicinity of the site has been reproduced in Figure 4-2.

Figure 4-2: Active Travel Network Maps



Source: DataMapWales

4.4 Distances

Overview

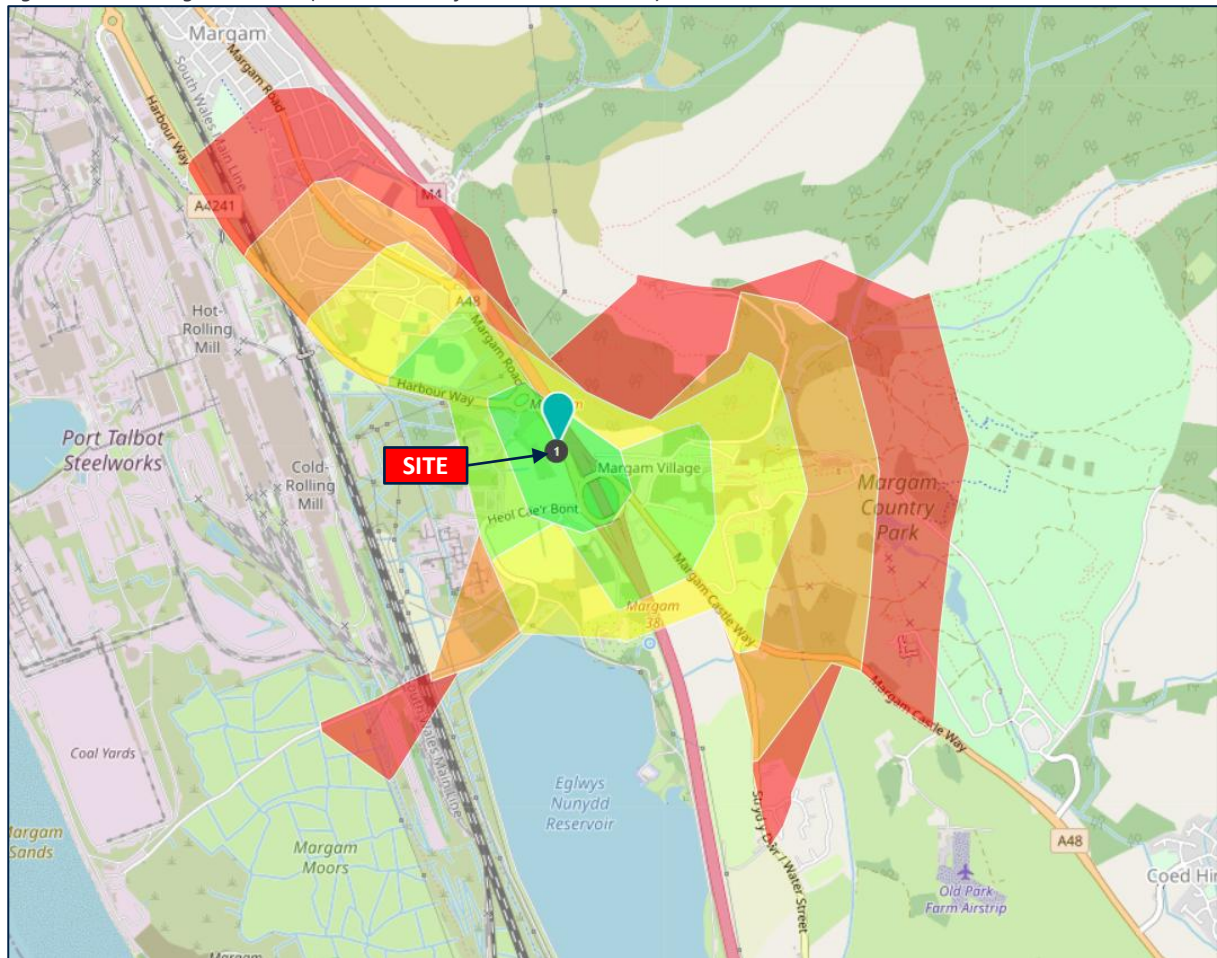
- 4.4.1 To enable an assessment of the viability of walking between the site and residential areas, it is appropriate to establish the maximum distance that people are generally prepared to walk or cycle for work purposes.
- 4.4.2 There are a number of publications which suggest guidance for appropriate and acceptable walking and cycling distances to facilities. For reference, these have been summarised as followed:
- Welsh Government - Active Travel (Wales) Act 2021: It is stated within paragraph 4.1.5 that *“Walking is most suitable for journeys of less than two miles whilst cycling is also convenient for longer journeys, typically up to five miles for regular utility journeys”*. This equates to distances for walking of up to 3.2km and cycling of up to 8km.
 - It is considered that journeys of up to 8km are within a suitable cycling distance. A cycling journey of 8km would equate to approximately a 25-minute travel time.
 - DfT – LTN1/20 Cycle Infrastructure Design (paragraph 2.2.2) – states that *“Two out of every three personal trips are less than five miles in length, an achievable distance to cycle for most people”* (c.8km).
 - CIHT - Guidelines for Providing for Journeys on Foot (2000): suggests preferred maximum distances for commuting journeys are up to 2km.
 - This also states in paragraph 9.5.3 that *“Walkable neighbourhoods also referred to as ‘low-traffic neighbourhoods’, or ‘active neighbourhoods’, (see figure 9.6) are characterised by having a range of facilities within 20 minutes’ walking distance which people may access comfortably on foot.”* This would equate to c. 1.6km.

- CIHT (2015) – Planning for Walking: In relation to shorter trips in particular, (section 2.1) states that across Britain about ‘80% of journeys shorter than 1 mile (1.6km) are made wholly on foot’.
- Department for Transport (DfT) – Manual for Streets (2007): MfS states that ‘walkable neighbourhoods’ are typically characterised by having a range of facilities within 10 minutes walking distance (c. 800 metres). MfS also acknowledges that this is not an upper limit and references previous planning policy guidance in that it is generally acknowledged that walking offers the greatest potential to replace short car trips, particularly under 2km.

Walking

- 4.4.3 Based on guidance, it is considered that suitable walking distances could be up to 3.2km. This equates to around a 40-minute walk travelling at 3mph. However, distances of 2km are considered more likely for walking journeys and residential areas within 800m are considered to be within ‘walkable neighbourhood’ distances.
- 4.4.4 The Openroute Service maps have been used to generate pedestrian isochrones at five-minute (c.400m) intervals from the main access as shown in Figure 4-3. This is based on walking speeds of 5km per hour (c.3mph) via the road network. A journey time of 25 minutes is broadly equivalent to a 2km distance.
- 4.4.5 The isochrones demonstrate a significant proportion of Margam is accessible within a 25-minute walk from the site (c. 2km). This includes Margam Village, the southern half of Margam and Margam Country Park. This shows that there is a potential for employees to be situated within potential walking distance of the site. As such, some employees (and visitors) could travel to the site on foot.

Figure 4-3: Walking Isochrones (25 minutes at five-minute intervals)

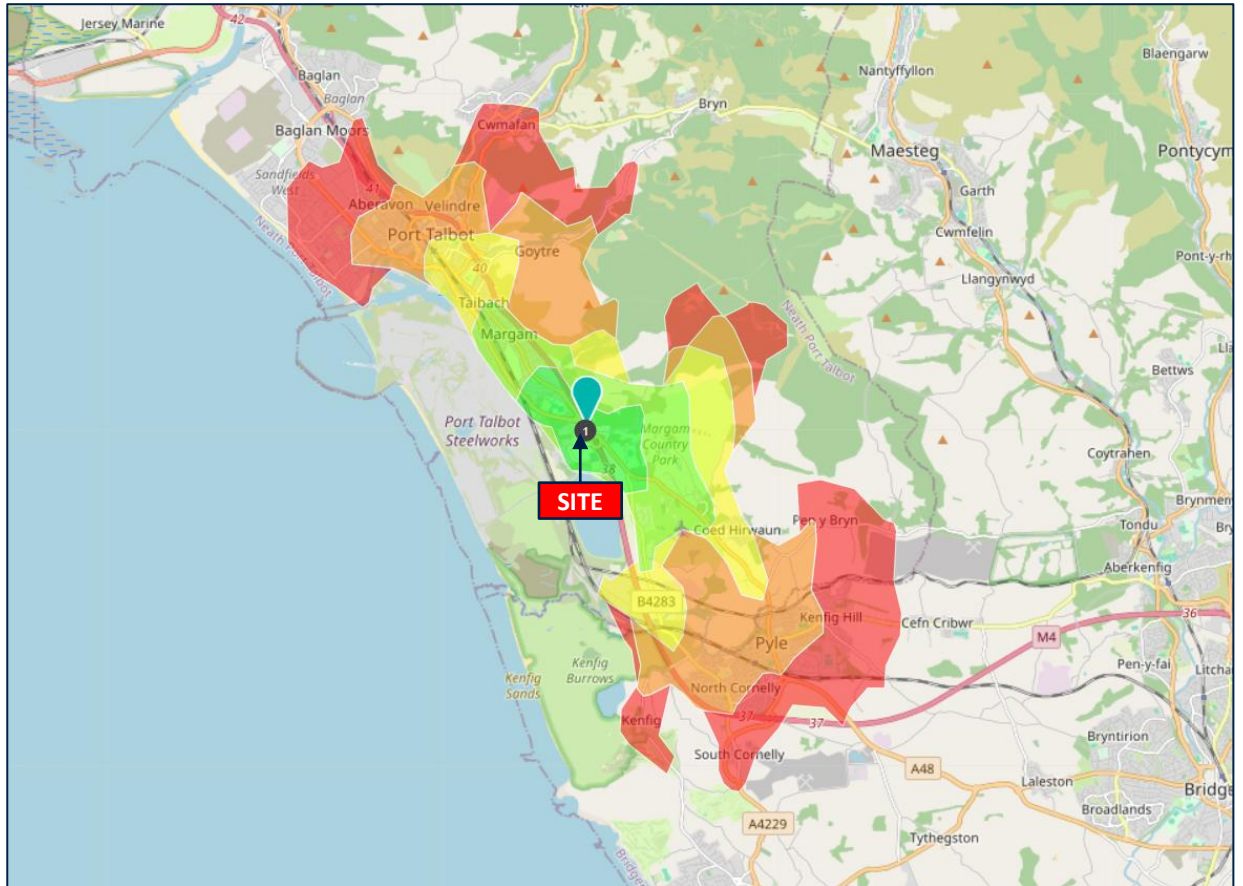


Source: Openroute Service

Cycling

- 4.4.6 It has been assumed that journeys of up to 8km are within an acceptable cycling distance. A cycling journey of 8km would equate to approximately a 25 minute trip.
- 4.4.7 The Openroute Service has been used to generate cycle isochrones at five minute intervals up to a total of 25 minutes (c.8km) using roads and cycle routes (i.e. not straight line distances). This has been shown in Figure 4-4.
- 4.4.8 The isochrones are generated based on speeds dependent on the surface and highway type. The majority (if not all) of the routes used would be paved and as such would be subject to an 18kph speed based on the parameters in the software. A five minute isochrone would therefore cover a distance of 1.5km, with a 25 minute isochrone therefore covering a distance of 7.5km. As such, this is broadly in accordance with the relevant design guidance (indeed, cycle journeys to the site could originate from slightly greater distances, up to 8km from the site, in accordance with the guidance).
- 4.4.9 The isochrones show the entire of Margam is accessible within an appropriate cycling distance in addition to Port Talbot, Sandfields, Baglan Moors, Goytre, Cornelly, Cwmafan and Kenfig. Most of the areas within and around Port Talbot can be accessed by suitable and recommended cycling routes, as shown within Figure 4-4.

Figure 4-4: Cycling Isochrones (25 minutes at 5 minute intervals)



Source: Openroute Service

4.5 Public Transport

Bus Services

- 4.5.1 The closest bus stops to the site are within a c.500m walk from the access onto the A48. These are situated to the southeast of the site, adjacent to J38 of the M4. Further stops are available on the A48 Margam Road approximately 1.2km to the northwest of the main site access. The closest stops are served by the X1, with the stops on Margam Road also served by the 87. Bus shelters, seating and lighting are provided at all stops closest to the site.
- 4.5.2 The services provide a link into Port Talbot centre within approximately 8-10 minutes.
- 4.5.3 A summary of the services provided within the vicinity of the site are provided in Table 4-1. These are shown in a single direction, with the other direction providing the same frequency of service.

Table 4-1: Local Bus Services

Service	Route / Operator	First/Last	Frequency (min)					
			Mon - Fri				Sat	Sun
			AM Peak	Inter-peak	PM Peak	Evening		
87	First Cymru – Neath Victoria Gardens (10) – Margam (Tollgate Park)	08:42/18:33	1*	30	2*	30	30	-
	First Cymru - Margam (Tollgate Park) - Neath Victoria Gardens (10)	08:44/18:45	1*	30	2*	30	30	-
X1	First Cymru - Swansea City Bus Station to Bridgend Bus Station via Port Talbot Bus Station, Margam Park and Pyle.	07:22/18:27	1*	60	1*	60	60	-

* No. services per hour

- 4.5.4 Both of the bus services connect to Port Talbot bus station as well as Port Talbot Parkway Rail Station, which offer interchange opportunities to a significant number of other services to wider destinations.
- 4.5.5 The site is served by buses which connect to Bridgend, Port Talbot and Swansea throughout the day, which provide start and finish times suitable for commuting. As such, travelling by bus would be a suitable option for some commuting journeys to and from the site as well as for journeys by visitors.

Rail Services

- 4.5.6 Port Talbot Parkway Rail Station is situated approximately 4.8km to the northwest of the site. It can be accessed via the cycle routes connecting to the site access, as well as by bus services 87 and X1. The station provides cycle parking which enables access to and from the station by cycle for employees who wish to leave a cycle at the station.
- 4.5.7 Port Talbot Parkway Rail Station provides services to local and regional destinations. These services include trains routing to/from London Paddington, Manchester Piccadilly, Carmarthen, Tenby, Milford Haven, Cardiff Central and Swansea. It is a c. 30-minute journey to Cardiff Central from Port Talbot Parkway Rail Station.
- 4.5.8 There are five rail services per hour throughout the day.
- 4.5.9 As such, travelling by rail and cycle (or bus) to the site provides a reasonable alternative for some employees, particularly those travelling longer journeys to the site.

4.6 Summary

- 4.6.1 The site is situated in a sustainable location, it is well suited to accommodate the proposals, being located in an area surrounded by existing industrial uses. It is connected by existing pedestrian, cycle and public transport networks.
- 4.6.2 There is a choice of modes of travel for all journey purposes, which will assist in constraining the level of vehicle generation from the site and minimise the impact of the development.
- 4.6.3 The site location will encourage sustainable travel behaviour, attract some employees who choose to travel by sustainable modes and is fully in accordance with transport policies in Future Wales, PPW12, TAN18 and the Active Travel Act.

5. DEVELOPMENT PROPOSALS

5.1 Overview

- 5.1.1 The development proposals seek full planning permission for the erection of three storey data centre facility, with a floorspace of 8,700 sqm, with the conversion of the existing dwellinghouse on the site to a 213 sqm office use associated with its operation.
- 5.1.2 The proposals also include an improved access with the A48 Margam Road, internal access roads, servicing areas, hard and soft landscaping, car parking and sustainable drainage.
- 5.1.3 The proposed site layout is shown at Appendix E.

5.2 Access Arrangements

Geometry and Layout

- 5.2.1 A new priority left-in, left-out access arrangement is proposed onto the A48 Margam Road, which will replace the existing priority junction arrangement, broadly in the same location. The proposed junction arrangement is provided with dedicated access and egress lanes of 4.3m in width, with additional width within hatching, with the lanes separated by a central island. The access road itself within the site will have a width of 5.5m, suitable for enabling all vehicles to pass within the site. The access is provided with 9m radii on both sides with transitional radii and tapers to enable articulated vehicles to turn in and out appropriately and without conflict or overrunning lanes on the A48.
- 5.2.2 A general arrangement plan of the proposed site access, which incorporates recommendations identified as part of a Stage 1 Road Safety Audit, has been provided in Appendix F.
- 5.2.3 Swept path analysis of vehicles has been undertaken which demonstrates that a 16.5m long articulated HGV can pass a large car when entering and exiting the site along the access road. This is provided in Appendix G. The use of the site would not generate two articulated vehicles passing at the access as HGV movements would be extremely infrequent, and these are also unlikely to be 16.5m long articulated vehicles. However, in this extremely unlikely event it would be possible for these two vehicles to pass within the site and away from the A48. The access road is also 5.5m wide, which enables two HGVs to pass (although this is unlikely to occur).
- 5.2.4 The existing footway / cycleway along the western side of the A48 Margam Road will be incorporated into the proposed access design, with a suitable tactile crossing facility provided across the junction. This has been shown on the general arrangement site access plan incorporated into the central island, which is considered preferable to ensure users cross on desire lines, However, this could also be positioned further into the site on the access road, if considered preferable to the LHA. This is an improvement over the existing situation, whereby a tactile paving crossing is not provided.

Visibility Analysis

- 5.2.5 At the initial meeting with the LHA in September 2024, concerns were raised over the level of visibility for vehicles emerging on to the A48 Margam Road. The concerns raised related to potential third party land / land outside of the adopted highway, vegetation, and obstructions from road signs. As such, this has been further considered in this section.
- 5.2.6 As set out at Section 2.5, speed surveys were undertaken in two locations, with Site 1 providing data for vehicles approaching the site from the broadly from the end of the visibility splay.

- 5.2.7 The A48 Margam Road is subject to an existing 50mph (80.5 kph) speed limit. However, the speed surveys shown at Table 2-9 recorded 85th percentile vehicle speeds on approach to the site at 48.8mph (78.5 kph), using the worst case daily average.
- 5.2.8 When considering Sight Stopping Distances (SSDs) for visibility splays, guidance is set out in TAN18, Manual for Streets (MfS1), Manual for Streets 2 (MfS2) and the DMRB. The use of MfS1 has been discounted as this is for urban roads up to a speed of 37 mph (60 kph). The A48 Margam Road does not form part of the trunk road network and as such, the DMRB is not strictly applicable as this only applies to trunk roads. However, the parameters from DMRB can still be referred to for an access at this location, on the basis that the design of the A48 is in accordance with the DMRB, albeit these should not be applied uncritically. The most appropriate guidance on visibility in this location is therefore considered to be MfS2 and this utilises parameters from DMRB for visibility purposes.
- 5.2.9 The purpose of MfS2 is to fill the “*gap in design advice that lies between ‘Manual for streets’ and the design standards for trunk roads as set out in the ‘Design manual for roads and bridges’*”.
- 5.2.10 Paragraph 10.1.5 of MfS2 provides a formula for calculating SSDs, with the following paragraphs providing further information on the parameters. Table 10.1 sets out the parameters to apply where speeds are above 60 kph (37 mph) and this applies to all vehicles. This sets out two deceleration rates, desirable and absolute minimum. The desirable minimum deceleration rate is the same as the pre-MfS1 rates, and this in effect equates to how visibility is calculated in DMRB. As such, the MfS2 formula enables a visibility calculation based on DMRB parameters, but applies this based on exact speeds, rather than thresholds. In the DMRB, the standard for 50mph (80.5kph) roads is based on the 85kph stopping sight distance threshold, which equates to 52.8mph and is 4.5kph higher than the actual speed limit.
- 5.2.11 In addition, as set out in MfS1 (paragraph 7.5.6) it specifically states that “*Deceleration rates of 0.25g (the previously assumed value) are more typically associated with snow-covered roads.*” As such, the application of the desirable minimum parameters (which are the same as the DMRB parameters) is extremely robust, as the deceleration rates assume vehicles are travelling in snow conditions, and in those conditions, vehicles would be travelling slower than in ‘typical’ conditions. As such, the application of the desirable minimum parameters in MfS2 is considered appropriate for considering visibility at the proposed site access.
- 5.2.12 Paragraph 10.5.6 of MfS2 states that an ‘x’ distance of 2.4m should normally be used in most built-up situations and represents the most reasonable distance between the front of a car and the driver’s eye. Paragraph 10.5.7 sets out that longer ‘x’ distances enable drivers to look for gaps in traffic as they approach the junction stop line, which increases capacity of the minor arm and therefore can be justified. However, in some circumstances it fails to consider other road users such as pedestrians and cyclists, where conflict could occur. This would be the case with the proposed access as the existing footway / cycleway on the western side of the A48 Margam Road crosses the access and accommodates walking and cycling movements. This pedestrian and cyclist route also forms part of planned NPTCBC Active Travel Network improvements for walking and cycling known as FR-PT-SU022.
- 5.2.13 Historically, applying a 4.5m ‘x’ distance at junctions was also associated with slow moving vehicles such as HGVs allowing for drivers to see gaps in oncoming traffic without the need to accelerate from a stationary position. As such, based on the guidance in MfS2, it is not considered appropriate at this location to provide a 4.5m ‘x’-distance, as there would be a minimal level of HGV movements generated by the proposals, and this does not appropriately consider crossing pedestrians and cyclists.

- 5.2.14 A 2.4m 'x' distance is also considered appropriate as this is a left-out junction and the geometry of the junction allows vehicles to be more 'side on' at the stop line, rather than perpendicular, which will bring the drivers eye line closer to the carriageway edge, so therefore likely to be less than a 2.4m distance. As such, a 2.4m 'x' distance is considered appropriate, robust and has been applied at the proposed junction.
- 5.2.15 Applying the formula set out at paragraph 10.1.5 of MfS2 using the recorded 85th percentile speed of 49 mph (78 kph) (rounded up to the nearest integer) would require a 'y' distance / SSD as follows:
- **Absolute minimum:** 111m
 - **Desirable minimum:** 144m
- 5.2.16 As such, the proposed access onto the A48 Margam Road has been provided with visibility splays of 2.4m x 144m to the nearside carriageway edge to the south of the junction. This visibility has been accepted by the LHA as part of the pre-application discussions (as shown in Appendix B).

Signage

- 5.2.17 Regarding signage, the only sign within the visibility splay envelope is one of the countdown marker signs. MfS2 states that occasional obstacles to visibility that are not large enough to fully obscure a whole vehicle or a pedestrian will not have significant impact on road safety. However, the signage could be relocated c.500mm west of its current position, which would bring it outside of the visibility splay, without detriment to informing drivers of the approaching roundabout. There are other signs located a similar offset distance from the carriageway edge in this location and this can be accommodated within the adopted highway. This sign is also within the visibility envelope for the existing site access, with the proposals offering a slight betterment in this regard, as the stop line for exiting vehicles has been relocated slightly to the north.
- 5.2.18 The planning application for the HGV truck stop and its access design was also subject to a combined Stage 1 and 2 Road Safety Audit (RSA), whereby the proposals included relocating three signs outside of the visibility splay. The independent RSA considered this appropriate, raising no issues on this element of proposal.
- 5.2.19 Separately, temporary signage could be provided to advise vehicles on the A48 of the new access. The details of this could be determined as part of the detailed technical approval stage and Stage 2 Road Safety Audit.

U-Turning Movements at Harbour Way / A48 Roundabout

- 5.2.20 A concern was raised by the LHA in relation to HGVs leaving the development site and travelling to J38 of the M4. To access J38, vehicles are required to U-turn at the roundabout to the north of the site access, therefore need to be positioned in the offside lane. The LHA consider that there is insufficient carriageway space between the site access and roundabout stop line to allow a HGV to safely leave the site and transition into the appropriate lane, to then undertake a U-turn manoeuvre to the A48 southbound carriageway.
- 5.2.21 A key point is that the proposed data centre scheme would generate a minimal level of HGV movements and as such this manoeuvre in relation to HGVs would rarely occur.
- 5.2.22 However, to fully consider the concerns of the LHA, swept path analysis has been undertaken for a HGV leaving the site to the offside lane stop line at the roundabout. This analysis is provided in Appendix H. This shows that there is a c.65m distance for a HGV to exit the site and manoeuvre into the appropriate lane at the roundabout. This is sufficient distance for a HGV to manoeuvre

appropriately and safely on the rare occasions that this occurs. Vehicles exiting the site access also have appropriate visibility to both lanes on the northbound carriageway and would only pull out of the site access when both lanes are clear.

- 5.2.23 In addition, the alignment of the A48 Margam Road provides northbound vehicles with suitable forward visibility to slow and stop, if needed, if a vehicle pulls out of the junction.
- 5.2.24 As such, given the suitable visibility and geometry and considering the proposed development would generate a minimal level of HGV movements, the proposals would not have an unacceptable impact on road safety in relation to this vehicle manoeuvre.
- 5.2.25 This has also been accepted by the LHA based on the minimal level of HGV movements, as shown in Appendix B.

Road Safety Audit

- 5.2.26 Following discussions with the LHA, an independent and appropriately qualified auditor, RKS Associates, has undertaken a Stage 1 Road Safety Audit (RSA) of the proposed access arrangements associated with the data centre scheme. A copy of the Audit Brief, Stage 1 RSA and Designer Response comments are provided at Appendix I.
- 5.2.27 The recommendations of the RSA have been fully considered within the design of the access with Table 5-1 identifying the identified issues, recommendations and designers' response to identified points.

Table 5-1: Stage 1 RSA Problems, Recommendations and Designers Responses

Issue No.	RSA Issues (RKS Associates)	RSA Recommendation (RKS Associates)	Designer Response (Apex Transport Planning)
2.1	Observations during the site inspection noted that the existing surface water drainage gulley if retained in its current location will be located within the entry into the proposed development. Consequently, there is a greater risk that the surface water drainage gulley will be frequently overrun by large vehicles and may become dislodged, this could create a hazard which may lead to a potential collision for motorist entering the development.	Review and amend the layout to ensure that the surface water to drainage gulley is located away from the vehicle tracks accessing the proposed development.	This is accepted and would be considered and agreed at the detailed design stage as part of the S278 technical approval.
2.2	With respect to the problem identified above (2.1) the proposed relocation of the existing surface water drainage gulley may not adequately drain the carriageway. This may result in the accumulation of surface water within the junction which could increase the risk of loss of control collisions.	Ensure that the proposed carriageway surface levels direct surface water to drainage gulley.	This is accepted and would be considered and agreed at the detailed design stage as part of the S278 technical approval.
2.3	The drawings provided indicate that visibility to and from the proposed access accord with highway standards. However, it was noted during the site inspection that existing vegetation behind the visibility splays may over time compromise visibility for motorists entering/exiting the access. Poor visibility may increase the risk of turning collisions between traffic accessing the development and traffic traveling north along the A48 Margam Road.	Ensure that the vegetation behind the visibility splays is cut back and regularly maintained or alternatively it should be replaced with a low-level variety to ensure visibility to and from the proposed access is not compromised.	This is noted. The vegetation is within the adopted highway and therefore this should be maintained by the LHA. The LHA has a responsibility to maintain the vegetation to ensure visibility from the existing access is not impeded and this would not change as a result of the proposals. Indeed, given the slight relocation of the stop line to the north of the existing location, the level of vegetation maintenance would be reduced from the existing situation.

			As such, the visibility from the proposed site access will not be impeded and the operator would contact the LHA if there were any issues with vegetation trimming.
2.4	The Audit Team have been made aware that the proposals include the provision of dropped kerbs and tactile paving across the proposed development access which is to be agreed with the local highway authority. However, there is concern that the proposed crossing facility may result in pedestrians waiting within the hatch markings adjacent to the central island on development access. This may encourage pedestrians to wait on the hatch markings where the risk of these users struck by passing traffic will be greater.	Ensure that the safe facility is provided for pedestrians crossing the proposed development access.	This is accepted, and a dropped kerb crossing with tactile paving has been shown in the revised design at the access. The crossing and tactiles would be suitable to ensure that pedestrians and cyclists wait in a suitable location, off the carriageway, when crossing and they would be extremely unlikely to stand on the hatch markings on this basis. The positioning of the crossing on each side of the central island enables suitable visibility to be provided to and from oncoming vehicles along the access road and those turning left on the A48. The crossing will also provide an improvement over the existing situation whereby dropped kerbs and tactiles are not provided. As such, the minor amendment to the access is considered suitable and in accordance with the recommendation of the auditor.

5.2.28 As such based on the comments identified by the Stage 1 RSA, the minor revisions to the design of the proposed access are considered suitable to overcome the issues raised, and as such there are no outstanding issues or recommendations from the RSA. The design of the access is therefore considered safe and suitable for accommodating the movements generated by the proposed development. The conclusions of the RSA are also broadly similar to the RSA undertaken for the live truck stop application, for which there were no outstanding issues.

5.3 Consideration of Alternative Access Option

5.3.1 During the initial meeting in September 2024, the LHA suggested that it would be preferable to gain access to the site via the land parcel directly to the north and that this should be explored. This is via third party land not in the control of the applicant and as such, does not form part of the application red line or proposals. However, this section has considered the option and constraints in more detail for the information of NPTCBC.

5.3.2 Figure 5-1 indicates the location of the access and the land parcel in context with the proposed development site.

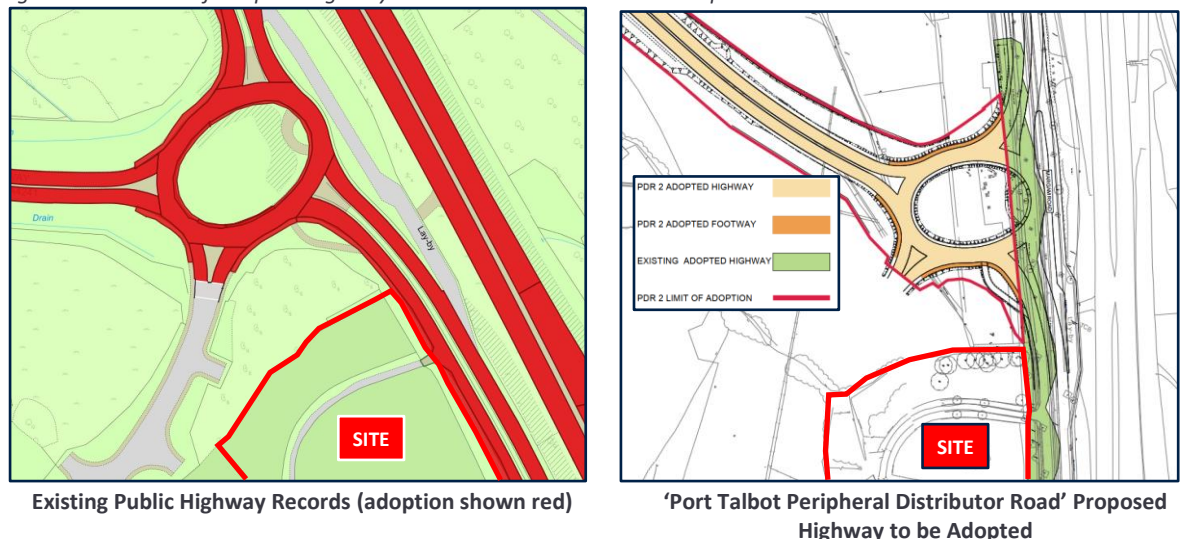
Figure 5-1: Alternative Access Option and Land Registry UK Context



Source: Land Registry UK and Google Maps

- 5.3.3 The land in question, is outside of the applicant's control and is owned by a third party, which is understood to be Welsh Government (WG). The land parcel referred to by the Highway Authority forms part of wider a land title known as 15843554, which includes land to the northwest as well as the A4241 Harbour Way / A48 Margam Road roundabout.
- 5.3.4 In terms of the adopted highway, NPT County Borough Council in its role as the LHA control the surface rights of highway infrastructure within this title (amongst others), which is shown at Figure 5-2. This provides details on the existing extent of the adopted highway as well as land to be dedicated as highway as part of the 'Port Talbot Peripheral Distributor Road'.

Figure 5-2: Context of Adopted Highway and Land Parcels and the Development Site



- 5.3.5 The access to the north which the LHA requested was considered, is served by an unnamed access road which is not adopted highway. It is unclear whether NPT intend to adopt the unnamed road or whether the unnamed road will remain private. This may add to complications should an additional land owner be involved or there are access rights issues, however, it is understood that this is all owned by Welsh Government.
- 5.3.6 Whilst the access to the land to the north is constructed and deemed appropriate to the LHA for the use of the proposed development, there are a significant number of other factors, which are not transport related, which need to be considered to connect to this access.
- 5.3.7 As such, to provide further information for NPTCBC, a review of the feasibility of the third party access has been considered with input from specialists forming part of the wider application team across a number of disciplines. Table 5-2 provides summary of these disciplines along with the specialist involved.

Table 5-2: Alternative Third Party Access - Disciplines and Advising Team Member

Category Ref	Discipline	Team Member or Report
1	Highways and Transportation	Apex Transport Planning
2	Civils and Drainage / Ground Conditions	Clarke Bond
3	Ecology	Tyler Grange
4	Landscaping and Trees	The Urbanists
5	Deliverability / Viability	The Urbanists / Western Bio-Energy Limited
6	Utilities	UtiliMap – Utility Search Report July 2024

- 5.3.8 Table 5-3 provides a summary of the constraints and issues for accessing the site through the third party land.

Table 5-3: Summary of Constraints associated with Alternative Access Option

Discipline	Constraints
Highways and Transportation	- On review of the access arrangements, it is c.7.3m in width and provided with 2.0m footways on both sides of the access. A review of the available visibility would need to be undertaken to confirm the existing splays available for drivers emerging from the access, but it does seem appropriate. However, it is noted that this access does not connect to the adopted highway. - Internally, the current arrangement offers limited effective clearance into the site from the unnamed road and would have a significant impacting on existing vegetation and trees at the land parcels southern boundary to deliver an internal access road.
Civils and Drainage / Ground Conditions	- The levels at the spur tie in position are 9m to 9.5m above datum. The existing levels at our tie in positions are currently 14.5m, there may be slight scope to reduce this level, but the margins would be insignificant. This means there is roughly a 5m difference in the levels over ±63m distance. This will result in an entrance road which has a gradient close to 1:12, this would not be ideal over a ±63m distance. - The surface drainage for the entrance road from the proposed spur would not be able to tie into the proposed pond or surface water drainage for the site. The current drainage proposal is at a higher level than the entrance spur on the northwest. This will result in a separate drainage system for the entrance road. There would need to be investigation to determine if this is feasible with space for attenuation and how the levels will work. From the outset, the most likely scenario we would need to adopt would be to have storage crate under the entrance road. Infiltration tests would be needed near the spur to determine if soakaways can be used. Further investigation required for existing surface water drainage systems possible to connect into if infiltration is not possible. - It is fair to assume that ground conditions will be consistent with initial studies. However further investigation for infiltration will need to be undertaken closer to the spur as this is at a lower level than the previous tests. This will require soakaway testing to determine if infiltration will be possible for the drainage of the access road.

Ecology	1. There is a hedgerow with immature and semi mature trees along northern boundary with no signs of frequent management likely to be of up to local ecological importance. Species include sycamore, hawthorn, goat willow and hazel. The hedgerow currently provides a green corridor around the north of the site linking the hedgerow along the A48 to the hedgerows/woodland to the south and west. Whilst use of the existing access may result in some minor tree loss, there will be no additional fragmentation and no loss of important ecological features, whereas using the access to the north-west will create habitat fragmentation. Whilst there are other routes, and it will not result in complete isolation of the site, in line with the step-wise approach outlined in Welsh National Policy, it would be preferable to avoid any fragmentation in the first instance and if this is not possible, robust justification will be required. Any hedgerow lost will need to be fully compensated for within the proposed site layout. 2. Japanese knotweed is present in the hedgerow which offers an additional constraint to implementation of an access although does also present an opportunity for enhancement if it is removed. 3. Any clearance within the hedgerow would likely trigger the need for roosting bat surveys which could potentially result in the need for a licence from NRW if roosting bats are found to be present. In line with the step-wise approach, any roost should be retained if possible; however, it would likely be possible to mitigate impacts as a result of loss of roosts if required. 4. Any clearance within the hedgerow would likely trigger the need for dormouse surveys, whereas use of the existing access avoids any impacts on this species so surveys would not be required. Should dormouse be found to use the site, a licence from NRW will be required and appropriate mitigation for habitat fragmentation will need to be implemented 5. Placing an access in the hedgerow will also result in fragmentation of a known commuting and foraging route for the LHS roost in the building on site. It is currently the intention to retain the roost in situ to minimise impacts on the bats in line with the step-wise approach but this may need to be reconsidered if fragmentation occurs and a more complex mitigation strategy required.
Landscape and Trees	1. Removal of vegetation along the northern boundary is likely to increase the visibility of the proposed development to receptors travelling southbound on the A48 and Harbour Way, being viewed in the direction of travel. 2. This boundary is present on 1888 – 1915 OS Six Inch mapping. The majority of the surrounding area has lost its previous field structure and boundaries. 3. If access were provided off the A48 as originally intended, which would require some limited vegetation removal to facilitate, receptors would be travelling at speed with only limited glimpses into the Site. Furthermore, there is considerable existing vegetation aligning both sides of the A48, M4 and sliproads that views from the east would still likely be heavily filtered if not screened.
Deliverability / Viability	1. The access can only be secured through the purchase of land outside of the applicant's control, which does not form part of the current redline boundary. 2. It is on the market for offers over £500,000 for a 1.36 acre site, equivalent to c. £370k per acre, which is very expensive for the locality. 3. If the applicant is to bid for the site, they would likely need to buy the site in its entirety, as Welsh Government are unlikely to wish to sell it off in phases due to the complexity/ inefficiencies this could cause in terms of process, potential rights of access to the remaining parcel etc 4. Beyond providing access to the Tyn-y-Caeau, the site itself is not a straightforward development proposition, due to its shape and configuration. 5. These include that c.40-50% sits in Flood Zone 3 (Flood Map for Planning, based on JBA's recent Flood Risk Assessment), which would restrict the range of uses e.g. to general industrial, employment, retail, and some renewable energy installations and be subject to other limitations; and that the site itself has ecological value (e.g. it has been designed as a bee-friendly site by NPT). 6. There is no guarantee that the applicant would be able to secure the site, as they will need to bid for it alongside others on the open market, and with a relatively limited range of potentially low-value uses (commercial/ industrial use), the cost of securing it could affect the viability of the project as a whole

	given the overall asking price.
	7. If another party did secure it, there is no guarantee that the applicant could negotiate rights to access the site from that parcel, as the other party would effectively hold a ransom over WBE. This could be prohibitive cost-wise and again, undermine the viability of the project.
Additional (Utilities) based on the Utility Search Report (July 2024)	1. At the northern site boundary, operational water services confirmed by Welsh Water are provided in the northern section of the northern land parcel. It is unlikely that any access road into the site would impact upon this existing infrastructure. However, should any new building or landscape be required in the section of the land parcel discussions with Welsh Water would need to be undertaken.
(Interpreted by Apex Transport)	2. There is an existing high pressure gas main, which heads through the northern land parcel in the northern section of the site as confirmed by plans provided by Wales and West Utilities. It is unlikely that any access road into the site would impact upon this existing infrastructure. However, should any new building or landscape be required in the section of the land parcel discussions with Wales and West Utilities would need to be undertaken.
	3. There does not appear to be any electric services within the parcel to the north as shown by search plans provided by National Grid. Neither are there any overhead power lines adjacent to the northern parcel.
	4. BT Openreach reference JCJ12572T and associated plan indicate that the northern parcel does not contain any existing services.
	5. There is no existing communication infrastructure within the land parcel to the north.

5.3.9 A copy of the Utility Search Report prepared by Utilimap can be provided on request, if needed.

5.3.10 In summary, there is a significant level of technical complexities associated with accessing the site via the third party land to the north. In conjunction with the risk of deliverability / ability to purchase the site and the viability from a commercial perspective, this access option is likely to have a greater impact on a number of disciplines and is significantly less appropriate than accessing via the A48 Margam Road.

5.3.11 The A48 Margam Road access would have a significantly lower impact on ecology, trees and landscape, as well as being preferable for drainage. A suitable gradient on the access road is more easily achievable from an access onto the A48 Margam Road, resulting in significantly lower costs to deliver the road infrastructure needed to connect to the site. As such, at this stage it is considered that the potential alternative access suggested by the LHA is potentially unviable and unattractive for this data centre proposal and has not been considered further.

5.3.12 The proposed access onto the A48 Margam Road is considered appropriate in terms of design, road safety and accommodating the traffic generated by the proposed development.

5.4 Internal Layout

5.4.1 The proposal is to provide a new internal access road from the access with the A48 Margam Road, which over the first c.40m is to be 5.5m in width, suitable to allow a large car and HGV to pass one another.

5.4.2 The access road will continue into the site's dedicated service yard, which will also provide staff car parking and a loading bay, which will be suitably sized to accommodate the infrequent HGV deliveries. A further secondary access road is provided which follows the existing alignment of the internal access road, which connects to the office element of the proposals (which would change the use of the existing dwelling). The secondary access road is 4.5m in width, which is suitable to allow two cars to pass one another.

- 5.4.3 Within the site, where there are parking bays, a 6.0m aisle width/manoeuvring area is provided to the rear of bays, to enable manoeuvring of vehicles, in line with guidance from NPTCBC.

5.5 Car Parking

Car Parking Standards

- 5.5.1 Data centres are lightly staffed and those based on site undertake maintenance, data collection and administrative functions, which is tantamount to an office use. On this basis, a review of the NPTCBC Supplementary Planning Guidance (SPG), Parking Standards dated October 2016 has been undertaken, and this does not provide standards specifically for a data centre use, or for a use which would be similar. However, Section 4.2 of the SPG sets out the parking standards for B1 office use. Given this will be the part of the site which would have employees, it is considered appropriate to apply the standards from this use to the proposals. The standards for B1 office use in Zones 4 to 6, within which the site is situated, are shown at Table 5-4.

Table 5-4: NPTCBC Car Parking Standards – Offices

Development	Standard
Offices (< 1,000 sqm)	1 space per 20 sqm
Offices (> 1,000 sqm)	1 space per 20 sqm

- 5.5.2 The proposals include the conversion of the existing residential dwellinghouse to ancillary office space associated with the operation of the data centre. The conversion of the office will result in 213 sqm of GFA for office function.
- 5.5.3 Based on the standard shown at Table 5-4 this would equate to 11 car parking spaces in relation to the office use. It is noted that there may be some additional employees situated within the data centre itself and as such, this parking standard would solely relate to the office use and should not therefore be considered as an upper limit of parking on the site.
- 5.5.4 In relation to disabled parking provision, paragraph B.9 of the parking SPG states that for “*car parks associated with new employment premises - 5% of the total car park capacity*” is required. This would equate to a single disabled parking space within the site, based on a total of 11 car parking spaces being provided.
- 5.5.5 The guidance also states that parking spaces should be a minimum of 2.4m x 4.8m in dimension and provided with 6.0m clearance to the rear of bays for manoeuvring/aisle width clearance. Disabled parking spaces must include a 1.2m safety margin on one side of the bay as a minimum.

Car Parking Provision

- 5.5.6 The proposed development is to provide a total of 12 car parking spaces for staff. These spaces are to be split between two locations where a total of 6 are provided adjacent to the offices and 6 spaces are provided to the west of the loading area. This is in accordance with the parking standards, allowing for additional staff being located within the data centre. In each parking location, a single disabled parking space is provided offering a total of two disabled bays.
- 5.5.7 The level of car parking and disabled provision proposed on site is therefore in line with the NPTCBC policy requirements. Swept path analysis of the internal car parking is provided at Appendix J.

5.6 Cycle Parking

Cycle Parking Standards

- 5.6.1 Appendix D of the Parking SPG sets out requirements for cycle parking provision for new development. Table 5-5 summarises the standards for new office developments.

Table 5-5: NPTCBC Cycle Parking Standards – Offices

Type of Development	Long Stay Provision	Short Stay Provision
Offices	1 stand per 200 sqm	1 stand per 1,000 sqm

- 5.6.2 The proposed office use of the data centre is 213 sqm GFA and as such would require a minimum of one cycle stand for staff. For short stay stands, which account for visitor cycle parking the proposals would not require any provision.

Cycle Parking Provision

- 5.6.3 The proposals are to provide 9 cycle parking spaces in a secure and covered cycle shelter, adjacent to the office use of the development. This level of provision is significantly above the NPTCBC parking standards for office use, and also allow for employees situated within the data centre itself.
- 5.6.4 The proposals are also supported by a Travel Plan, which will monitor the ongoing use of cycle storage facilities to be delivered on site. Should demand arise for additional cycle parking, the developer will consider installing additional provision.

5.7 Servicing, Deliveries and Emergency Access

Servicing and Deliveries

- 5.7.1 The development site provides a dedicated servicing area at the building's western frontage. The site would be served infrequently by HGVs and these vehicles would be managed onsite by the operator. The applicant has advised that the site is only likely to be served by 1-2 HGVs a month, typically for deliveries of fuel and a weekly refuse collection, and if needed, vehicle sizes can be restricted.
- 5.7.2 However, the site layout has been designed to accommodate an articulated vehicle, for flexibility purposes, although this vehicle type is unlikely to be required to provide deliveries to the site, and if this does occur it would be extremely infrequently. On the majority of occasions deliveries to the site will be via smaller panel van or box van vehicles (i.e. for spare parts, parcels, supplies and maintenance).
- 5.7.3 For robustness, swept path analysis has been undertaken for a 16.5m long articulated HGV and an 11.3m long refuse vehicle, which demonstrates that these vehicles can be accommodated appropriately, if needed.
- 5.7.4 As such, the site design is appropriate to accommodate all service and delivery vehicles which can enter and exit in forward gear. Swept path analysis for a 11.3m long refuse vehicle is provided at Appendix K.

Emergency Vehicles

- 5.7.5 A fire tender will also be able to access the site adjacent to the building on the north, west and eastern boundaries of the building. Based on advice from a fire specialist, a fire tender will require access to the northern and western sides of the building, to gain access to the fire shafts. The fire tender can gain access to these areas from the access road and service yard and enter / exit the site in forward gear.

5.7.6 As such, the layout is appropriate for access by emergency vehicles. Swept path analysis for a fire tender is provided at Appendix K.

5.8 Construction

- 5.8.1 The details of the construction of the site are yet to be finalised and as such the construction vehicle movements are currently unknown. The impacts of construction would be short term and temporary in nature.
- 5.8.2 A detailed Construction Environmental Management Plan (CEMP) will be submitted, discussed and agreed with NPTCBC prior to the commencement of the development, and can be conditioned accordingly, as requested by the LHA. This will include full details of the vehicle movements and construction period, as well as mitigation measures which will be adopted.
- 5.8.3 In relation to transport the CEMP will identify appropriate measures to reduce any interruption and ensure that the impacts of construction traffic in the vicinity of the site and on the surrounding highway network are kept to a minimum.
- 5.8.4 The CEMP would, as a minimum, include details of the routes of construction traffic, temporary signage including the proposed location of warning signs, delivery timetables, the location of the construction compound, mitigation measures for pedestrians, if routes are affected and the location of wheel washing facilities.
- 5.8.5 The construction activities are anticipated to occur Monday and Friday between 8am and 6pm, and Saturday morning between 8am and 1pm, although the details can be discussed and agreed as part of the CEMP.
- 5.8.6 All routes to the site will be agreed with the LHA prior to construction commencing. HGV deliveries will be advised to follow the primary access route to the site dependent on the direction of travel. The route is envisaged to be via the A48 to and from the M4 to and from Junction 38 to the south or the northbound slip road immediately to the north. If it is considered a safety issue for HGVs to leave the site and u-turn at the Harbour Way / A48 roundabout, a routing agreement could be put in place whereby vehicles would travel via Harbour Way and u-turn at the Tata Steel access roundabout to the north, or they could route to Junction 41, to return southbound along the M4. All vehicle movements exiting the site would be controlled by banksman, to ensure they exit when safe to do so.
- 5.8.7 The CEMP will ensure that vehicles will be accommodated on the site and would not block back or reverse on the highway network.
- 5.8.8 Suitable mitigation measures would be to be put into place by the contractor, to minimise the impact on the public, which would include the following:
- Coordinating deliveries at least busy times
 - Banksperson directing delivery vehicles on the A48
 - Publicity campaign and warning signage
 - The production of a plan detailing measures to reduce the contract duration and the number of trips made
 - Techniques and measures will be implemented, where practical, to assist in minimising construction freight trips on the local highway network, particularly during peak times (such as a vehicle booking system)
 - All construction worker vehicles would be accommodated within the site to reduce the impact of overspill parking on the highway network

- Measures will be set out to encourage construction staff to reduce car use to the site through car sharing, public transport, walking and cycling, particularly considering the sustainable location of the site
- Wheel washing and dust sheeting will be undertaken to reduce the impact of mud, dust and dirt on the highway network.

5.8.9 The CEMP will also aim to achieve;

- Maintaining standards of safety on the roads, considering vulnerable road users
- Improved highway efficiency by minimising the effects of construction traffic through coordinated deliveries and access
- More cost effective construction logistics activity

5.8.10 The CEMP will also;

- Identify surrounding constraints and opportunities for delivery movements
- Identify opportunities for reducing, re-timing or combining deliveries
- Minimise the impact on congestion on the surrounding highway network
- Improve the reliability of deliveries, thereby reducing the potential for failed deliveries (and therefore re-deliveries) or vehicles arriving outside of dedicated booking times
- Reduce fuel costs of the freight operators

6. TRIP GENERATION AND IMPACTS

6.1 Overview

- 6.1.1 The trip generation of the proposals has been considered through analysis of the Trip Rate Information Computer System (TRICS). The TRICS database has been analysed for sites with similar characteristics in terms of scale and location.
- 6.1.2 The analysis considers the trip generation during network peak hours on a weekday. The peak hours have been identified by the traffic surveys undertaken on the A48 Margam Road where 08:00 to 09:00 is the AM peak hour and 16:00 to 17:00 in the PM peak hour. It also considers the daily trip generation and trips made specifically by HGVs.

6.2 Existing Traffic Generation

- 6.2.1 The development site is considered to have a lawful use for a guest house. As such, the trips generated by this use has been accepted on the highway network at the existing site access. For robustness, as this has not been built out, this use has not been considered in this assessment, albeit a guest house type use could generate movements throughout the day, including servicing and deliveries which could be via HGVs.
- 6.2.2 The site is currently used as a large single residential dwelling, and as an estimate this use could generate around 6-8 daily vehicle movements, some of which could occur during network peak hours.

6.3 Proposed Traffic Generation

- 6.3.1 The proposed data centre will have a floorspace of 8,700 sqm. The following search criteria has been applied in TRICS to obtain surveys of similar uses to the proposals:
- 02 – Employment/I – Data Centre
 - Located in England, Wales and Scotland (excluding London)
 - Vehicle surveys carried out since 2010
 - Surveys from Monday to Friday
 - 5,000 sqm to 13,000 sqm floorspace
 - Suburban and Edge of Town Locations
- 6.3.2 The above search criteria resulted in the identification of four sites. However, all four sites were based next to each other in Slough and had significantly higher levels of car parking than for the proposals site. The parking ranged from 34 spaces (for a site of 5,677 sqm) to 162 spaces (for a site of 11,402 sqm). As such, these sites are likely to generate significantly higher levels of vehicle movements than the proposal site. In particular, two of the sites had parking provision which was not comparable with the proposals, with 96 spaces for a site of 11,700 sqm floorspace (one space per 122 sqm) and 162 spaces for a site of 11,402 sqm floorspace (one space per 70 sqm).
- 6.3.3 The proposals are for a site with 12 parking spaces with a floorspace of 8,700 sqm (one space per 725 sqm). On this basis, these two sites with significantly higher parking provision have been removed from the analysis, which has left two more comparable surveys on which to base the trip generation.
- 6.3.4 The forecast total vehicle and HGV trip rates per 100 sqm GFA and trip generation for a site with a floorspace of 8,700 sqm are shown in Table 6-1 and Table 6-2. The full TRICS reports are included in Appendix L.

Table 6-1: Proposed Data Centre – Forecast Vehicle Trip Rates and Generation

Time Period	Trip Rates (per 100 sqm GFA)			Trip Generation (8,700 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.055	0.000	0.055	5	0	5
08:00-09:00	0.069	0.009	0.078	6	1	7
16:00-17:00	0.005	0.037	0.042	0	3	3
17:00-18:00	0.014	0.055	0.069	1	5	6
Daily Trip Rates	0.446	0.444	0.890	39	39	78

Table 6-2: Proposed Data Centre – HGV Trip Generation (8,700 sqm)

Time Period	Trip Rates (per 100sqm GFA)			Trip Generation (8,700 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
07:00-08:00	0.000	0.000	0.000	0	0	0
08:00-09:00	0.005	0.005	0.010	0	0	0
16:00-17:00	0.000	0.000	0.000	0	0	0
17:00-18:00	0.000	0.000	0.000	0	0	0
Daily Trip Rates	0.010	0.010	0.020	1	1	2

6.3.5 The proposed data centre is forecast to generate between 5 and 7 total vehicle movements during the AM peak hours and between 3 and 6 total vehicle movements in the PM peak hours. Over a daily period, it is forecast to generate a total of 78 total vehicle movements. This level of movements is considered robust and realistic for the proposal site which is providing just 12 parking spaces.

6.3.6 Over a daily period, the TRICS analysis showed that just one HGV could arrive at the site. The applicant has stated that there are likely to be only 1-2 HGV movements per month relating to deliveries of fuel, and a weekly refuse vehicle. As such, a HGV arrival would not occur on a daily basis, but the trip generation from TRICS is in line with the information provided by the applicant for a worst case day.

6.3.7 The trip generation analysis demonstrates that the site would generate a minimal level of total vehicle and HGV movements, significantly below the levels generated by the live truck stop application.

6.4 Impact Summary

6.4.1 The proposed development is forecast to generate a maximum of 7 total vehicle movements during the peak hours, which equates to a vehicle movement to or the A48 Margam Road on average every 8-9 minutes.

6.4.2 In terms of vehicles leaving the site from the site access, it is forecast that there would be a maximum of 5 departures during any peak hour. This is less than one vehicle every 10 minutes leaving the site during the worst case hour.

6.4.3 Considering the baseline flows recorded at the Site 1 ATC traffic surveys, the proposal would generate less than 1% increase in movements on the northbound carriageway on the A48 Margam Road. This increase in traffic would not have a material impact on the operation of the highway, or an unacceptable impact on road safety at the access, on the A48 or on the wider network.

6.4.4 This also does not consider the existing site use which already generates vehicle movements onto the network at this location, with these movements accepted by the highway authority.

6.4.5 The minimal level of vehicle movements can be safely and suitably accommodated at the proposed site access, and changes the context of the access in comparison with the truck stop application, given the minimal number of HGVs and overall vehicle movements.

6.4.6 As such, the previous objections from the LHA in relation to road safety for the truck stop application are not considered to remain applicable for this application, particularly in relation to HGV movements

considering the access can be delivered with appropriate geometry and visibility, and there are no outstanding issues raised from the independent road safety audit.

7. SUMMARY AND CONCLUSIONS

7.1 Summary

- 7.1.1 This Transport Assessment has been produced in relation to a planning application for a proposed data centre development on land at Tyn-y-Caeau. The site is located to the south of the A48 Margam Road and northwest of Junction 38 of the M4 in Margam, Port Talbot.
- 7.1.2 The TA has been produced to inform the local highway authority and planning authority, Neath Port Talbot County Borough Council (NPTCBC), of the highways and transport implications of the proposals.
- 7.1.3 The proposals are for a full application for a new data centre and conversion of existing dwelling on the site to serve as its ancillary office use. The site would be operational for 24 hours a day between 6 and 7 days a week.
- 7.1.4 The site is situated in a sustainable location, it is well suited to accommodate the proposals, being located in an area surrounded by existing industrial uses. It is connected by existing pedestrian, cycle and public transport networks. As such, it is well suited to accommodate the proposals and will encourage and promote sustainable travel behaviour and attract some employees who choose to travel by sustainable modes. This will assist in constraining the level of vehicle generation from the site and minimise the impact of the proposals on the highway network.
- 7.1.5 The development site has an existing vehicular access with the A48 Margam Road, which has been long established for the existing use, and accepted for an approved guest house extension. As such, the principle of vehicular access in this location has been accepted. The proposals would provide a revised access arrangement at broadly the same location, which would be suitable to accommodate the movements generated by the proposals.
- 7.1.6 The existing site access was in-situ prior to the implementation of the 'Port Talbot Peripheral Distributor Road' and has historically operated as a left in and left out access. The visibility requirement of the existing access with the A48 Margam Road, would have been fully considered during the implementation of new highway infrastructure associated with the Distributor Road, including the highway signage and visibility splay maintenance.
- 7.1.7 A review of the most recent eight year period confirms that there have been no accidents at the existing access. Within the wider study area, recorded accidents do not represent specific patterns or repeat occurrences that would identify an existing road safety issue.
- 7.1.8 Existing highway signage is located within the western verge to the south of the existing access on the A48 Margam Road.
- 7.1.9 Visibility for drivers emerging from the existing access would have been provided at 2.4m x 160m to the south, subject to vegetation maintenance within land in the adopted highway. There is a road sign within the visibility splay, although it is not considered to be an obstruction for drivers as the signage height either offers a minimum clearance of c.2m or does not provide a significant obstruction to the overall visibility splay envelope.
- 7.1.10 The A48 Margam Road is not a trunk road and classified as a 'non-primary route', which is adopted by NPTCBC. As such, it is considered appropriate to apply guidance set out within MfS2, which is purposed to fill the *"gap in design advice that lies between 'Manual for streets' and the design standards for trunk roads as set out in the 'Design manual for roads and bridges'"*.

- 7.1.11 The proposed access is to be provided as a priority left-in, left-out access arrangement, which will replace the existing priority junction arrangement and is broadly in the same location. The proposed junction arrangement is provided with dedicated access and egress lanes, separated by a central island. The access is also provided with transitional radii and tapers to enable articulated vehicles to turn in and out appropriately and without conflict or overrunning lanes on the A48.
- 7.1.12 An independent traffic survey was commissioned on the A48 Margam Road, which identified existing vehicle flows and speeds. The speed surveys identified that 85th percentile vehicle speeds on approach to the site access were 48.8 mph (78.5 kph), using the worst case daily average.
- 7.1.13 Visibility splays for drivers emerging from the proposed site access are provided with 2.4m x 144m to the nearside carriageway edge to the south of the junction, which is in line with the guidance set out within the MfS2 for recorded 85th percentile vehicle speeds approaching the site access. The MfS2 formula utilises parameters from DMRB for visibility purposes.
- 7.1.14 Swept path analysis of vehicles has been undertaken and demonstrates that a 16.5m long articulated HGV can pass a large car when entering and exiting the site along the access road. The use of the site would not generate two articulated vehicles passing at the access as HGV movements would be infrequent, although it would be possible for this to occur within the site and away from the A48. The access road is also 5.5m wide, which enables two HGVs to pass.
- 7.1.15 As recommended and discussed with the highway authority, the proposed site access design has been subject to an independent Stage 1 RSA. The audit provided four recommendations, with two being addressed at the detailed design / technical approval stage, one a requirement of ongoing vegetation maintenance for which the highway authority is responsible, and the final point requiring the incorporation of a pedestrian and cycle crossing facility. As such, the proposed site access has fully considered all recommendations from a Stage 1 RSA and the access is considered suitable and safe for accommodating movements associated with the proposals. The highway authority has accepted the access is suitable subject to a number of conditions.
- 7.1.16 The proposals would provide a total of 12 car parking spaces, which is in accordance with the parking standards. All cars can enter and exit the site in forward gear and turn within the spaces appropriately. It is also proposed to provide 10 cycle parking spaces, which is in excess of the standards and would encourage and promote travel by cycle.
- 7.1.17 The proposed data centre is forecast to generate a maximum of 7 total vehicle movements in the peak hour, which equates to a vehicle movement from/onto the A48 Margam Road on average every 8-9 minutes. This level of traffic generation would not have a material impact on the operation of the highway network and be well within levels which can be appropriately accommodated through the proposed junction.
- 7.1.18 This also does not consider the existing site use which already generates vehicle movements onto the network at this location, with these movements accepted by the highway authority.
- 7.1.19 Over a daily period, the TRICS analysis showed that just one HGV could arrive at the site. The applicant has stated that there are likely to be only 1-2 HGV movements per month relating to deliveries of fuel, and a weekly refuse vehicle. As such, a HGV arrival would not occur on a daily basis, but the trip generation from TRICS is in line with the information provided by the applicant for a worst case day.
- 7.1.20 The minimal level of vehicle movements can be safely and suitably accommodated at the proposed site access, and changes the context of the access in comparison with the live truck stop application, given the minimal number of HGVs and overall vehicle movements.

- 7.1.21 As such, the previous objections from the highway authority in relation to road safety for the truck stop application are not considered to remain applicable for this application, particularly in relation to HGV movements considering the access can be delivered with appropriate geometry and visibility, and there are no outstanding issues raised from the independent road safety audit. The highway authority has accepted the access would be appropriate for this specific development, subject to planning conditions.
- 7.1.22 The proposed layout provides a dedicated servicing area at the building's western frontage. Although there would be minimal level of HGVs (1-2 per week), the site layout has been designed to accommodate an articulated vehicle, for flexibility purposes, although this vehicle type is unlikely to be required to provide deliveries to the site, and if this does occur it would be extremely infrequently. On the majority of occasions, deliveries to the site will be via smaller panel van or box van vehicles (i.e. for spare parts, parcels, supplies and maintenance). All service and delivery vehicles can enter and exit the site in forward gear.

7.2 Conclusions

- 7.2.1 The proposals offer a suitable choice of travel options and represent sustainable development in line with transport policies in Future Wales, TAN18, PPW12 and the NPTCBC LDP.
- 7.2.2 The proposed access arrangements are safe and suitable for the proposed development.
- 7.2.3 The proposed parking provision is in accordance with the Parking Standards as well as the objectives for encouraging sustainable travel and reducing car use as set out in PPW12 and Future Wales.
- 7.2.4 The development would not have an unacceptable impact on road safety or a material impact on the operation of the highway network. As such, the proposals would be in accordance with Policy TR2 of the Local Plan as they would not result in an adverse impact on highway safety or create unacceptable levels of traffic generation.
- 7.2.5 As such, the analysis presented within this TA allows the highway authority to provide a positive recommendation on the planning application.

Appendix A Highway Authority Pre-Application Response

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL

The Town and Country Planning (Development Management Procedure)
(Wales) Order 2015 (as amended)

HEAD OF ENGINEERING & TRANSPORT

PRE APPLICATION – HIGHWAY AND DRAINAGE OBSERVATIONS

PRE APPLICATION NO: P423001800 - Q2023.0192**RECON**
APPLICANT: WELSH BIO ENTERPRISES
LOCATION: LAND TO REAR & ADJACENT TO BIOMASS POWER
STATION, HARBOUR WAY, PORT TALBOT, SA13
2NW
PROPOSAL: MIX OF ENERGY-RELATED USES ACROSS THREE
SITES IN DIFFERING CONFIGURATIONS.

The Highway Authority, in responding to the above pre application, provides the following substantive response:

No comment	☐
No objection (subject to any specified conditions below)	☐
Concerns have been identified (see below for how those concerns can be addressed by the applicant)	☒
Objection – on the grounds set out below	☐
SAB (SAB approval is required)	☒

MY HIGHWAY AND DRAINAGE OBSERVATIONS ON THIS PRE APPLICATION RECONSULTATION DATED 25/09/2024 ARE AS FOLLOWS:-

The following documents are applicable to this submission:-

- Neath Port Talbot County Borough Council - Parking Standards (Oct 2016).
- Neath Port Talbot Highway Technical Design Guide for Residential, Commercial & Industrial Developments.
- Planning Policy Wales Technical Advice Note 18: Transport
- Schedule 3 of the Flood and Water Management Act (FWMA) 2010 requires surface water drainage for new developments to comply with Mandatory National Standards for Sustainable Drainage (SuDS). Reference to the Non-Statutory Ministerial National Standards and the CIRIA 753: The SuDS Manual is recommended.
- Welsh Government's Active Travel Guidance

Highway Comments

1. The required vehicular visibility splay at the proposed point of access to the site from the A48 dual carriageway in accordance with TAN 18, is 4.5 metres x 160 metres. This cannot be achieved, due to the position of the highway signage within the verge located to the East of the proposed access/egress. The existing highway signage is in a fixed location that is best suited to assist drivers leaving the trunk road at junction 38 M4 Westbound, leading onto the A48 at Margam. The Y distance of the visibility splay is within land outside the control of the applicants land ownership and is heavily vegetated further impacting driver visibility on egress of the site. Therefore, it is the view of the highway authority that the required standards cannot be met. It is important that visibility allows drivers on the major road to be aware of traffic entering from the minor road in time for them to be able to reduce speed and stop safely if necessary.
2. The proposed junction is approximately 70 metres away from the Harbour Way (A4241) roundabout. This further reduces the lead in length for HGV's to manoeuvre and change lanes (where needed) to head in the direction of the M4. To encourage HGV's to undertake a sudden lane change within such a short distance would seek to create vehicular braking and possible shunting of motor vehicles to the detriment of highway safety. In addition the existing dual carriageway / slip road has horizontal curved alignments which encourage deviation to the left beyond the proposed access/exit junction, making the lane change even more challenging.
3. Any works to be constructed on the public highway shall be subject to a Road Safety Audit stage 1-4 in accordance with GG 119 of the Design Manual for Roads and Bridges. Each stage of the Road Safety Audit shall be submitted for approval in writing, by the Local Planning Authority. All issues highlighted at each stage, being addressed to the written approval of the Local Planning Authority within three months of that stage of the Road Safety Audit has been approved.
4. Should a HGV decelerate turning left into the site, the visibility for a HGV exiting the site is obstructed temporarily which may allow smaller vehicles to accelerate past the HGV turning left, with potential for a collision with a vehicle exiting the site. It is assumed that this would be identified during the required Road Safety Audit Stage 1 & 2.
5. The car parking arrangements and quantities shall be in accordance with Neath Port Talbot County Borough Council - Parking Standards SPG (Oct 2016), with Electric Vehicle charging being essential to the overall design.
6. A Construction Method Statement has been submitted to and approved in writing by the Local Planning Authority. The statement shall provide for:
 - (i) the parking of vehicles of site operatives and visitors
 - (ii) loading and unloading of plant and materials
 - (iii) storage of plant and materials used in constructing the development

- (iv) the erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate
- (v) wheel washing facilities
- (vi) measures to control the emission of dust and dirt during construction
- (vii) a scheme for recycling/disposing of waste resulting from demolition and construction works
- (viii) scheme for the erection of temporary/semi temporary signage warning drivers of speed restrictions.
- (ix) The Construction Method Statement shall be signed by a competent person(s).

The approved Statement shall be adhered to throughout the construction period.

7. Development proposals must seek to maximise walking and cycling accessibility by prioritising the provision of appropriate on-site infrastructure and where necessary off-site infrastructure. Walking and cycling infrastructure and services should be prioritised and put in place from the outset, before people have moved in and travel patterns have been established, as per Planning Policy Wales, Edition 11 and Future Wales – the National Plan 2040. All new walking and cycling infrastructure should be built to standards set out in Welsh Government's Active Travel Guidance and off-site infrastructure should link to (where possible) routes on Neath Port Talbot Council's Active Travel Network Map. This shows where walking and cycling routes already exist (Existing Routes) and where upgrades or brand new routes are anticipated for the next 15 years (Future Routes) in built up areas. Further information on the Active Travel Guidance and Neath Port Talbot's Active Travel Network Map can be found here: www.npt.gov.uk/activetravel

Conclusion

The Highway Authority have significant safety concerns over the location and use of the proposed access. The Council's highway authority feels that this application shall create significant traffic generation compared to its current use and the new proposed junction geometry fronting onto the dual carriageway and Harbour Way roundabout is likely to compromise the safe, effective and efficient use of the highway network and will likely have an adverse impact on highway safety. Therefore, this proposal does not comply with policy TR2 and should the proposal be submitted as a full planning application, the highway authority are likely to recommend refusal for this particular application.

Drainage Comments

1. **SAB approval will be required prior to any work commencing.** To commence work is a breach of SAB approval required under Paragraph 7 (1) Schedule 3 of the Flood and Water Management Act 2010 whereby legal action will be taken by the Authority under The Sustainable Drainage (Enforcement) (Wales) Order 2018. Guidance and applications can be found on <https://www.npt.gov.uk/17534>

2. Please note the balancing pond located opposite the proposed site has been designed to receive the highway water run-off from Harbour Way only. Therefore, a separate assessment is to be provided as part of the SAB Application which will be required for this development.
3. Should any springs or ground water seepage be encountered the on site works in that area shall cease until a scheme for collection and disposal of the water has been submitted to and approved in writing by the Local Planning Authority. No ground water shall ever be discharged into the proposed drainage scheme.
4. There must be no interference, alteration or diversion of any ditch, watercourse, stream or culvert crossing or bordering the site, without prior consultation and agreement with the Authority.
5. Unless otherwise agreed in writing by the Local Planning Authority, foul water and surface water discharges shall be drained separately from the site.
6. No surface water or Land drainage run-off shall be allowed to connect, either directly or indirectly, to the public sewerage system unless otherwise approved in writing by the Local Planning Authority.
7. Adequate provision shall be made for the drainage of the site, to ensure that the drainage of any adjoining land is not interrupted or otherwise adversely effected by the development during the life time of construction.

NOTE(S) TO APPLICANT

It is recommended that a SAB preliminary application be submitted the same time as the planning process to ensure consistency in respect of layout and land use. This is dealt with under separate legislation to that of planning.

Prior to any work commencing on site, a SAB Application is to be submitted and approved by the SuDS Approving Body.

SAB approval will be required prior to any work commencing. To commence work is a breach of SAB approval required under Paragraph 7 (1) Schedule 3 of the Flood and Water Management Act 2010 whereby legal action will be taken by the Authority under The Sustainable Drainage (Enforcement) (Wales) Order 2018. Guidance and applications can be found on <https://www.npt.gov.uk/17534>

Any existing on site infrastructure should be considered in SuDS design to find the most effective solution. It is important to understand the location and capacity of existing drainage to determine what infrastructure should be reused in the SuDS scheme. Other buried infrastructure, such as utilities, will need to be located and considered in the SuDS design. Using SuDS such as permeable paving and bio retention should be avoided in major service strips, as access will require disturbance and rebuilding of the SuDS system, but compatibility can be achieved by constructing dedicated and well-marked service strips that are designed with access in mind.

Neath Port Talbot County Borough Council offer a SAB pre application service, it is highly recommended that this route is explored prior to the submission of a full SAB application.

These observations provided are without prejudice and based upon the information provided at the preliminary stage. However, should further or additional information be submitted thereafter, our observations may change to reflect this information.

SIGNED:



DATE: 25th October 2024

HEAD OF ENGINEERING & TRANSPORT

Pre Application Q2023/0192RECON JW

Appendix B Highway Authority Correspondence January 2025

From: Justin W. Griffiths
Sent: 21 January 2025 16:22
To: Lewis Keenan; David Chapman; Michael Fox
Cc: Matthew Griffiths; richard@evansbanks.com; Joanna Weeks
Subject: Data Centre Site - Note of Highways Meeting

Importance: High

Afternoon Lewis/David/Michael

Further to our meeting on Monday 20th January 2025, I apologise having had the issue of not being able to see sight of the complete TN Transport document due to technical IT difficulties on my computer. Nevertheless, I am pleased to provide you with my comments as agreed.

Notwithstanding our standard highway conditions, we wish to provide no highway objection to the proposed data centre subject to the following:-

1. Subject to a Full RSA (all 4 stages) - noted that stage 1 and response are within the TN document.
2. The new use will subjected to only two HGV's per day, controlled by Planning – Matthew confirmed in meeting that this could be undertaken.
3. Finally, the splay of 160 is viable through the underside of the signs due to them being c.2.3m in height. And using the calculation method in DMRB/MfS you have provided accurate distance required of 144 metres which easily achieved as well.
4. This may have not be considered by the auditor - would there be a requirement for any or additional signage (temporary or otherwise) along the A48 dual to accommodate and/or advise of this new access for the above use (if any?), if so, then it would be required under the detailed stage 2 RSA.
5. We also need to ensure that the visibility splays (hedging & grass) is cut back to sustain the required visibility splays. Subject to a condition via planning.

General query:

Notwithstanding the CEMP which would be required, would you be able to advise on the following:-

6. Estimate how many HGV construction vehicles would be provided during the course of construction and its phases?
7. What times and days are the deliveries for construction and works proposed?
8. What are the routes the construction will traffic undertake to and from the site?
9. What mitigation measures (if any) are you proposing to minimise disruption, traffic delays, highway safety during construction?

I trust that the above is of assistance.

Regards

Cofion cynnes / Kind regards

Justin W. Griffiths

MSc | BSc (Hons) | HND | C.Build E | FCABE | FIHE |

SAB & Highway Development Control Manager/ SAB a Rheolwr Rheoli Datblygu Priffyrdd
Neath Port Talbot County Borough Council/ Cyngor Bwrdeistref Sirol Castell-nedd Port Talbot



Tel/Ffôn:

Email / E-bost:

The Quays, Brunel Way, Neath SA11 2GG
Y Ceiau, Ffordd Brunel, Castell-nedd, SA11 2GG

We welcome correspondence in Welsh and will deal with Welsh and English correspondence to the same standards and timescales.

Croesewir gohebiaeth yn y Gymraeg a byddwn yn ymdrin â gohebiaeth Gymraeg a Saesneg i'r un safonau ac amserlenni



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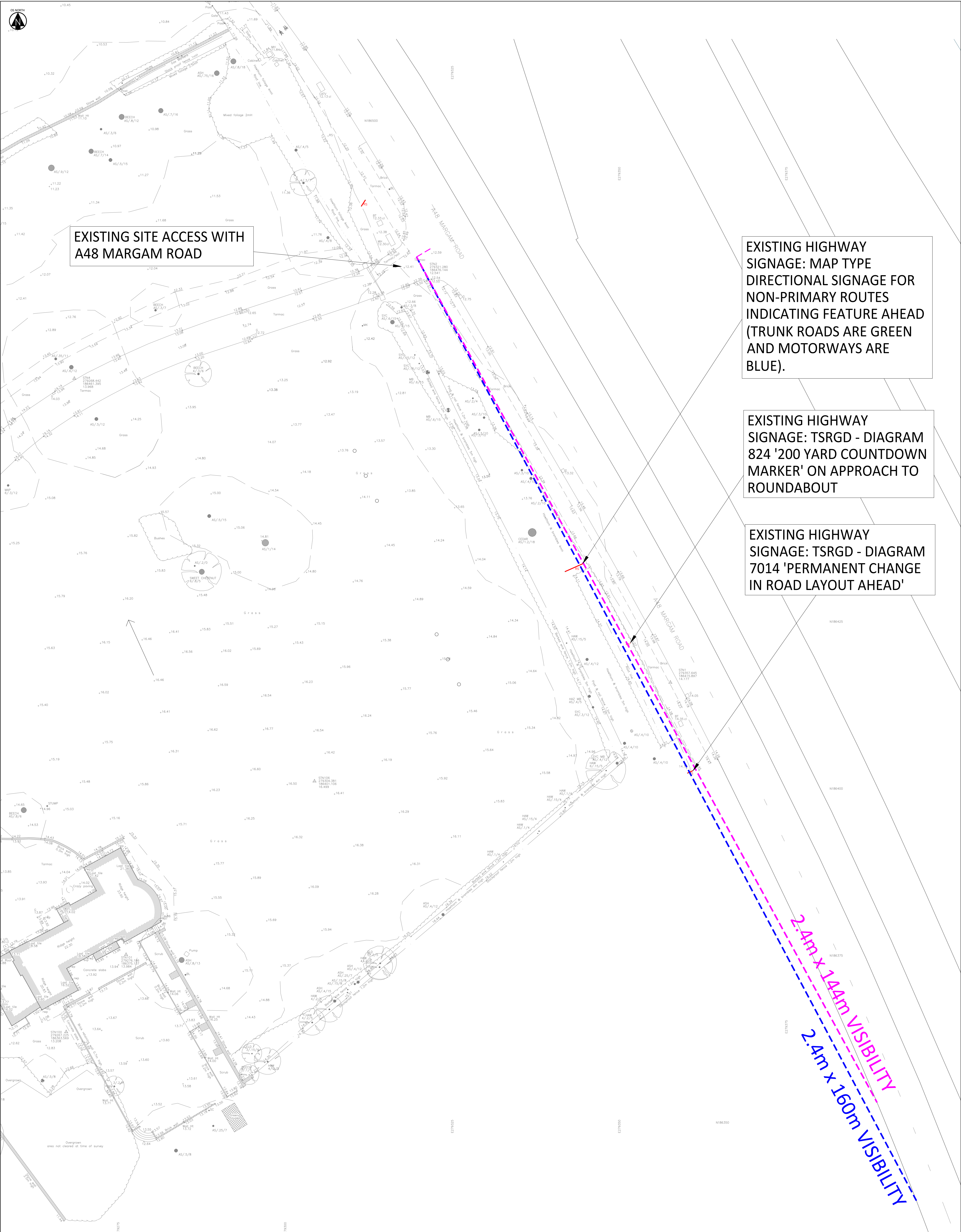


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Mae'r e-bost hwn ac unrhyw ffeiliau a drosglwyddir gydag ef yn gyfrinachol ac at ddefnydd yr unigolyn neu'r corff y cyfeiriwyd hwy atynt yn unig. Os ydych wedi derbyn yr e-bost hwn mewn camgymeriad, dylech hysbysu'r person a anfonodd yr e-bost ar unwaith. Hefyd, sylwer nad oes unrhyw sicrwydd nad yw'r e-bost hwn neu unrhyw ymgysylltiad yn rhydd o firws ac nad yw chwaith wedi'i ryng-gipio na'i newid.

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Appendix C Existing Site Access Visibility



SCALE BAR 0m5m10m SCALE BAR (1:250)	NOTES 1. General arrangement drawing suitable for planning purposes only. This drawing is not suitable for construction. 2. The drawing would need to go through a technical approval process (S278) which would detailed design matters such as ground conditions, utilities, drainage and lighting. 3. Drawing is based on topo survey data, supplemented by OS mapping data. Ordnance Survey, (c) Crown Copyright 2024. All rights reserved. Licence number 100022432 4. Extent of adopted highway has been based on third party information provided by NPTC&C 5. Visibility splays have been based on recorded data showing 85th percentile speeds of 49mph approaching the site from the south. The application of MfS2 (over 60kph / desirable minimum) parameters have been applied. This equates to DMRB requirements, but applying exact speeds rather than thresholds. The recorded speeds reduced as they pass the junction. 6. Please do not scale from this drawing.	REVISIONS <table><tr><td>P02</td><td>22/11/24</td><td>Second Issue.</td><td>LK</td><td>DC</td></tr><tr><td>P01</td><td>15/11/24</td><td>First Issue.</td><td>LK</td><td>DC</td></tr><tr><td>Rev</td><td>Date</td><td>Description</td><td>By</td><td>App</td></tr></table>	P02	22/11/24	Second Issue.	LK	DC	P01	15/11/24	First Issue.	LK	DC	Rev	Date	Description	By	App	Apex TRANSPORT PLANNING CLIENT WESTERN BIO-ENERGY LIMITED PROJECT LAND AT TYN-Y-CAEAU, MARGAM CLOCKWISE BRUNEL HOUSE CARDIFF CF24 0HA t: 02920 619 361 e: cardiff@apextp.co.uk RUNWAY EAST 101 VICTORIA STREET BRISTOL BS1 6PU t: 0117 427 0414 e: bristol@apextp.co.uk	TITLE EXISTING SITE ACCESS AND VISIBILITY WITH THE A48 MARGAM ROAD
			P02	22/11/24	Second Issue.	LK	DC												
			P01	15/11/24	First Issue.	LK	DC												
			Rev	Date	Description	By	App												
			PROJECT NO. C24-103		SCALE @ A1 1:250 (UNLESS STATED)														
STATUS DESCRIPTION INFORMATION		STATUS S2																	
DRAWING NO. C24103-ATP-DR-TP-001																			

Appendix D A48 Margam Road – Traffic Survey Data

	Thu Oct 10	Fri Oct 11	Sat Oct 12	Sun Oct 13	Mon Oct 14	Tue Oct 15	Wed Oct 16	5-Day Ave.	7-Day Ave.
00:00	0	38	57	0	0	36	31	21	23
01:00	0	18	18	0	0	17	18	11	10
02:00	0	17	22	0	0	18	22	11	11
03:00	0	15	17	0	0	11	10	7	8
04:00	0	37	29	0	0	37	33	21	19
05:00	0	171	100	0	78	198	186	127	105
06:00	0	358	118	0	345	334	357	279	216
07:00	0	678	44	0	643	596	579	499	363
08:00	0	837	0	0	859	760	516	594	425
09:00	0	553	0	0	467	441	0	292	209
10:00	0	614	0	0	624	665	0	381	272
11:00	584	629	0	0	660	599	0	494	353
12:00	584	644	0	0	590	596	0	483	345
13:00	615	696	0	0	714	658	0	537	383
14:00	622	850	0	0	780	690	0	588	420
15:00	667	1014	0	0	999	838	0	704	503
16:00	1012	1192	0	0	1163	1424	0	958	684
17:00	820	787	0	0	886	869	0	672	480
18:00	554	586	0	0	568	642	0	470	336
19:00	324	319	0	0	298	318	0	252	180
20:00	221	213	0	0	246	275	0	191	136
21:00	153	169	0	0	176	155	0	131	93
22:00	105	142	0	0	160	152	0	112	80
23:00	46	70	0	0	67	81	0	53	38
Total									
12H(7-19)	5458	9080	44	0	8953	8778	1095	6673	4773
16H(6-22)	6156	10139	162	0	10018	9860	1452	7525	5398
18H(6-24)	6307	10351	162	0	10245	10093	1452	7690	5516
24H(0-24)	6307	10647	405	0	10323	10410	1752	7888	5692
AM Peak	11:00 584	08:00 837	06:00 118	11:00 0	08:00 859	08:00 760	07:00 579	08:00 594	08:00 425
PM Peak	16:00 1012	16:00 1192	23:00 0	23:00 0	16:00 1163	16:00 1424	23:00 0	16:00 958	16:00 684



A48 Margam Road, Margam ATC 1 South Site

Site No. 6773 Site Ref. 677301

Speed Report (Speed Limit 50 Mph)

Week Begin: 10 October 2024

Channel: Northbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10Mph	Bin 2 10-<15	Bin 3 15-<20	Bin 4 20-<25	Bin 5 25-<30	Bin 6 30-<35	Bin 7 35-<40	Bin 8 40-<45	Bin 9 45-<50	Bin 10 50-<55	Bin 11 55-<60	Bin 12 60-<65	Bin 13 =>65
Thu 10 Oct	6307	48	42	6	0	0	7	9	49	423	1667	2433	1232	341	103	28	15
Fri 11 Oct	10647	49	43	6	0	0	9	12	73	601	2720	4143	2174	624	186	73	32
Sat 12 Oct	405	47	40	7	1	1	0	6	19	60	122	109	53	19	14	0	1
Sun 13 Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mon 14 Oct	10405	48	42	6	0	0	11	11	59	596	2742	3946	2199	605	171	41	24
Tue 15 Oct	10246	49	43	6	0	0	12	12	56	571	2649	3894	2202	606	166	51	27
Wed 16 Oct	2070	49	43	6	0	0	3	5	19	87	553	694	532	126	29	20	2
5 Day Ave.	7935	49	43	6	0	0	8	10	51	456	2066	3022	1668	460	131	43	20
7 Day Ave.	5726	41	36	5	0	0	6	8	39	334	1493	2174	1199	332	96	30	14

	Thu Oct 10	Fri Oct 11	Sat Oct 12	Sun Oct 13	Mon Oct 14	Tue Oct 15	Wed Oct 16	5-Day Ave.	7-Day Ave.
00:00	0	38	57	0	0	35	30	21	23
01:00	0	18	17	0	0	16	16	10	10
02:00	0	18	23	0	0	16	19	11	11
03:00	0	15	17	0	0	11	10	7	8
04:00	0	36	24	0	0	36	32	21	18
05:00	0	173	100	0	73	197	181	125	103
06:00	0	359	116	0	339	334	352	277	214
07:00	0	665	47	0	641	592	596	499	363
08:00	0	833	0	0	872	749	485	588	420
09:00	0	544	0	0	476	448	0	294	210
10:00	0	624	0	0	624	672	0	384	274
11:00	543	625	0	0	642	618	0	486	347
12:00	590	642	0	0	583	593	0	482	344
13:00	616	697	0	0	692	632	0	527	377
14:00	625	842	0	0	766	701	0	587	419
15:00	654	1016	0	0	1007	848	0	705	504
16:00	1005	1188	0	0	1174	1380	0	949	678
17:00	826	782	0	0	848	858	0	663	473
18:00	560	591	0	0	571	647	0	474	338
19:00	325	321	0	0	288	315	0	250	178
20:00	217	214	0	0	247	270	0	190	135
21:00	155	174	0	0	181	147	0	131	94
22:00	106	143	0	0	160	158	0	113	81
23:00	46	70	0	0	65	78	0	52	37
Total									
12H(7-19)	5419	9049	47	0	8896	8738	1081	6637	4747
16H(6-22)	6116	10117	163	0	9951	9804	1433	7484	5369
18H(6-24)	6268	10330	163	0	10176	10040	1433	7649	5487
24H(0-24)	6268	10628	401	0	10249	10351	1721	7843	5660
AM Peak	11:00 543	08:00 833	06:00 116	11:00 0	08:00 872	08:00 749	07:00 596	08:00 588	08:00 420
PM Peak	16:00 1005	16:00 1188	23:00 0	23:00 0	16:00 1174	16:00 1380	23:00 0	16:00 949	16:00 678



A48 Margam Road, Margam ATC 2 North Site

Site No. 6773

Site Ref. 677302

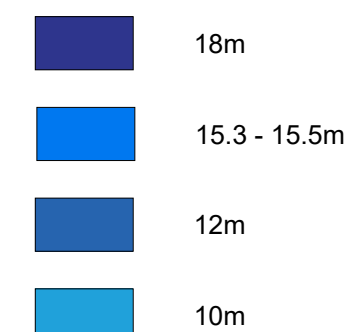
Speed Report (Speed Limit 50 Mph)

Week Begin: 10 October 2024

Channel: Northbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10Mph	Bin 2 10-<15	Bin 3 15-<20	Bin 4 20-<25	Bin 5 25-<30	Bin 6 30-<35	Bin 7 35-<40	Bin 8 40-<45	Bin 9 45-<50	Bin 10 50-<55	Bin 11 55-<60	Bin 12 60-<65	Bin 13 =>65
Thu 10 Oct	6268	41	36	5	0	1	7	50	512	2053	2494	959	163	19	9	1	0
Fri 11 Oct	10628	42	37	5	1	0	11	79	740	3156	4366	1820	370	71	9	4	1
Sat 12 Oct	401	39	35	4	0	0	0	1	36	134	203	19	7	1	0	0	0
Sun 13 Oct	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mon 14 Oct	10249	42	36	6	4	0	23	88	729	3112	4066	1761	358	74	20	14	0
Tue 15 Oct	10351	42	36	6	4	0	18	84	761	3056	4185	1782	366	78	15	2	0
Wed 16 Oct	1721	43	37	6	0	0	0	13	143	579	539	342	81	22	0	1	1
5 Day Ave.	7843	42	36	6	2	0	12	63	577	2391	3130	1333	268	53	11	4	0
7 Day Ave.	5660	36	31	5	1	0	8	45	417	1727	2265	955	192	38	8	3	0

Appendix E Proposed Site Layout



P03	Jan 2025	Emergency Access removed	ZM	ZM	CS	GC
P02	Sept 2024	For Information	ZM	ZM	CS	GC
P01	Aug 2024	For Information	ZM	ZM	CS	GC
Rev	Date	Description	DR	DS	CHK	APP

Client	Western Bio-Energy
Project	1044 - Port Talbot
Drawing Title	Site Wide Layout - Height Strategy

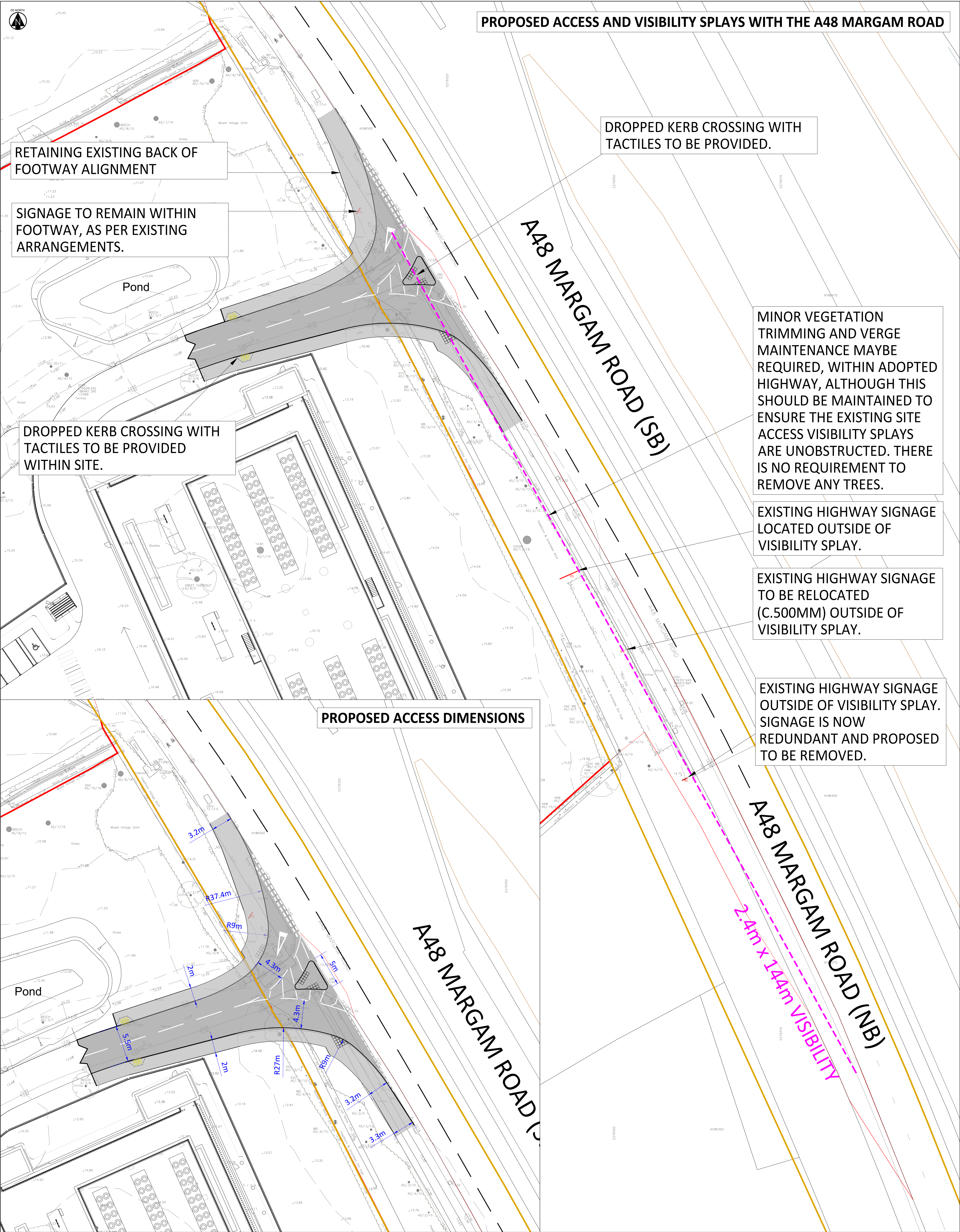
Suitability S0	Revision P03					
Scale As indicated@A1	Design Stage Master Plan					
Checked: CS	Approved: GC					
Designed: ZM	Drawn: ZM					
Project No.	Org.	Vol.	Level	File	Role	Number

1044 - FUT - V1 - ZZ - DR - Z - X150

MASTERPLAN



Appendix F General Arrangement of Proposed Site Access



SCALE BAR AND KEY

0m 5m 10m

SCALE BAR (1:250)

— DEVELOPMENT REDLINE BOUNDARY

— EXTENT OF ADOPTED HIGHWAY BOUNDARY

--- VISIBILITY SPLAYS

NOTES

- General arrangement drawing suitable for planning purposes only. This drawing is not suitable for construction.
- The drawing would need to go through a technical approval process (S278) which would detailed design matters such as ground conditions, utilities, drainage and lighting.
- Drawing is based on topo survey data, supplemented by OS mapping data. Ordnance Survey. (c) Crown Copyright 2024. All rights reserved. Licence number 100022432
- Extent of adopted highway has been based on third party information provided by NPTC/CBC.
- Visibility splays have been based on recorded data showing 85th percentile speeds of 49mph approaching the site from the south. The application of MIS2 (over 60kph / desirable minimum) parameters have been applied. This equates to DMRB requirements, but applying exact speeds rather than thresholds. The recorded speeds reduced as they pass the junction.
- Please do not scale from this drawing.

REVISIONS

Rev	Date	Description	By	App
P05	24/01/25	Fifth Issue	LK	DC
P04	27/11/24	Fourth Issue	LK	DC
P03	22/11/24	Third Issue	LK	DC
P02	22/11/24	Second Issue.	LK	DC
P01	21/11/24	First Issue.	LK	DC

Apex
TRANSPORT PLANNING

CLIENT
WESTERN BIO-ENERGY LIMITED

PROJECT
LAND AT TYN-Y-CAEAU, MARGAM

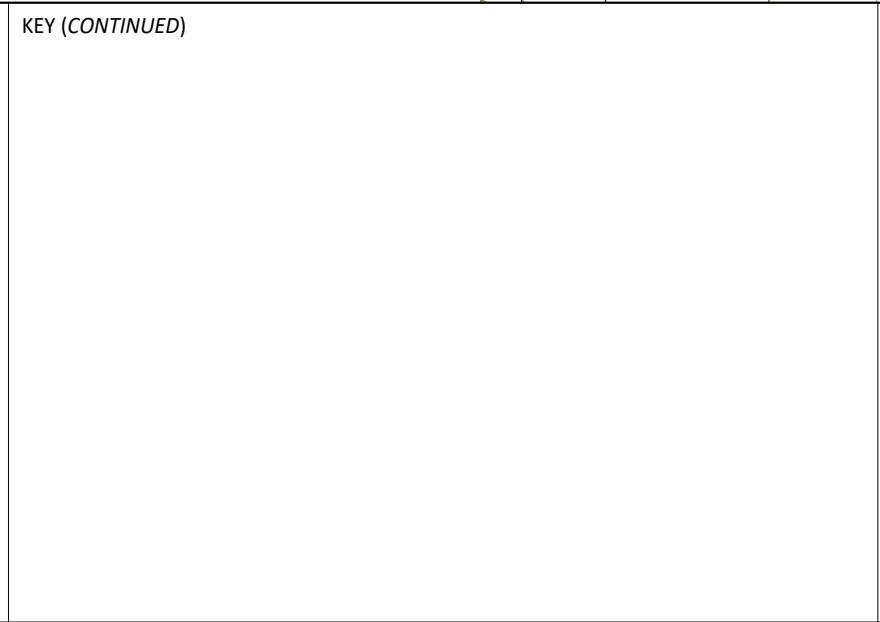
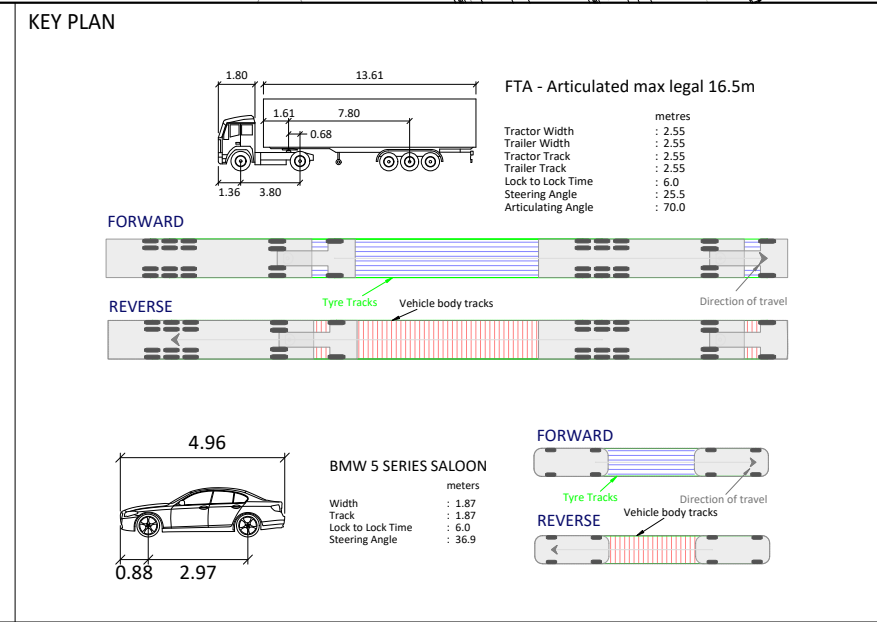
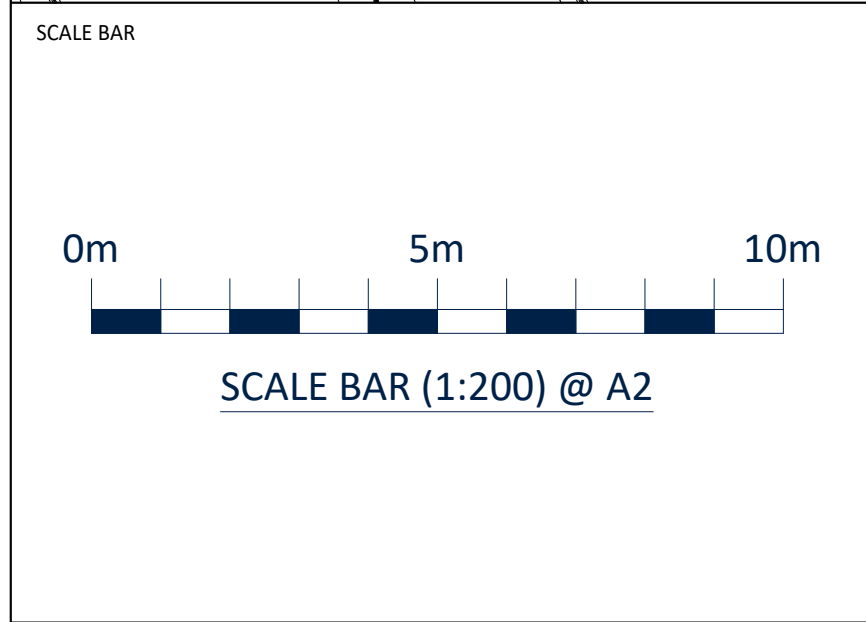
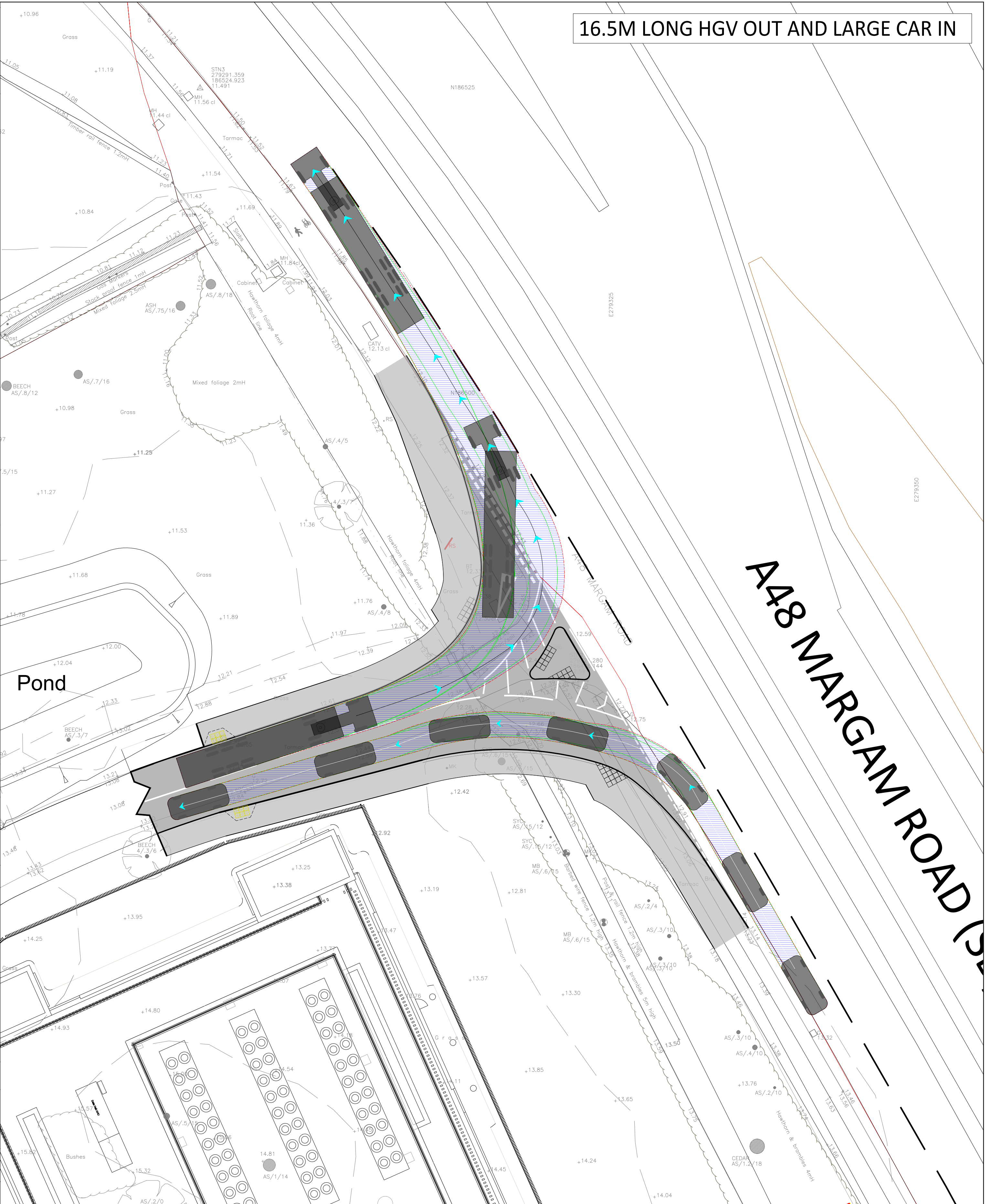
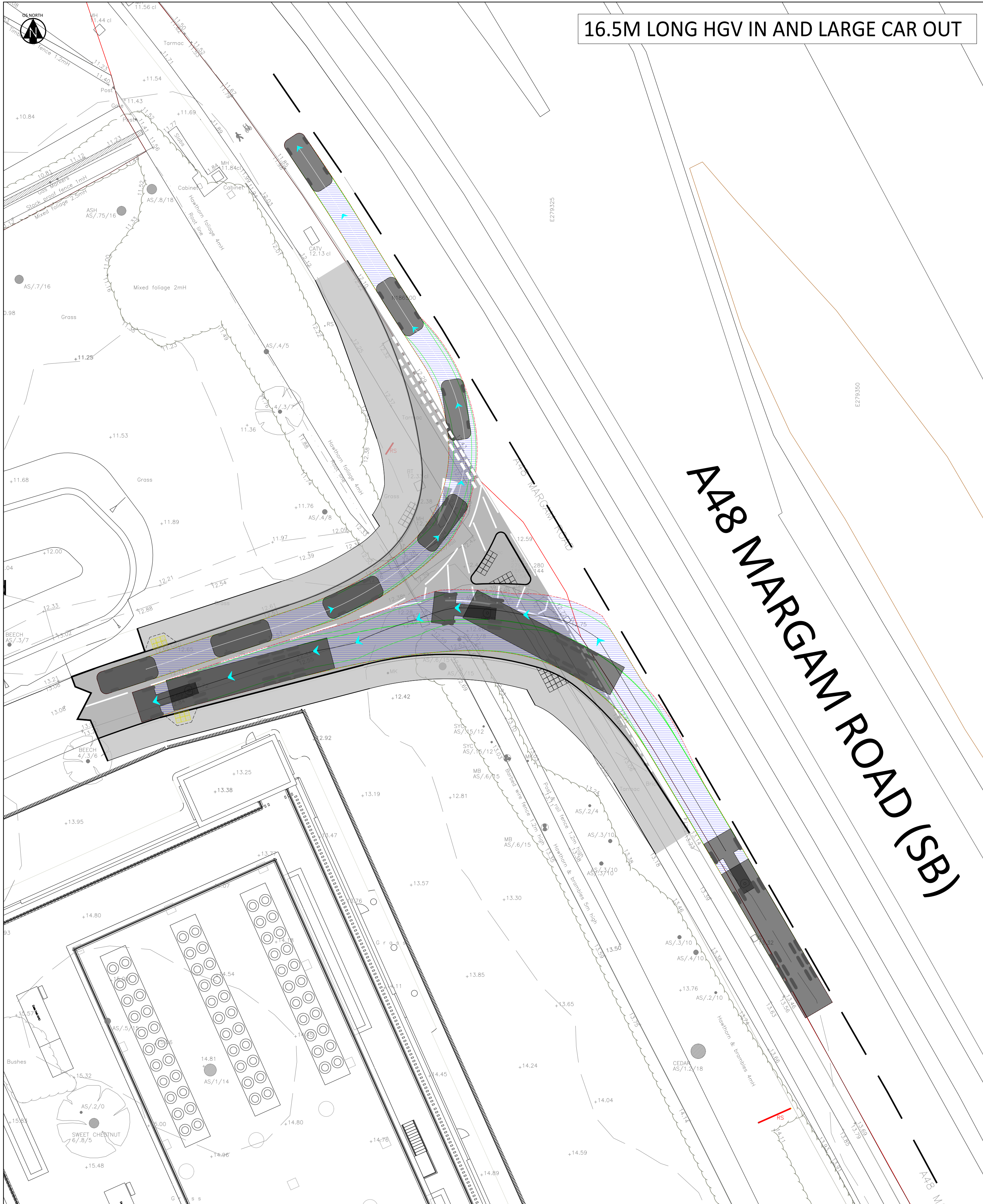
CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 363
e: cardiff@apextp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
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TITLE
PROPOSED SITE ACCESS AND VISIBILITY WITH THE A48 MARGAM ROAD

PROJECT NO. C24-103	SCALE @ A1 1:250
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C24103-ATP-DR-TP-002	

Appendix G Swept Path Analysis – Proposed Site Access



REVISIONS (CONTINUED)

Rev	Date	Description	By	App
P04	24/01/25	Fourth Issue	LK	DC
P03	27/11/24	Third Issue	LK	DC
P02	22/11/24	Second Issue	LK	DC
P01	21/11/24	First Issue	LK	DC

REVISIONS

Rev	Date	Description	By	App
P04	24/01/25	Fourth Issue	LK	DC
P03	27/11/24	Third Issue	LK	DC
P02	22/11/24	Second Issue	LK	DC
P01	21/11/24	First Issue	LK	DC

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BRISTOL
BS1 6PU
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CLIENT
WESTERN BIO-ENERGY LIMITED

PROJECT
LAND AT TYN-Y-CAEU, MARGAM

TITLE PROPOSED SITE ACCESS SWEEP PATH ANALYSIS	
PROJECT NO. C24-103	SCALE @ A1 1:200
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C24103-ATP-DR-TP-003	

Appendix H Swept Path Analysis – HGV on A48 Margam Road



SCALE BAR

SCALE BAR (1:250)

KEY

Articulated max legal 16.5m

Tractor Width	metres
Trailer Width	: 2.55
Tractor Track	: 2.55
Trailer Track	: 2.55
Lock to Lock Time	: 6.0
Steering Angle	: 25.5
Articulating Angle	: 70.0

FORWARD

REVERSE

Apex
TRANSPORT PLANNING

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e: cardiff@apexp.co.uk

RUNWAY EAST
101 VICTORIA STREET
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BS1 6PU
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e: bristol@apexp.co.uk

CLIENT
WESTERN BIO-ENERGY LIMITED

PROJECT
LAND AT TYN-Y-CAEU, MARGAM

P01	24/01/25	First Issue	LK	DC
Rev	Date	Description	By	App

TITLE
U-TURNING MOVEMENTS AT HARBOUR
WAY / A48 ROUNDABOUT - SWEEP PATH
ANALYSIS 16.5M LONG HGV

PROJECT NO. C24-103	SCALE @ A3 1:250
STATUS DESCRIPTION INFORMATION	STATUS S2
DRAWING NO. C24103-ATP-DR-TP-007	

Appendix I Stage 1 Road Safety Audit and Designers Response

Road Safety Audit Brief in Accordance with GG119

Scheme	Land at Tyn-y-Caeau, Margam
Site Location	51.664103, -0.397925
Date	22/11/2024
Stage	Stage 1

A) *Scheme drawings showing the full geographical extent of the scheme and including the areas beyond the tie-in points.*

- C24103-ATP-DR-TP-002_P02 – Proposed Access
- C24103-ATP-DR-TP-003_P01 – Swept Path Analysis
- C24103.TN01.Iss1 - Tyn-y-Caeau, Margam_Transport Note (draft)
- P2022/1061 - RSA S1-S2
- P2022/1061 - Access

B) *Details of approved departures and relaxations from standards*

- N/A

C) *General scheme details, to help give an understanding of the scheme and how the layout will operate, including design speeds, speed limits, traffic flows, forecast flows, queue lengths, non-motorised user flows and desire lines. Also details of any environmental constraints on the design.*

- **Proposed Development** – The development site is located approximately 6.5km to the south of Port Talbot town centre. It is situated to the northwest of Junction 38 of the M4 (Margam Interchange) and is accessed via an existing access with the A48 Margam Road. Section 2.1 and Figure 2-1 of the draft Transport Note indicate the site location.
- Section 1.1 of the draft Transport Note provides an overview of the development proposals, which are for the delivery of a new c.8,700 sqm data centre (B8 use class) with ancillary office (converting the existing residential use), land scaping, drainage civils works, parking, yard space and improved access with the A48 Margam Road.

- **General Scheme Details** – Proposed priority junction (left in / left out) site access with the A48 Margam Road.
- **Proposed Access** – It is proposed that the site will be served from the existing established access with the A48 Margam Road, which will be improved.
 - The proposed improved priority junction arrangement is provided with dedicated access and egress roads 5.5m in width separated by a central island.
 - The access is provided with 9m corner taper radii on the northern side of the access and radii of 27m on the southern side of the access.
 - Swept path analysis of the vehicles associated with the site's operation has been undertaken, which demonstrates that a 16.5m long HGV can pass a large car when accessing or leaving the site within the access road.
 - The existing footway / cycleway along the western side of the A48 Margam Road will be incorporated into the proposed access design likely to be a tactile crossing facility across the private junction this is an improvement over the existing situation.
 - In line with the recorded 85th percentile maximum speeds of 49 mph, visibility splays of 2.4m x 144m to the south are to be provided for the improved access arrangement with the A48 Margam Road.
 - Section 3.2 of the draft Transport Note provided details on the proposed access arrangements as well as associated drawing contained within the brief.
- **Speed Limits** – The A48 Margam Road is subject to an existing 50mph speed limit. However, Section 2.4 and Table 2-10 of the draft Transport Note provide details on existing 85th percentile vehicle speeds. As such, the recorded maximum 85th percentile vehicle speed has been used for northbound vehicles approaching the site to inform visibility sight stopping distance for drivers emerging from the proposed access.
- **Traffic Flows** – Section 2.4 and Tables 2-8 and 2-9 of the draft Transport Note sets out existing northbound traffic flows along the A48 Margam Road at each ATC site location.
- **Forecast Traffic Flows** – Section 4.3 of the draft Transport Note sets at a high level the forecast traffic flows associated with the proposed development (data centre and ancillary office uses).

D)	<i>Any relevant factors which may affect road safety such as adjacent developments (existing or proposed), proximity of schools or retirement/care homes and access for emergency vehicles.</i>
	▪ N/A
E)	<i>For on-line schemes and at tie-ins, the previous 60 months accident data in the form of 'stick plots' and interpreted listings. The accident data should cover both the extent of the scheme and both sections of highway.</i>
	▪ Personal Injury Accident (PiA) data has been set out and reviewed at Section 2.3 of the draft Transport Note.
F)	<i>At Audit Stage 2 and 3, details of any changes introduced since the previous stage.</i>
	▪ N/A
G)	<i>A3 or A4 size plans using an appropriate scale for the Audit Team to mark up for inclusion in the Audit Report.</i>
	▪ Drawing No(s). C24103-ATP-DR-TP-002_P02 – Proposed Access and C24103-ATP-DR-TP-003_P01 – Swept Path Analysis provided for Audit review.
H)	<i>Previous Road Safety Audit Reports, Exceptions Reports and a copy of the Interim Road Safety Audit File (where an Interim Road Safety Audit has taken place).</i>
	▪ The site is subject to a separate live planning application not associated with the data centre proposals. This scheme, which remains undetermined seeks permission for a HGV Truck Stop, which proposed to deliver an improved access with the A48 Margam Road. ▪ We have provided the Combined Stage 1 and 2 Road Safety Audit that supported the scheme as well as a drawing of the proposed access.
I)	<i>Contact details of the Maintaining Agent to whom any identified maintenance defects should be notified (by telephone and immediately confirmed in writing for serious defects) separately from the audit report.</i>
	▪ N/A.
J)	<i>Details of the appropriate police contact</i>
	▪ N/A.

<i>K)</i>	<i>Details of the RSA Team</i>
▪	N/A.

**LAND AT TYN-Y-CAEAU,
A48 MARGAM ROAD,
PORT TALBOT**

PROPOSED HIGHWAY WORKS

**STAGE 1
ROAD SAFETY AUDIT REPORT**

**REQUESTED BY:
APEX TRANSPORT PLANNING**

NOVEMBER 2024



RKS
Associates

Project: Land at Tyn-y-Caeau, A48 Margam Road, Port Talbot
Proposed Highway Works

Client: Apex Transport Planning

Document: Stage 1 Road Safety Audit

RKS Associates Ref: VRP1862 - RSA 1

Issue date: 27th November 2024

Status: Final

Authorised by: VP/BN

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Appendix A: Location of Problems Identified During Stage 1 Road Safety Audit

Appendix B: Designers Response



1 INTRODUCTION

1.1 This report results from a Stage 1 Road Safety Audit conducted on the highway works associated with the development proposals on land at Tyn-y-Caeau, A48 Margam Road in Port Talbot. The development proposals seek to provide a new data centre with associated conversion of the existing property to an ancillary office, internal car parking, delivery area and landscaping works

1.2 The highway works subject to this Stage 1 Road Safety Audit involve improvements to the existing access located on A48 Margam Road. The proposals seek to provide a new priority left-in, left-out access arrangement which will replace the existing priority junction arrangement, broadly in the same location. The proposed access and egress roads serving the development are 5.5m in wide and are separated by a central island. The proposed access has 9m radii on both sides of the access with transitional radii and tapers to enable articulated vehicles to turn in and out appropriately.

1.3 The A48 Margam Road in the vicinity of the proposed development access is a two-lane dual carriageway aligned in a southeast to northwest alignment. The carriageway in the vicinity of the development access junction is lit and it is subject to a 50mph limit with a continuous footway /cycleway provided along its western side.

1.4 Apex Transport Planning has supplied the following information upon which this Stage 1 RSA is based:

- Transport Note: Access prepared by Apex Transport Reference: C24103/TN01 (November 2024);
- Apex Transport Planning Drawing Numbers:
 - C24103-ATP-DR-TP-001 Rev S2– Existing Site Access and Visibility with the A48 Margam Road;
 - C24103-ATP-DR-TP-002 Rev S2 – Proposed Site Access and Visibility with the A48 Margam Road; and
 - C24103-ATP-DR-TP-003 Rev S2 – Proposed Site Access Swept Path Analysis.

1.5 The main parties to this Road Safety Audit include the following:

Road Safety Audit Team Leader	Vimal Patel BEng (Hons), GMICE, FIHE, NH Cert Comp, Reg RSA (IHE)
Road Safety Audit Team Member	Beth Newiss MCIHT, MSoRSA
Local Highway Authority	Neath Port Talbot County Borough Council
Design Organisation	Apex Transport Planning

1.6 The Audit was undertaken following examination of the submitted documents, including reference to a site visit undertaken on Monday 24th November 2024 between the hours of 11am and midday. Observations during the site inspection noted moderate traffic flows and no pedestrian one cyclist travelling along the A48 Margam Road.



Terms of Reference

- 1.7** The Audit Team is independent of the project design team and has no other involvement with the project. This Stage 1 RSA has been undertaken in accordance with the relevant sections of GG-119, part of the Design Manual for Roads and Bridges (DMRB).
- 1.8** The Safety Audit Team has examined only matters relating to road safety implications of the scheme and has not verified compliance of the design to any other criteria. The Audit Team has not been made aware of any Departures from Standard and have been provided with a combined Stage 1/2 Road Safety Audit (RSA) conducted by J Bartlett Consulting Ltd in February 2023 on the access albeit that it was associated with an alternative development to provide a truck stop.
- 1.9** All of the problems identified in this report are considered by the Audit Team to require action in order to improve the safety of the scheme and to minimise accident occurrence for all users. The location of the problems identified in this Safety Audit is shown in **Appendix A** where the reference numbers relate to the problems identified in this report.
- 1.10** The recommendations in this report are aimed at addressing the identified road safety problems; however, there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The recommendations contained herein do not absolve the Designer of his/her responsibilities. The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit and would encourage the Designer to consult them on this matter.
- 1.11** The Designer is advised to prepare a Road Safety Audit Decision Log, a template for which is included in **Appendix B**. This enables the Designers and Overseeing Organisations Response to the Audit to be documented along with an agreed RSA Action.

Traffic Flow/Trip Generation Data

- 1.12** The Transport Note prepared by Apex Transport Planning provides details of traffic surveys conducted on the A48 Margam Road and the likely trip generation associated with the proposed development. The Automated Traffic Count (ATC) surveys were conducted on the A48 Margam Road in October 2024, although the data recording equipment was damaged, the partial data obtained indicates that the northbound traffic flows of 743 and 1,198 vehicles were recorded during the AM and PM peak hour periods respectively, and the average speed of vehicles on the northbound approach to the development access recorded as 48.3mph.
- 1.13** The trip generation assessment undertaken indicates that the proposed development is anticipated to generate 12 two-way vehicle movements during the morning peak hour, 8 two-way vehicle movements in the evening peak hour and a total of 125 two-way vehicle movements daily.



Collision Data

- 1.14** Publicly available personal Injury Collision (PIC) information obtained from the *Crashmap UK* website (www.crashmap.co.uk) for the five-year period up to December 2022 for the local highway. The collision data indicates no collisions have occurred along A48 Margam Road in the immediate vicinity of the proposed access.



2 ISSUES IDENTIFIED DURING STAGE 1 ROAD SAFETY AUDIT

2.1 Problem:

Summary: Potential collisions associated with the dislodged drainage cover

Location: *Proposed development access*

Observations during the site inspection noted that the existing surface water drainage gully if retained in its current location will be located within the entry into the proposed development. Consequently, there is a greater risk that the surface water drainage gully will be frequently overrun by large vehicles and may become dislodged, this could create a hazard which may lead to a potential collisions for motorist entering the development.

Recommendation:

Review and amend the layout to ensure that the surface water to drainage gully is located away from the vehicle tracks accessing the proposed development.

2.2 Problem:

Summary: Potential collisions associated with the culmination of standing water

Location: *Proposed development access*

With respect to the problem identified above (2.1) the proposed relocation of the existing surface water drainage gully may not adequately drain the carriageway. This may result in the accumulation of surface water within the junction which could increase the risk of loss of control collisions.

Recommendation:

Ensure that the proposed carriageway surface levels direct surface water to drainage gully.

2.3 Problem:

Summary: Potential risk of vehicle collisions associated poor visibility

Location: *Visibility to and from Access*

The drawings provided indicate that visibility to and from the proposed access accord with highway standards. However, it was noted during the site inspection that existing vegetation behind the visibility splays may over time compromise visibility for motorists entering/exiting the access. Poor visibility may increase the risk of turning collisions between traffic accessing the development and traffic traveling north along the A48 Margam Road.

Recommendation:

Ensure that the vegetation behind the visibility splays is cut back and regularly maintained or alternatively it should be replaced with a low-level variety to ensure visibility to and from the proposed access is not compromised.



2.4

Problem:

Summary: Potential risk cycle/pedestrian collisions associated with poor layout

Location: *Pedestrian crossing across proposed Access*

The Audit Team have been made aware that the proposals include the provision of dropped kerbs and tactile paving across the proposed development access which is to be agreed with the local highway authority. However, there is concern that the proposed crossing facility may result in pedestrians waiting within the hatch markings adjacent to the central island on development access. This may encourage pedestrians to wait on the hatch markings where the risk of these users struck by passing traffic will be greater.

Recommendation:

Ensure that the safe facility is provided for pedestrians crossing the proposed development access.



3 AUDIT TEAM STATEMENT

- 3.1** We certify that this audit has been carried out in accordance with GG-119 of Design Manual for Roads & Bridges Volume 5 Section 2 - Road Safety Audits. Its sole purpose being to identify features of the scheme that could be removed or modified to improve safety. No member of the Audit Team has been involved in the scheme design.

Audit Team Leader

Vimal Patel
BEng (Hons), GMICE, FIHE, HE Cert Comp

Signed:

Date: 27th November 2024

Audit Team Member

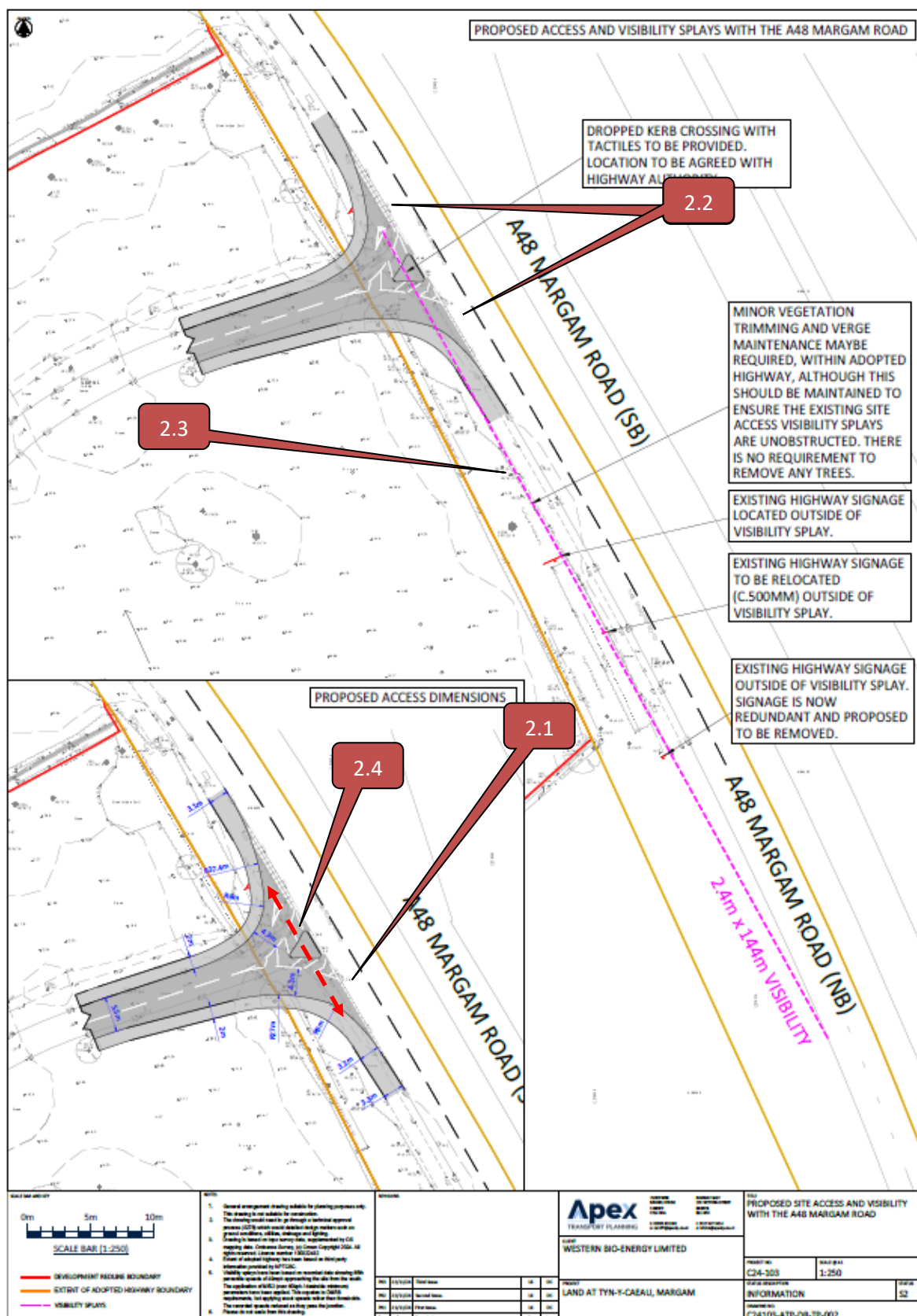
Beth Newiss
MCIHT, MSoRSA

Signed:

Date: 27th November 2024



Appendix A





Appendix B

Issue N°	RSA Recommendation	Design Organisation Response
2.1	Review and amend the layout to ensure that the surface water to drainage gully is located away from the vehicle tracks accessing the proposed development.	This is accepted and would be considered and agreed at the detailed design stag as part of the S278 technical approval.
2.2	Ensure that the proposed carriageway surface levels direct surface water to drainage gully.	This is accepted and would be considered and agreed at the detailed design stag as part of the S278 technical approval.
2.3	Ensure that the vegetation behind the visibility splays is cut back and regularly maintained or alternatively it should be replaced with a low-level variety to ensure visibility to and from the proposed access is not compromised.	This is noted. The vegetation is within the adopted highway and therefore this should be maintained by the LHA. This should be maintained to ensure visibility from the existing access is not impeded and this would not change as a result of the proposals. Indeed, given the slight relocation of the stop line to the north of the existing location, the level of vegetation maintenance would be reduced from the existing situation. As such, the visibility from the proposed site access will not be impeded and the operator would contact the LHA if there are any issues with vegetation trimming.
2.4	Ensure that the safe facility is provided for pedestrians crossing the proposed development access.	This is accepted, and a dropped kerb crossing with tactile paving has been shown in the revised design at the access. The crossing and tactiles would be suitable to ensure that pedestrians and cyclists wait in a suitable location, off the carriageway, when crossing and they would be extremely unlikely to stand on the hatch markings on this basis. The positioning of the crossing on each side of the central island enables suitable visibility to be provided to and from oncoming vehicles along the access road and those turning left on the A48. The crossing will also provide an improvement over the existing situation whereby dropped kerbs and tactiles are not provided. As such, the minor amendment to the access is considered suitable and in accordance with the recommendation of the auditor.

Designer’s Statement:

I certify that I have considered the items that have arisen in the Stage 1 Road Safety Audit Report and my response to its recommendations are set out above.

...David Chapman..... Date: 28/11/24
Designer

Project Sponsor/ Client Organisation Statement:

I accept/do not accept the Designer’s Response (please delete as appropriate)

..... Date:

Appendix J Swept Path Analysis – Internal Large Car



SCALE BAR

0m 5m 10m

SCALE BAR (1:200) @ A2

KEY PLAN

FTV - Articulated max legal 16.5m

Tractor Width: 2.35m
Tractor Length: 11.0m
Tractor Track: 2.35m
Tractor Wheel: 2.35m
Tractor Axle: 2.35m
Tractor Angle: 2.35m
Tractor Radius: 2.35m

FORWARD

REVERSE

Direction of Travel

KEY (CONTINUED)

REVISIONS (CONTINUED)

REVISIONS

Rev	Date	Description	By	App
P01	24/01/25	First Issue	LK	DC

CLIENT

WESTERN BIO-ENERGY LIMITED

PROJECT

LAND AT TYN-Y-CAEU, MARGAM

Apex
TRANSPORT PLANNING

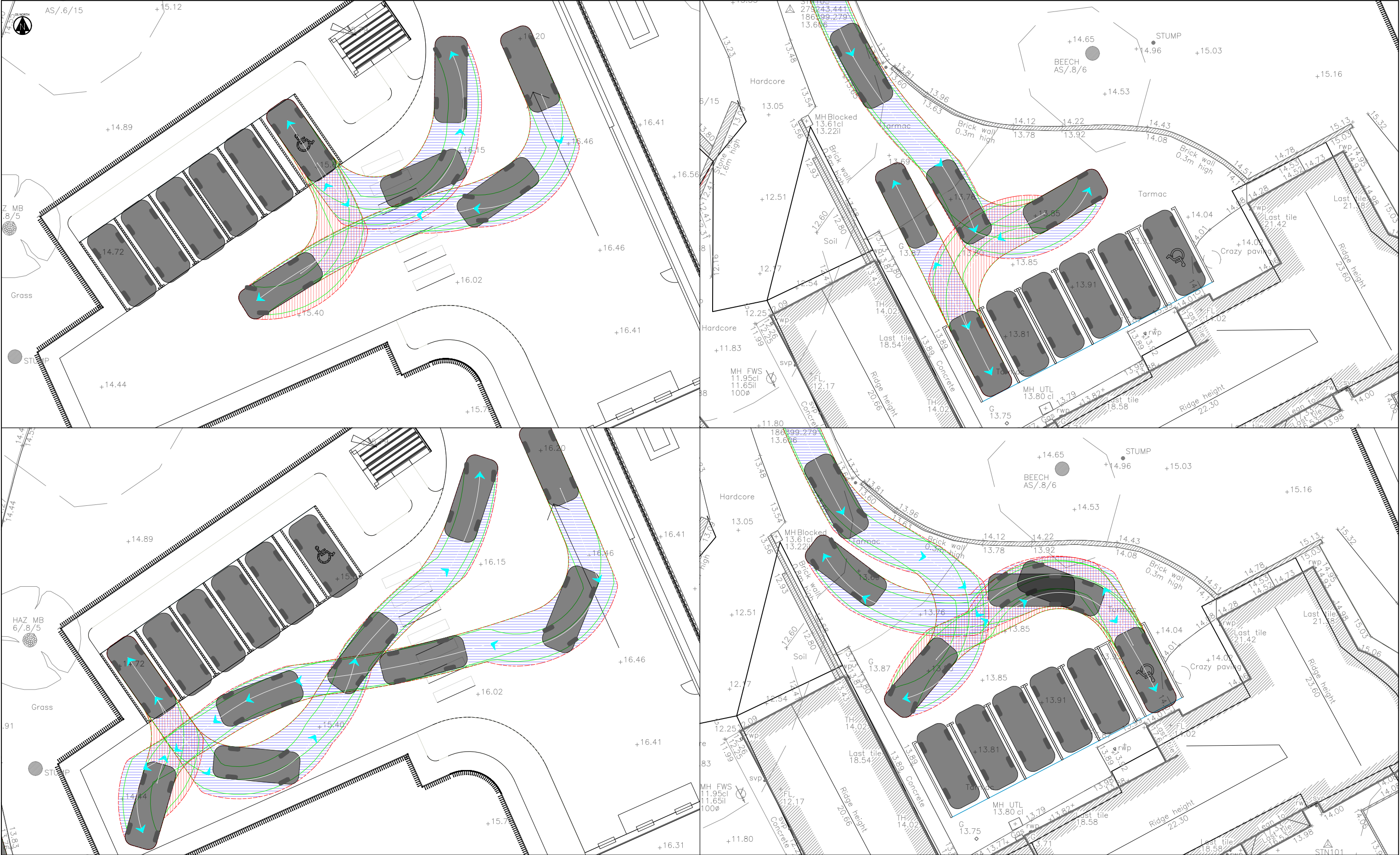
CLOCKWISE
BRUNEL HOUSE
CARDIFF
CF24 0HA
t: 02920 619 361
e: cardiff@apexp.co.uk

RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apexp.co.uk

TITLE

PROPOSED INTERNAL SWEEP PATH
ANALYSIS - 16.5M LONG HGV

PROJECT NO.	SCALE @ A1
C24-103	1:200
STATUS DESCRIPTION	STATUS
INFORMATION	S2
DRAWING NO.	
C24103-ATP-DR-TP-004	



SCALE BAR

0m 5m 10m

SCALE BAR (1:200) @ A2

KEY

2010 BMW 5-Series

Width : 1.86 metres

Track : 1.85

Lock to Lock Time : 6.0

Steering Angle : 36.9

FORWARD

REVERSE

Tyre Tracks

Vehicle body tracks

Direction of travel

REVISIONS (CONTINUED)

Rev	Date	Description	By	App
P01	24/01/25	First Issue	LK	DC

REVISIONS

Rev	Date	Description	By	App
P01	24/01/25	First Issue	LK	DC

Apex

TRANSPORT PLANNING

CLIENT
WESTERN BIO-ENERGY LIMITED

PROJECT
LAND AT TYN-Y-CAEU, MARGAM

CLOCKWISE
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RUNWAY EAST
101 VICTORIA STREET
BRISTOL
BS1 6PU
t: 0117 427 0414
e: bristol@apexp.co.uk

TITLE
PROPOSED INTERNAL SWEEP PATH
ANALYSIS - LARGE CAR

PROJECT NO.
C24-103

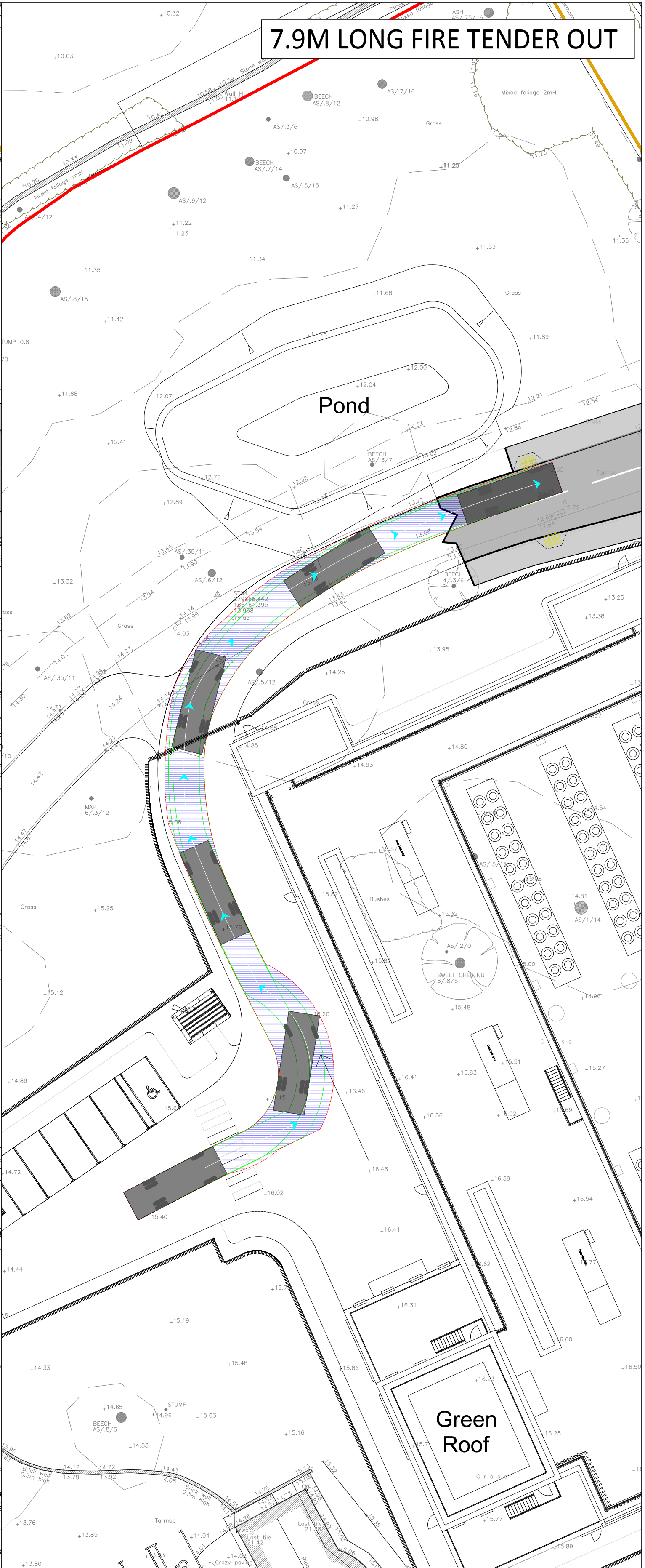
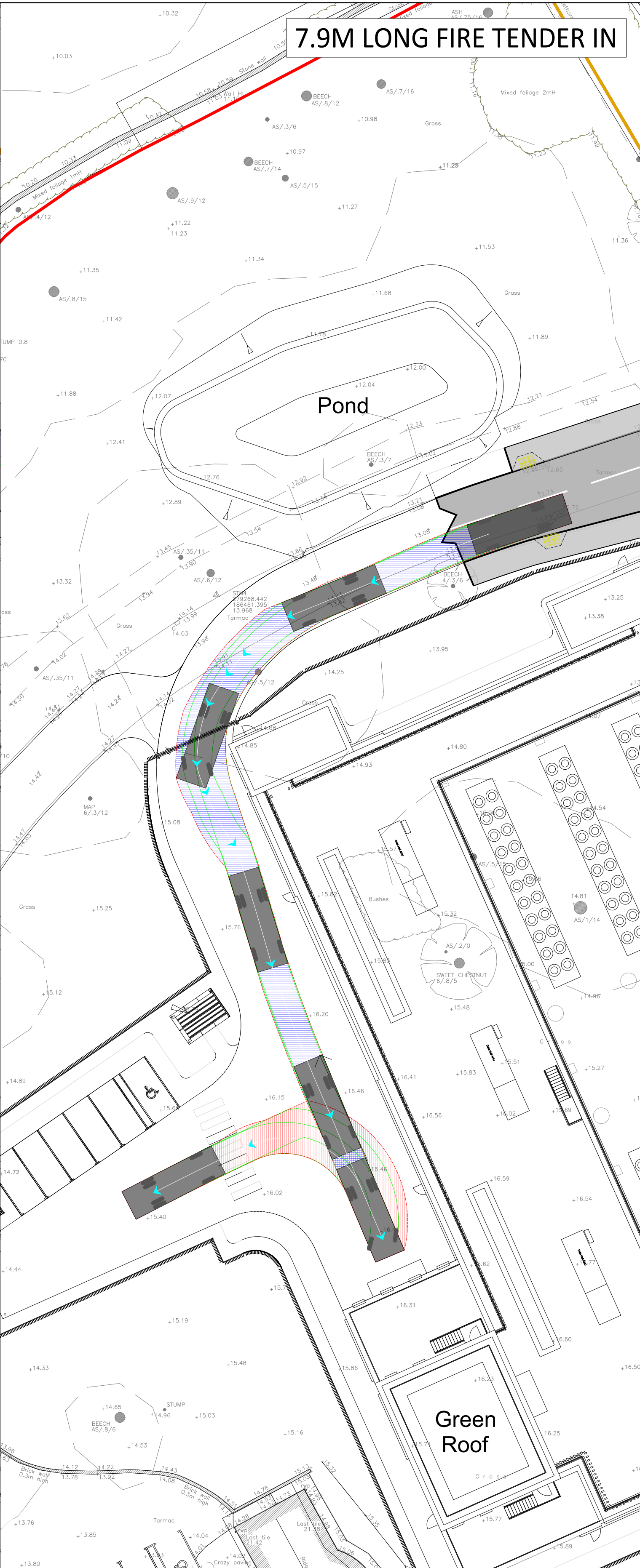
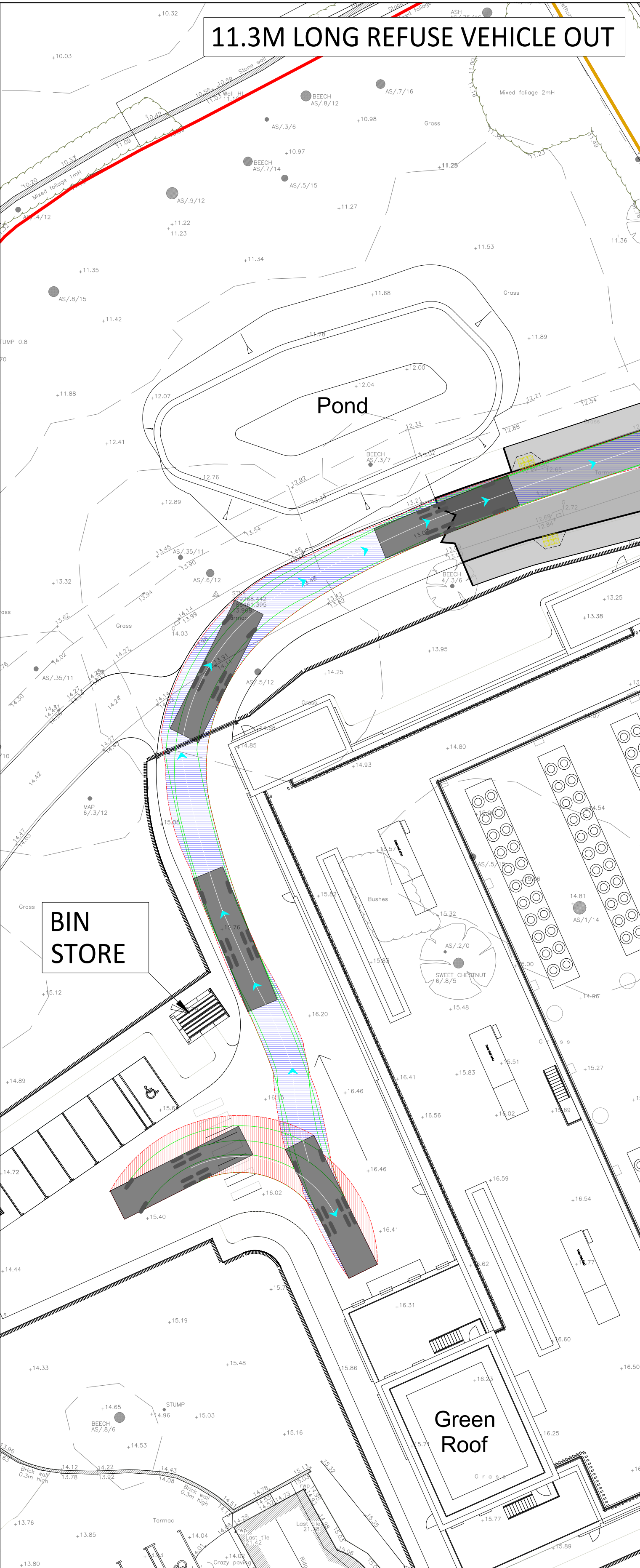
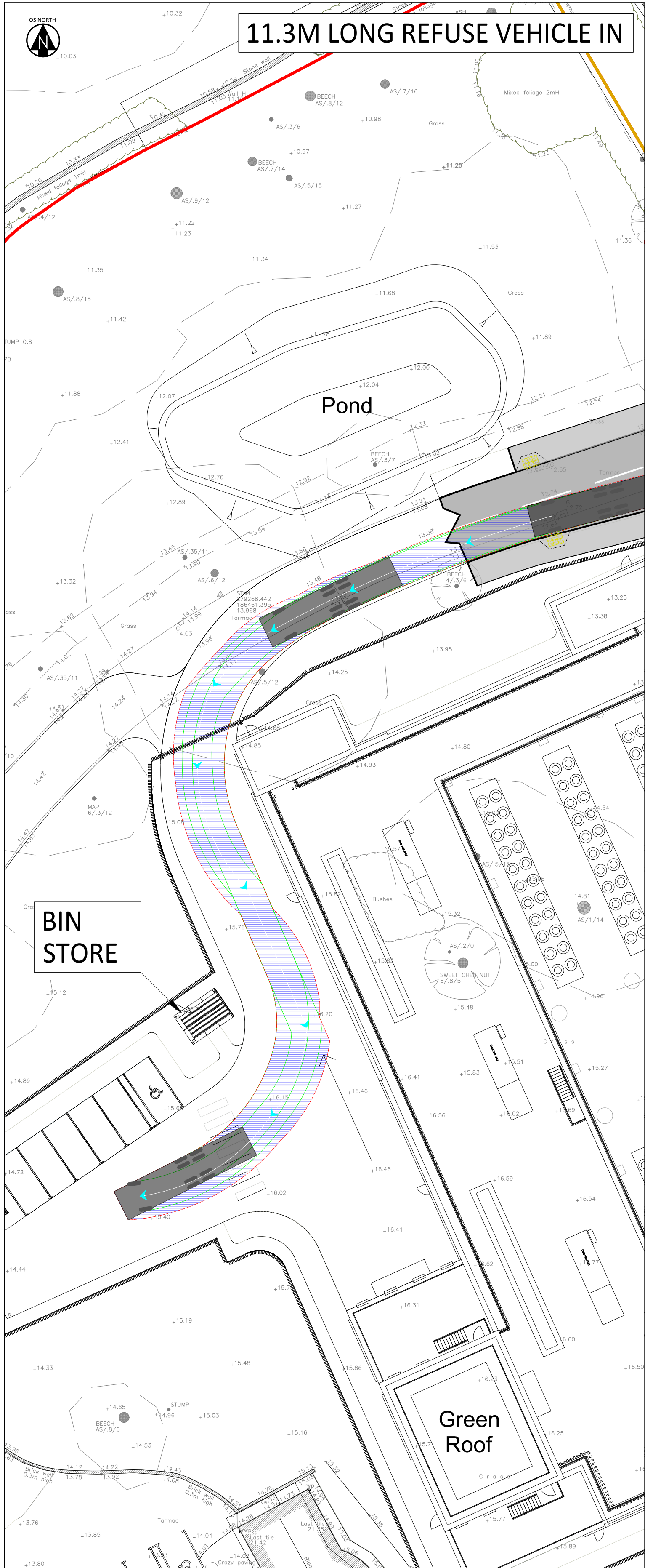
SCALE @ A3
1:200

STATUS DESCRIPTION
INFORMATION

DRAWING NO.
C24103-ATP-DR-TP-006

STATUS
S2

Appendix K Swept Path Analysis – Internal HGV, Refuse and Emergency Vehicles



SCALE BAR

0m 10m 20m

SCALE BAR (1:500)

KEY PLAN

Fire Tender - Scania One

Large Refuse Vehicle

FORWARD

REVERSE

Tyre Tracks

Vehicle body tracks

KEY (CONTINUED)

REVISIONS (CONTINUED)

REVISIONS

Rev	Date	Description	By	App
P02	06/03/25	Second Issue	LK	DC
P01	24/01/25	First Issue	LK	DC

CLIENT

WESTERN BIO-ENERGY LIMITED

PROJECT

LAND AT TYN-Y-CAEU, MARGAM

Apex

TRANSPORT PLANNING

CLOCKWISE

BRUNEL HOUSE

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CF24 0HA

t: 02920 619 361

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RUNWAY EAST

101 VICTORIA STREET

BRISTOL

BS1 6PU

t: 0117 427 0414

e: bristol@apextp.co.uk

TITLE

PROPOSED INTERNAL SWEEP PATH ANALYSIS - 11.3M LONG REFUSE VEHICLE AND 7.9M LONG FIRE TENDER

PROJECT NO.

C24-103

SCALE @ A1

1:500

STATUS DESCRIPTION

INFORMATION

STATUS

S2

DRAWING NO.

C24103-ATP-DR-TP-005

Appendix L TRICS Outputs – Data Centres

Apex Transport Planning Ltd Clockwise, Brunel House Cardiff

Licence No: 502501

Filtering Summary

Land Use	02/I	EMPLOYMENT/DATA CENTRE
Selected Trip Rate Calculation Parameter Range	5677-16000 sqm GFA	
Actual Trip Rate Calculation Parameter Range	5677-16000 sqm GFA	
Date Range	Minimum: 01/01/10	Maximum: 24/05/23
Parking Spaces Range	All Surveys Included	
Days of the week selected	Wednesday	2
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	2
Inclusion of Servicing Vehicles Counts	Servicing vehicles Included	5 - Selected
	Servicing vehicles Excluded	X - Selected
Population within 500m	All Surveys Included	
Population <1 Mile ranges selected	25,001 to 50,000	2
Population <5 Mile ranges selected	250,001 to 500,000	2
Car Ownership <5 Mile ranges selected	0.6 to 1.0	2
PTAL Rating	No PTAL Present	2
Filter by Site Operations Breakdown	All Surveys Included	

Calculation Reference: AUDIT-502501-250117-0106

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : I - DATA CENTRE
TOTAL VEHICLES

Selected regions and areas:

02 SOUTH EAST
SO SLOUGH 2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 5677 to 16000 (units: sqm)
Range Selected by User: 5677 to 16000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 24/05/23

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Wednesday 2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 2 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre) 2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included 5 days - Selected
Servicing vehicles Excluded X days - Selected

Secondary Filtering selection:**Use Class:**

Not Known 2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

25,001 to 50,000

2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

250,001 to 500,000

2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0

2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present

2 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

- | | | | |
|---|--|-------------|--------|
| 1 | SO-02-I-01
LIVERPOOL ROAD
SLOUGH | DATA CENTRE | SLOUGH |
| | Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 16000 sqm
Survey date: WEDNESDAY 26/04/23
Survey Type: MANUAL | | |
| 2 | SO-02-I-02
LIVERPOOL ROAD
SLOUGH | DATA CENTRE | SLOUGH |
| | Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 5677 sqm
Survey date: WEDNESDAY 24/05/23
Survey Type: MANUAL | | |

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
SO-02-I-03	non comparable site
SO-02-I-04	not comparable parking

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.018	1	5677	0.000	1	5677	0.018
06:00 - 07:00	2	10839	0.069	2	10839	0.037	2	10839	0.106
07:00 - 08:00	2	10839	0.055	2	10839	0.000	2	10839	0.055
08:00 - 09:00	2	10839	0.069	2	10839	0.009	2	10839	0.078
09:00 - 10:00	2	10839	0.051	2	10839	0.032	2	10839	0.083
10:00 - 11:00	2	10839	0.032	2	10839	0.014	2	10839	0.046
11:00 - 12:00	2	10839	0.014	2	10839	0.032	2	10839	0.046
12:00 - 13:00	2	10839	0.009	2	10839	0.018	2	10839	0.027
13:00 - 14:00	2	10839	0.014	2	10839	0.014	2	10839	0.028
14:00 - 15:00	2	10839	0.037	2	10839	0.046	2	10839	0.083
15:00 - 16:00	2	10839	0.005	2	10839	0.037	2	10839	0.042
16:00 - 17:00	2	10839	0.005	2	10839	0.037	2	10839	0.042
17:00 - 18:00	2	10839	0.014	2	10839	0.055	2	10839	0.069
18:00 - 19:00	2	10839	0.014	2	10839	0.046	2	10839	0.060
19:00 - 20:00	2	10839	0.005	2	10839	0.014	2	10839	0.019
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.035	1	5677	0.053	1	5677	0.088
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.446			0.444			0.890

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	5677 - 16000 (units: sqm)
Survey date range:	01/01/10 - 24/05/23
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
06:00 - 07:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
07:00 - 08:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
08:00 - 09:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
09:00 - 10:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
10:00 - 11:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
11:00 - 12:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
12:00 - 13:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
13:00 - 14:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
14:00 - 15:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
15:00 - 16:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
16:00 - 17:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
17:00 - 18:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
18:00 - 19:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
19:00 - 20:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.005			0.005			0.010

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
06:00 - 07:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
07:00 - 08:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
08:00 - 09:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
09:00 - 10:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
10:00 - 11:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
11:00 - 12:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
12:00 - 13:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
13:00 - 14:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
14:00 - 15:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
15:00 - 16:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
16:00 - 17:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
17:00 - 18:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
18:00 - 19:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
19:00 - 20:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.010			0.010			0.020

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
06:00 - 07:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
07:00 - 08:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
08:00 - 09:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
09:00 - 10:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
10:00 - 11:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
11:00 - 12:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
12:00 - 13:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
13:00 - 14:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
14:00 - 15:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
15:00 - 16:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
16:00 - 17:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
17:00 - 18:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
18:00 - 19:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
19:00 - 20:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.020			0.020			0.040

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.018	1	5677	0.000	1	5677	0.018
06:00 - 07:00	2	10839	0.065	2	10839	0.032	2	10839	0.097
07:00 - 08:00	2	10839	0.051	2	10839	0.000	2	10839	0.051
08:00 - 09:00	2	10839	0.055	2	10839	0.005	2	10839	0.060
09:00 - 10:00	2	10839	0.028	2	10839	0.014	2	10839	0.042
10:00 - 11:00	2	10839	0.023	2	10839	0.005	2	10839	0.028
11:00 - 12:00	2	10839	0.014	2	10839	0.018	2	10839	0.032
12:00 - 13:00	2	10839	0.005	2	10839	0.014	2	10839	0.019
13:00 - 14:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
14:00 - 15:00	2	10839	0.023	2	10839	0.037	2	10839	0.060
15:00 - 16:00	2	10839	0.005	2	10839	0.032	2	10839	0.037
16:00 - 17:00	2	10839	0.005	2	10839	0.032	2	10839	0.037
17:00 - 18:00	2	10839	0.014	2	10839	0.055	2	10839	0.069
18:00 - 19:00	2	10839	0.014	2	10839	0.046	2	10839	0.060
19:00 - 20:00	2	10839	0.005	2	10839	0.014	2	10839	0.019
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.035	1	5677	0.053	1	5677	0.088
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.365			0.362			0.727

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

LGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
06:00 - 07:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
07:00 - 08:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
08:00 - 09:00	2	10839	0.009	2	10839	0.000	2	10839	0.009
09:00 - 10:00	2	10839	0.018	2	10839	0.018	2	10839	0.036
10:00 - 11:00	2	10839	0.005	2	10839	0.009	2	10839	0.014
11:00 - 12:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
12:00 - 13:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
13:00 - 14:00	2	10839	0.009	2	10839	0.009	2	10839	0.018
14:00 - 15:00	2	10839	0.009	2	10839	0.005	2	10839	0.014
15:00 - 16:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
16:00 - 17:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
17:00 - 18:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
18:00 - 19:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
19:00 - 20:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.055			0.056			0.111

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

MOTOR CYCLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
06:00 - 07:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
07:00 - 08:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
08:00 - 09:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
09:00 - 10:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
10:00 - 11:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
11:00 - 12:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
12:00 - 13:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
13:00 - 14:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
14:00 - 15:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
15:00 - 16:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
16:00 - 17:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
17:00 - 18:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
18:00 - 19:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
19:00 - 20:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.015			0.015			0.030

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

Servicing Vehicles

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
06:00 - 07:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
07:00 - 08:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
08:00 - 09:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
09:00 - 10:00	2	10839	0.014	2	10839	0.014	2	10839	0.028
10:00 - 11:00	2	10839	0.009	2	10839	0.000	2	10839	0.009
11:00 - 12:00	2	10839	0.000	2	10839	0.009	2	10839	0.009
12:00 - 13:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
13:00 - 14:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
14:00 - 15:00	2	10839	0.009	2	10839	0.009	2	10839	0.018
15:00 - 16:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
16:00 - 17:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
17:00 - 18:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
18:00 - 19:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
19:00 - 20:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.052			0.052			0.104

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

TRIP RATE for Land Use 02 - EMPLOYMENT/I - DATA CENTRE

Scooters

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
01:00 - 02:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
02:00 - 03:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
03:00 - 04:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
04:00 - 05:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
05:00 - 06:00	1	5677	0.018	1	5677	0.000	1	5677	0.018
06:00 - 07:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
07:00 - 08:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
08:00 - 09:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
09:00 - 10:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
10:00 - 11:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
11:00 - 12:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
12:00 - 13:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
13:00 - 14:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
14:00 - 15:00	2	10839	0.000	2	10839	0.005	2	10839	0.005
15:00 - 16:00	2	10839	0.005	2	10839	0.005	2	10839	0.010
16:00 - 17:00	2	10839	0.005	2	10839	0.000	2	10839	0.005
17:00 - 18:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
18:00 - 19:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
19:00 - 20:00	2	10839	0.000	2	10839	0.000	2	10839	0.000
20:00 - 21:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
21:00 - 22:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
22:00 - 23:00	1	5677	0.000	1	5677	0.018	1	5677	0.018
23:00 - 24:00	1	5677	0.000	1	5677	0.000	1	5677	0.000
Total Rates:			0.033			0.033			0.066

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.