Transport Assessment

The Oaks,
Wrexham Industrial Estate

Client: FI Real Estate Management



Document Control		
Report Reference	P24012/TA	
Document Version	Final for Submission	
File Reference	N:\Projects 2024\P24012 - The Oaks, Wrexham Industrial Estate\7.Reports\TA	
Date	September 2025	
Client	FI Real Estate Management	
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1 INTRODUCTION

1.1 Purpose of Report

1.1.1 This Transport Assessment (TA) considers the highway and transportation implications associated with a full planning application for a green eco-heritage park and single employment unit with integral offices, new vehicular access, car and HGV parking, servicing and storage, landscaping, heritage and ecology mitigation and ancillary development, on land to the south of Oak Road in Wrexham Industrial Estate (WIE). The proposed development has been designed to suit the operational requirements of 'HIAB', who will be the occupier of the site. The circa 79,000sqft unit will be predominantly manufacturing led with some warehouse space and ancillary office space.

1.1.2 Wrexham County Borough Council (WCBC) is the local highway authority and local planning authority for the area. Prime Transport Planning ('Prime') has produced this TA on behalf of the applicant, FI Real Estate Management ('FIREM').

1.1.3 A Transport Statement (TS) prepared by Prime was originally submitted as part of the planning application (ref: P/2025/0430) for the above scheme. The application was validated in May 2025, however WCBC Highways provided a consultation response dated 21st July 2025 which requested additional information and the requirement for a detailed TA. The previous TS has therefore been updated to a TA to address the points raised by WCBC and include a capacity assessment at the proposed site accesses. A separate document (TN01) has been produced by Prime to highlight the sections of the report which have been updated to enable WCBC to undertake a review of the additional information provided. TN01 also addresses certain points raised which could not be appropriately addressed within the TA.

1.1.4 The document has been prepared in accordance *with Planning Policy Wales* and *Technical Advice Note 18: Transport* as well as a number of local policy documents. It considers the accessibility of the site and safety for all modes of travel with an emphasis on walking, cycling and public transport.

1.1.5 The conclusions and recommendations contained herein have been drawn based on information available and obtained in advance of the planning submission to which this report relates.

1.1.6 Reasonable checks have been carried out on any third-party information used in the preparation of this report but, nonetheless, Prime accepts no liability for the accuracy or otherwise of this data.

1.1.7 Third-party rights are excluded for the use of information contained within this report.

1.2 Scope of Report

1.2.1 An email based highways scoping exercise outlining the proposed methodology of the TA was undertaken with WCBC on 11th July 2024. A response (ref: PRE/2024/015) was received from WCBC on 29th August 2024 which stated '*there are no objections in principle to the proposals'* subject to

clarification on trip generation, parking and the proposed access strategy. A copy of the original scoping note and pre-application response is contained within Appendix A.

1.2.2 A 'Draft for Consultation' version of the previous TS was submitted to WCBC as part of a Pre-application Consultation (PAC). It is understood that the applicant did not receive any feedback from WCBC Highways following PAC, and therefore no amendments were made to the TS before submitting the full application. It is therefore somewhat surprising to have received such detailed comments from WCBC following the submission as any comments could have been adequately addressed by Prime prior to a full application being made.

1.2.3 The remainder of this report is structured as follows:

- **Section 2** describes the relevant local and national transport policy and guidance;
- **Section 3** describes the existing situation in terms of the site, local highway network and traffic conditions;
- **Section 4** details the development proposal including the proposed access strategy, swept path analysis and parking provision;
- **Section 5** details access to the site by sustainable modes of travel which includes walking, cycling and public transport;
- **Section 6** describes the methodology behind the forecasting of the proposed level of trip generation and the likely impact the scheme will have on the adjacent highway network, along with providing a capacity assessment of the proposed site access;
- **Section 7** describes the existing safety of the local highway network adjacent to the site and details a Road Safety Audit undertaken of the proposed access arrangement; and
- **Section 8** concludes the findings of the TA.

2 TRANSPORT POLICY AND GUIDANCE

2.1 Introduction

2.1.1 It is important that any new developments conform to and compliment national and local planning policy. This section details the policies that are relevant to this development.

2.2 Planning Policy Wales

2.2.1 The document Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government and is supported by a series of Technical Advice Notes (TANs). The most recent version of PPW is Edition 12, published in February 2024.

2.2.2 Transport is considered in Chapters 2, 3, 4 and 5 of PPW. The document sets out a primary objective:

> *'to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales.'*

2.2.3 Chapter 2 emphasises the importance of 'maximising well-being and creating sustainable places through placemaking'. The chapter goes on to state:

> *'Walking, cycling and public transport are prioritised to provide a choice of transport modes and avoid dependence on private vehicles. Well designed and safe active travel routes connect to the wider active travel and public transport network and public transport stations and stops are positively integrated.'*

2.2.4 Chapter 3 outlines the importance of strategic placemaking, with early decisions having the greatest impact on contributing towards a sustainable development. The chapter states:

> *'As well as ensuring all services needed for the expectant levels of growth are provided, an important consideration will be minimising the need to travel, reducing reliance on the private car and increasing walking, cycling and use of public transport.'*

2.2.5 The chapter addresses place-making within rural areas, with it being acknowledged that for rural areas:

> *'opportunities for reducing car use and increasing walking, cycling and use of public transport are more limited than in urban areas.'*

2.2.6 Chapter 4 highlights the importance of cohesive communities, with such considerations through placemaking contributing towards a 'prosperous', 'resilient', 'healthier' and 'equal' Wales. The chapter discusses transport in detail, with the need for the people to access jobs and services through:

'shorter, more efficient and sustainable journeys, by walking, cycling and public transport'.

2.2.7 Chapter 4 also addresses the following:

- Integrated planning and transport strategies;
- Sustainable transport and reduction in private car reliance;
- Active/social streets designed to be publicly orientated;
- Active travel and the encouragement of walking/cycling;
- Public transport and its availability;
- The encouragement of ultra-low emission vehicles;
- Traffic management and improved forecasting;
- The availability of car parking; and
- Transport Assessments as an important mechanism for considering traffic impact.

2.2.8 Chapter 5 discusses the economic components of placemaking and the creation of '*productive and enterprising places*'. The chapter continues to state that such enterprising places are '*designed and sited to promote healthy lifestyles*' with this being done by making them '*easy to walk and cycle to and around*', and easy to access by public transport.

2.2.9 Transport infrastructure is discussed in detail, with the importance of such infrastructure towards sustainable development stated below:

'The provision of sustainable transport infrastructure is essential in order to build prosperity, tackle the climate emergency, reduce airborne pollution and to improve the social, economic, environmental and cultural well-being of Wales. The planning system should facilitate the delivery, decarbonisation and improvement of transport infrastructure in a way which reduces the need to travel, particularly by private vehicles, and facilitates and increases the use of active and sustainable transport.'

2.2.10 Accordingly, this TA has been structured to include an assessment of accessibility by sustainable modes including walking, cycling and public transport, road safety and the impacts of the development on the local highway network.

2.3 Technical Advice Note 18: Transport

2.3.1 TAN 18 (2007) outlines the need for, and the required content of TAs, for some classifications and scales of development in Wales. The document outlines the following aims to be considered when producing a TA:

- Understand the transport impacts of the development;
- Clearly communicate the impacts to assist the decision-making process;

- Demonstrate the development is sited in a location that will produce a desired and predicted output (for example in terms of target modal split);
- Mitigate negative transport impacts through the design process and secure through planning conditions or obligations; and
- Maximise the accessibility of the development by non-car mode.

2.3.2 TAN 18 provides detailed guidance on visibility standards, and essentially provides for visibility to be based upon the standards in the Design Manual for Roads and Bridges (DMRB) for roads where actual road speeds are unknown or where the speed limit is >60kph (37mph), and the standards in Manual for Streets (MfS) where speeds are known and are <60kph (37mph).

2.3.3 In relation to accessibility, TAN 18 emphasises the utility of using '*accessibility profiles*', which consider whether a site has the potential to minimise travel by the private car. In accordance with this the site's accessibility by walking, cycling and public transport has been considered.

2.4 North Wales Joint Local Transport Plan 2015

2.4.1 As of March 2025, the Welsh Government states on their website that all local transport plans have been replaced by Regional Transport Plans (RTP), of which the draft plan pertaining to North Wales will be discussed in Section 2.5 below. The North Wales region covers Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham.

2.5 Regional Transport Plan for North Wales

2.5.1 The Regional Transport Plan (RTP) for North Wales is currently a drafted plan that contains a framework for which future investment related to regional transport systems and infrastructure improvements will be determined. The RTP feeds into the Welsh Government's transport strategy, *Llwybr Newydd*, and will aid the local highway authorities to *'address current and future local and regional transport issues over the next 5 years (2025-2030).'*

2.5.2 Public consultation for the draft RTP was undertaken in early 2025, with the Ambition North Wales website stating that the Welsh Government aims to obtain Ministerial approval by the end of September 2025 and that the North Wales RTP will be published upon the Welsh Government's approval.

2.5.3 Four main objections are stated within the current draft plan, these being:

- *Improve digital connectivity and local services;*
- *Improved accessibility and transport choice;*
- *Enable Sustainable Economic Growth; and*
- *Enable decarbonisation through transition to a zero-emission fleet.*

2.5.4 Various policies which will help the region accomplish the main objectives and pertain to the proposed development are listed below.

Travel Behaviour Policies

Policy C B 1: Further enhancements to public transport services and active travel routes that provide access to large employment sites will be identified and progressed where funding is available. Enhancements should consider shift work patterns, seasonal working patterns, and where the biggest impact can be delivered.

Policy CB2: A partnership approach will be taken to identify and progress schemes and initiatives that encourage sustainable travel to work at employment sites close to the border such as Deeside Industrial Park, Wrexham Industrial Estate, Airbus Broughton, Chester Business Park, and Wrexham and Chester city centres.

Policy CB4 Commuters to the Flintshire and Wrexham Investment Zone should be able to access jobs using high quality walking and cycling infrastructure, enhanced nearby rail stations, or bus services that are attractive and reflect the working patterns of employers in the Investment Zone.

Walking, Wheeling and Cycling Policies

Policy AT1: The quality and extent of infrastructure that is provided for walking, wheeling and cycling in North Wales will continue to be improved in line with the Active Travel Network Maps. These could be new or upgraded existing facilities and may include the reallocation of road space to prioritise sustainable modes.

Policy AT3: Where possible, walking and cycling infrastructure should be accessible for all people, including those with mobility impairments, people in wheelchairs, and people pushing prams.

Roads, Streets and Parking Policies

Policy RS11: The Strategic Development Plan and Local Development Plans should mandate that new residential and non-residential developments provide sufficient electric vehicle charging points to meet future demand and incentivise electric vehicle uptake.

Policy RS13: The travel planning process should be used to encourage care share for commuting.

Land Use Policies

> *Policy LU2: The Sustainable Transport Hierarchy will be used to help ensure developments support walking and cycling, public transport and ultra-low emissions vehicles over other private motor vehicles.*
>
> *Policy LU4: Developments should only be supported where they promote active travel connectivity through safeguarding, enhancing and expanding on the Active Travel Network Maps.*
>
> *Policy LU5: Development should be encouraged close to public transport facilities, and developments should be designed to help facilitate and improve public transport connectivity in both urban and rural areas.*
>
> *Policy LU6: The Corporate Joint Committee supports reducing the parking standards for new developments (as required by the Welsh Government), particularly in urban areas where we will be actively improving sustainable transport alternatives.*

2.6 Wrexham Local Development Plan 2 (2013-2028)

2.6.1 The Local Development Plan 2 (LDP2) was adopted by WCBC in December 2023, but the decision was subject to legal challenge and the Court of Appeal in December 2024 ruled that the Council was not legally obligated to adopt the plan; an appeal to the Supreme Court against the ruling was dismissed. The effect is the vote to adopt the LDP2 is nullified with a new vote anticipated during 2025. Currently, WCBC states on its website that the LDP2 is the adopted Development Plan for development management purposes; as such we give full weight to the policies of the LDP2 until and unless the Council directs otherwise.

2.6.2 The LDP2 was prepared to replace the Unitary Development Plan, and has been prepared in line with Planning Policy Wales, setting out the local authority's vision for the council up to 2028. The following policies are particularly pertinent to this report:

Policy T1: Managing Transport Impacts

2.6.3 In line with national policy, Policy T1 sets out a preference for developments which support the transport hierarchy, stating that new developments will be supported where they:

> *'Facilitate increased journeys by more sustainable modes of travel first by walking and cycling, then by public transport and finally by private motor vehicle.'*

2.6.4 The policy also covers some of the more traditional aspects of development transport planning such as acceptable levels of trip generation, stating that development proposals will be supported where they:

'Do not compromise the safe, effective and efficient use of the highway network and do not have an adverse impact on highway safety or create unacceptable levels of traffic generation.'

2.6.5 Parking and vehicular access are also covered by this policy which states that developments should:

'Provide appropriate levels of parking and ensure access arrangements for the site to allow for safe manoeuvring.'

Policy T2: Active Travel

2.6.6 This policy seeks to improve Wrexham's active travel network by encouraging developers to contribute towards the provision of quality pedestrian and cycling infrastructure. It sets out that development proposals will be supported where the:

'Walking and cycling infrastructure is an integral part of the overall design of the scheme and makes a positive contribution to the distinctiveness of communities and places.'

Policy SP9: Wrexham Industrial Estate

2.6.7 This policy is targeted specifically at setting out the importance of WIE which is a key regional employment area. LDP2 states that:

'Approx. 80% of the employment land take-up in the County Borough since 2006 has been on land at the WIE.'

2.6.8 With this in mind, Policy SP9 seeks to promote WIE as the County Borough's Key Business Sector area and states that WIE will be the primary focus of the delivery of B1, B2 and B8 employment land.

2.7 Wrexham Unitary Development Plan (1996-2011)

2.7.1 Given the LDP2 is in a state of flux, the Unitary Development Plan (UDP) 1996 – 2011 has also been referenced within this report. The UDP reflects the council's corporate vision for the County Borough's future based on:

- Aspiring city status, with Wrexham centre as its civic hub;
- Rural revitalised distinct towns and villages and attractive viable hinterland;
- Modern robust economy across all sectors;
- Improve quality of life for residents with an emphasis on supporting access to a variety of education and employment opportunities; and
- Institutions of growing stature: for example, the Council itself.

2.7.2 Strategic Polices relevant to this development include:

- **Policy PS1** New development for housing, employment, and community services will be directed to within defined settlement limits/employment areas;
- **Policy PS3** Development should use previously developed brownfield land comprising vacant, derelict or underused land in preference to the use of greenfield land, wherever possible, particularly so where greenfield land is of ecological, landscape or amenity value, or comprises agricultural land of grades 1, 2 or 3a quality; and
- **Policy PS4** Development should maintain the existing settlement pattern and character and be integrated with the existing transport network to help reduce the overall need to travel and encourage the use of alternatives to the car.
- **Policy PS8** The transport network will be developed by providing an integrated range of travel options to and from principal residential, commercial, employment and education centres by making the best use of the existing road and rail network, including, where necessary, the provision of facilities for both passenger and freight interchange and by the encouragement of public transport, cycling and walking.

2.8 Wrexham Connected: Our Sustainable Urban Mobility Plan

2.8.1 The *Wrexham Connected* document sets a clear vision for the future of transport for the area. It brings together the Council's overall direction of transport planning.

2.8.2 The document outlines the importance of the council's Sustainable Urban Mobility Plan (SUMP). This is discussed in specific reference to WIE, and the Council's concern for the public's ability to connect in and around the town centre, as well as corridors outside of the town.

2.8.3 Stated within the document are the Wrexham Connected objectives, which are set to maximise how the Council can contribute to the national well-being goals contained within the Future Generations Act, being that they support a cohesive Wales and more resilient Wales. The objectives are as follows:

- Safer Places – working with partners to create safer environments for people to live, work and play;
- Sustainable Places – will embrace a 'sustainable', transport-first approach to new development;
- Healthy Places – reduce the impacts of air and noise pollution;
- Affordable Places – stimulate inward investment and regeneration that leads to job creation; and
- Well Connected Places – enhance connectivity to, from and within Wrexham to improve the attractiveness and quality of the area.

2.9 Local Planning Guidance Note 16

2.9.1 In line with Wrexham's Development Plan policy, a series of guidance notes published by WCBC offer specific technical guidance for developers. Local Planning Guidance Note 16 (LPG16) covers parking standards and sets out WCBC's requirements on parking dimensions and the quantum of parking spaces considered appropriate for different land use classes.

2.10 Summary

2.10.1 This section has outlined national and local transport policies and guidance which are applicable to the development site. How the site conforms to and complements the other policies and guidance described above is discussed in the following sections of this report, where relevant.

3 EXISTING SITUATION

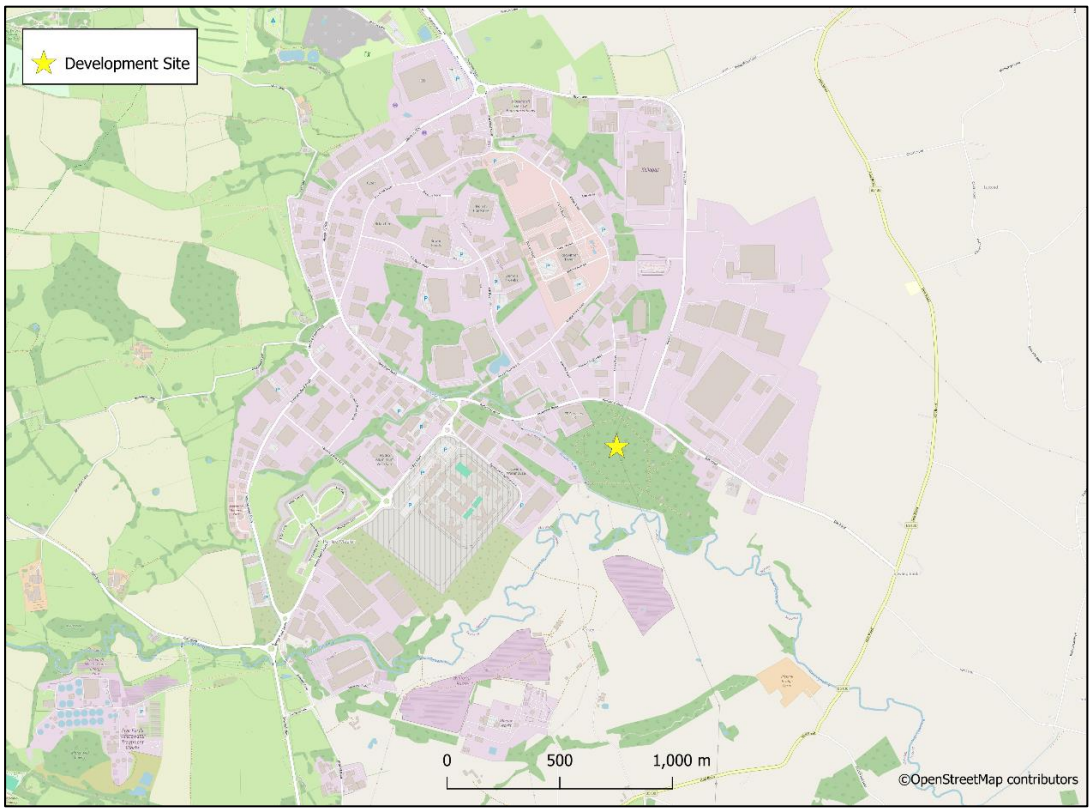
3.1 Site Description

3.1.1 The application site currently has no existing usage, consisting of woodland, scrub and unused buildings. The site has approximately 300m frontage with Oak Road, split between 200m to the north of the site and 100m to the north-east. The site is bound by open scrub to the south, with industrial units/ HMP Berwyn to the west and southwest. Some smaller industrial units exist to the east.

3.1.2 WIE is circa 3.5km east from Wrexham town centre, circa 4km north from Bangor-on-Dee and approximately 6km south-west from Farndon.

3.1.3 The location of the site in the context of WIE and the local highway network is illustrated in Figure 3.1 below.

Image 3.1: Site Location and Local Highway Network



3.2 Local Highway Network

Oak Road/Redwither Road

3.2.1 Oak Road is single carriageway, running on a generally east to west alignment, measuring circa 7m-8m in width. The road is subject to a 40mph speed limit across the site's frontage. Footways exist

along both the northern and southern verge of the road with these varying in width between 2m. The footway ceases to exist circa 200m east of the eastern section of site frontage.

3.2.2 Oak Road transitions to Redwither Road at the site frontage's western boundary. Redwither Road, similarly to Oak Road, has footways provided within both the southern and northern verge, at a circa 2m width. The road is subject to a 40mph speed limit and provides a route through to the remainder of WIE. The road is facilitated with street lighting in the vicinity of the site.

Bryn Lane

3.2.3 Bryn Lane meets with Oak Road at a ghost island right turn priority junction. Bryn Lane provides a route through to the north of WIE, is subject to a 40mph speed limit, with a carriageway of circa 7m-8m width. Circa 2m wide footways are located either side of the carriageway for approximately 500m north of the Bryn Lane/ Oak Road junction, at which point the footway in the eastern verge terminates and a traffic free cycle route in the form of a 3m wide shared cycle/footway is provided in the western verge up to the Industrial Estate Road/Abenbury Way/Ash Road North roundabout. The road is facilitated with street lighting.

3.3 Existing Traffic Conditions

Existing Vehicle Speeds and flows

3.3.1 360TSL, a specialist traffic survey and data collection company, were appointed to undertake an Automated Traffic Count (ATC) on Oak Road to provide an assessment of the highway network along the site frontage.

3.3.2 The ATC survey was collected over a 7-day period from Tuesday 20th February 2024 to Monday 26th February 2024 to provide an indication of traffic speeds and flows along Oak Road in the vicinity of the site. The average and 85th percentile speed results are summarised in Table 3.1 and the observed traffic flows along Oak Road are shown in Table 3.2 below. The raw data is provided in Appendix B.

Table 3.1: Recorded Speeds on Oak Road in the vicinity of the proposed site access

Direction	Combined Speed (mph)	
	Average	85th %ile
Eastbound	31.8	40.0
Westbound	31.9	39.7

Table 3.2: Weekday Average Link Flows along Oak Road

Direction	AM Peak (0700-0800)		PM Peak (1700-1800)	
	Flow	Direction %	Flow	Direction %
Eastbound	100	46%	167	67%
Westbound	116	54%	84	33%
Two-Way	**216**	**100%**	**251**	**100%**

3.3.3 The results of the speed survey show that the 85th percentile speeds in both directions are in line with the existing 40mph speed limit along Oak Road, with average speeds far below this.

3.3.4 The recorded traffic flow volumes suggest that Oak Road is not heavily trafficked. The highest two-way flow in the AM peak was recorded between 07:00-08:00, with approximately 46% of traffic travelling in an eastbound direction and 54% travelling westbound. The highest PM peak flow was recorded between 17:00-18:00, with a higher proportion of 67% travelling in an eastbound direction and 33% travelling westbound.

3.3.5 The ATC equipment separates vehicle specifications between 'lights', 'OGV 1s', 'OGV 2s' and 'buses' based on the distance between axles. However, a known shortfall of ATCs is their accuracy of vehicle classification, with vans and other light goods vehicles often being recorded as other (heavy) goods vehicles (OGVs), and the equipment occasionally confused when vehicles passing it in opposite directions trigger the equipment at the same time, so it is difficult to accurately determine the percentage of HGVs using Oak Road with this information alone.

3.3.6 Classified turning count surveys undertaken as part of the large Bryn Lane scheme, which was granted planning approval in July 2024 and known as 'Kingmoor' (ref: P/2023/0280), have therefore been used to provide the HGV proportions along Oak Road. A TA and a TA Addendum (TAA) were produced for the application, the latter of which included an extensive impact assessment. Traffic Flow Diagram 1 and 2 of Appendix 1 of the TAA presents recorded turning movements of 'light vehicles' (cars & LGVs) in black as well as 'heavy vehicles' (HGVs and buses) in red. These surveys were undertaken in June 2022, and whilst it is recognised the network peak hours used for the assessment are slightly different to those presented above, the percentage of HGVs should provide a more accurate and realistic estimate than the ATC.

3.3.7 The original Traffic Flow Diagrams, as well as a sheet showing the HGV percentage calculations for the AM and PM periods is provided in Appendix C. The calculations suggest that during the morning, 15% and 17% of traffic are HGVs travelling in an eastbound and westbound direction respectively. During the afternoon however, approximately 9% and 12% of traffic are HGVs travelling in an eastbound and westbound direction respectively.

3.3.8 Using the ATC data and the percentage of HGVs mentioned above, Traffic Flow Diagrams 1 and 2, included in Appendix D of this report, summarise the observed peak hour traffic flows for light vehicles and heavy vehicles.

On-site Observations

3.3.9 A number of site visits have been undertaken to WIE. Each time, traffic was observed to move freely throughout the Estate with no issues noted at the majority of the key junctions. Both the Cefn Road route and the A525 towards Wrexham (via Marchwiel) were quiet, suggesting there would appear to be spare capacity on the highway network to accommodate additional development. No safety concerns with the operation of the existing highway network were noted.

4 DEVELOPMENT PROPOSAL

4.1 Development Description

4.1.1 FIREM is seeking planning permission on behalf of HIAB for the delivery of a circa 79,000sqft self-contained employment development on land to the south of Oak Road. The proposed development has been designed to suit the operational requirements of HIAB, who will be the preferred operator of the site. It is understood that the purpose of the proposed development is to consolidate HIAB's current UK operations, with the site becoming the main distribution base within the UK.

4.1.2 HIAB is a leading provider of safe, smart and sustainable load handling solutions. An international company, HIAB develop and manufacture a wide range of equipment, from cranes to tail lifts.

4.1.3 Given the sites existing ecological and heritage value, it is FIREM and HIAB's intention to maintain and enhance the existing habitats and greenspace on the majority of the site. The proposed bespoke unit will be predominantly manufacturing led (B2) with some warehouse (B8) and ancillary office space. The unit will be located towards the north-western edge of the site, with access and operations concentrated within a relatively small area, with the remainder of the site preserved for ecology. This approach also meets HIAB's aspirations for a sustainable and environmentally friendly approach to development.

4.1.4 A site masterplan drawing has been produced by MCAU architects and forms part of the supporting documentation for the planning application. It is not included within this document as it has the potential to be revised up to the point of submission and therefore to avoid conflicting and superseded layouts being submitted within the various planning documents, it is omitted from this report. The planning documents should be available via the LPA's planning portal.

4.2 Site Access

4.2.1 Two new access points will be provided from Oak Road however the eastern access will be reserved for inbound movements only, while all outbound movements will be concentrated to the western egress. The separate ins and outs approach has been agreed with HIAB and suits their operational requirements by improving circulation through the site.

4.2.2 The eastern access will consist of an 8.5m wide carriageway including two inbound lanes, 15.0m radii and 3m wide shared footway/ cycleways, with the western footway dropping down to 2m wide and extending into the site and through the car park. The western egress will also consist of an 8.5m wide carriageway including two outbound lanes, 15.0m radii and 3m wide shared footway/ cycleways which will continue into the site. The alignment of the egress road has been designed to avoid the root protection area of oak tree T39 (tree survey reference). Given the width of the bell mouths, both the access and egress will have a pedestrian refuge island and uncontrolled dropped kerb crossings to aid pedestrian/ cycle movements.

4.2.3 Security gates will be provided at both the access and egress. The gates will be set back from Oak Road by 20m to ensure a waiting articulated vehicle will not obstruct or impede the highway operation. The full security and operational plan for the security gates is still to be determined, however it is understood that the gates will be open during operational hours only. It is anticipated that the normal working hours will typically be 08:00 – 17:00 and no shift work is planned to take place. As the gates will be open during operational hours, no backing up vehicles onto the adjoining highway will take place.

4.2.4 The existing 3.6m wide access currently serving the site, which is located opposite Abbey Road South, will be closed, with a full height kerb reinstated.

4.2.5 A dropped kerb crossover will however be provided to the west of the western egress to provide access to the proposed substation. As with any substation which is accessible off a main highway, infrequent servicing trips are likely to be made by small vans, with the likelihood of conflict between vehicles accessing the substation and the main egress being extremely minimal.

4.2.6 The inbound eastern access will be located approximately 50m east of the Abbey Road S junction and has been positioned to avoid the overhead cables which run through the site from Oak Road. The western outbound exit will be positioned circa 50m to the west of Abbey Road S and circa 100m to the east of Dunster Road. Drawing P24012-001F in Appendix E shows 4.5m x 120m visibility splays in accordance with TAN 18 for a 40mph design speed are deliverable within the adopted highway from the western exit. The existing vegetation along the site frontage which falls within the visibility splays will be cut back/ removed to ensure a suitable level of visibility can be achieved.

4.2.7 The drawing also shows a stopping sight distance of 120m is achievable for vehicles approaching from the east to vehicles turning into the proposed access.

4.2.8 It is worth noting this form of priority junction in the western position was previously agreed with Highways Officers at WCBC for a much larger scheme (Planning Ref: P/2019/0877).

4.2.9 The LHA raised concerns within the pre-application response that the provision of two accesses will create potential conflict points on the public highway. The two accesses are positioned 100m apart which is in keeping with multiple other accesses along Oak Road and is often accepted as being sufficient spacing for accesses located on the same side of the road. Just to the west of the site, there is an access located approximately 100m west of Dunster Road which provides access to a number of units, and there are four separate accesses within a 130m stretch on Redwither Road. As discussed in Section 3.4 of this report, no accidents have occurred in this area for 5 years, and a further interrogation of Crashmap suggests that no accidents have occurred along this stretch of road for over 10 years. Furthermore, the low volumes of traffic passing the site as demonstrated in Table 3.2 above, and low levels of trips expected to be generated by the site as demonstrated in Section 6.2 of this report, suggest that a dual access strategy in this location should not be cause for concern. The ingress and egress will be clearly signed (i.e. On Only/ No Entry signage), and appropriate road

markings will be provided to ensure staff and visitors adhere to the one-way proposals. Given the above, there does not appear to be a highways safety reason why a dual access strategy should not be appropriate in this location.

4.3 Proposed Pedestrian/Cycle Access

4.3.1 The existing footway along the site frontage will be widened to a 3m combined footway/cycleway for the full length of the site frontage and west of the Oak Road/ Dunster Road junction opposite, with dropped kerbs and road markings to enable the transition from the carriageway to the shared-use path for those travelling from the east, and the same to enable the transition from the shared-use path to the carriageway for those travelling to the west.

4.3.2 As well as the access points, a pedestrian/ cycle connection into the site will be provided between the two vehicular access points. The proposed cycleway will meander through landscaping and the proposed car park, providing access to the proposed cycle store and main entrance.

4.3.3 Pedestrian refuge islands with 3m wide dropped kerbs and tactile paving will be provided over the proposed access and egress. The provision of refuge islands will reduce the width of the accesses that pedestrians and cyclists are required to cross, whilst maintaining the desire line along the site frontage. Crossing points will also be provided through the proposed car park to delineate safe pedestrian movements through the site.

4.3.4 A single dropped kerb crossing point will be provided over Oak Road to enhance pedestrian connections to the closest bus stops. The uncontrolled crossing will be located to the east of Dunster Road, given that this is on the desire line to Bridge Road North where the closest bus stops are currently located. 120m pedestrian intervisibility has been shown on Drawing P24012-001F to be achievable from the back of the tactile paving on both sides of the road.

4.3.5 The ATC survey provided in Appendix B shows an average 24-hour 5-day two-way flow of 2,778 vehicles. Table 12.1 of the *Active Travel Act Guidance* suggests appropriate treatments for a standalone crossing of a two-way carriageway according to speeds and vehicle flows. It is worth noting that the 'Total traffic flow to be crossed' thresholds within the 40mph – 50mph bracket are far higher than the recorded flows along Oak Road, ranging from 0 - 10,000 for one lane and 0 - 6,000 for two lanes 'to be crossed in one movement'. Given the recorded two-way flows along Oak Road are significantly lower than the upper figure of both thresholds, and are more in line with the <30mph bracket, it is proposed that an uncontrolled crossing is appropriate for this location, rather than a signalised or grade separate crossing as suggested in the table. Furthermore, whilst it is recognised Active Travel England is not an agency applicable to Wrexham, it suggests that signalised crossings should be introduced when vehicle traffic exceeds 8,000 vehicles per day.

4.3.6 It is worth noting that no other signalised or grade separated crossings are provided throughout WIE or in areas which experience far higher vehicular and pedestrian flows.

4.3.7 It is generally recognised that introducing a controlled crossing within a low footfall area, can lead to pedestrian and driver confusion, resulting in a highways safety concern and potential collisions. Whilst existing pedestrian movements are not recorded as part of the ATC survey, minimal pedestrian activity has been observed on the numerous site visits to WIE. Furthermore, the multimodal trip generation exercise undertaken in Section 6.3 suggests the site is anticipated to generate 2 pedestrian trips in the AM peak and 1 trip in the PM trip. Given the evidence above, it is proposed that an uncontrolled crossing is appropriate for this particular location.

4.4 Internal Site Circulation

4.4.1 A loop style arrangement will be provided through the site for both the service yard and the car park. The eastern access will continue southwards, providing access to the eastern service yard, which will then loop around the southern end of the proposed unit, before continuing north through the western service yard to the western exit.

4.4.2 Access to the car park will be provided circa 30m south of the eastern access, providing a one-way route through the proposed car park to the western exit. The car park access/ exit will consist of a 6m carriageway and appropriate junction radii to enable vehicular movements through the circulatory.

4.4.3 Signage and road markings will be provided throughout the site and at the entrance/ exit to ensure drivers adhere to the one-way circulatory.

4.5 Swept Path Analysis

Site Access

4.5.1 To demonstrate that the abovementioned access and egress will be safe to serve the site for HIAB's intended purposes, a swept path analysis using the industry approved AutoTrack software package has been undertaken. Whilst it is anticipated smaller articulated HGVs and rigid trucks are likely to be the largest vehicles that will regularly require access to the site, the site access and egress have been assessed with a 16.5m articulated HGV to represent a worst case. Drawing P24012-002C contained in Appendix E demonstrates that this vehicle can safely access and egress the site in forward gear using the in/out arrangement. Drawings P24012-006A, P24012-008A and P24012-010, all in Appendix E, demonstrate that a 12m long rigid vehicle, a 14.5m articulated HGV and a 10.2m long tipper truck can all safely use the proposed access and egress respectively.

Internal Arrangements

4.5.2 A swept path analysis has also been undertaken showing the access to the car park and HGV docking bays in both service yards. Drawing P24012-003B in Appendix E shows a large car accessing and circulating around the car park, while Drawing P24012-004B shows a 16.5m articulated HGV accessing and circulating around the service areas. The drawings demonstrate that the vehicles utilising the

proposed car park and servicing area can safely enter and exit these facilities in forward gear. Drawings P24012-005, P24012-007 and P24012-009, all in Appendix E, demonstrate that a 12m long rigid vehicle, a 14.5m articulated HGV and a 10.2m long tipper truck can all park within the proposed 12m long HGV spaces respectively, leaving adequate space within the service yard for other vehicles to manoeuvre safely.

4.6 Parking Provision

Trailer Parking

4.6.1 A total of 70 HGV trailer parking bays will be provided, this being in accordance with HIAB's current requirements. The HGV spaces will be 12m long to provide parking for vehicles awaiting to enter the site's unit for equipment installation, as well as parking for vehicles that have been completed and are awaiting collection. The proposed length of the spaces is appropriate for the vehicles typically used by HIAB such as shorter articulated vehicles and rigid trucks used in the swept path analysis above. The 16.5m articulated vehicle was used initially within the analysis to represent a very worst case scenario and demonstrate that the site would still operate satisfactorily even if this was the case.

Car Parking

4.6.2 A total of 82 car parking spaces, including 5 accessible bays will be provided, this being accordance with HIAB's operational requirements. Whilst it is recognised that this falls below WCBC 'maximum' standards for B2 use which would require 147 spaces, it should be recognised that the parking standards are just that, 'maximum'. The proposed level of parking is therefore based on HIAB's specific requirements, and reflects national and local policy which aims to reduce car dependency such as Policy LU6 in the RTP.

4.6.3 It is understood that HIAB wish to consolidate their existing operations from Ellesmere in Shropshire to the Wrexham site. There are currently 94 car parking spaces at this site, however the HIAB Government Business Operations (GBO) division comprising circa 12 staff who currently operate from Ellesmere, will not be moving to Wrexham and will be located elsewhere, therefore the proposed 82 parking spaces will provide sufficient parking for the remaining HIAB business.

4.6.4 The 82 spaces are therefore appropriate to accommodate the peak demand of cars associated with staff and visitors on site at any one time. Staff will be encouraged to lift share where possible and a Travel Plan will be in place to encourage travel by sustainable modes of transport.

4.6.5 As part of the consultation response, WCBC requested that a parking survey is carried out which is relevant to the proposed development site. Such a survey would not be possible in this instance given the nature of HIAB's site at Ellesmere. Whilst HIAB occupy the majority of the existing site, there are two other businesses that travel though the main entrance and other roads on site to access their

own areas, meaning any results collected as part of the survey, would not be solely representative of HIAB's current operations.

4.6.6 Should it be deemed necessary to provide additional parking in the future, two areas have been identified which can be converted to parking if required: one via the extension of the northern car park aisle; and another via the extension of the eastern aisle down the eastern side of the proposed building, resulting in a slight reduction of trailer parking bays. The combined areas identified are large enough to accommodate an additional 66 spaces, resulting in a total of 148 car parking spaces, with this level of parking aligning with WCBC's *'Local Planning Guidance Note No.16'* parking standards for a 100% B2 unit.

4.6.7 An indicative 'Additional Parking' layout produced by MCAU is provided in Appendix F of this report. As mentioned previously, the 82 spaces currently shown are in accordance with HIAB's specific requirements and are based on their current operations. The applicant understands that any future changes to the parking provision would require a separate planning application, however the above exercise has been undertaken to demonstrate that there is ample space within the development site to accommodate additional parking if required in the future.

4.6.8 The applicant is willing to provide an appropriate level of electric vehicle (EV) charging facilities within the car park, compliant with WCBC standards and The Building Regulations 2023 *Approved Document S (Infrastructure for the charging of electric vehicles)*. Whilst it is recognised WCBC raised concerns regarding the use of these EV spaces and impact they have on the overall parking provision availability, the applicant is willing to accept a condition to provide a suitable car parking management plan if required.

Cycle Parking

4.6.9 16 cycle parking spaces in the form of 8 'Sheffield' stands and 2 accessible spaces are to be provided within a safe and secure cycle shelter, this being in accordance with WCBC's standards of 1 space per 500sqm and in line with HIAB's aspirations to promote sustainable travel. The cycle stands will be located near to the entrance of the proposed unit, close to the building entrance.

4.6.10 A scaled, detailed 'Cycle Store' plan has been produced by MCAU and included in Appendix G which shows the position of the cycle store on the western side of the proposed building, including 1m spacing between stands, and 1.5m for the accessible cycle spaces.

5 ACCESS BY SUSTAINABLE MODES

5.1 Introduction

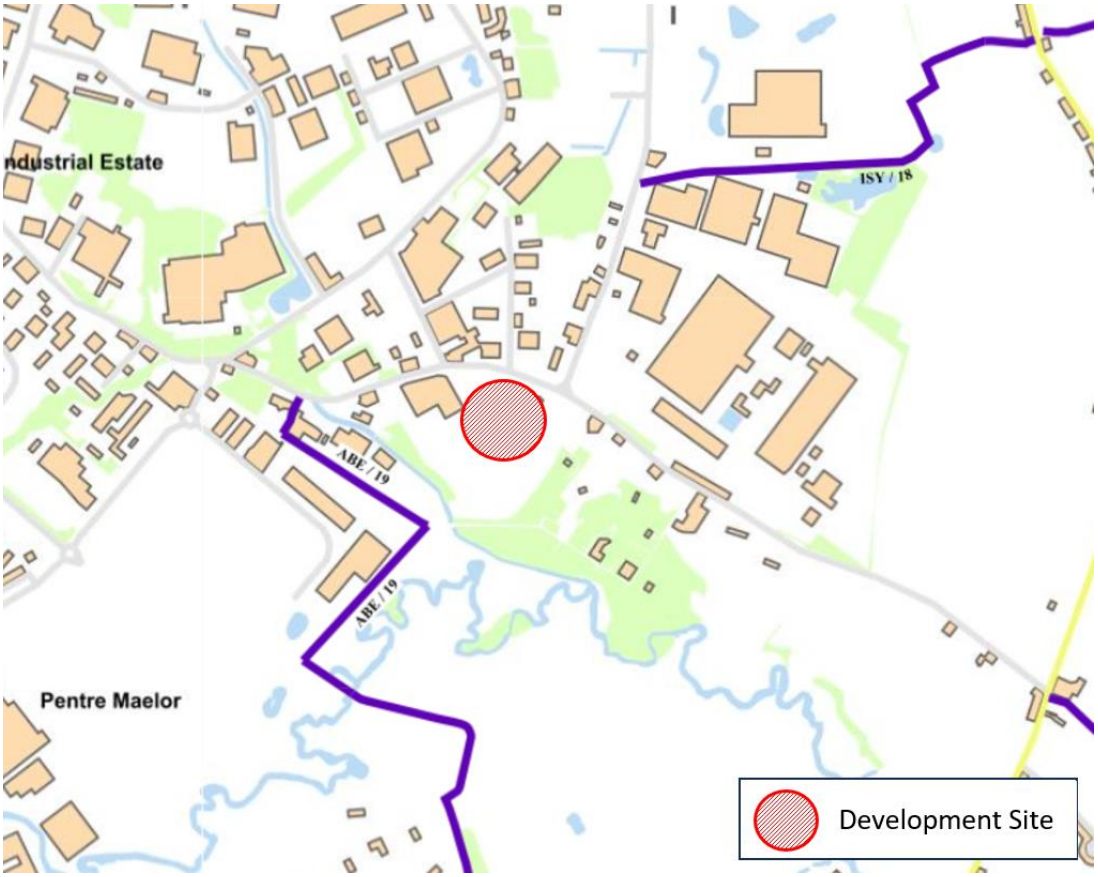
5.1.1 National and local transport planning policy centres on the importance of sustainable development, meaning that new developments should be located in areas where there is access to sustainable modes of travel or where sustainable modes of travel can be introduced. These sustainable modes include walking, cycling, public transport, car sharing and use of low emission vehicles (electric/hybrid).

5.1.2 Walking, cycling and public transport are commonly regarded as the most sustainable modes of transportation. This section of the report will describe how accessible the site is by these modes.

5.2 Access by Foot

5.2.1 As discussed in Section 3, the roads connecting the proposed development to the adjacent highway network are well facilitated with footways, pedestrian crossings and street lighting. It is understood that whilst there is no public access to the site, informal public access does occur. There are also two Public Rights of Way (PRoW) that run near the site. These are illustrated below in image 5.1.

Image 5.1: PRoW Near Site



Source: [Public rights of way | Wrexham County Borough Council]

5.2.2 The above shows that ABE/19 and ISY/18 are the two nearby PRoWs to the site, the closest being ABE/19 which runs south from Redwither Road and skirts the boundary to the west of Redwither Brook, before continuing southwards.

5.2.3 There are currently no plans by the applicant to make a formal and direct connection from the proposed development unit to PRoW ABE/19, however permissive footpaths are proposed throughout the ecological zone which may enable future connections to the public footpath.

5.2.4 Research has indicated that acceptable walking distances depend on several factors, including the quality of the street environment, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution of Highways and Transportation (CIHT) document entitled '*Providing for Journeys on Foot'* (2000) suggests walking distances which are relevant to this application. These distances are shown below in Table 5.1.

Table 5.1: Suggested Acceptable Walking Distances

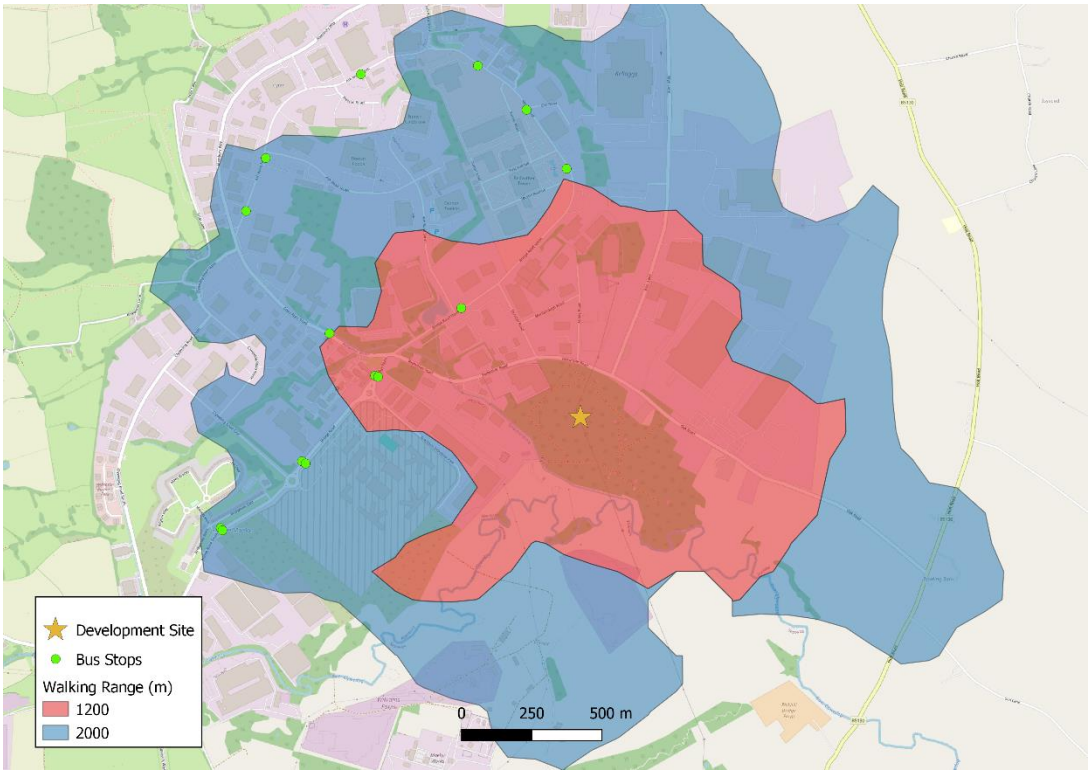
Criteria	Commuting (m)	Local Services (m)
Desirable	500	400
Acceptable	1000	800
Preferred Maximum	2000	1200

Source: CIHT Document 'Providing for Journeys on Foot' (2000)

5.2.5 In order to highlight the site's accessibility on foot, an indicative walking isochrone has been produced using the Geographic Information System (GIS) software Basemap TRACC. To provide an accurate representation of the future highway network the site's proposed access points has been manually added to the network used for the isochrone.

5.2.6 It should be noted that the accessibility distance is based on an origin/destination point in the approximate centre of the proposed development. Image 5.2 represents the site's walking catchment with the CIHT's 'Preferred Maximum' walking distances of 1,200m for local services and 2,000m for commuting journeys illustrated.

Image 5.2: Walking Isochrone



5.2.7 A number of local amenities such as a Greggs bakery, Nora Johns' café and a Nisa Local convenience store sit within the CIHT's recommended 1200m walking range and can be easily accessed via the footways on the surrounding road network. These have recently been refurbished as per planning application P/2022/0065. Having such local amenities reduces the trip numbers and distances for ancillary retail use, such as lunchtime meals, tea/coffee breaks and convenience shopping, which is more sustainable than staff and visitors having to travel further distances, particularly by car, for such trip types.

5.2.8 The Maes Brenin/Pilgrim Way residential access to the south-west of the site falls within an approximate 2000m walking range. The amenities associated with this residential area, i.e. Post Office and Rise and Shine Day Nursery, are also within a convenient walking distance of the site.

5.2.9 The local bus stops to the site are also illustrated in Image 5.2. The services provided by these bus stops are further detailed in Section 5.3 below.

5.2.10 Given the evidence presented above, walking can be considered a realistic method of travel from the site to access the surrounding industrial, manufacturing and residential areas of WIE, and vice versa.

5.3 Access by Cycle

5.3.1 It is widely recognised that cycling can offer an attractive alternative to short car trips, particularly those under 5km, and also as part of longer journeys by public transport.

5.3.2 The DfT's Local Transport Note 2/08 Cycle Infrastructure Design states that:

> *'The road is the most basic (and important) cycling facility available, and the preferred way of providing for cyclists is to create conditions on the carriageway where cyclists are content to use it, particularly in urban areas.'*

5.3.3 In terms of cycling, there are both on-road and off-road/ traffic free cycle routes within WIE, these being highlighted in Image 5.3 below. There is an existing cycle route running along the western side of WIE (depicted in solid pale orange/ brown on Image 5.3) which runs via Erlas Lane, onto Redwither Lane leading south to Cefn Road. Shared/ segregated walking and cycling routes (depicted in solid pink) are shown along Bridge Road South and the northern section of Bryn Lane which provides connections north of WIE. There were signposts to the on-road and traffic free routes observed during the site visit, particularly around Clywedog Road South and East, nearby the residential dwellings of Maes Brenin/Pilgrim Way.

5.3.4 The Active Travel Network Map shows future walking and cycling routes throughout WIE in the form of dashed purple lines. These are routes that the local authority proposes to create in the future, as well as current routes that are planned for improvement to bring them up to standards. As mentioned in Section 4, a 3m wide shared cycleway is proposed along the site frontage, which will help to deliver the Council's walking and cycling infrastructure aspirations.

Image 5.3: Active Travel Network Map



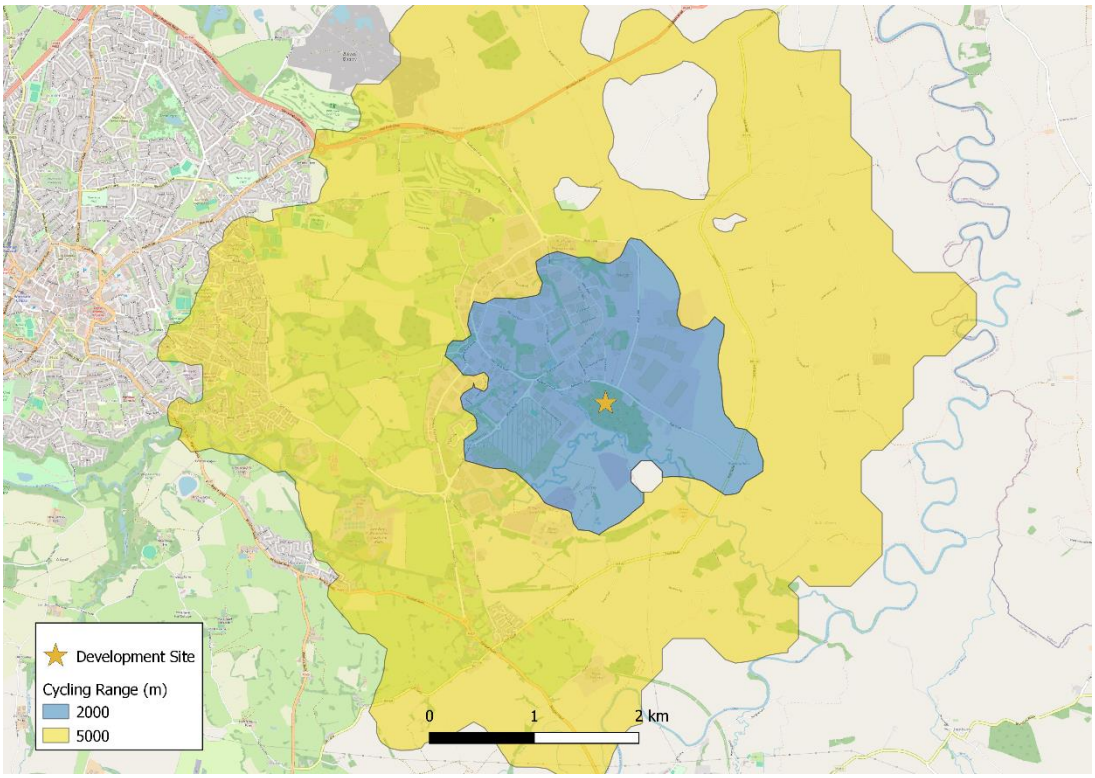
Source: https://datamap.gov.wales/maps/active-travel-network-maps/view#/

5.3.5 In addition to the localised routes, there are a number of National Cycle Network Routes (NCNs) relatively close to WIE. Regional Route 70 is an on-road route, this being located circa 5km to the east

of WIE. This links with NCN 45 to the east of the site and continues northwards towards Chester and southwards towards Whitchurch and beyond.

5.3.6 A cycling isochrone showing the site's catchment has also been produced using TRACC and is shown as below in image 5.4. The figure illustrates 2000m and 5000m catchment ranges, which equate to 10-minute and 25-minute journey times respectively which are based on the somewhat conservative cycle speed of 12kph. Commuting cyclists are in fact more typically considered to travel at speeds between 15-20kph, so a greater catchment may be more realistic.

Image 5.4: Cycling Isochrone



5.3.7 In addition to all of the amenities that are within walking range of the site, the above demonstrates that the eastern boundary of Wrexham also fall within a 5000m cycling range. This has the potential to create employment opportunities for the residents of the nearby residential areas of Hightown and Rhosnesni which fall within the 5000m cycling range.

5.3.8 Additionally, the smaller residential village of Marchwiel falls within the 5000m cycling range as well as Cross Lanes and the smaller hamlets of Hugmore and Bowling Bank.

5.3.9 Due to the accessible location of the site, and the cycling infrastructure provided in close proximity to the site, it is considered that commuting to the site via cycling is a viable option for future employees and no additional off-site cycling measures are considered to be necessary.

5.4 Access by Public Transport

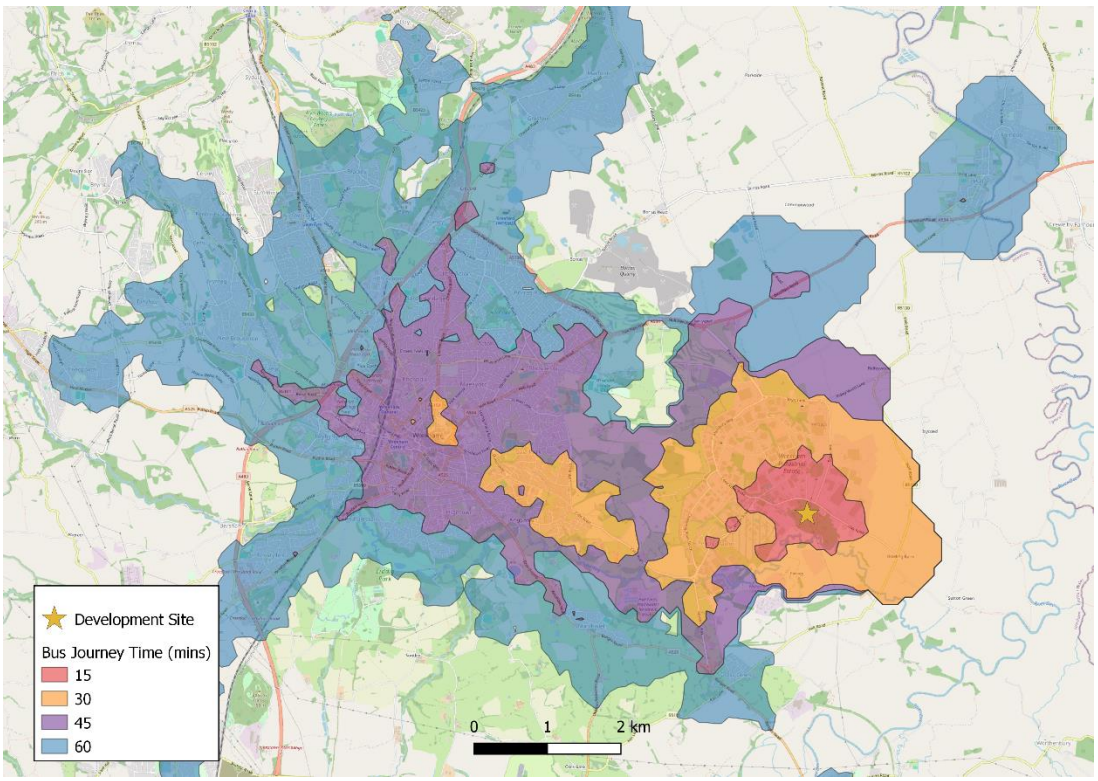
5.4.1 The CIHT document *'Planning for Public Transport in Developments'* (1999) recommends a walking distance of up to 400m to bus waiting facilities from new developments, which is equivalent to a five-minute walk based on approximately 1.4m/s walking speed.

5.4.2 The nearest bus stops to the site are '*Bridge Road nr Barclays Bank, Pentre Maelor*' and '*Bridge Road nr Barclays Bank, Ridley View*' located circa 600m from the site frontage. It is acknowledged that this stop is outside of the recommended CIHT distance, however the route between the stop and the site consists of good quality footways with decent width and can be considered conducive to walking.

5.4.3 From these stops, passengers can access the 41 bus service. The 41 is an hourly service which provides a connection between WIE and Wrexham town centre every day of the week except Sunday. On route, the 41 passes through large residential areas, meaning potential future employees will be able to access the site without relying on a private vehicle. The 41 terminates at Wrexham bus station where passengers can connect to a significant number of other services.

5.4.4 Again, TRACC has been used to produce a bus travel isochrone from the site which is presented below in image 5.5.

Image 5.5: Bus Isochrone



5.4.5 The above demonstrates that almost all of Wrexham is accessible from the site in under an hour by bus and most is accessible in under 45 minutes. A number of neighbouring settlements, such as Farndon, will also be able to access the site in under an hour by transferring at Wrexham bus station.

5.4.6 Wrexham's two railway stations can be reached as part of a multi-modal journey including the use of the abovementioned bus services and a short walk from Wrexham Bus Station These stations provide access to a wide range of locations, with Cardiff Central, Holyhead, Bidston, Birmingham International, Shrewsbury, Chester and Manchester all having services from this station. These stations are also facilitated with bicycle storage and car parking spaces.

5.4.7 In summary both bus and rail services (combined with walk / cycle as part of a multi modal commute) are likely to provide a realistic travel option for commuters and visitors at the proposed development at both peak times and throughout the day.

5.5 Framework Travel Plan

5.5.1 In line with best practice at the national and local level, a Framework Travel Plan (TP) has been produced and will be submitted as part of the planning application. The document forms the start of an ongoing process to encourage and monitor the use of sustainable modes of travel and should be read in conjunction with this TA. As many aspects of the TP will be applicable to this TA, a summary of the key points is as follows:

- A commitment to ensuring that the site is accessible for residents by sustainable modes of transport and to initiate the TP process;
- That the use of sustainable modes of transport is encouraged by residents;
- Outlines the key local and national objectives of the TP process;
- Indicates potential measures that can be implemented to encourage travel by sustainable modes; and
- Provides details of how the TP will be managed and reviewed.

5.6 Summary

5.6.1 This section of the report has demonstrated that the site is in a reasonably sustainable location where access to public transport is available and where local amenities fall within reasonable walking and cycling distances. The vast majority of WIE falls within a reasonable walking distance, indicating that the site itself is accessible within the local area and is commutable from the Maes Brenin/Pilgrim Way residential site. The local bus service provides connections both locally around WIE and towards Wrexham town centre at traditional working times and throughout the day, making bus travel a viable option to and from the proposed development. Therefore, the development proposals accord with the philosophy set out in '*Wrexham Connected: Our Sustainable Urban Mobility Plan'* (2016) and the *'Wrexham Local Development Plan 2'* (2013-2028).

5.6.2 Chapter 3 of PPW, sets out the aim of '*maximising opportunities for people to make sustainable and healthy travel choices*'. The document states that these aims can be achieved in numerous ways, such as reducing the need to travel and developing/maintaining places that support healthy active lifestyles. Given the location of the site and the existing walking, cycling and public transport

infrastructure it is considered that there are good opportunities for access to the site by sustainable modes.

6 TRAFFIC FORECASTING

6.1 Introduction

6.1.1 This section of the report details the methodology used to predict the demand associated with the development. It then provides an assessment of the impact at the proposed access and egress to accommodate the additional trips generated by the development.

6.1.2 Guidance on Transport Assessment (GTA) suggests that an increase of 30 two-way trips is a useful point of reference regarding traffic impact at junctions, implying that any increase in trips less than this figure is unlikely to cause a detrimental impact. In absence of any more recent/local guidance as to when a capacity assessment is required, this has been applied as an appropriate threshold as the basis for assessment.

6.1.3 All traffic flow diagrams are provided in Appendix D.

6.2 Vehicular Trip Generation

6.2.1 The industry approved TRICS database has been used to forecast the likely number of vehicular trips (HGVs included) that the development will generate. Given the unit will be predominantly manufacturing led (B2), average trip rates for a solely B2 unit were derived from TRICS 7.11.2 in order to provide a robust assessment for the original TS. A summary of the key selections previously applied to TRICS were as follows:

- Land use category – Employment, Industrial Unit;
- Regions excluded – London, Northern Ireland and Eire;
- Gross Floor Area (sqm) – 0 to 15,000 units (175 to 9,216 actual);
- Date range – 04/10/13 to 04/10/23;
- Weekend surveys excluded;
- Selected locations – 'Edge of Town' and 'Free Standing'; and
- Location sub categories – 'Industrial Zone'.

6.2.2 The LHA suggested in their consultation comments that further information should be provided that is relevant to the proposed site, with particular reference to location selection, survey dates and gross floor areas. The comments do also recognise that removing all of the selections as they have advised, would result in a sample with no sites.

6.2.3 The TRICS database has therefore been revisited. TRICS 8 has recently been released which provides the most up-to-date survey data. The *TRICS Good Practice Guide 2025* has also been released with this update, which now clarifies that '*it is not considered good practice to exclude survey sites within the TRICS database on the sole basis of such sites being located within any specific region.*'

6.2.4 With regards to GFA, the minimum and maximum ranges have been amended to ensure the resultant average GFA bears a resemblance to the proposed development GFA.

6.2.5 A date selection range of 10 years has been retained because the reduction to 8 years would have resulted in zero samples for the 'Free Standing' category. Furthermore, the best practice guidance suggests that there has been a general shift towards non-vehicular modes over time, therefore any older data is likely to present a worst-case result.

6.2.6 The guide also suggests that main location types may be compatible, including 'Free standing' and 'Edge of Town'. Whilst it is recognised that WIE is separated from the eastern edge of Wrexham by agricultural land, the estate is still very well connected by the A534 and Industrial Estate Road, as well as Cefn Road which is served by a regular bus service. Furthermore, WIE features the Maes Brenin/Pilgrim Way residential estate and is in close proximity to Marchwiel. The characteristics of WIE, therefore bears a lot of similarities with other industrial units characterised as being within 'Edge of Town, as opposed to the 'Free Standing' sites which are locationally more remote.

6.2.7 Given the updates to TRICS software and *'Good Practice'* guidance, the following key selections have now been applied:

- Land use category – Employment, Industrial Unit;
- Regions excluded – None;
- Gross Floor Area (sqm) – 3,500 to 15,000 (units:sqm);
- Date range – 08/11/13 to 08/11/23;
- Weekend surveys excluded;
- Selected locations – 'Edge of Town' and 'Free Standing'; and
- Location sub categories – 'Development Zone', Industrial Zone', 'No Sub Category' and 'Out of Town'.

6.2.8 The above selections returned a sample of 8 sites, however, 1 site was removed given access was taken off a national secondary road (Ireland), rather than within an industrial estate.

6.2.9 The derived trip rates have then been applied to the proposed gross floor area (GFA) of 7,340 sqm, with the resultant trip generation for total vehicles presented in Table 6.1 below. The revised full TRICS report is provided in Appendix H.

Table 6.1: Forecast Trip Rates & Generation

Time	Average Trip Rates			Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	0.415	0.050	0.465	30	4	34
08:00-09:00	**0.619**	**0.068**	**0.687**	**45**	**5**	**50**
09:00-10:00	0.138	0.092	0.230	10	7	17
10:00-11:00	0.140	0.108	0.248	10	8	18
11:00-12:00	0.058	0.098	0.156	4	7	11
12:00-13:00	0.144	0.172	0.316	11	13	24
13:00-14:00	0.156	0.198	0.354	11	15	26
14:00-15:00	0.114	0.104	0.218	8	8	16
15:00-16:00	0.166	0.275	0.441	12	20	32
16:00-17:00	0.070	0.367	0.437	5	27	32
17:00-18:00	**0.044**	**0.467**	**0.511**	**3**	**34**	**37**
18:00-19:00	0.044	0.184	0.228	3	14	17
Daily (12hr)	**2.108**	**2.183**	**4.291**	**152**	**162**	**314**
Time	**Average HGV Trip Rates**			**HGV Trip Generation**		
	Arrivals	**Departures**	**Totals**	**Arrivals**	**Departures**	**Totals**
08:00-09:00	0.020	0.018	0.038	1	1	2
17:00-18:00	0.006	0.010	0.016	0	1	1
Daily (12hr)	0.154	0.154	0.308	10	11	21

6.2.10 Based on the above, the proposed development can be expected to generate the highest number of two-way movements between 08:00-09:00 with 50 two-way vehicular trips. This figure will therefore be used in the following assessment to provide a robust assessment. The above also demonstrates the proposed development can be expected to generate 37 two-way vehicular trips in the PM peak between 17:00-18:00.

6.2.11 It should be noted that no allowance has been made for any future reduction in car travel based or any potential increased use of sustainable modes of travel, therefore the trip generation figures are considered to be robust. As mentioned previously, these figures have been based on a solely B2 unit as a worst case scenario, and can therefore be considered overly robust.

6.3 Multimodal Trip Generation

6.3.1 The number of non-car trips has been forecast using 2011 census Method of Travel to Work (MTW) data for the local mid layer super output (MSOA) area Wrexham 020 (W02000420) as a workplace destination. Factors have been derived by dividing the TRICS car/van trips (total vehicles minus HGVs) by the census equivalent, with these factors (0.0045 AM and 0.0033 PM) applied to the other census travel modes to forecast the site's likely modal split. As HGV (OGV) trips were calculated using TRICS and do not appear in the census data, the TRICS values have been shown, as have the TRICS values for cars/vans. A summary of these multimodal trips is shown in Table 6.2.

Table 6.2: Forecast Multimodal Person Trips

Method	Census Trips	Modal Split	AM Trips	PM Trips
Driving a car or van	10760	79.1%	48	36
Passenger in a car or van	1406	10.3%	6	5
Bus, minibus or coach	478	3.5%	2	2
On foot	414	3.0%	2	1
Bicycle	307	2.3%	1	1
Motorcycle, scooter or moped	142	1.0%	1	0
Total travel to work	**13609**	**100.0%**	**60**	**45**
		Factors	*0.0045*	*0.0033*
HGVs	-	-	2	1
Total Trips	**-**	**-**	**62**	**46**

6.3.2 The above suggests that the proposed development will generate 62 and 46 total person trips in the respective AM and PM peak hours. Following driving a car/van being the most popular mode, 6 and 5 trips will be as car/van passengers, 2 will be bus passengers in both peaks, 2 trips and 1 trip will be HGV drivers or will travel on foot, 1 trip will be made via bicycle for both peaks, and 1 trip will be made in the AM peak via motorcycle/scooter. It is hoped that the Travel Plan, produced alongside this TA, will help to increase the use of the non-car driver modes.

6.4 Traffic Growth

6.4.1 The forecast year of assessment is 2030, which represents the opening year. The 2024 Observed traffic flows derived from the ATC undertaken at the site frontage (Traffic Flow Diagrams 1 and 2 in Appendix D) have been factored to the assessment year using the DfT software TEMPro (Trip End Model Presentation Program) version 8.1. This package allows access to data used in the National Trip End Model (NTEM) and is the industry standard method of applying background and planning based traffic growth.

6.4.2 In order to derive local traffic growth factors, the 'Wrexham 020' (W02000420) Mid Layer Super Output Area (MSOA) was selected. Trip end growth factors for car drivers were derived for each forecast year from the 2024 base.

6.4.3 Whilst there are several committed developments in the local area, as described in more detail below, no adjustment to the future job forecasts has been made within TEMPro so that an overly robust assessment can be undertaken.

6.4.4 As TEMPro is not strictly applicable to heavy vehicles, the DfT's Road Traffic Projections (RTP) have been used to derive factors to consider HGV growth. The level of growth for HGVs in Wales between 2024 and 2030 has a calculated factor of 1.0109.

6.4.5 The subsequent growth factors derived from the above are shown in Table 6.3 below.

Table 6.3: TEMPro Growth Factors 2024-2030

Source	TEMPro (Lights)		RTP (Heavies)
Peak	AM	PM	Both
Local Growth (2024-2030)	1.0415	1.0415	1.0109

6.4.6 The growth factors shown in Table 6.3 above have been applied to the 2024 Observed traffic flows resulting in the 2030 Without Development traffic flows and are shown in Traffic Flow Diagrams 3 and 4.

6.5 Committed Development

6.5.1 Given Prime were the transport consultants for the large employment site located on land to the east of Bryn Lane, traffic data associated with this scheme, as well as the other committed developments identified within the capacity assessment undertake for this scheme can be included within The Oaks site assessment. The large Bryn Lane scheme, known as 'Kingmoor' was granted planning approval in July 2024 (ref: P/2023/0280). A TA and a TAA were produced for the application, the latter of which included an extensive impact assessment. A list of the committed developments identified within the TAA is provided below, noting some of the applications are still pending:

- Site 2 WIE - 25,069 sqft B2/B8 (Clywedog Rd N);
- Site 3 WIE - 45,079 sqft B2/B8 (Clywedog Rd E);
- Site 4 WIE - 35,015 sqft B2 (Clywedog Rd N);
- Site 1 (Bridgeway Centre) WIE (P/2022/0065) - 120,000 sqft B2/B8 (Bridge Rd);
- Site 5 WIE - 152,000 sqft B8 (Clwedog Rd S);
- Net World Sports (P/2020/0167);
- Land to the east of Bryn Lane (P/2023/0230) - 97,500 sqft B2/B8;
- Land south of Holt Road (P/2019/0005);
- Land off Llay New Road (P/2021/1057);
- Land at Mold Road (P/2019/0923);
- Pacific Park (P/2020/0603);
- Land off Ash Road South (P/2015/0843); and
- Utopia City (P/2023/0497).

6.5.2 Whilst it is recognised that some of these developments may have been built out, and some sites may not get approved, the combined committed development traffic flows listed have been included in Traffic Flow Diagrams 5 and 6 to provide a robust assessment. The Kingmoor development traffic flows have also been included separately in Traffic Flow Diagrams 7 and 8, with the total committed development flows shown in Traffic Flows Diagrams 9 and 10. The total committed development have

then been added to the 2030 Base flows to form the 2030 Without Development flows which are shown in Traffic Flow Diagrams 11 and 12.

6.6 Distribution

6.6.1 Using the traffic flow proportions recorded during the ATC survey in Table 3.2, an estimate of the trip distribution from the site access can be determined as shown in Table 6.4.

Table 6.4: Distribution From Proposed Site Access

Direction	AM Peak (0700-0800)			PM Peak (1700-1800)		
	Flow	Direction %	Dev Traffic	Flow	Direction %	Dev Traffic
Eastbound	100	46%	23	167	67%	25
Westbound	116	54%	27	84	33%	12
Two-Way	**216**	**100%**	**50**	**251**	**100%**	**37**

6.6.2 The above demonstrates a maximum of 27 vehicular trips are likely to travel in a westbound direction when entering and exiting the site during the AM peak and a maximum of 25 vehicular trips are likely to travel in an eastbound direction during the PM peak. The distribution proportions are shown diagrammatically in Traffic Flow Diagrams 13 and 14, and the distributed development traffic is shown in Traffic Flow Diagrams 15 and 16.

6.6.3 These development trips have then been added to the '2030 Without Development' traffic flows and are shown in Traffic Flow Diagrams 17 and 18, representing the '2030 With Development' scenarios.

6.6.4 Based on this level of trip generation and distribution, and the advice contained in GTA, no capacity assessment of the local highway network will be required, however one has been undertaken for the proposed site access and egress.

6.6.5 The highway network within WIE and between it and the A483 is of a high standard that regularly accommodates HGVs as well as commuting traffic. There is no evidence to suggest that the modest trip generation of the site will lead to any off-site junction capacity issues. Furthermore, we are aware that improvements are proposed at other junctions on-route which will provide additional capacity.

6.7 Junction Capacity Assessment

6.7.1 As the proposed sites access and egress are both priority-controlled, the capacity assessment has been undertaken using the industry standard software Junctions 11, developed by TRL software. This software includes the PICADY module which is used to model priority-controlled junctions.

6.7.2 When interpreting the results, the capacity of each arm or movement is calculated as the Ratio of Flow to Capacity (RFC) with 0.85 representing the practical capacity threshold of the arm and 1.00 representing the theoretical capacity threshold. It is above the practical capacity threshold where

capacity problems may begin to occur while exceeding the theoretical capacity means that arms are over capacity.

6.7.3 Modelled queues are shown in passenger car units (PCUs), this being equivalent to a distance of 5.75m which is the length of road space (car length plus gap length) that a typical car will occupy when queueing. In order to convert the traffic flows into PCUs, which is the requisite input flow unit required in the modelling software, a factor of 2.0 has been applied to the heavy vehicle user class, while cars effectively have a factor of 1.0. These factors are widely accepted in transport modelling.

6.7.4 Junction geometry has been coded into the models based on the proposed designs and a topographical survey of Oak Road.

6.7.5 Traffic flows have been input based on the 'ONE HOUR' (ODTAB) option, which synthesises a 'peak within a peak' at the middle of the time period modelled and is generally seen as being the worst-case form of assessment in terms of impact.

6.7.6 The results of the capacity assessment for the site access and the site exit are described separately below, with both model report outputs included in Appendix I.

Junction 1: Eastern Site Access (Inbound only)

6.7.7 Given there are going to be no outbound movements from this junction, only the western arm of Oak Road is summarised in Table 6.5 below.

Table 6.5: Junction Capacity Assessment Results – Eastern Site Access

Arm	AM		PM	
	RFC	Q (PCU)	RFC	Q (PCU)
2030 With Development				
Oak Road (Western Arm)	0.05	0.1	0.00	0.0

6.7.8 The results show that the junction will continue to operate with considerable level of spare capacity in the '2030 With Development' scenario, with the highest RFC value of 0.05 in the AM peak and no value in the PM peak given the very low traffic flows.

Junction 2: Western Site Egress (outbound only)

6.7.9 Given there are going to be no inbound movements at this junction, the results only include the nearside and offside lanes of the proposed egress, as shown in Table 6.6 below

Table 6.6: Junction Capacity Assessment Results – Western Site Egress

Arm	AM		PM	
	RFC	Q (PCU)	RFC	Q (PCU)
2030 With Development				
Western Site Exit (Nearside)	0.01	0.0	0.02	0.0
Western Site Exit (Offside)	0.01	0.0	0.07	0.1

6.7.10 The results show that the junction will continue to operate with considerable level of spare capacity in the '2030 With Development' scenario, with the highest RFC value of 0.07 on the offside lane of the exit in the PM peak.

6.8 Summary

6.8.1 This section has explained the traffic forecasting methodology and capacity assessment used to determine the suitability of the surrounding highway network to accommodate the development proposal.

6.8.2 It has been demonstrated that the proposed access and egress junctions will operate with spare capacity to serve the proposed development, with the impact of the proposed development best described as negligible.

7 HIGHWAY SAFETY

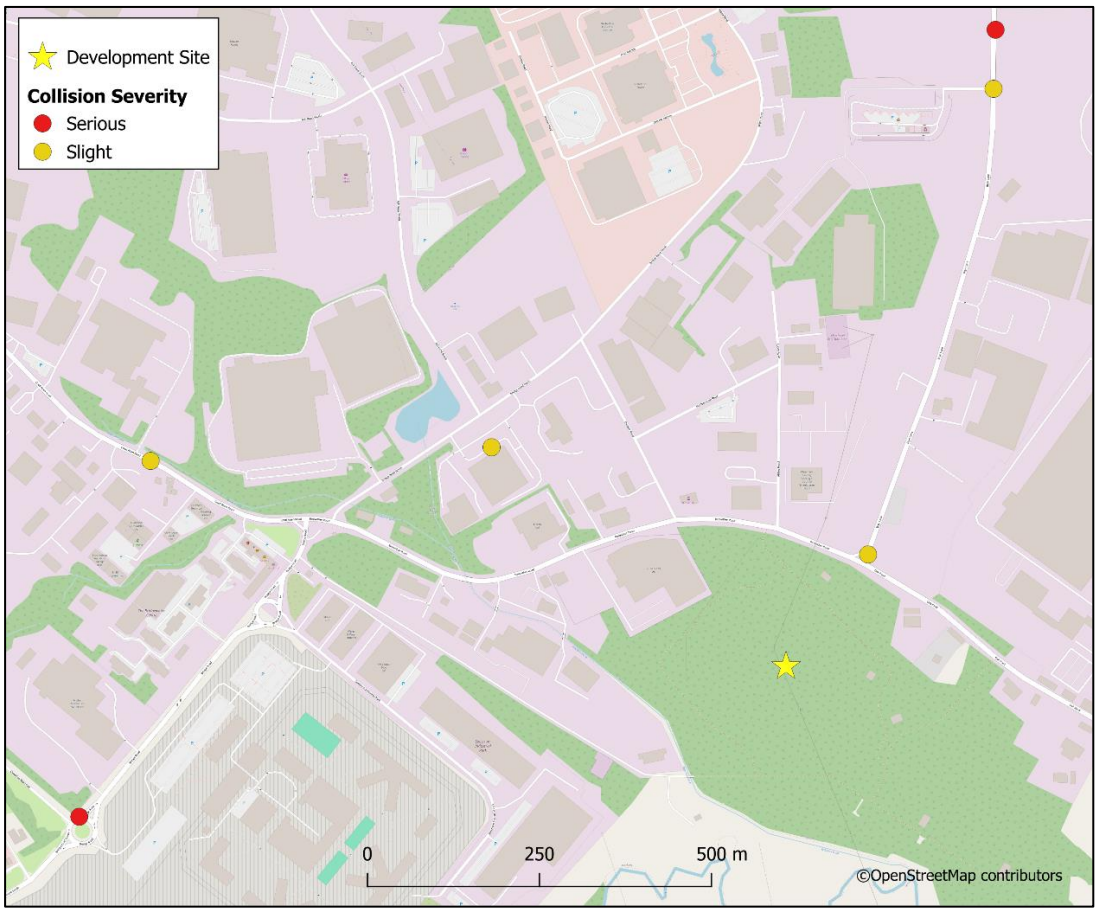
7.1 Road Safety

7.1.1 A road safety review of the local highway network has been conducted which has focused on the roads in the vicinity of the site including:

- Oak Road;
- Bryn Lane; and
- Bridge Road;

7.1.2 Personal injury collision data was obtained from CrashMap (CrashMap) to cover the period from 2019 to 2023 (inclusive), this being the latest 5-years available data. Image 7.1 below shows the collisions that have occurred within the site's vicinity during the study period.

Image 7.1: Collisions in Vicinity of Site



7.1.3 The above shows that only one collision occurred at the Oak Road/ Bryn Lane junction during the study period, this being a collision between two cars in 2023 which resulted in slight injuries being sustained by a passenger.

7.1.4 Two collisions resulting in serious injuries occurred within the study area. The first of these occurred in 2020 at the Bridge Road/Bridge Road South roundabout when two cars collided resulting in injuries being sustained to one driver. The other serious accident occurred in 2022 on Bryn Lane when a pedestrian who was walking along in the carriageway with their back to traffic was hit by a car.

7.1.5 The full CrashMap outputs for both serious collisions are presented in Appendix J. It is worth noting that whilst they have been included in this collision analysis for the sake of robustness, these serious collisions did not occur particularly close to the site (circa 1.1km away and circa 800m away respectively).

7.1.6 In addition to the above, the following three slight collisions were recorded during the study period:

- A collision between a car and a goods vehicle off Bridge Road North;
- A collision involving a goods vehicle on Coed Aben Road; and
- A collision between two cars on Bryn Lane.

7.1.7 Again, these three collisions did not occur particularly close to the site, and they resulted in slight injuries.

Summary of Collision Analysis

7.1.8 Evidently, the development site is located in a safe area of the highway network. Very few collisions within the study area took place during the five-year study period which reflects the generally low speeds and lightly trafficked nature of the roads in the site's immediate vicinity.

7.1.9 Throughout the five-year study period only one collision occurred along Oak Road with this collision resulting in slight injuries.

7.1.10 The above would therefore suggest that there are no deficiencies in the highway network, or existing safety issues in the vicinity of the site, that would be exacerbated by these development proposals.

7.2 Road Safety Audit

7.2.1 As part of the consultation response, a Stage 1 Road Safety Audit (RSA) was requested by highway officers at WCBC. Prime have therefore commissioned the independent consultant six:TEN Highways & Traffic Ltd to undertake a Stage 1 RSA of the proposed new access points.

7.2.2 The RSA was undertaken by two Society of Road Safety Auditors qualified professionals who undertook a site visit as part of the RSA on 16th August 2025. The RSA was carried out based on the DMRB document GG 119 Rev 2.0.1 – *Road Safety Audit*.

7.2.3 The RSA was based on an earlier version of the proposed access design and junction improvement shown in Drawing P24012-001E, an extract of which is provided in Appendix Two of the RSA. A copy

of the swept path drawings, as well as the latest 5-year personal injury collision data was also provided to the auditors. A copy of the RSA is provided in Appendix K.

7.3 Designers' Response

7.3.1 No items were raised relating to 'general' road safety issues, 'local alignment' or 'road signs, carriageway markings and lighting'. The RSA did identify two 'problems', one of which relates to, 'junctions' and the other to 'walking, cycling and horse riding' respectively. These are detailed below along with a Designers' Response provided to each:

RSA Comment 2.3.1

Location: Proposed egress junction on Oak Road

Problem

Summary: Junction intervisibility splays may be obscured by parked vehicles which may increase the risk of vehicular collisions

It was observed during the site visit that "At any time" waiting restrictions are currently insitu on both the northern and southern side of the proposed egress junction on Oak Road, albeit the road markings were barely visible in places. It is noted that the existing waiting restriction do not extend to the west of the proposed egress junction, therefore, there is a risk that vehicles parked to the west of the proposed egress junction on Oak Road may obscure the junction intervisibility splay between drivers exiting the site and those travelling east on Oad Road. Obstructions within the junction intervisibility splay may increase the risk of failure to give-way type manoeuvres which could increase the risk of side impact type collisions.

Recommendation

It is recommended that the existing parking situation on Oak Road is investigated, and the design ensures sufficient junction intervisibility splays are provided at the proposed egress junction on Oak Road.

Designers' Response to Comment 2.3.1

7.3.2 This is noted, however Prime and FIREM are not aware of any on-street parking issues along Oak Road or Redwither Road which would impact the intervisibility splays from the proposed egress. Multiple site visits have been undertaken to WIE, and no on-street parking along this stretch of road have been observed. Furthermore, there do not appear to be any parking restrictions when travelling east into the centre of WIE and on-street parking does not appear to be an issue for any other accesses. As such, the applicant is not offering to provide parking restrictions at this time, however they would be

willing to fund a TRO to implement parking restrictions if on-street parking appears to be an issue once the development is in place.

RSA Comment 2.4.1

Location: At the proposed junctions

Problem

Summary: Atypical two-lane entry and exit incorporating pedestrian refuge island may increase the risk of vehicle/pedestrian collisions

The atypical layout of the proposed access and egress junctions incorporating a pedestrian refuge resulting in vehicles entering/exiting the site either side of the pedestrian refuge may increase the risk of vehicle/pedestrian collisions, as pedestrians may not be expecting vehicles to pass on the "wrong" side of the refuge island and they may cross the carriageway injudiciously.

Recommendation

It is recommended that "Look Left" and "Look Right" carriageway markings are installed as required at the proposed uncontrolled pedestrian crossings on the access and egress junctions, including either side of the junctions and at the pedestrian refuge islands.

Designers' Response to 2.4.1

7.3.3 This is noted. As such, "Look Left" and "Look Right" carriageway markings have been shown on the updated drawing P24012-001F on either side of lanes at both the access and egress junctions.

7.4 Summary

7.4.1 The data shows that the development site is located in a safe area of the highway network. Very few collisions within the study area took place, with just one collision occurring along Oak Road resulting in slight injuries.

7.4.2 An independent Stage 1 RSA of a previous version of the proposed access arrangement has been undertaken by qualified professionals who raised two issues. Both of these issues have been addressed within the Designers' Response above and the revised access strategy drawing.

7.4.3 The highway safety review would suggest that there do not appear to be any significant road safety issues on the highway network, or existing safety issues in the vicinity of the proposed development which are likely to be exacerbated by traffic generated by development proposal.

8 SUMMARY AND CONCLUSION

8.1 Summary

8.1.1 FIREM is seeking planning permission on behalf of HIAB for the delivery of a circa 79,000sqft self-contained employment development on land to the south of Oak Road. The proposed development has been designed to suit the operational requirements of HIAB, who will be the preferred operator of the site. It is understood that the purpose of the proposed development is to consolidate HIAB's current UK operations, with the site becoming the main distribution base within the UK.

8.1.2 This document has been prepared in accordance with Planning Policy Wales and Technical Advice Note 18: Transport as well as a number of local policy documents. It considers the accessibility of the site and safety for all modes of travel from the private car to more sustainable modes such as walking, cycling and public transport.

8.1.3 Given the sites existing ecological and heritage value, it is FIREM's intention to maintain and enhance the existing habitats and greenspace on the majority of the site. The proposed bespoke unit will be located towards the north-western edge of the site, with access and operations concentrated within a relatively small area, with the remainder of the site preserved for ecology. This approach also meets HIAB's aspirations for a sustainable and environmentally friendly approach to development. The unit will be predominantly manufacturing led with some warehouse space and ancillary office space

8.1.4 Access into the site is proposed via an inbound two-lane access towards the eastern edge of the site frontage with Oak Road and an outbound two-lane egress to the west of Abbey Road S. The separate ins and outs approach has been agreed with HIAB and suits their operational requirements by improving circulation through the site. Whilst WCBC raised concerns regarding the dual access strategy, the TA has demonstrated there are no highways safety reasons for refusal.

8.1.5 Pedestrian refuge islands with 3m wide dropped kerbs and tactile paving will be provided over the proposed access and egress, reducing the width of the accesses pedestrians and cyclists are required to cross whilst maintaining the desire line along the site frontage. A single dropped kerb crossing point will also be provided over Oak Road to enhance pedestrian connections to the closest bus stops.

8.1.6 82 car parking spaces, including 5 accessible spaces along with 16 cycle spaces will be provided in accordance with HIAB's operational requirements. An area within the site boundary has been identified which can be converted to additional parking spaces if required.

8.1.7 An assessment has been undertaken of the site's level of accessibility by sustainable modes, from which it can be concluded that realistic options exist to access the site on foot, by cycle and by public transport. This demonstrates that potential employees and visitors to the development can access the proposed development by sustainable modes of transport.

8.1.8 A trip generation exercise demonstrates that the proposed development would produce low volumes of traffic during the peak periods and throughout the day. There is no evidence to suggest that the modest trip generation of the site will lead to any off-site junction capacity issues.

8.1.9 A review of personal injury collisions that have occurred on the local highway network has been undertaken for the most recent five-year period. An analysis of those collisions showed that very few collisions within the study area took place, with just one collision occurring along Oak Road resulting in slight injuries.

8.1.10 An independent Stage 1 RSA of a previous version of the proposed access arrangement has been undertaken by qualified professionals who raised two issues, both of which have been addressed within the Designers' Response and the revised access strategy drawing. The highway safety review would suggest that there do not appear to be any significant road safety issues on the highway network, or existing safety issues in the vicinity of the proposed development which are likely to be exacerbated by traffic generated by development proposal.

8.2 Conclusion

8.2.1 This report and the associated appendices conclude that that there are no highway safety concerns that would preclude the delivery of the development proposals, the site is accessible by a variety of modes of transport, an appropriate level of car and cycle parking will be provided, and that the development will have a negligible impact on the operation of the surrounding highway network.

8.2.2 As the proposal complies with local and national planning policy and guidance with respect to sustainable accessibility, safety and impact on the highway network, there are no highways or transportation related reasons why planning permission should not be granted. Should the highway authority have any concerns, we are happy to consult further with them.

APPENDIX A

SCOPING CORRESPONDENCE

SCOPING CHECKLIST FOR: Wrexham Industrial Estate, Wrexham – The Oaks_Rev A

HIGHWAY AUTHORITY: Wrexham County Borough Council (WCBC)

DATE PREPARED: 10/07/2024

Of Ref	Item	Intention	LHA Comments
1	Level of planning approval sought? e.g. outline, full.	Full	
2	Size and description of development proposals	Circa 6,000sqm self-contained employment development on the western part of The Oaks site on Wrexham Industrial Estate (WIE). The unit will be predominantly manufacturing led (B2) with some warehouse (B8) and ancillary office space.	
3	Description of existing land uses, existing trip distribution	The existing site forms part of an ecology zone within WIE – no existing trips assumed	
4	Does the development involve the relocation of an existing use?	No	
5	What transport based supporting documents will be produced?	Transport Statement and Travel Plan	
6	Are traffic surveys of the existing conditions available or required?	No off-site or access junction capacity assessments required (See point 7 below in relation to trip generation low level of traffic expected to be generated by the site).	
7	How will vehicular trip generation be derived for the proposal?	Average trip rates have been derived from the TRICS database using an 80:20 B2:B8 split between 'industrial unit' and 'commercial warehousing' categories based on a total GFA of 6,300sqm including a mezzanine level. The TRICS outputs are attached, and the resultant trip generation is provided below.	

Time	B2 Trip Generation			B8 Trip Generation			Combined Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	23	2	25	3	1	4	26	3	29
08:00-09:00	**21**	**4**	**25**	**3**	**1**	**4**	**24**	**5**	**29**
09:00-10:00	13	8	21	3	1	4	16	9	25
10:00-11:00	11	11	22	2	2	4	13	13	26
11:00-12:00	6	8	14	2	2	4	8	10	18
12:00-13:00	8	10	18	2	2	4	10	12	22
13:00-14:00	11	13	24	2	2	4	13	15	28
14:00-15:00	7	9	16	2	2	4	9	11	20
15:00-16:00	5	11	16	2	3	5	7	14	21
16:00-17:00	**3**	**20**	**23**	**1**	**3**	**4**	**4**	**23**	**27**
17:00-18:00	3	14	17	1	3	4	4	17	21
18:00-19:00	2	10	12	0	2	2	2	12	14
Daily (12hr)	**113**	**120**	**233**	**23**	**24**	**47**	**136**	**144**	**280**

Time	Average B2 HGV Trip Generation			Average B8 HGV Trip Generation			Combined HGV Trip Generation		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals
08:00-09:00	**1**	**1**	**2**	**0**	**1**	**1**	1	2	3
16:00-17:00	**0**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**2**
Daily (12hr)	**10**	**10**	**20**	**7**	**6**	**13**	**17**	**16**	**33**

The above table demonstrates that the proposed development would generate low volumes of traffic during the traditional peak hours and throughout the day. Experience on similar sites suggests there is usually a higher proportion of B8 usage therefore the 80:20 B2:B8 split provides a robust assessment.

Due to low levels of traffic being generated it is proposed that no capacity assessments will be required at the site access or any off-site junctions. Please confirm acceptance of the above trip rates.

8	How will non-car mode trip generation be derived for the proposal?	Method of Travel to Work information is to be used from 2011 Census data, alongside the TRICS derived trips, to determine the likely number of non-car movements generated by the development.	
9	Would traffic from adjacent sites be attracted to the site? Pass-by traffic?	100% newly generated trips.	
10	What is the extent of the accident study area to be considered?	Crashmap will be used to review accident records over the latest 5-year period for the eastern section of WIE including Oak Road, Bryn Lane and Bridge Road. Please confirm if this is acceptable.	
11	Is a new or modified highway access likely?	It is proposed that the site would be accessed via a separate inbound and outbound arrangement with two new access points from Oak Road, both consisting of 8.5m wide carriageways and 15m radii. See Drawing P24012-001B attached for details. It is intended the eastern access will be limited to inbound movements entry and the western access will be limited to outbound movements in line with the end user's operational requirements. The positioning of the egress has been carefully considered to avoid opposite junctions (minimum 50m junction spacing) and enable the delivery of 2.4m x 120m visibility splays within the extent of adopted highway. It is worth noting this form of priority junction in the western position was previously agreed with Highways Officers at WCBC for a much larger scheme (Planning Ref: P/2019/0877). Comments welcome on suggested access arrangements at an early stage	
12	What level of car parking is required?	78 car parking spaces including 5 accessible bays will be provided in accordance with operator's requirements.	
13	Are special provisions required	A 3m shared cycleway to be provided along site frontage and into the site. Cycle storage will also be provided. Please advise if WCBC have any aspirations in relation to sustainable transport along Oak Road	

	for cyclists, pedestrians, those with a disability or public transport?		
14	What planning policy should the development comply with?	• Planning Policy Wales (Edition 11 - 2021); • TAN 18: Transport • North Wales Joint Local Transport Plan • Wrexham Unitary Development Plan (1996-2011) • Wrexham Local Development Plan 2 (2013-2028) • Local Planning Guidance Note 16 – Parking Standards • Wrexham Connected: Our Sustainable Urban Please advise if any more documents should be taken into account.	
15	Are there any other special circumstances relevant to this proposal?	Please advise	

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Cyfnewid Testun/Text Relay: 18001

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Eich Cyf/Your Ref	
Ein Cyf/Our ref	PRE/2024/015
Dyddiad/Date	29/08/24
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FAO Vanessa Blackburn

Dear Vanessa

Proposed 6,300 sqm self contained employment development on the western part of The Oaks site on Wrexham Industrial Estate.

Further to your letter dated 25/07/2024 and submitted drawings / information relating to the proposals above, the LHA can provide the following comments:

It is the LHA's understanding that the proposals are for a proposed approx. 6,300 sqm self contained employment development on the western part of The Oaks site on Wrexham Industrial Estate. The updated scoping statement indicates that the site will compromise approximately 80% B2 manufacturing floorspace (5040 sq m) and 20% B8 warehouse floorspace (1260 sqm) and some ancillary office space.

On the basis of this floorspace the site would require the provision of a Transport Assessment and a Travel Plan.

The updated trip generation data indicates 280 trips over a 12 hour period being generated from the site, although the full TRICS data has not be supplied to verify and therefore the LHA can't comment on how robust the data is or whether any off-site assessments are required as a result.

The submitted trip data indicates that there would be 29 two-way trips in the AM peak and 21 two-way trips in the PM peak, this is calculated off 80% B2 and 20% B8 trips.

The methodology proposed includes using travel to work data from the 2011 census data alongside TRICS derived trips which is seen as acceptable. The submitted information states that the data assumes 100% newly generated trips, which is realistic and robust.

The crashmap accident investigation proposals are acceptable.

In terms of the proposed access points, the LHA is concerned that the provision of two accesses will create two potential conflict points on the public highway, which is not deemed acceptable on highway safety grounds. The submission states that the western access was previously agreed with Highways Officers at WCBC for a previously larger scheme as part of P/2019/0877, the LHA would recommend that this is used as the access to the site for both inbound and outbound traffic.

Rydym yn croesawu gohebiaeth yn Gymraeg. Byddwn yn ymateb i unrhyw ohebiaeth yn Gymraeg ac ni fydd hyn yn arwain at unrhyw oedi.
We welcome correspondence in Welsh. We will respond to any correspondence in Welsh and this will not lead to any delay.

The visibility splay demonstrated of 2.4m x 120m for a 40mph road at the western access is acceptable.

Swept paths for appropriate sized vehicles should be provided within the TA.

The WCBC standards for parking are set out in Local Planning Guidance Note No 16, based on the floorspace percentages / levels listed above the provision of 113 car parking spaces should be provided. Further details on accessible parking and car parking space design are found in the aforementioned document.

The provision of 12 cycle car parking spaces should be provided in a secure long stay covered arrangement.

At the proposed site access junction the provision of dropped kerbs and tactile paving across Oak Road will be required to ensure that routes to local bus services are accessible. It is noted that a 3m shared cycle / footway is proposed to be provided along the site frontage. The Councils Active Travel team should be contacted to discuss wider active travel requirements. Gwen.Thomas@wrexham.gov.uk is the appropriate contact. Further to this, the applicant should refer to the Wales Transport Strategy 2021 and the Active Travel Act Guidance. In addition to the policy already referred to.

There are no objections in principle to the proposals, subject to the comments provided above.

Yours faithfully,



On behalf of the Chief Officer, Environment & Technical

APPENDIX B

ATC SURVEY RAW DATA

Wrexham ATC, Oak Road



Direction: Southeastbound

Hour Beginning	Tue 20/02/2024	Wed 21/02/2024	Thu 22/02/2024	Fri 23/02/2024	Sat 24/02/2024	Sun 25/02/2024	Mon 26/02/2024	5-Day Ave.	7-Day Ave.
00:00	0	4	2	2	3	4	1	2	2
01:00	1	2	4	2	7	2	1	2	3
02:00	2	0	2	4	3	1	1	2	2
03:00	2	2	6	2	0	0	3	3	2
04:00	5	4	7	9	3	1	6	6	5
05:00	40	49	38	35	18	13	39	40	33
06:00	105	100	98	89	16	26	94	97	75
07:00	98	92	99	115	9	8	97	100	74
08:00	110	124	101	104	30	11	94	107	82
09:00	77	62	78	108	42	14	113	88	71
10:00	96	113	93	125	59	39	100	105	89
11:00	115	108	103	98	56	39	108	106	90
12:00	108	95	100	129	47	38	84	103	86
13:00	119	126	112	117	43	29	121	119	95
14:00	109	105	105	97	63	36	149	113	95
15:00	104	87	77	85	66	26	88	88	76
16:00	115	116	117	99	26	18	129	115	89
17:00	170	205	168	81	34	22	212	167	127
18:00	53	48	42	42	19	20	37	44	37
19:00	14	19	23	23	10	7	31	22	18
20:00	4	6	11	17	1	10	9	9	8
21:00	16	12	11	7	5	15	14	12	11
22:00	4	5	7	6	4	3	8	6	5
23:00	3	1	5	2	2	2	3	3	3
Total 12H(7-19)	1274	1281	1195	1200	494	300	1332	1256	1011
16H(6-22)	1413	1418	1338	1336	526	358	1480	1397	1124
18H(6-24)	1420	1424	1350	1344	532	363	1491	1406	1132
24H(0-24)	1470	1485	1409	1398	566	384	1542	1461	1179
AM Peak	11:00	08:00	11:00	10:00	10:00	10:00	09:00	08:00	11:00
	115	124	103	125	59	39	113	107	90
PM Peak	17:00	17:00	17:00	12:00	15:00	12:00	17:00	17:00	17:00
	170	205	168	129	66	38	212	167	127

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Direction: Northwestbound

Hour Beginning	Tue 20/02/2024	Wed 21/02/2024	Thu 22/02/2024	Fri 23/02/2024	Sat 24/02/2024	Sun 25/02/2024	Mon 26/02/2024	5-Day Ave.	7-Day Ave.
00:00	1	3	1	0	7	1	2	1	2
01:00	2	5	3	4	6	4	1	3	4
02:00	3	3	1	11	5	1	3	4	4
03:00	3	2	3	4	3	1	3	3	3
04:00	6	3	2	5	3	0	6	4	4
05:00	39	33	27	26	7	6	27	30	24
06:00	51	49	44	57	23	9	51	50	41
07:00	104	109	133	116	19	11	116	116	87
08:00	108	118	87	97	23	8	105	103	78
09:00	84	74	74	74	25	12	81	77	61
10:00	81	84	98	97	38	29	92	90	74
11:00	99	70	88	109	45	37	94	92	77
12:00	99	110	97	109	44	36	118	107	88
13:00	115	89	111	103	30	35	105	105	84
14:00	113	92	86	120	43	31	106	103	84
15:00	139	142	143	94	46	27	123	128	102
16:00	100	110	100	102	22	31	121	107	84
17:00	82	96	80	73	30	35	87	84	69
18:00	44	55	43	40	20	28	52	47	40
19:00	29	22	15	24	14	18	27	23	21
20:00	16	7	13	12	4	5	13	12	10
21:00	9	13	7	10	1	8	7	9	8
22:00	18	17	14	11	3	9	15	15	12
23:00	2	2	1	3	1	1	4	2	2
Total 12H(7-19)	1168	1149	1140	1134	385	320	1200	1158	928
16H(6-22)	1273	1240	1219	1237	427	360	1298	1253	1008
18H(6-24)	1293	1259	1234	1251	431	370	1317	1271	1022
24H(0-24)	1347	1308	1271	1301	462	383	1359	1317	1062
AM Peak	08:00	08:00	07:00	07:00	11:00	11:00	07:00	07:00	07:00
	108	118	133	116	45	37	116	116	87
PM Peak	15:00	15:00	15:00	14:00	15:00	12:00	15:00	15:00	15:00
	139	142	143	120	46	36	123	128	102

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Direction: Total Flow

Hour Beginning	Tue 20/02/2024	Wed 21/02/2024	Thu 22/02/2024	Fri 23/02/2024	Sat 24/02/2024	Sun 25/02/2024	Mon 26/02/2024	5-Day Ave.	7-Day Ave.
00:00	1	7	3	2	10	5	3	3	4
01:00	3	7	7	6	13	6	2	5	6
02:00	5	3	3	15	8	2	4	6	6
03:00	5	4	9	6	3	1	6	6	5
04:00	11	7	9	14	6	1	12	11	9
05:00	79	82	65	61	25	19	66	71	57
06:00	156	149	142	146	39	35	145	148	116
07:00	202	201	232	231	28	19	213	216	161
08:00	218	242	188	201	53	19	199	210	160
09:00	161	136	152	182	67	26	194	165	131
10:00	177	197	191	222	97	68	192	196	163
11:00	214	178	191	207	101	76	202	198	167
12:00	207	205	197	238	91	74	202	210	173
13:00	234	215	223	220	73	64	226	224	179
14:00	222	197	191	217	106	67	255	216	179
15:00	243	229	220	179	112	53	211	216	178
16:00	215	226	217	201	48	49	250	222	172
17:00	252	301	248	154	64	57	299	251	196
18:00	97	103	85	82	39	48	89	91	78
19:00	43	41	38	47	24	25	58	45	39
20:00	20	13	24	29	5	15	22	22	18
21:00	25	25	18	17	6	23	21	21	19
22:00	22	22	21	17	7	12	23	21	18
23:00	5	3	6	5	3	3	7	5	5
Total 12H(7-19)	2442	2430	2335	2334	879	620	2532	2415	1939
16H(6-22)	2686	2658	2557	2573	953	718	2778	2650	2132
18H(6-24)	2713	2683	2584	2595	963	733	2808	2677	2154
24H(0-24)	2817	2793	2680	2699	1028	767	2901	2778	2241
AM Peak	08:00	08:00	07:00	07:00	11:00	11:00	07:00	07:00	11:00
	218	242	232	231	101	76	213	216	167
PM Peak	17:00	17:00	17:00	12:00	15:00	12:00	17:00	17:00	17:00
	252	301	248	238	112	74	299	251	196

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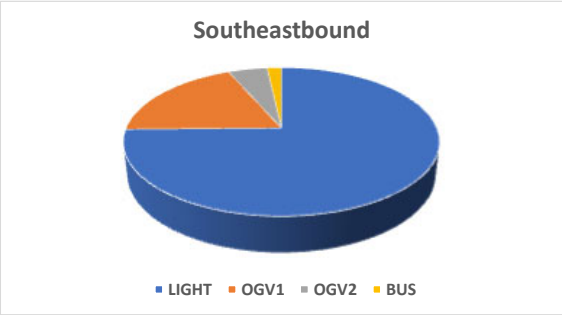
Wrexham ATC, Oak Road

Direction: Southeastbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 20 Feb 2024	1470	1088	265	90	27
Wed 21 Feb 2024	1485	1123	263	66	33
Thu 22 Feb 2024	1409	1033	290	63	23
Fri 23 Feb 2024	1398	1015	277	80	26
Sat 24 Feb 2024	566	460	82	19	5
Sun 25 Feb 2024	384	319	56	7	2
Mon 26 Feb 2024	1542	1129	316	69	28
5 Day Ave.	1461	1078	282	74	27
7 Day Ave.	1179	881	221	56	21

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 20 Feb 2024	100.0%	74.0%	18.0%	6.1%	1.8%
Wed 21 Feb 2024	100.0%	75.6%	17.7%	4.4%	2.2%
Thu 22 Feb 2024	100.0%	73.3%	20.6%	4.5%	1.6%
Fri 23 Feb 2024	100.0%	72.6%	19.8%	5.7%	1.9%
Sat 24 Feb 2024	100.0%	81.3%	14.5%	3.4%	0.9%
Sun 25 Feb 2024	100.0%	83.1%	14.6%	1.8%	0.5%
Mon 26 Feb 2024	100.0%	73.2%	20.5%	4.5%	1.8%
5 Day Ave.	100.0%	73.8%	19.3%	5.0%	1.9%
7 Day Ave.	100.0%	74.7%	18.8%	4.8%	1.7%

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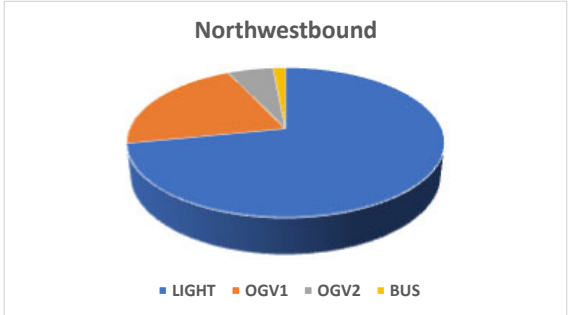


Direction: Northwestbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 20 Feb 2024	1347	949	288	92	18
Wed 21 Feb 2024	1308	940	262	82	24
Thu 22 Feb 2024	1271	890	282	75	24
Fri 23 Feb 2024	1301	902	304	69	26
Sat 24 Feb 2024	462	366	86	8	2
Sun 25 Feb 2024	383	316	55	10	2
Mon 26 Feb 2024	1359	977	288	77	17
5 Day Ave.	1317	932	285	79	22
7 Day Ave.	1062	763	224	59	16

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 20 Feb 2024	100.0%	70.5%	21.4%	6.8%	1.3%
Wed 21 Feb 2024	100.0%	71.9%	20.0%	6.3%	1.8%
Thu 22 Feb 2024	100.0%	70.0%	22.2%	5.9%	1.9%
Fri 23 Feb 2024	100.0%	69.3%	23.4%	5.3%	2.0%
Sat 24 Feb 2024	100.0%	79.2%	18.6%	1.7%	0.4%
Sun 25 Feb 2024	100.0%	82.5%	14.4%	2.6%	0.5%
Mon 26 Feb 2024	100.0%	71.9%	21.2%	5.7%	1.3%
5 Day Ave.	100.0%	70.7%	21.6%	6.0%	1.7%
7 Day Ave.	100.0%	71.9%	21.1%	5.6%	1.5%

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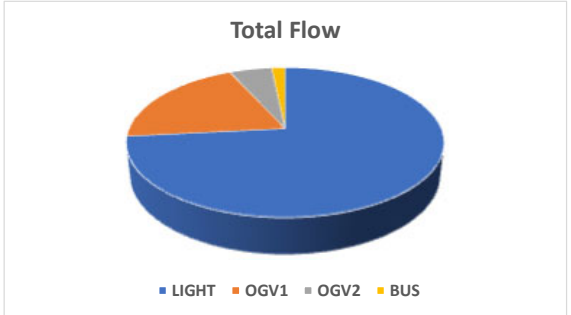


Direction: Total Flow

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 20 Feb 2024	2817	2037	553	182	45
Wed 21 Feb 2024	2793	2063	525	148	57
Thu 22 Feb 2024	2680	1923	572	138	47
Fri 23 Feb 2024	2699	1917	581	149	52
Sat 24 Feb 2024	1028	826	168	27	7
Sun 25 Feb 2024	767	635	111	17	4
Mon 26 Feb 2024	2901	2106	604	146	45
5 Day Ave.	2778	2009	567	153	49
7 Day Ave.	2241	1644	445	115	37

	Total Volume	LIGHT	OGV1	OGV2	BUS
Tue 20 Feb 2024	100.0%	72.3%	19.6%	6.5%	1.6%
Wed 21 Feb 2024	100.0%	73.9%	18.8%	5.3%	2.0%
Thu 22 Feb 2024	100.0%	71.8%	21.3%	5.1%	1.8%
Fri 23 Feb 2024	100.0%	71.0%	21.5%	5.5%	1.9%
Sat 24 Feb 2024	100.0%	80.4%	16.3%	2.6%	0.7%
Sun 25 Feb 2024	100.0%	82.8%	14.5%	2.2%	0.5%
Mon 26 Feb 2024	100.0%	72.6%	20.8%	5.0%	1.6%
5 Day Ave.	100.0%	72.3%	20.4%	5.5%	1.8%
7 Day Ave.	100.0%	73.4%	19.9%	5.1%	1.6%

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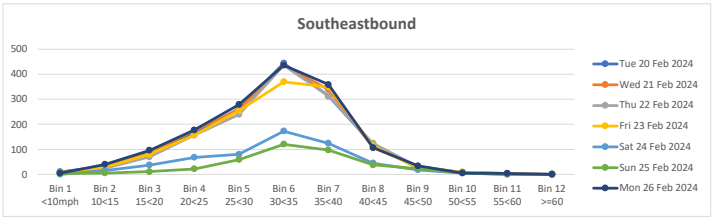


Wrexham ATC, Oak Road

Direction: Southeastbound

	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
Tue 20 Feb 2024	1470	39.4	31.3	7.8	10	33	90	163	262	444	313	119	25	8	3	0
Wed 21 Feb 2024	1485	39.5	31.4	7.8	6	31	87	175	259	438	339	107	32	8	2	1
Thu 22 Feb 2024	1409	39.8	31.9	7.6	4	24	70	157	239	436	313	124	30	8	3	1
Fri 23 Feb 2024	1398	39.8	31.6	7.9	7	28	80	157	254	370	349	114	26	9	3	1
Sat 24 Feb 2024	566	40.1	31.7	8.1	0	15	37	68	80	173	124	45	18	5	0	1
Sun 25 Feb 2024	384	41.8	33.7	7.8	3	5	11	22	59	120	97	38	23	6	0	0
Mon 26 Feb 2024	1542	39.4	31.2	7.8	5	40	96	177	279	436	359	107	34	5	4	0
5 Day Ave.	1461	39.6	31.5	7.8	6	31	85	166	259	425	335	114	29	8	3	1
7 Day Ave.	1179	40.0	31.8	7.8	5	25	67	131	205	345	271	93	27	7	2	1

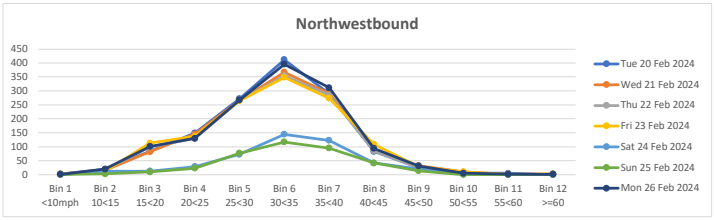
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Direction: Northwestbound

	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
Tue 20 Feb 2024	1347	39.0	31.3	7.4	2	19	84	149	272	412	290	83	25	6	5	0
Wed 21 Feb 2024	1308	39.6	31.6	7.8	3	16	82	145	266	367	291	91	32	10	2	3
Thu 22 Feb 2024	1271	39.0	31.2	7.6	2	17	100	129	266	355	285	85	25	4	3	0
Fri 23 Feb 2024	1301	39.5	31.4	7.8	0	12	113	137	265	349	274	109	29	10	1	2
Sat 24 Feb 2024	462	41.1	33.3	7.6	0	12	13	29	73	145	123	42	21	3	0	1
Sun 25 Feb 2024	383	40.5	33.3	7.0	1	3	10	23	77	117	95	42	14	0	0	1
Mon 26 Feb 2024	1359	39.3	31.4	7.6	1	20	101	130	267	396	311	94	31	5	2	1
5 Day Ave.	1317	39.3	31.4	7.6	2	17	96	138	267	376	290	92	28	7	3	1
7 Day Ave.	1062	39.7	31.9	7.5	1	14	72	106	212	306	238	78	25	5	2	1

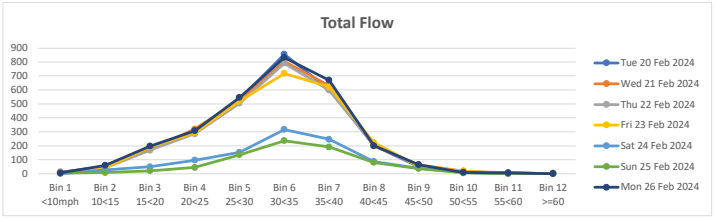
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Direction: Total Flow

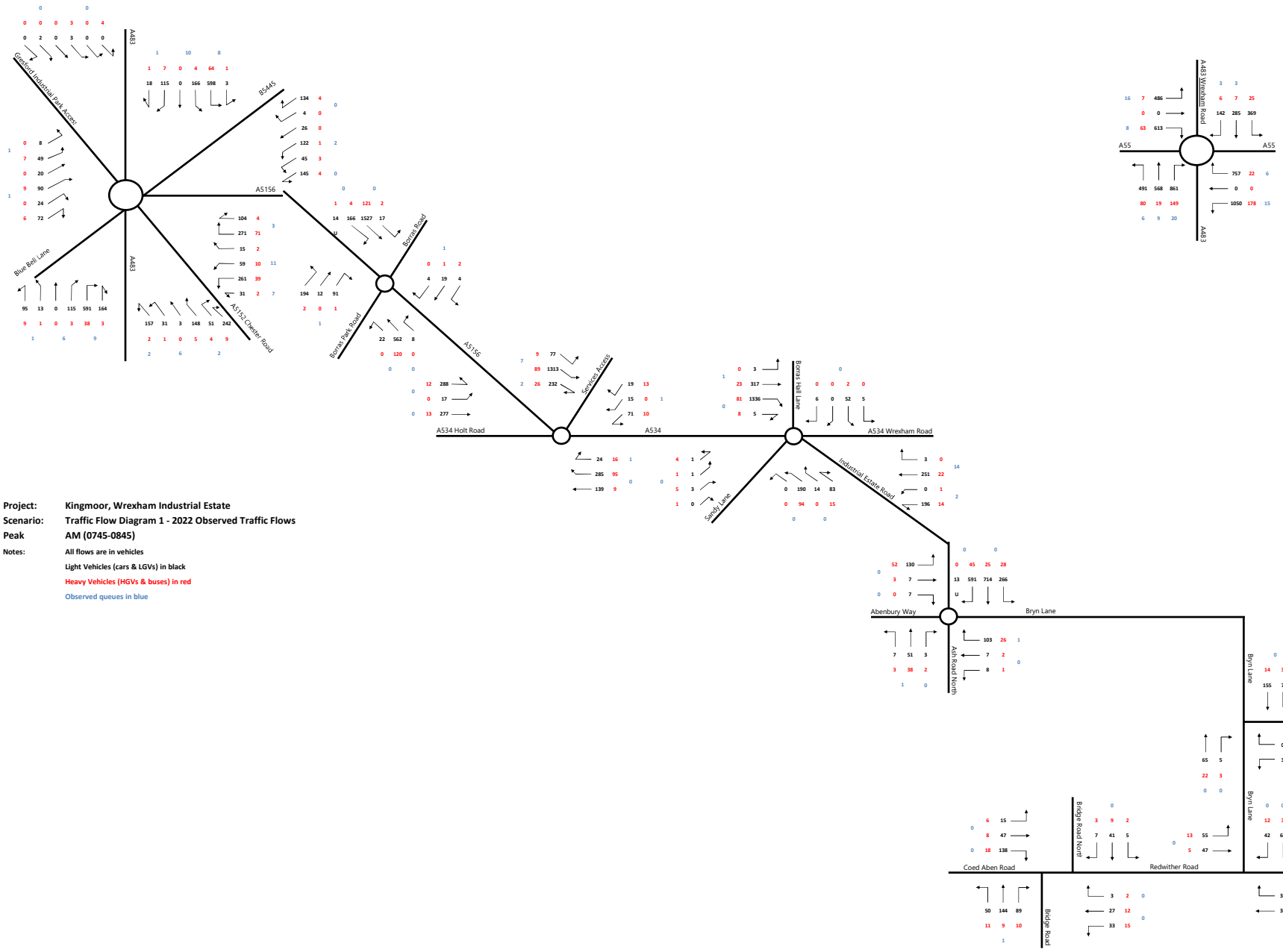
	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Tue 20 Feb 2024	2817	39.2	31.3	7.6	12	52	174	312	534	856	603	202	50	14	8	0
Wed 21 Feb 2024	2793	39.5	31.5	7.8	9	47	169	320	525	805	630	198	64	18	4	4
Thu 22 Feb 2024	2680	39.4	31.5	7.6	6	41	170	286	505	791	598	209	55	12	6	1
Fri 23 Feb 2024	2699	39.7	31.5	7.9	7	40	193	294	519	719	623	223	55	19	4	3
Sat 24 Feb 2024	1028	40.6	32.4	7.9	0	27	50	97	153	318	247	87	39	8	0	2
Sun 25 Feb 2024	767	41.2	33.5	7.4	4	8	21	45	136	237	192	80	37	6	0	1
Mon 26 Feb 2024	2901	39.3	31.3	7.7	6	60	197	307	546	832	670	201	65	10	6	1
5 Day Ave.	2778	39.4	31.4	7.7	8	48	181	304	526	801	625	207	58	15	6	2
7 Day Ave.	2241	39.8	31.9	7.7	6	39	139	237	417	651	509	171	52	12	4	2

Paul Castle Associates



APPENDIX C

HGV PERCENTAGE CALCULATIONS



Project: Kingmoor, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 1 - 2022 Observed Traffic Flows

Peak AM (0745-0845)

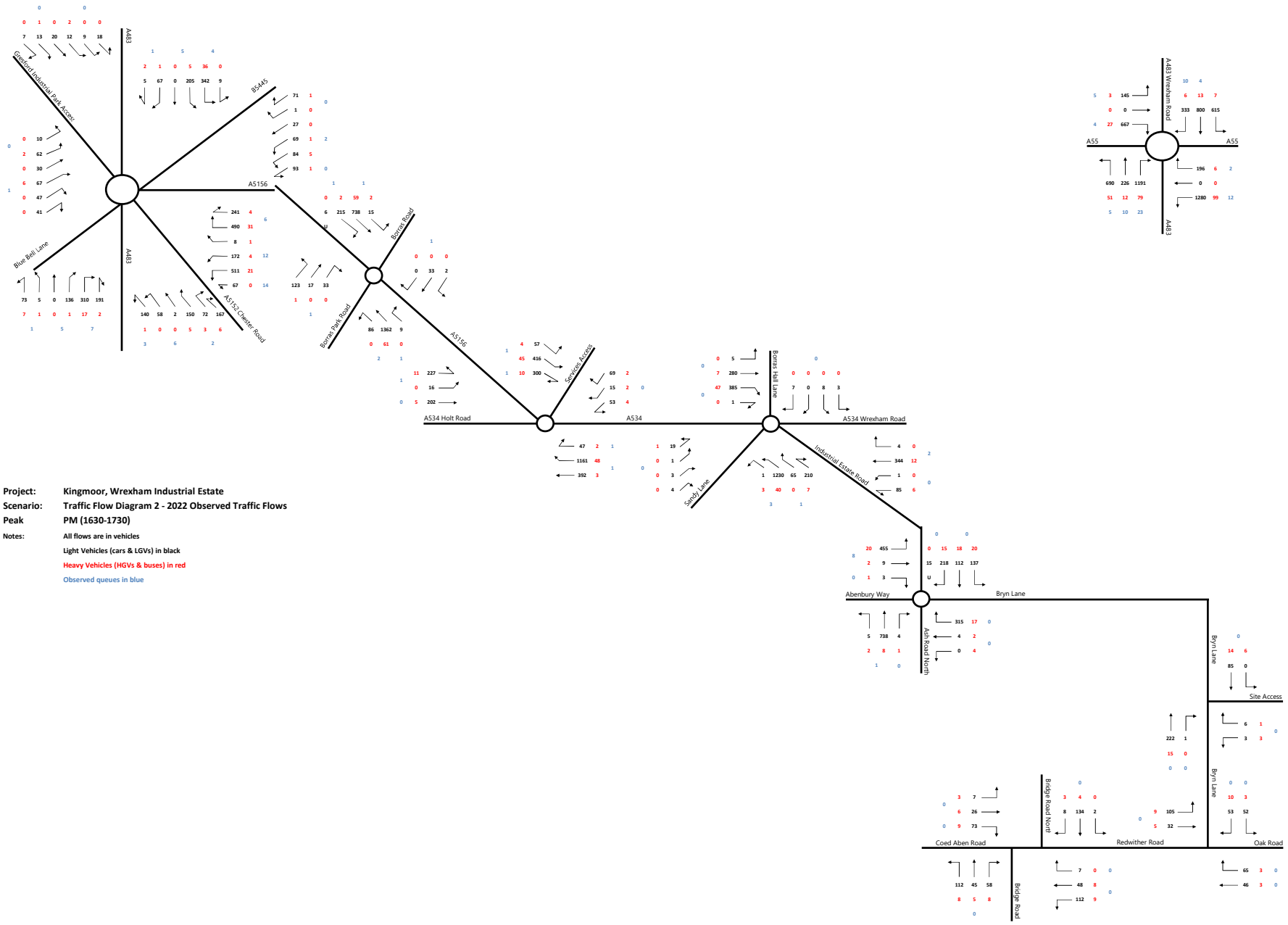
Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red

Observed queues in blue

Prime Transport Planning



Project: Kingmoor, Wrexham Industrial Estate
Scenario: Traffic Flow Diagram 2 - 2022 Observed Traffic Flows
Peak PM (1630-1730)
Notes: All flows are in vehicles
Light Vehicles (cars & LGVs) in black
Heavy Vehicles (HGVs & buses) in red
Observed queues in blue

Project: Kingmoor, Wrexham Industrial Estate

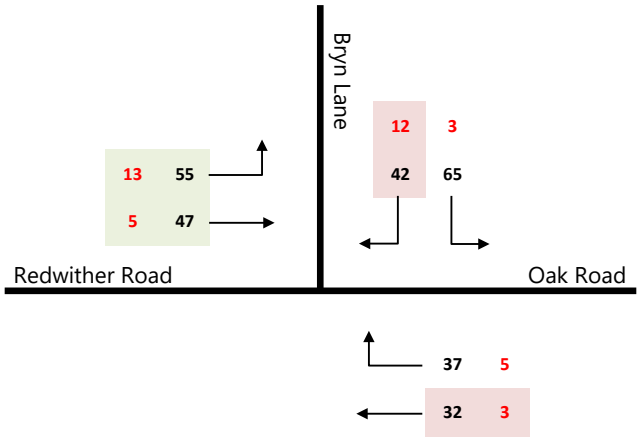
Scenario: Percentage of HGV Calculations

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

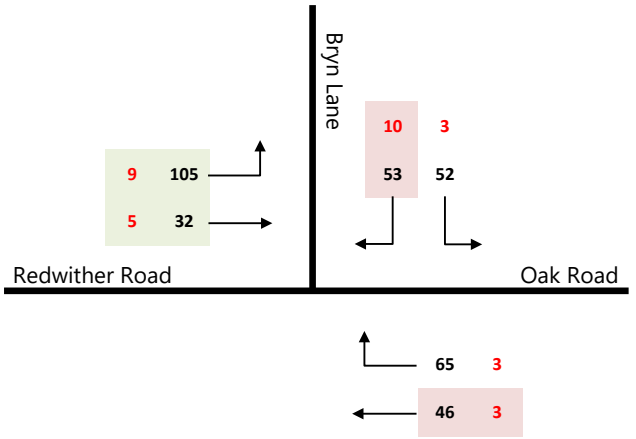
Heavy Vehicles (HGVs & buses) in red

Peak AM (0745-0845)



Total eastbound movements	120	Total westbound movements	89
Total HGV eastbound movements	18	Total HGV westbound movements	15
HGV percentage (eastbound)	15%	HGV percentage (westbound)	17%
HGV eastbound distribution	55%	HGV westbound distribution	45%

PM (1700-1800)



Total eastbound movements	151	Total westbound movements	112
Total HGV eastbound movements	14	Total HGV westbound movements	13
Percentage of Eastbound HGVs	9%	Percentage of westbound HGVs	12%
HGV eastbound distribution	52%	HGV westbound distribution	48%

APPENDIX D

TRAFFIC FLOW DIAGRAMS

Traffic Flow Diagrams			
Reference	**Scenario**	**Peak**	**Derivation**
1	Traffic Flow Diagram 1 - 2024 Observed Flows	AM (07:00 - 08:00)	Raw Data
2	Traffic Flow Diagram 2 - 2024 Observed Flows	PM (17:00 - 18:00)	Raw Data
3	Traffic Flow Diagram 3 - 2030 Base Traffic Flows	AM (07:00 - 08:00)	1*TEMPro/NRTP
4	Traffic Flow Diagram 4 - 2030 Base Traffic Flows	PM (17:00 - 18:00)	2*TEMPro/NRTP
5	Traffic Flow Diagram 5 - Committed Development Traffic Flows	AM (07:00 - 08:00)	P/2023/0280
6	Traffic Flow Diagram 6 - Committed Development Traffic Flows	PM (17:00 - 18:00)	P/2023/0280
7	Traffic Flow Diagram 7 - Committed Development Traffic Flows: Kingmod	AM (07:00 - 08:00)	P/2023/0280
8	Traffic Flow Diagram 8 - Committed Development Traffic Flows: Kingmod	PM (17:00 - 18:00)	P/2023/0280
9	Traffic Flow Diagram 9 - Total Committed Development Traffic Flows	AM (07:00 - 08:00)	5+7
10	Traffic Flow Diagram 10 - Total Committed Development Traffic Flows	PM (17:00 - 18:00)	6+8
11	Traffic Flow Diagram 11 - 2030 Without Development Traffic Flows	AM (07:00 - 08:00)	3+9
12	Traffic Flow Diagram 12 - 2030 Without Development Traffic Flows	PM (17:00 - 18:00)	4+10
13	Traffic Flow Diagram 13 - Development Traffic Distribution	AM (07:00 - 08:00)	ATC
14	Traffic Flow Diagram 14 - Development Traffic Distribution	PM (17:00 - 18:00)	ATC
15	Traffic Flow Diagram 15 - Development Traffic Flows	AM (07:00 - 08:00)	TRICS 8
16	Traffic Flow Diagram 16 - Development Traffic Flows	PM (17:00 - 18:00)	TRICS 8
17	Traffic Flow Diagram 17 - 2030 With Development Traffic Flows	AM (07:00 - 08:00)	12+15
18	Traffic Flow Diagram 18 - 2030 With Development Traffic Flows	PM (17:00 - 18:00)	13+16

Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 1 - 2024 Observed Flows

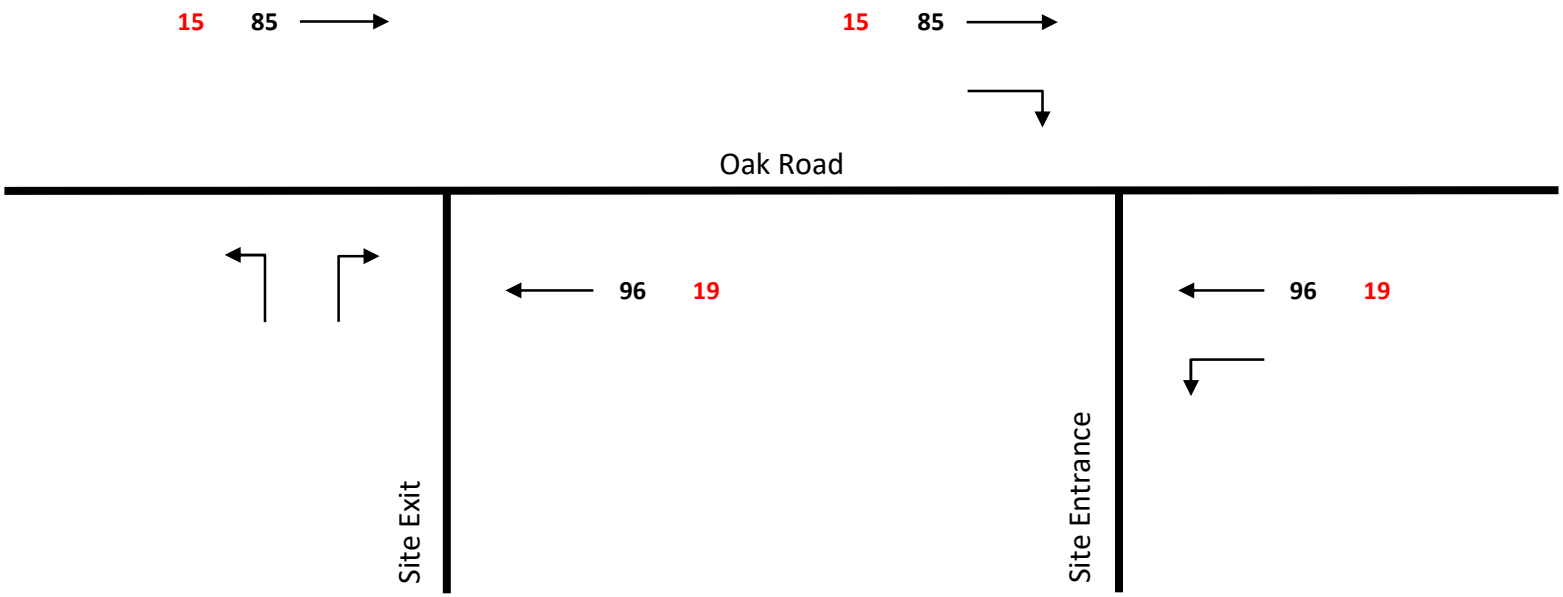
Peak: AM (07:00 - 08:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red

Light and heavy proportions split via 'HGV Calculations' (P/2023/0280 - 'Kingmoor' - Traffic Flow Diagram 1)



Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 2 - 2024 Observed Flows

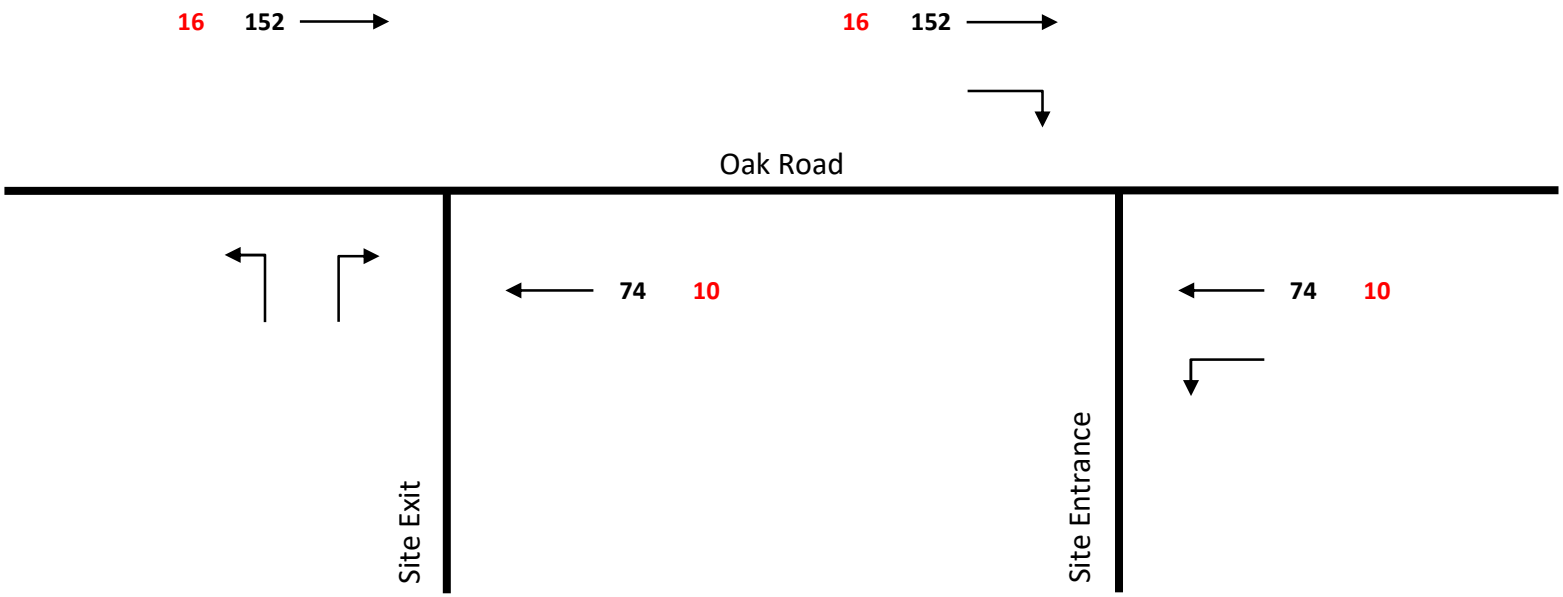
Peak: PM (17:00 - 18:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red

Light and heavy proportions split via 'HGV Calculations' (P/2023/0280 - 'Kingmoor' - Traffic Flow Diagram 2)



Project: The Oaks, Wrexham Industrial Estate

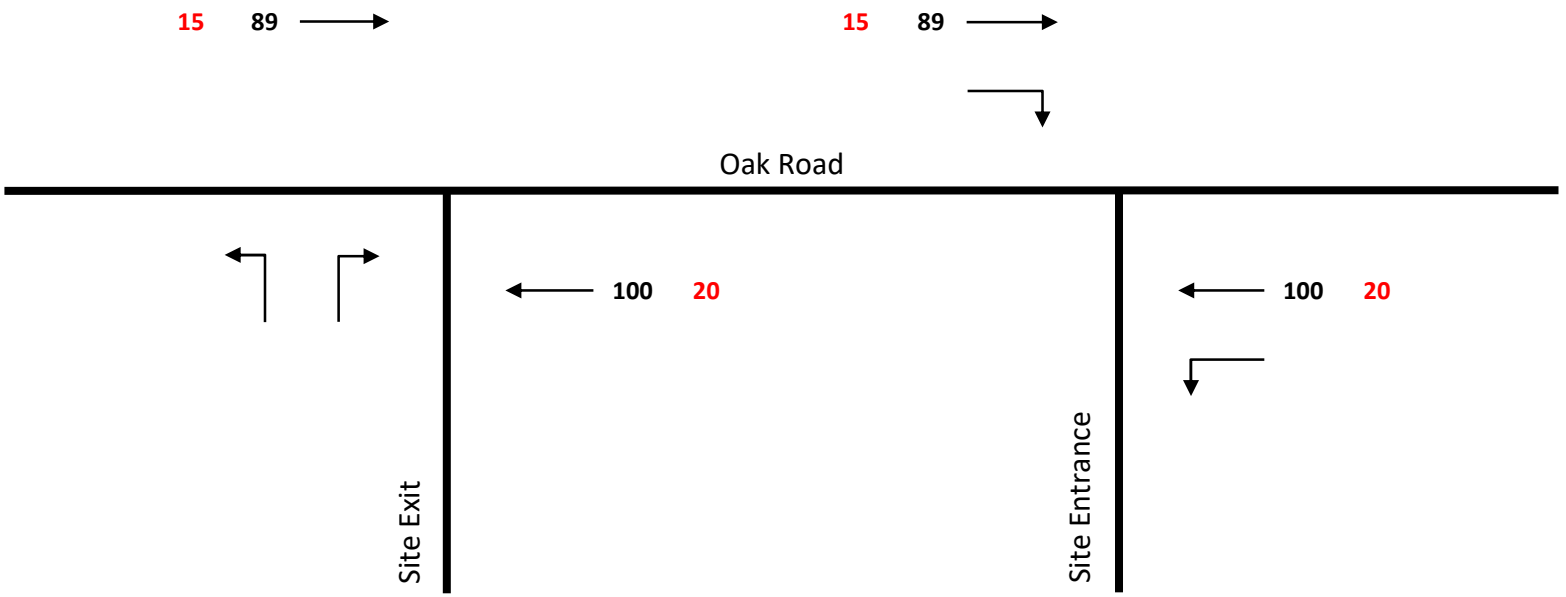
Scenario: Traffic Flow Diagram 3 - 2030 Base Traffic Flows

Peak: AM (07:00 - 08:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



Project: The Oaks, Wrexham Industrial Estate

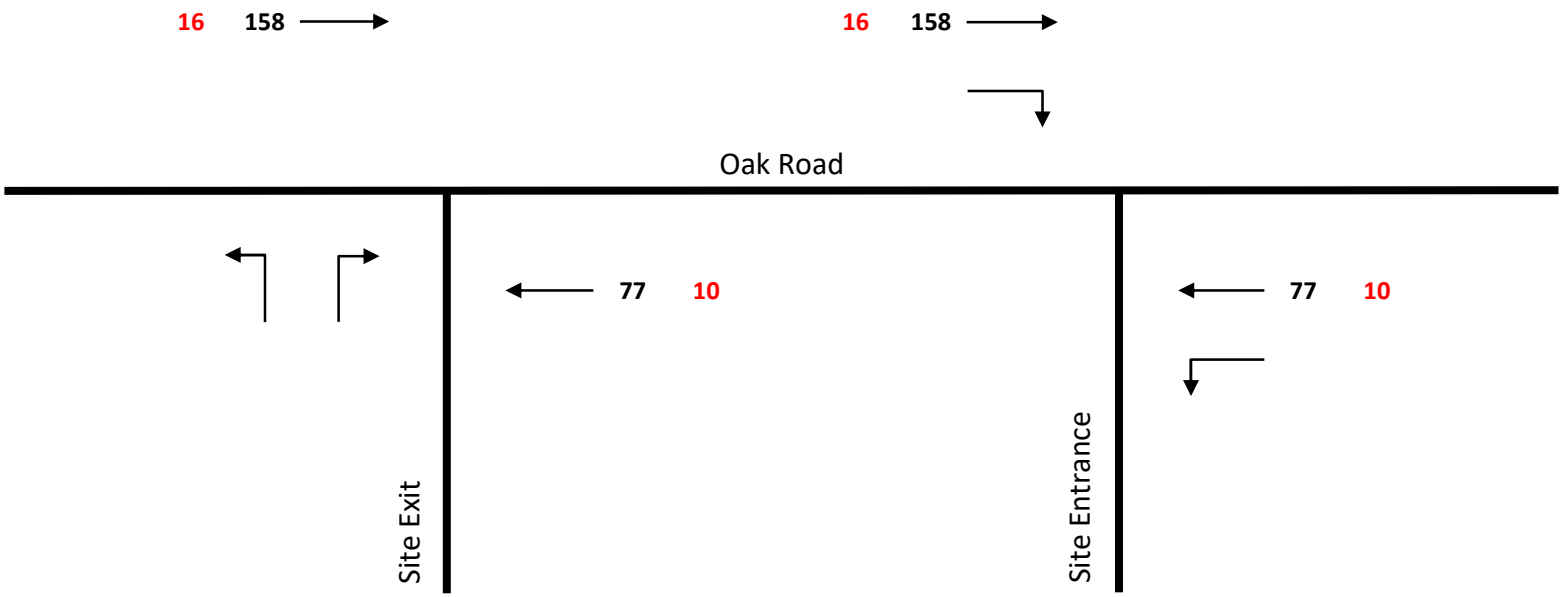
Scenario: Traffic Flow Diagram 4 - 2030 Base Traffic Flows

Peak: PM (17:00 - 18:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 5 - Committed Development Traffic Flows

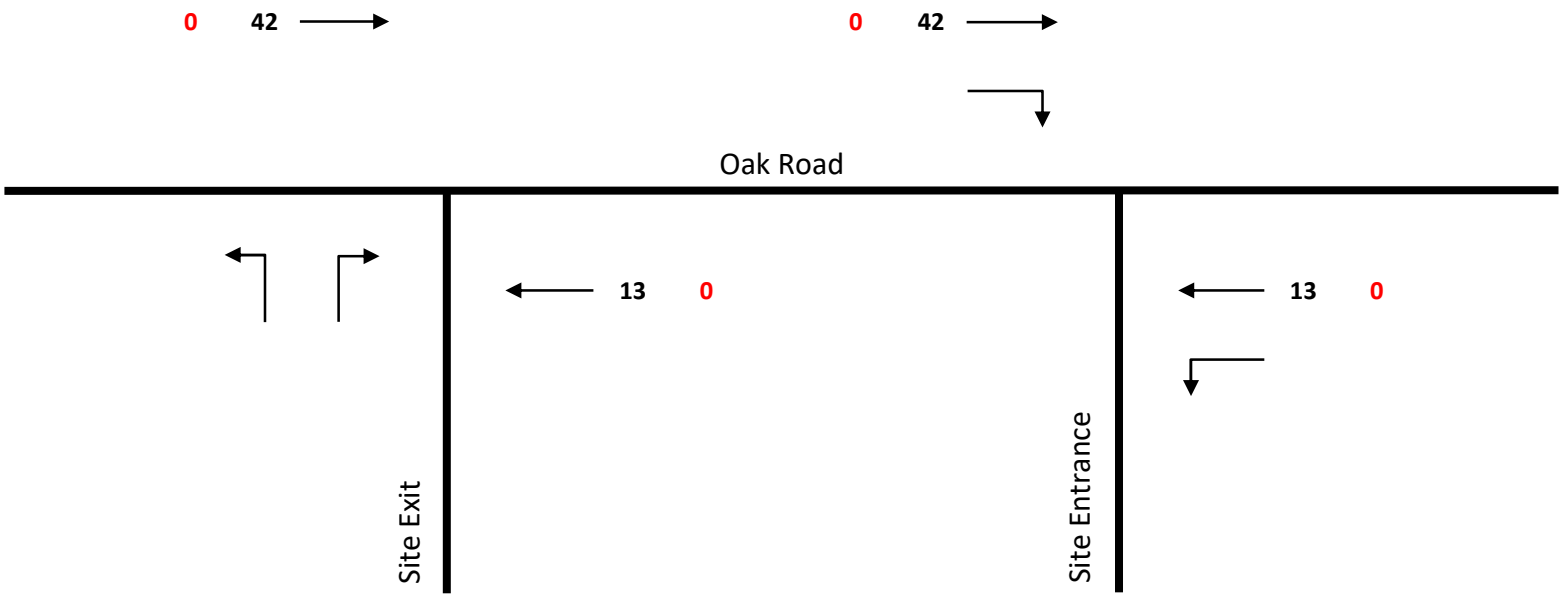
Peak: AM (07:00 - 08:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red

Extracted from P/2023/0280 - 'Kingmoor' - Traffic Flow Diagram 33 - Total Committed Development Traffic Flows



Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 6 - Committed Development Traffic Flows

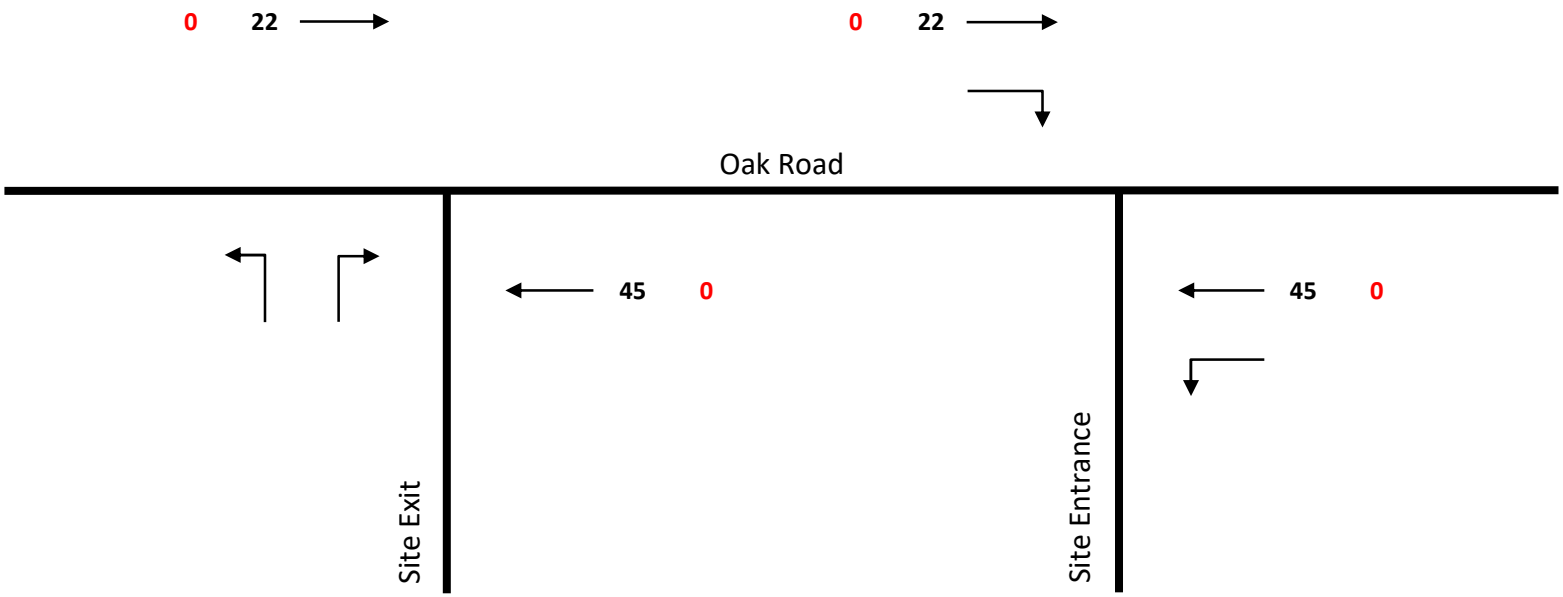
Peak: PM (17:00 - 18:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red

Extracted from P/2023/0280 - 'Kingmoor' - Traffic Flow Diagram 34 - Total Committed Development Traffic Flows



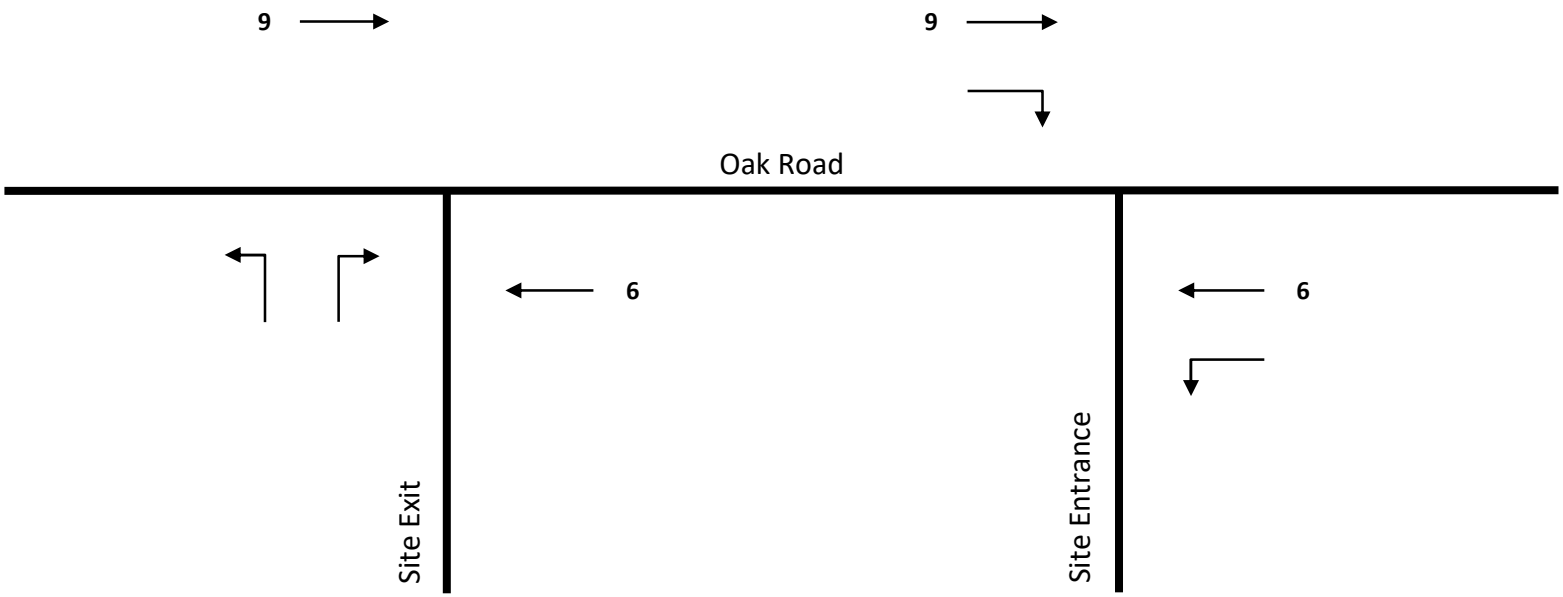
Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 7 - Committed Development Traffic Flows: Kingmoor

Peak: AM (07:00 - 08:00)

Notes: All flows are in vehicles

Extracted from P/2023/0280 - 'Kingmoor' - Traffic Flow Diagram 41 - Development Traffic Flows



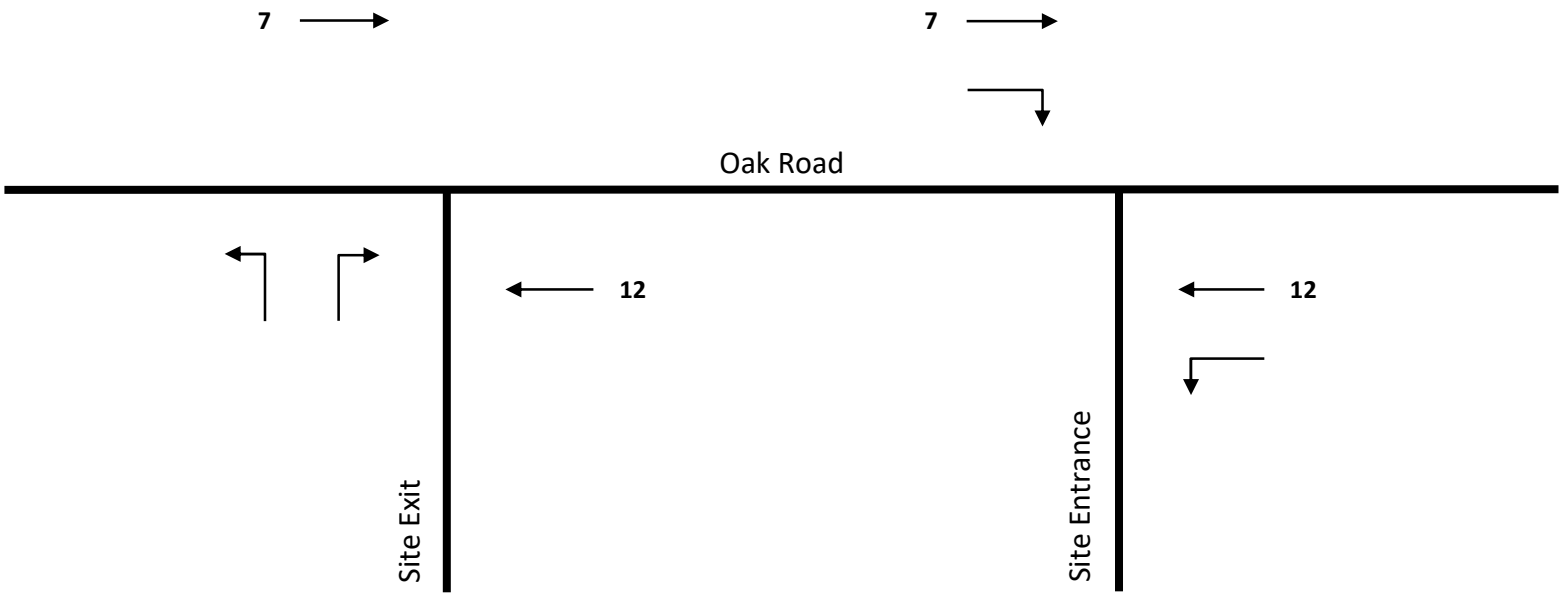
Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 8 - Committed Development Traffic Flows: Kingmoor

Peak: PM (17:00 - 18:00)

Notes: All flows are in vehicles

Extracted from P/2023/0280 - 'Kingmoor' - Traffic Flow Diagram 42 - Development Traffic Flows



Project: The Oaks, Wrexham Industrial Estate

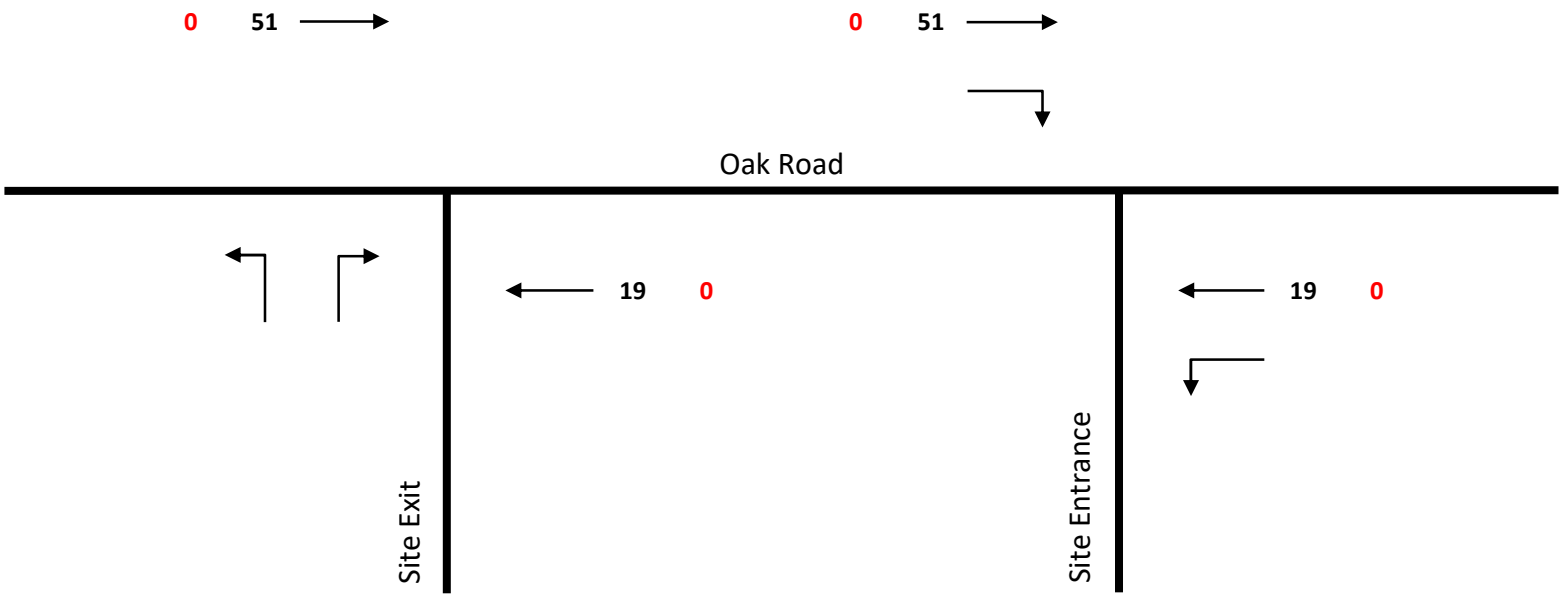
Scenario: Traffic Flow Diagram 9 - Total Committed Development Traffic Flows

Peak: AM (07:00 - 08:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



Project: The Oaks, Wrexham Industrial Estate

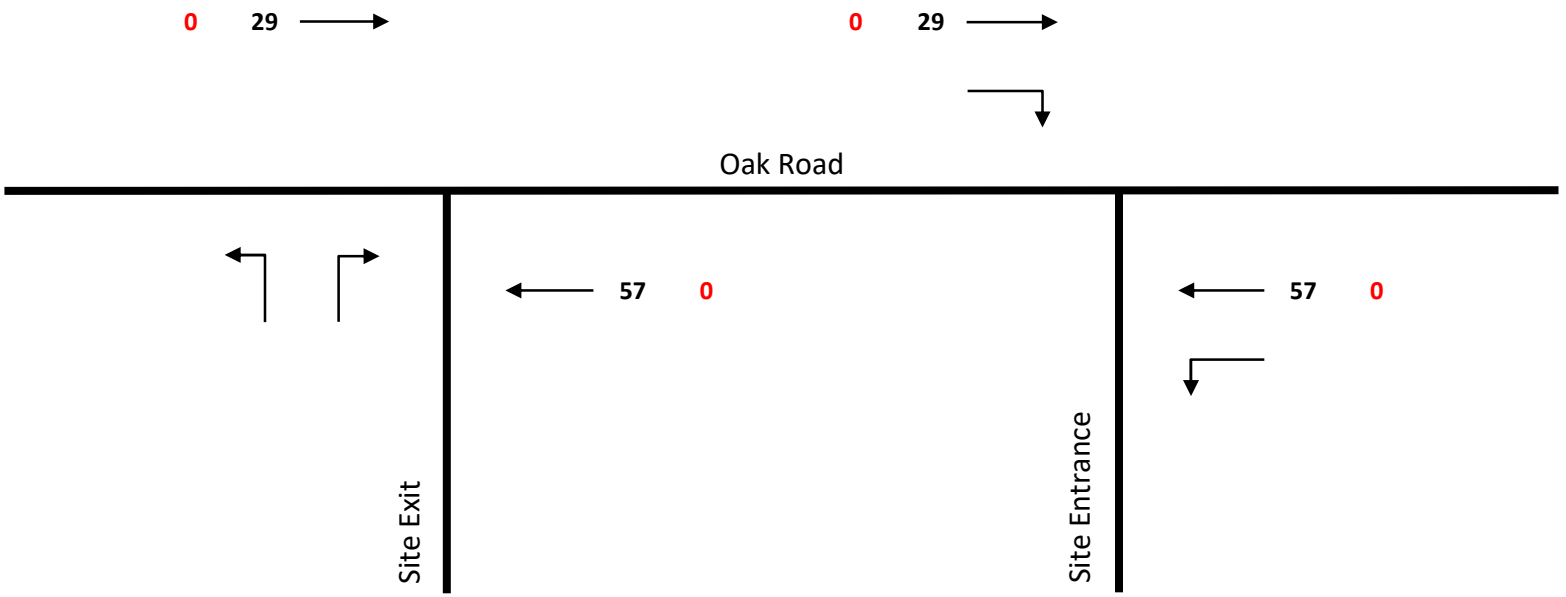
Scenario: Traffic Flow Diagram 10 - Total Committed Development Traffic Flows

Peak: PM (17:00 - 18:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



Project: The Oaks, Wrexham Industrial Estate

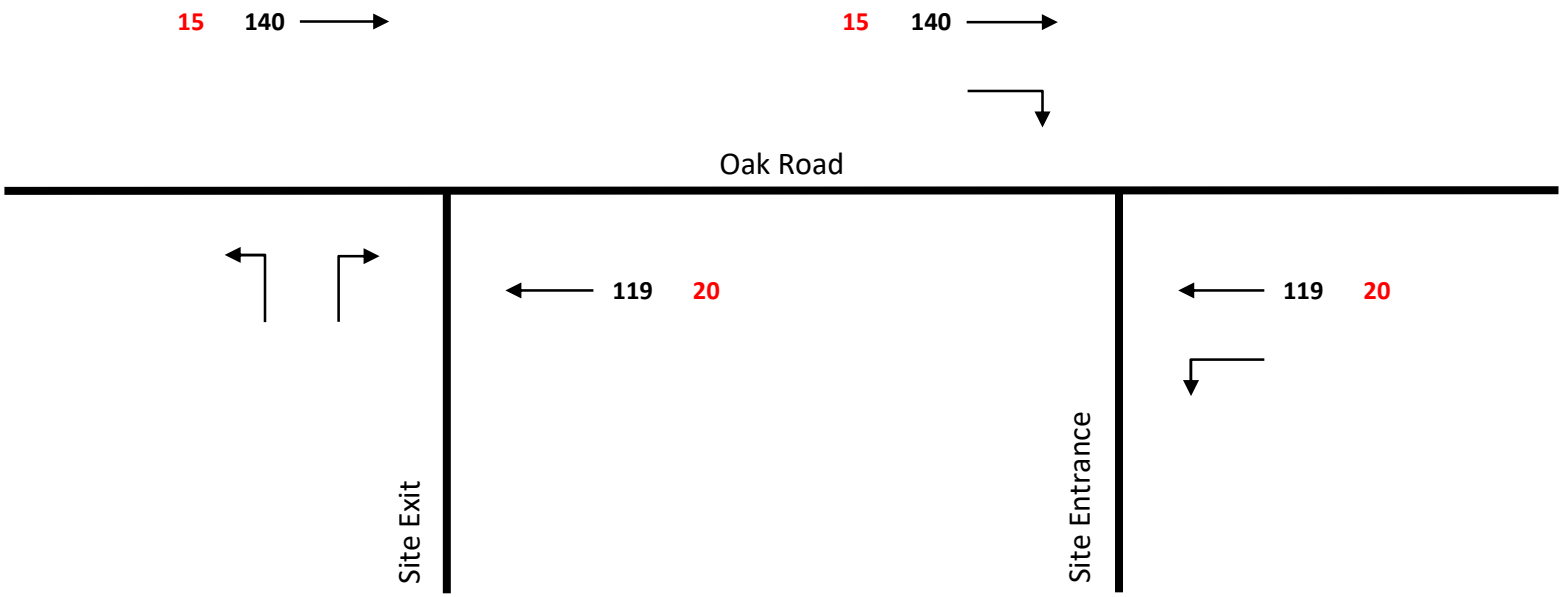
Scenario: Traffic Flow Diagram 11 - 2030 Without Development Traffic Flows

Peak: AM (07:00 - 08:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



Project: The Oaks, Wrexham Industrial Estate

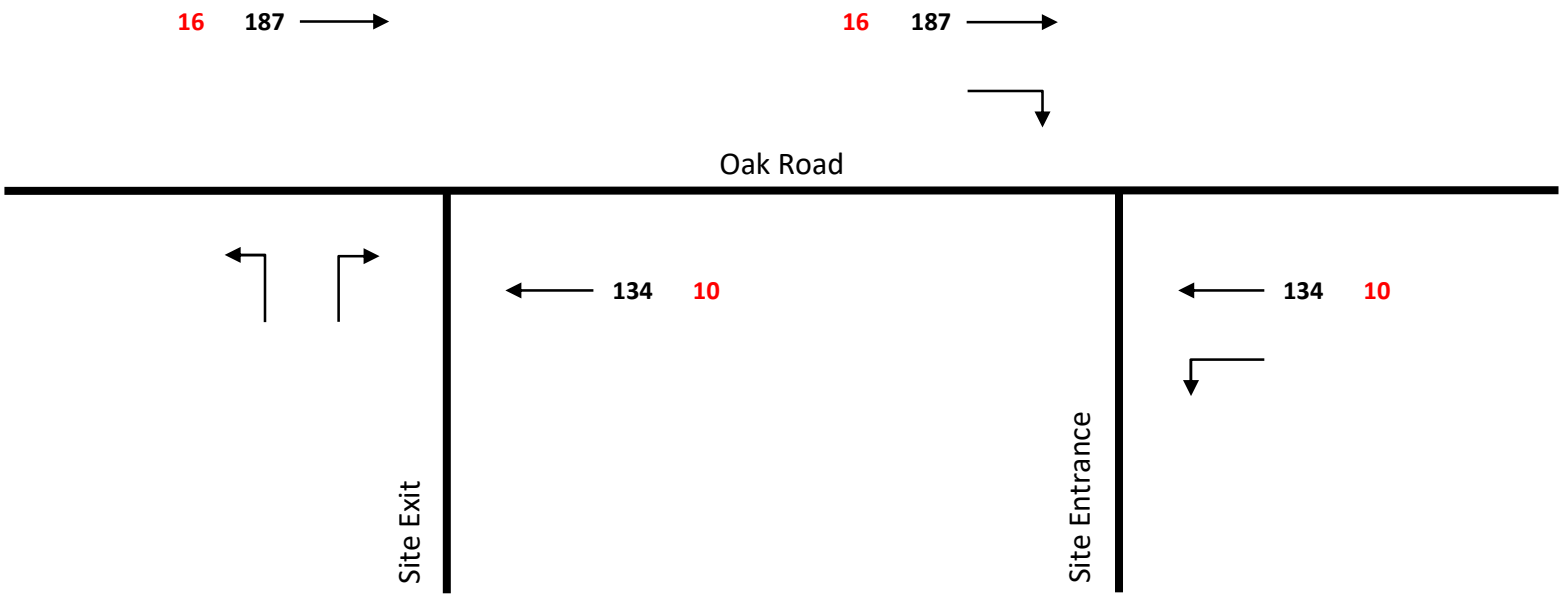
Scenario: Traffic Flow Diagram 12 - 2030 Without Development Traffic Flows

Peak: PM (17:00 - 18:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 13 - Development Traffic Distribution

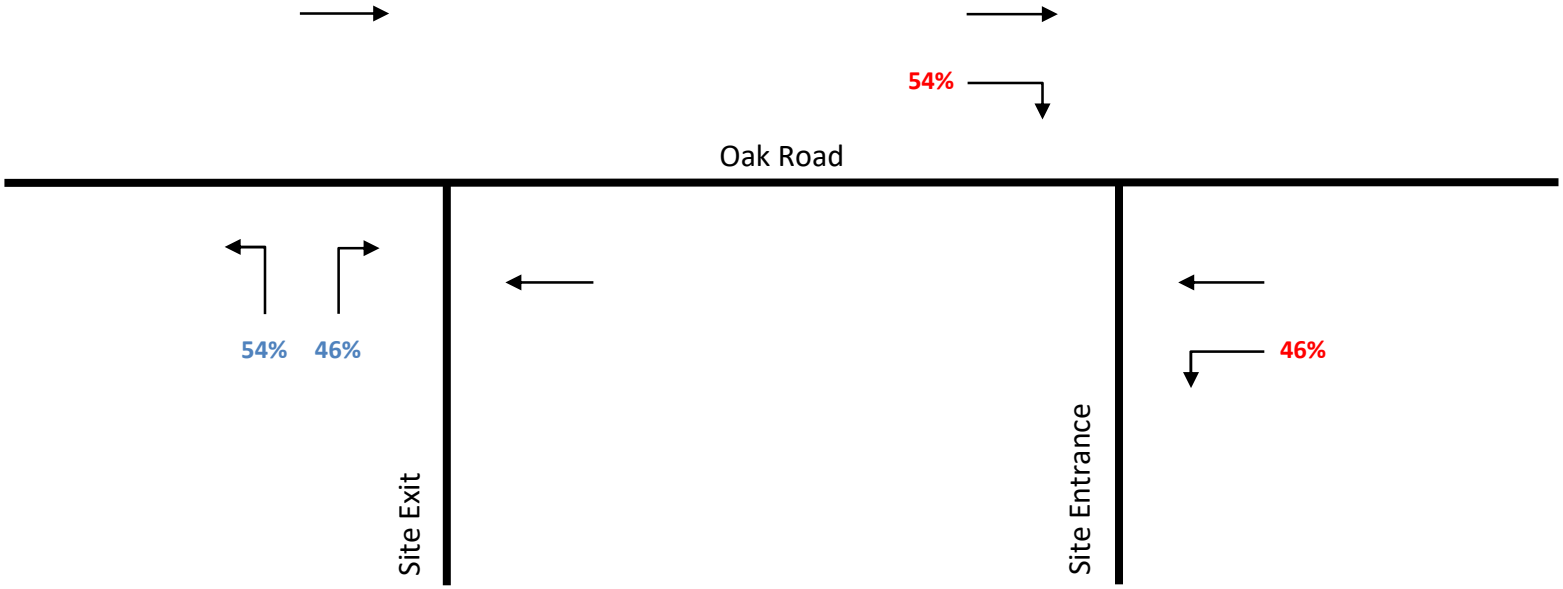
Peak: AM (07:00 - 08:00)

Notes: Distribution proportions extracted from 2024 ATC

Same distribution percentages used for 'lights' and 'heavies'

Light arrivals in red standard font

Light departures in blue standard font



Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 14 - Development Traffic Distribution

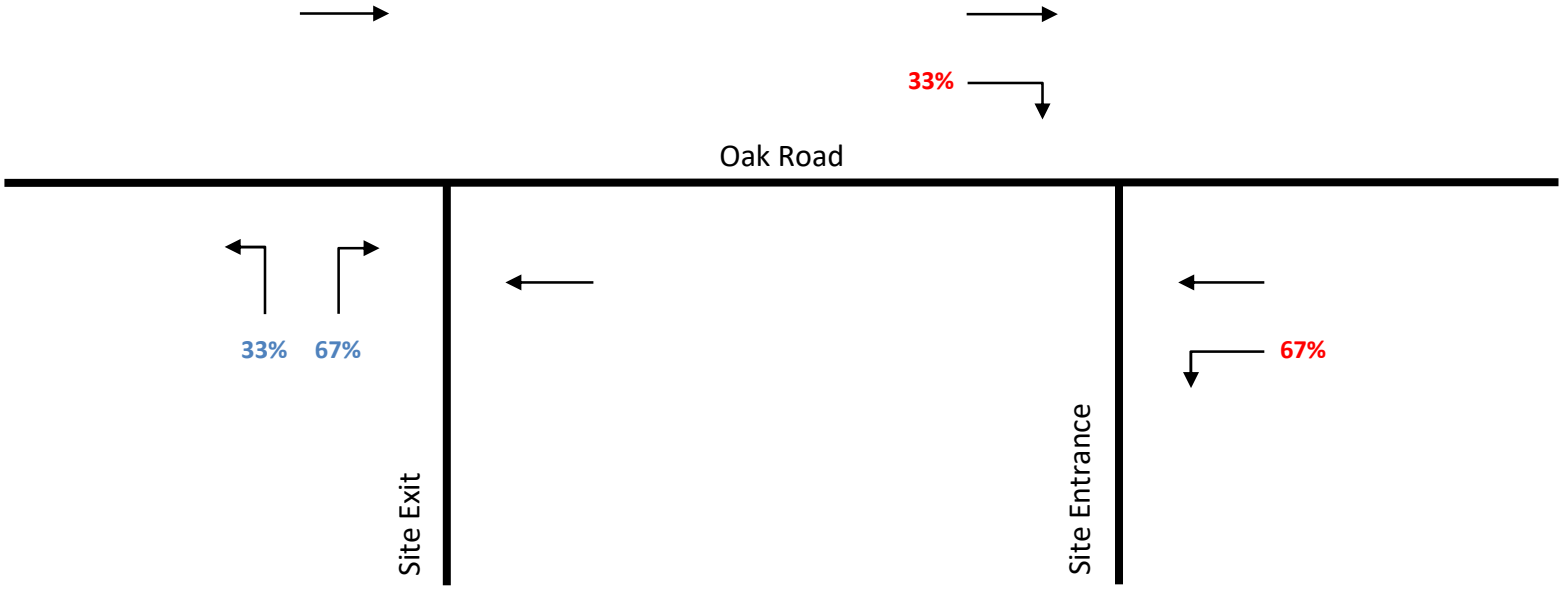
Peak: PM (17:00 - 18:00)

Notes: Distribution proportions extracted from 2024 ATC

Same distribution percentages used for 'lights' and 'heavies'

Light arrivals in red standard font

Light departures in blue standard font



Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 15 - Development Traffic Flows

Peak: AM (07:00 - 08:00)

Notes: All trips in vehicles

Same distribution percentages used for 'lights' and 'heavies'

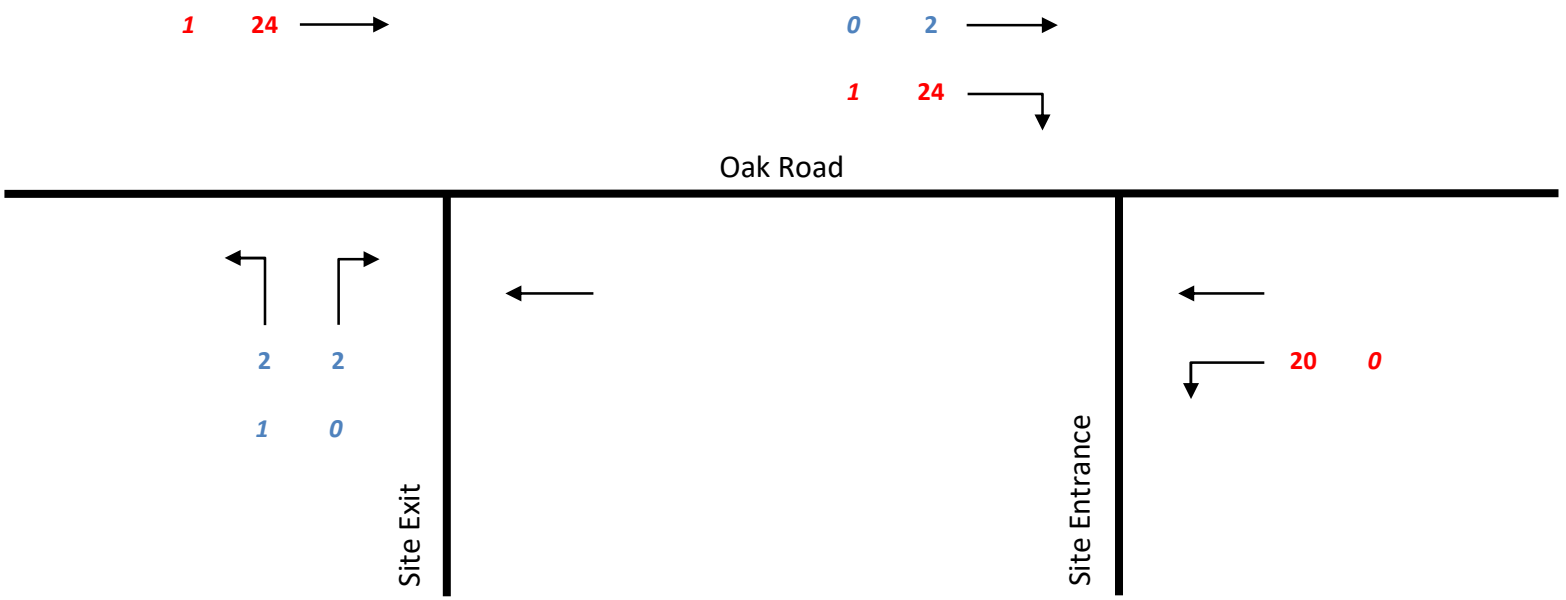
Highest trip generation applied (08:00-09:00)

Light arrivals (red standard font) = 44

Heavy arrivals (red italic font) = *1*

Light departures (blue standard font) = 4

Heavy departures (blue italic font) = *1*



Project: The Oaks, Wrexham Industrial Estate

Scenario: Traffic Flow Diagram 16 - Development Traffic Flows

Peak: PM (17:00 - 18:00)

Notes: All trips in vehicles

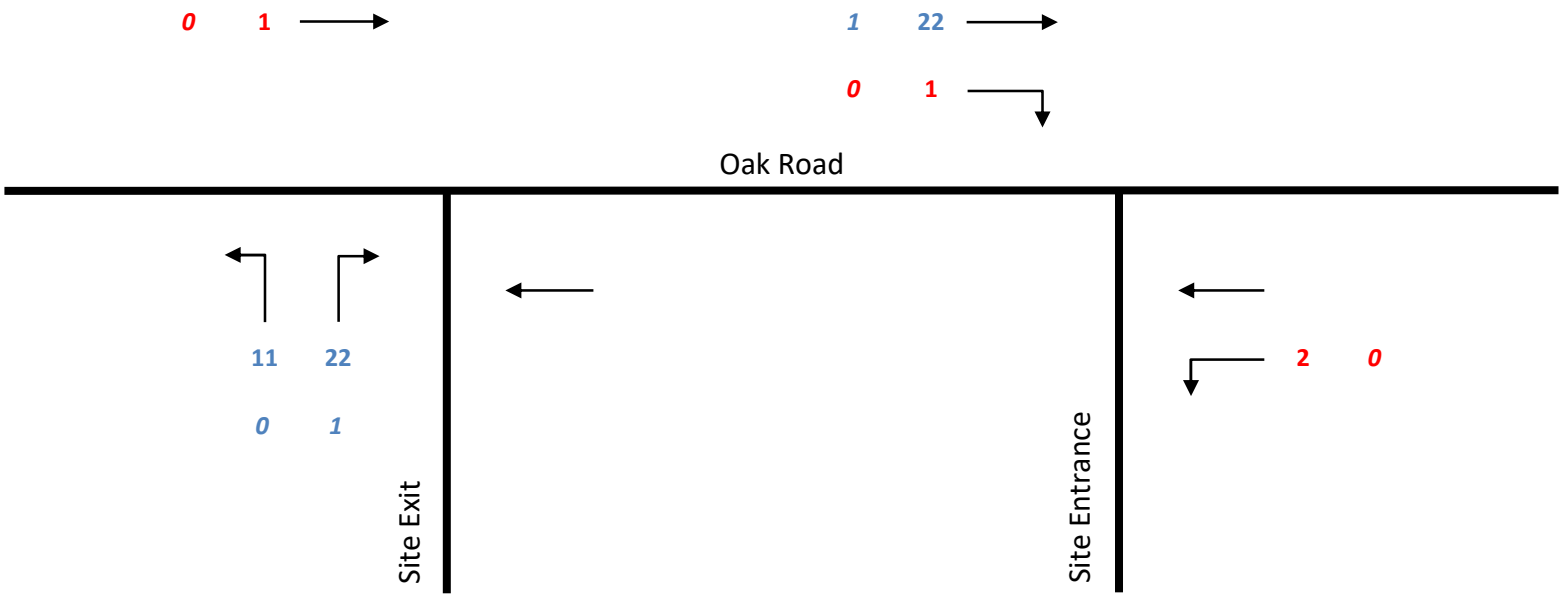
Same distribution percentages used for 'lights' and 'heavies'

Light arrivals (red standard font) = 3

Light departures (blue standard font) = 33

Heavy arrivals (red italic font) = *0*

Heavy departures (blue italic font) = *1*



Project: The Oaks, Wrexham Industrial Estate

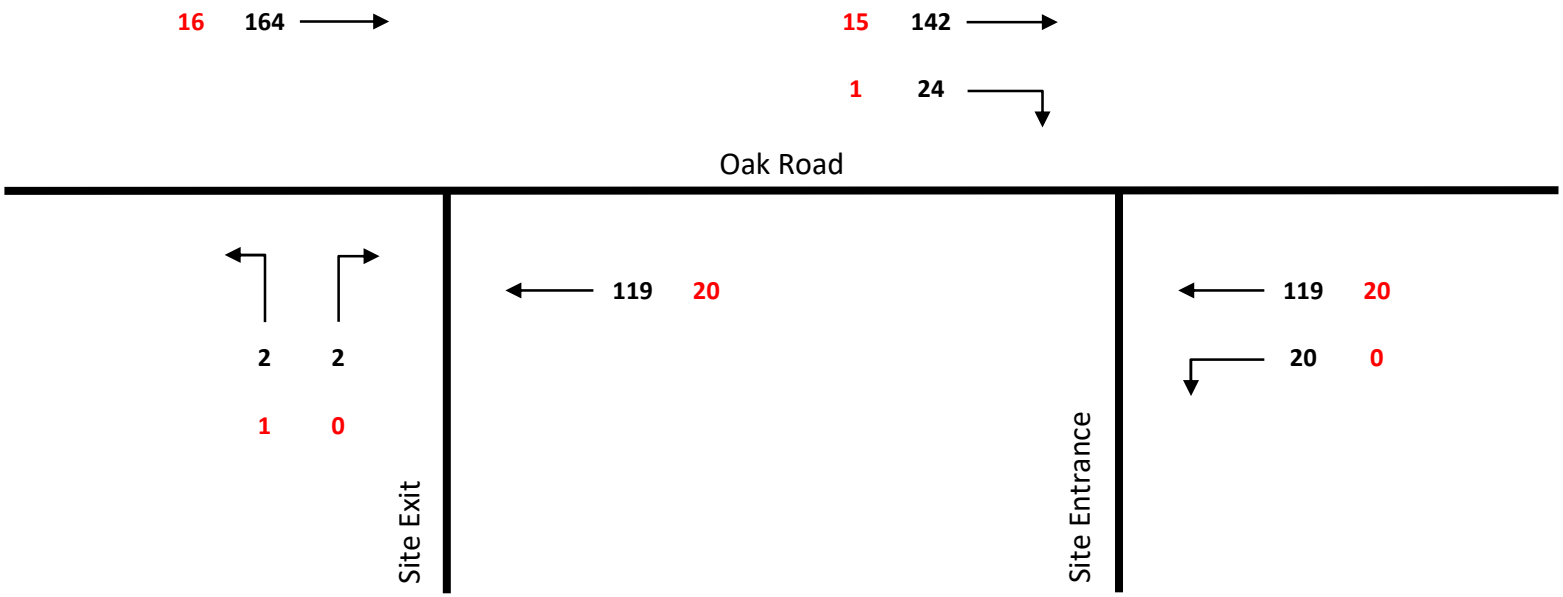
Scenario: Traffic Flow Diagram 17 - 2030 With Development Traffic Flows

Peak: AM (07:00 - 08:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



Project: The Oaks, Wrexham Industrial Estate

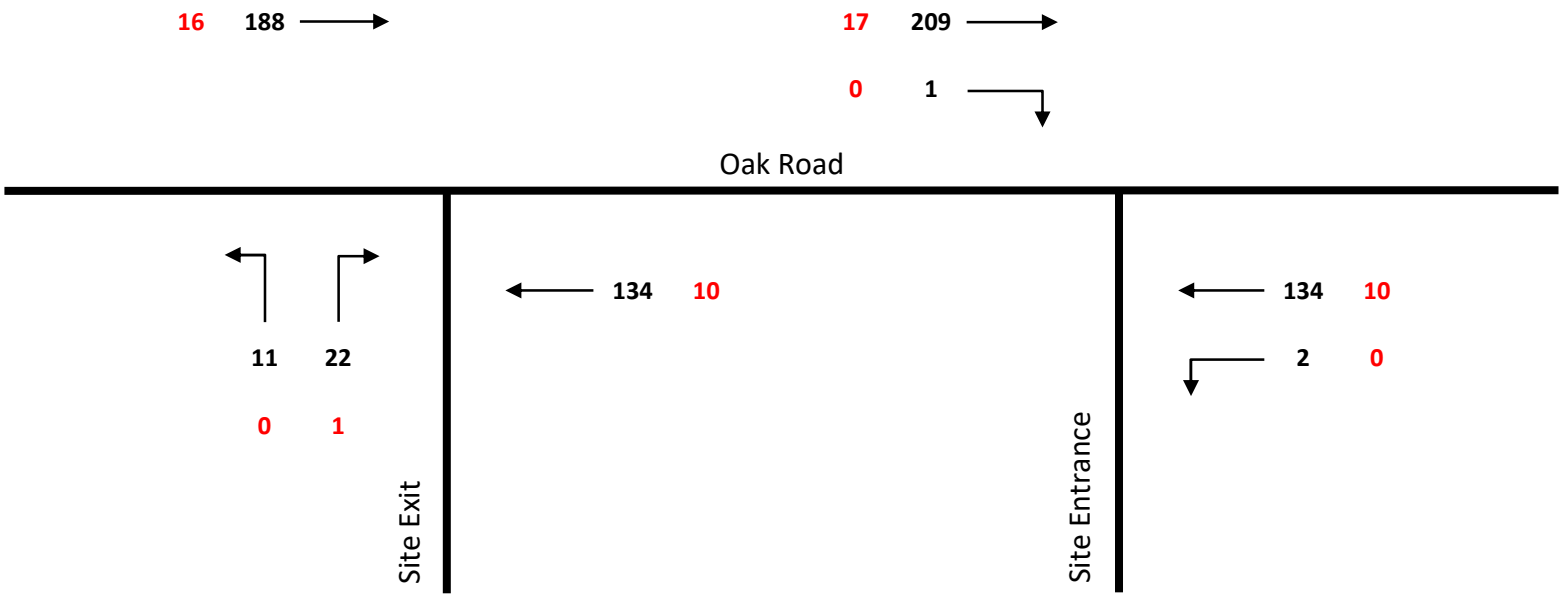
Scenario: Traffic Flow Diagram 18 - 2030 With Development Traffic Flows

Peak: PM (17:00 - 18:00)

Notes: All flows are in vehicles

Light Vehicles (cars & LGVs) in black

Heavy Vehicles (HGVs & buses) in red



APPENDIX E

TECHNICAL DRAWINGS

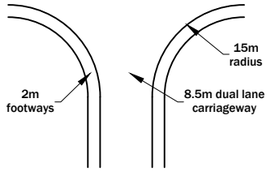
KEY

OWNERSHIP BOUNDARY

4.5 x 120m VISIBILITY SPLAY (BASED ON DMRB AT 40mph)

HIGHWAY BOUNDARY (Sourced from: http://www.wrexham.gov.uk/english/leisure_tourism/prow/adopted_roads_map.htm)

Access Dimensions



WESTERN EGRESS - EXIT ONLY

DROPPED KERB CROSSOVER ACCESS TO SUBSTATION

PROPOSED DROPPED KERB CROSSING OVER OAK ROAD

CYCLEWAY TO CARRIAGEWAY TRANSITION - DROPPED KERBS AND ROAD MARKINGS

120m VISIBILITY SPLAYS TO PEDESTRIAN CROSSING

TREES/ VEGETATION TO BE REMOVED/ TRIMMED TO FACILITATE VISIBILITY SPLAYS

UNCONTROLLED CROSSING OF SHARED FOOTWAY / CYCLEWAY WITH REFUGE ISLAND

EXISTING ACCESS TO BE CLOSED UP AND FULL HEIGHT KERB REINSTATED

3m SHARED CYCLEWAY ALONG SITE FRONTAGE

'LOOK LEFT' AND 'LOOK RIGHT' ROAD MARKINGS PROVIDED AT ACCESS AND EGRESS

UNCONTROLLED CROSSING OF SHARED FOOTWAY / CYCLEWAY WITH REFUGE ISLAND

CARRIAGEWAY TO CYCLEWAY TRANSITION - DROPPED KERBS AND ROAD MARKINGS

EASTERN ACCESS - ENTRY ONLY

FORWARD VISIBILITY TO ACCESS FOR VEHICLES APPROACHING FROM EAST

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Rev	Date	By	Revision notes
F	11.08.25	VB	MINOR UPDATES FOLLOWING RSA
E	08.08.25	RO	PEDESTRIAN / CYCLE CROSSINGS AMENDED
D	16.05.25	RO	SITE LAYOUT UPDATED
C	06.02.25	VB	ISSUE FOR PAC
B	09.05.24	VB	ISSUE FOR SCOPE
A	25.04.24	VB	ACCESS NOT TIED IN WITH INTERNALS

DISCLAIMER

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- PROPOSALS WILL BE SUBJECT TO UTILITY AND DRAINAGE INVESTIGATIONS
- PROPOSALS WILL BE SUBJECT TO EXTENT OF ADOPTED HIGHWAY
- DO NOT SCALE THIS DRAWING. DIMENSIONS ARE FOR REPRESENTATIONAL AND INFORMATIONAL PURPOSES ONLY AND SUBJECT TO DETAILED DESIGN
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Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

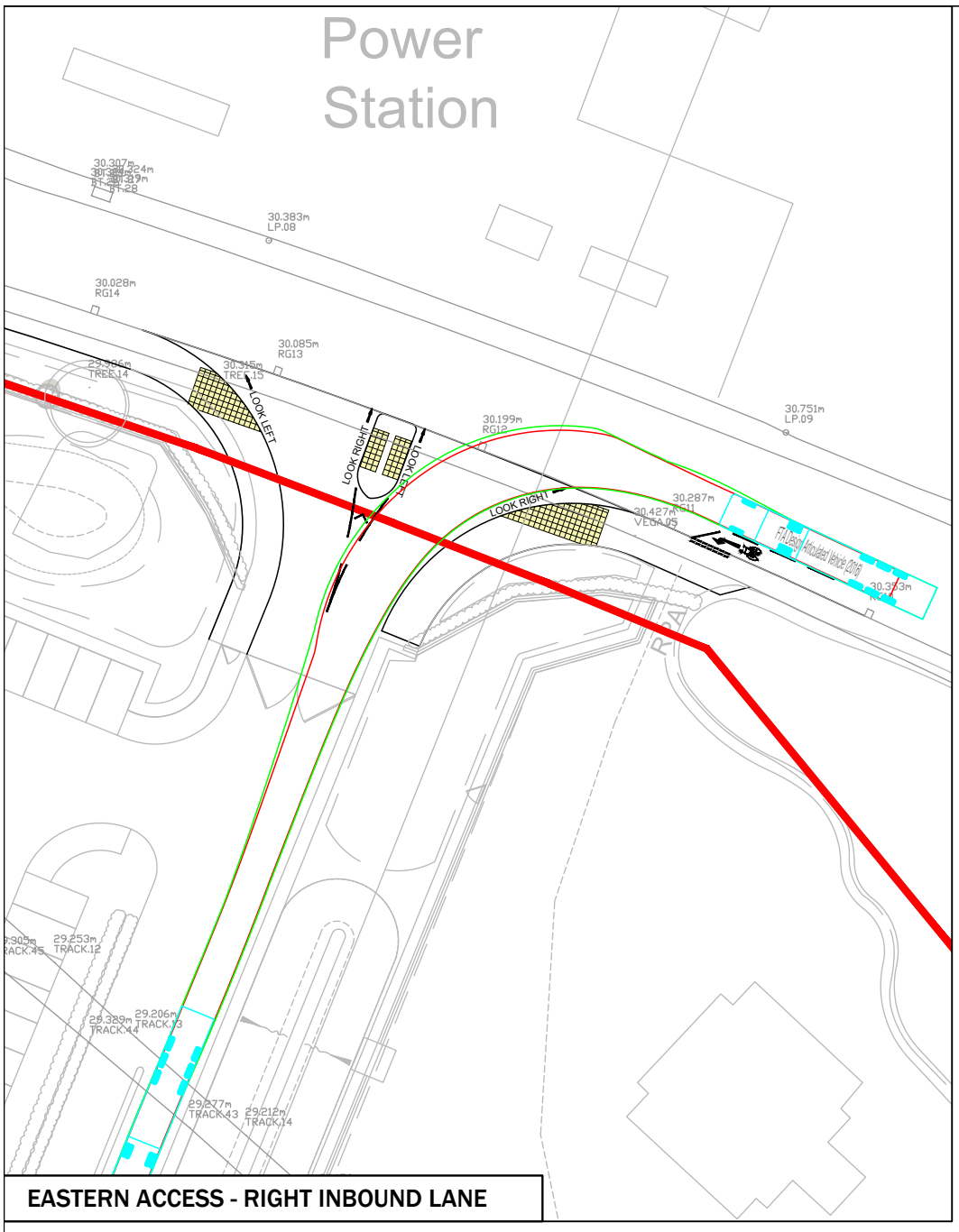
PROPOSED ACCESS STRATEGY

Drawn by	Issue date
VB	16 APR 2024

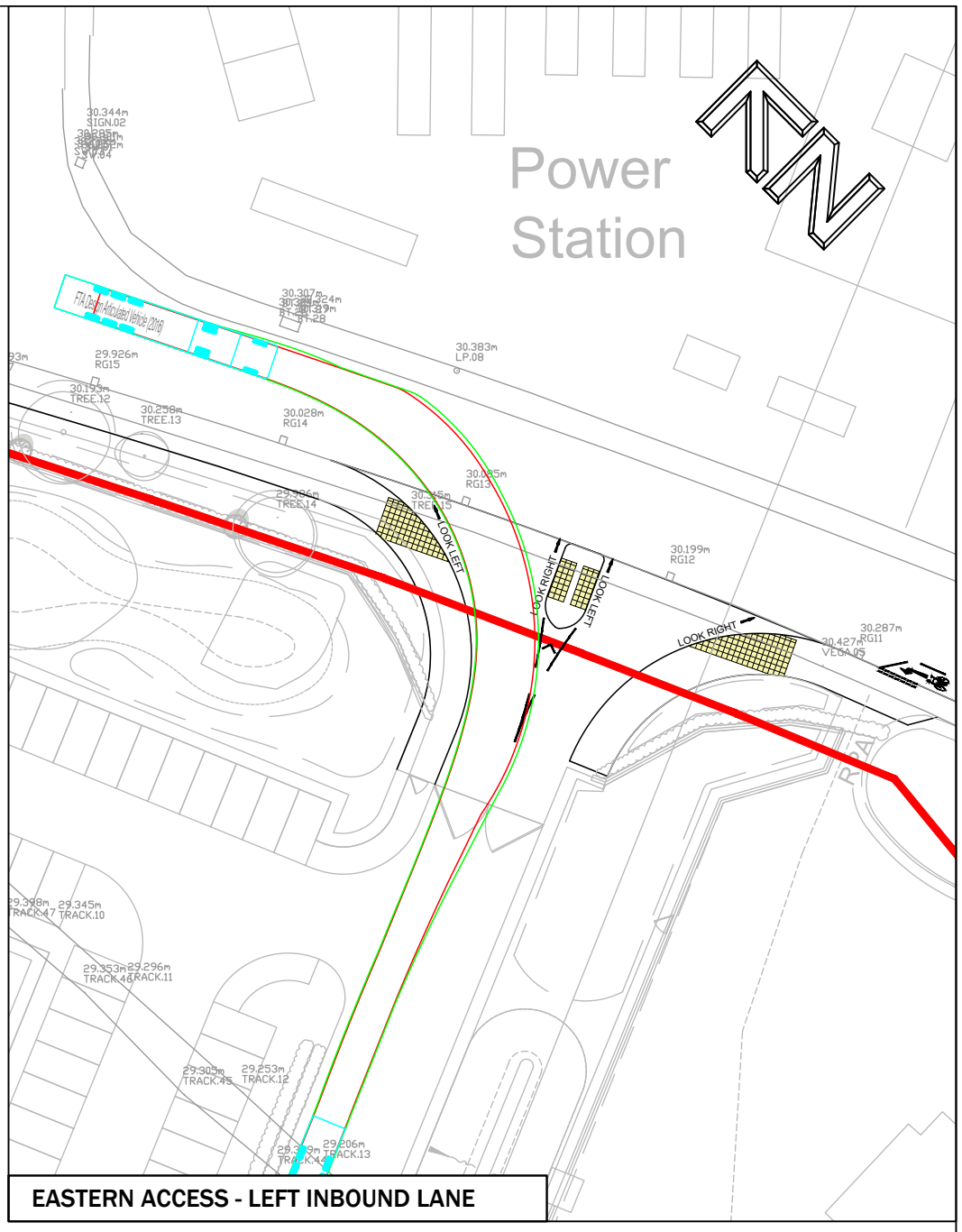
Scale(s): 1:1000 @ A3

Drawing No: P24012-001F

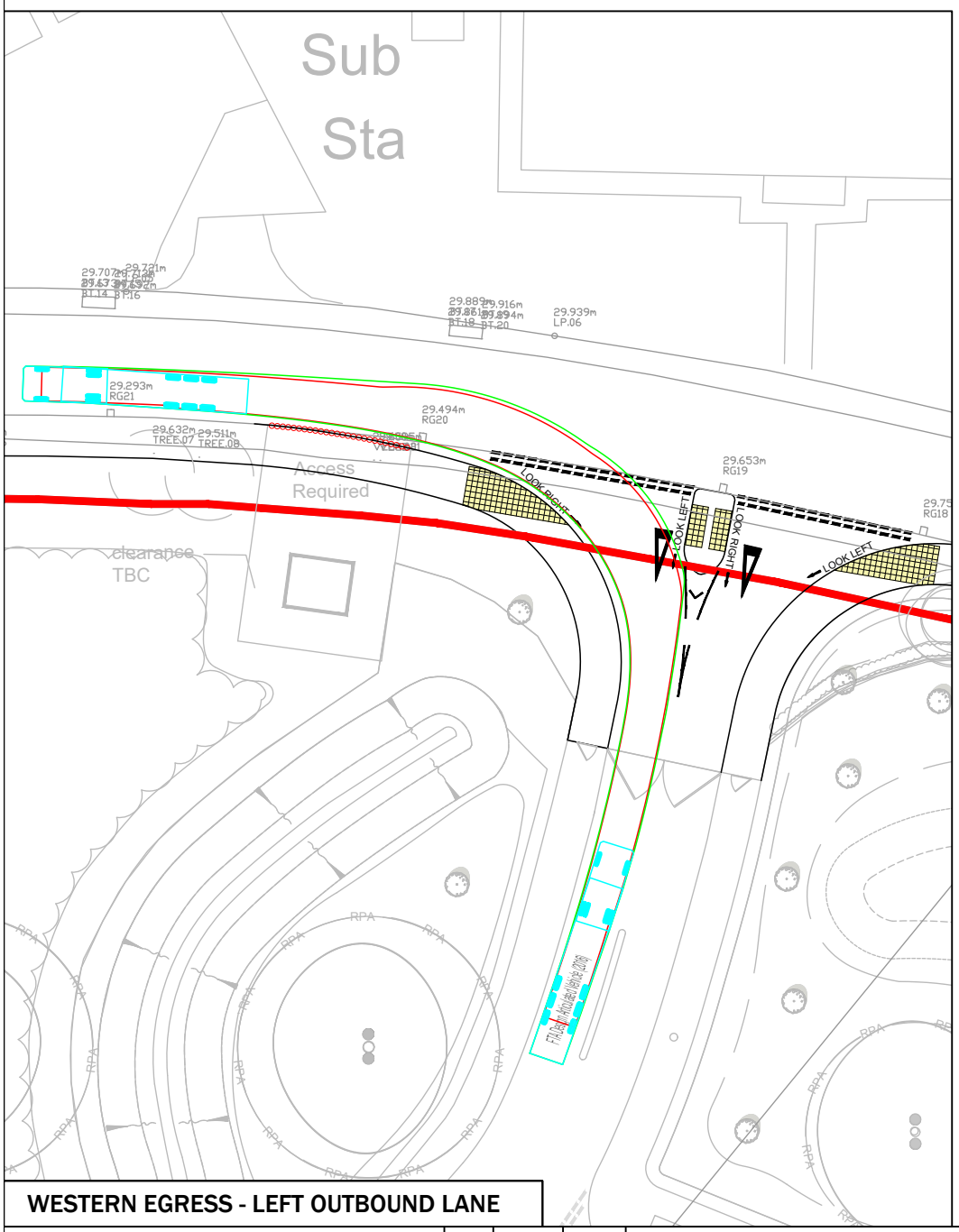
Status: FINAL



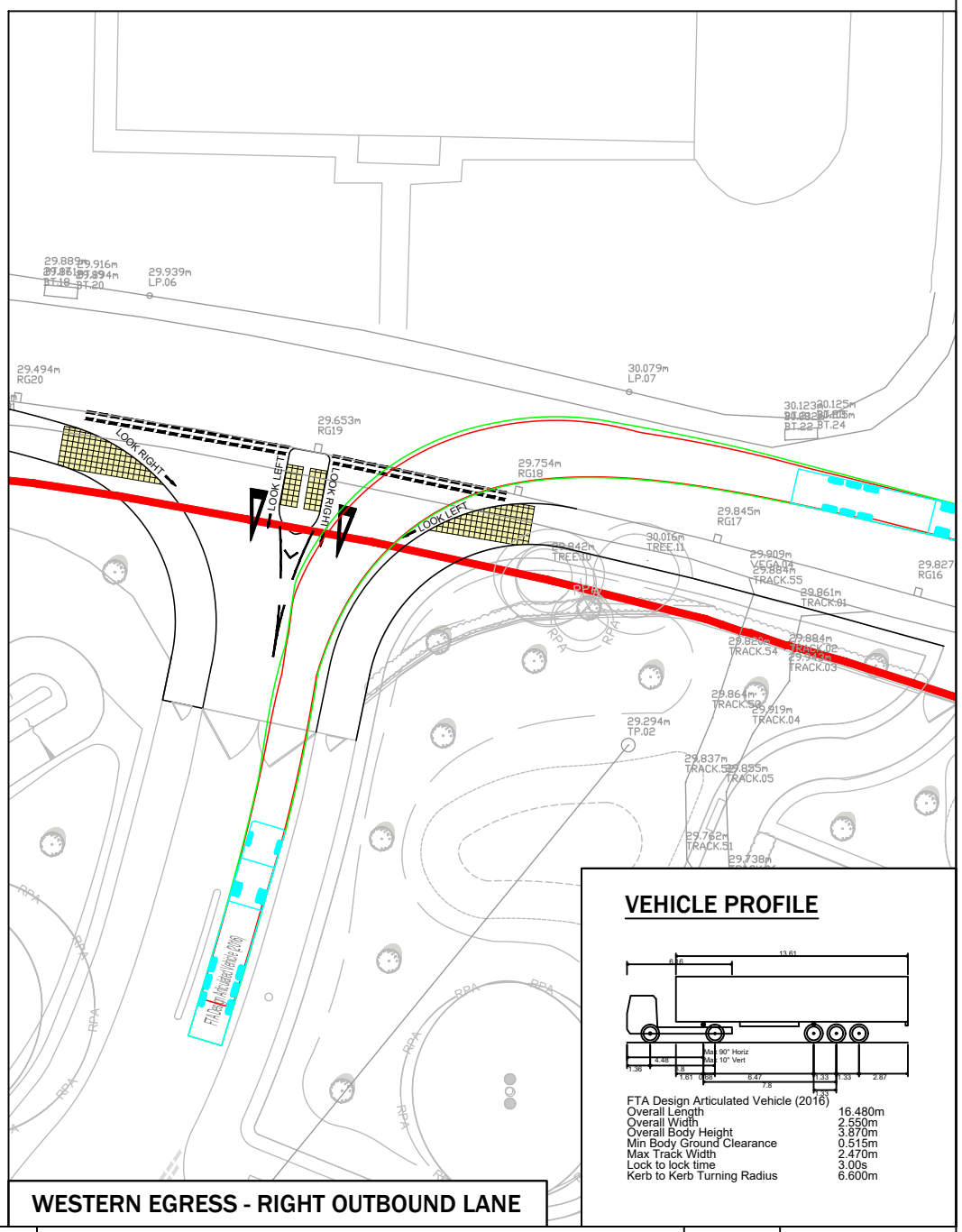
EASTERN ACCESS - RIGHT INBOUND LANE



EASTERN ACCESS - LEFT INBOUND LANE



WESTERN EGRESS - LEFT OUTBOUND LANE



WESTERN EGRESS - RIGHT OUTBOUND LANE

VEHICLE PROFILE

FTA Design Articulated Vehicle (2016)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.600m

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Rev	Date	By	Revision notes
C	11.09.25	VB	MINOR UPDATES FOLLOWING RSA
B	08.08.25	RO	SITE LAYOUT UPDATED/ MINOR UPDATES FOLLOWING RSA
A	16.05.25	RO	SITE LAYOUT UPDATED

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Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

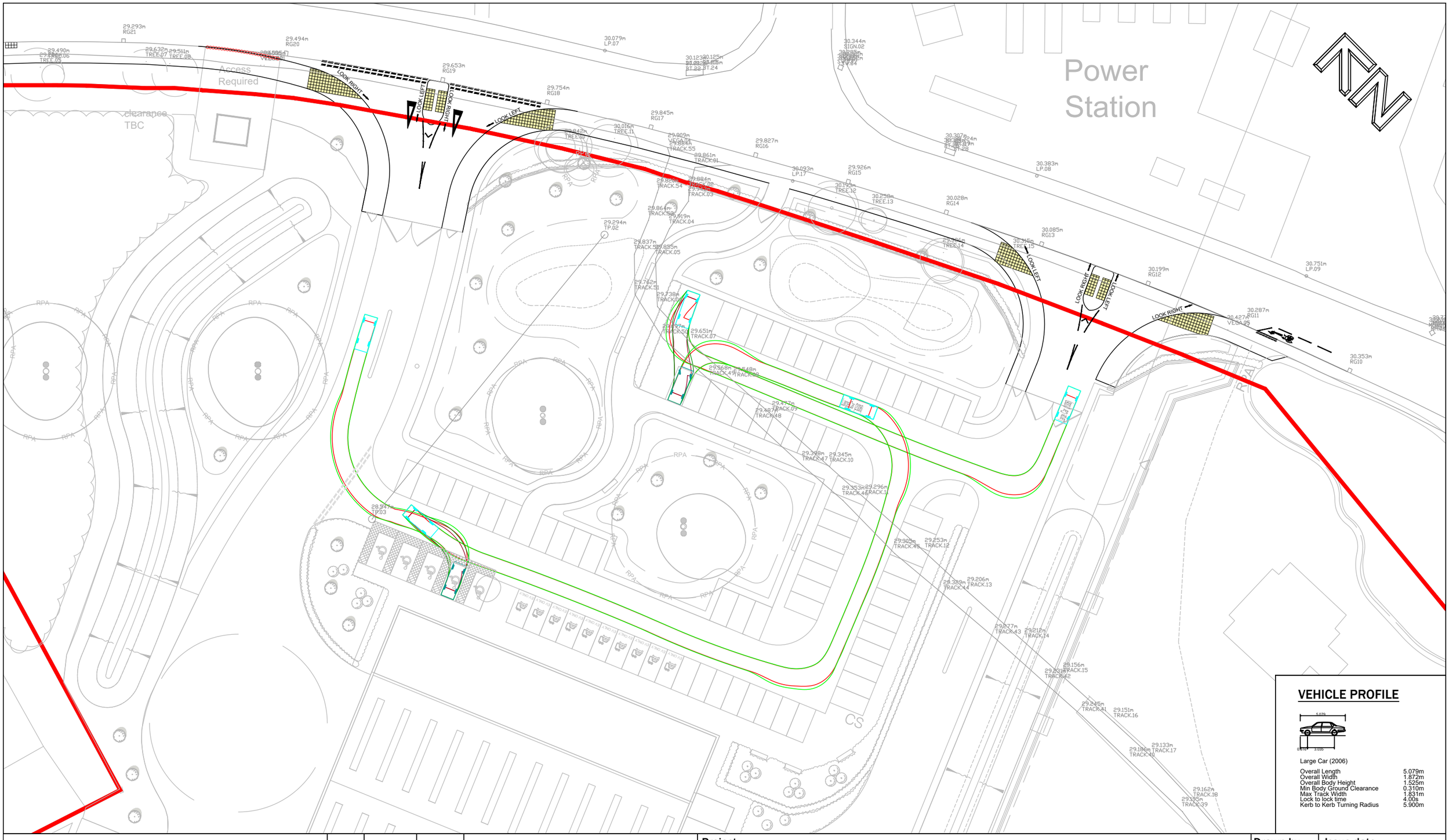
SWEPT PATH ANALYSIS 16.5 ARTICULATED HGV

Drawn by	Issue date
RO	06 FEB 2025

Scale(s): 1:500 @ A3

Drawing No: P24012-002C

Status: INFORMATION



VEHICLE PROFILE

Large Car (2006)

Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.900m

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Rev	Date	By	Revision notes
B	08.08.25	RO	SITE LAYOUT UPDATED/ MINOR UPDATES FOLLOWING RSA
A	16.05.25	RO	SITE LAYOUT UPDATED

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Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

SWEPT PATH ANALYSIS
CAR PARK - LARGE CAR

Drawn by	Issue date
VB	06 FEB 2025

Scale(s)

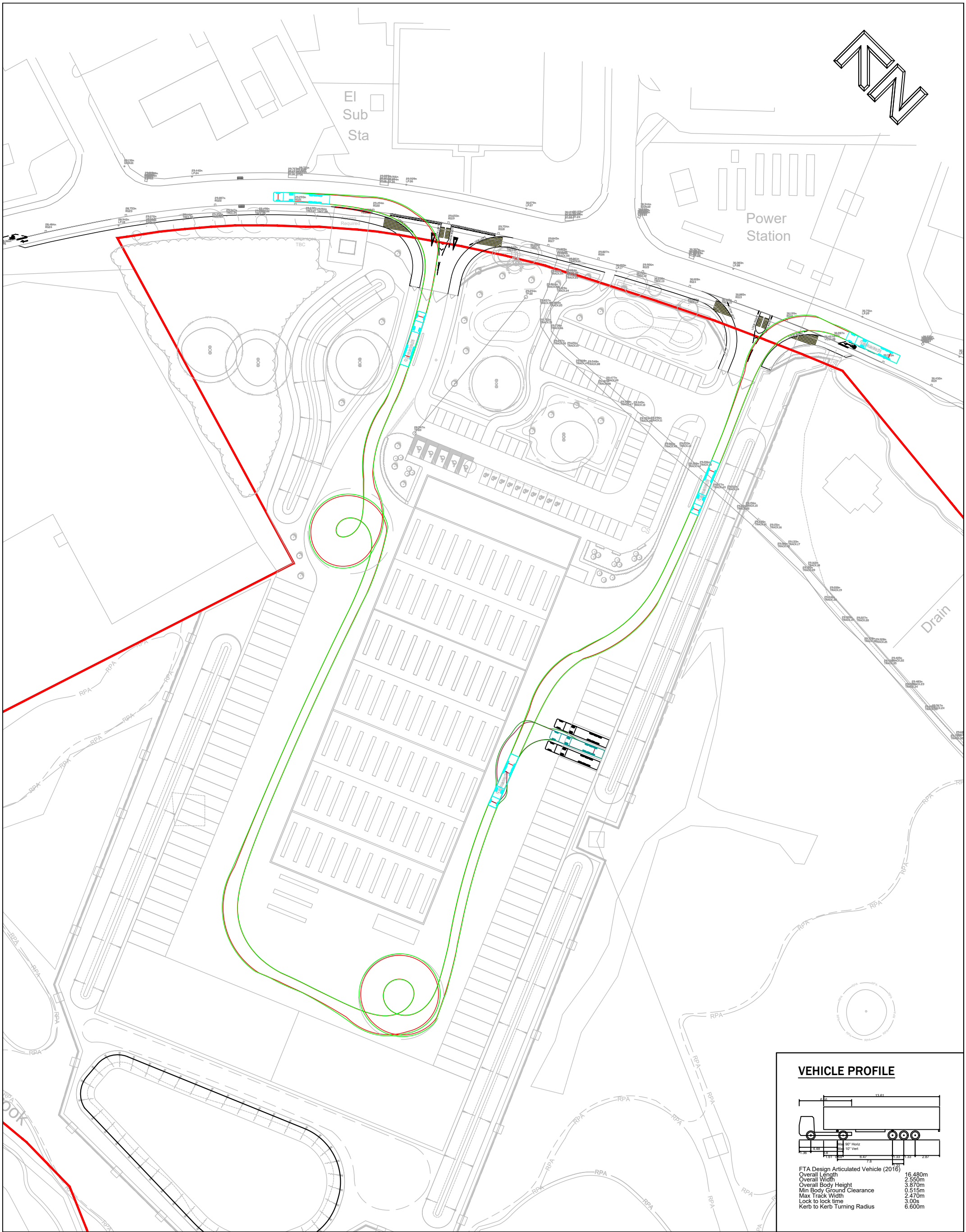
1:500 @ A3

Drawing No

P24012-003B

Status

INFORMATION



VEHICLE PROFILE

FTA Design Articulated Vehicle (2016)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.600m

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Rev	Date	By	Revision notes
B	08.08.25	RO	SITE LAYOUT UPDATED/ MINOR UPDATES FOLLOWING RSA
A	16.05.25	RO	SITE LAYOUT UPDATED

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- THIS DRAWING MUST ONLY BE USED FOR THE PURPOSE FOR WHICH IT HAS BEEN SUPPLIED

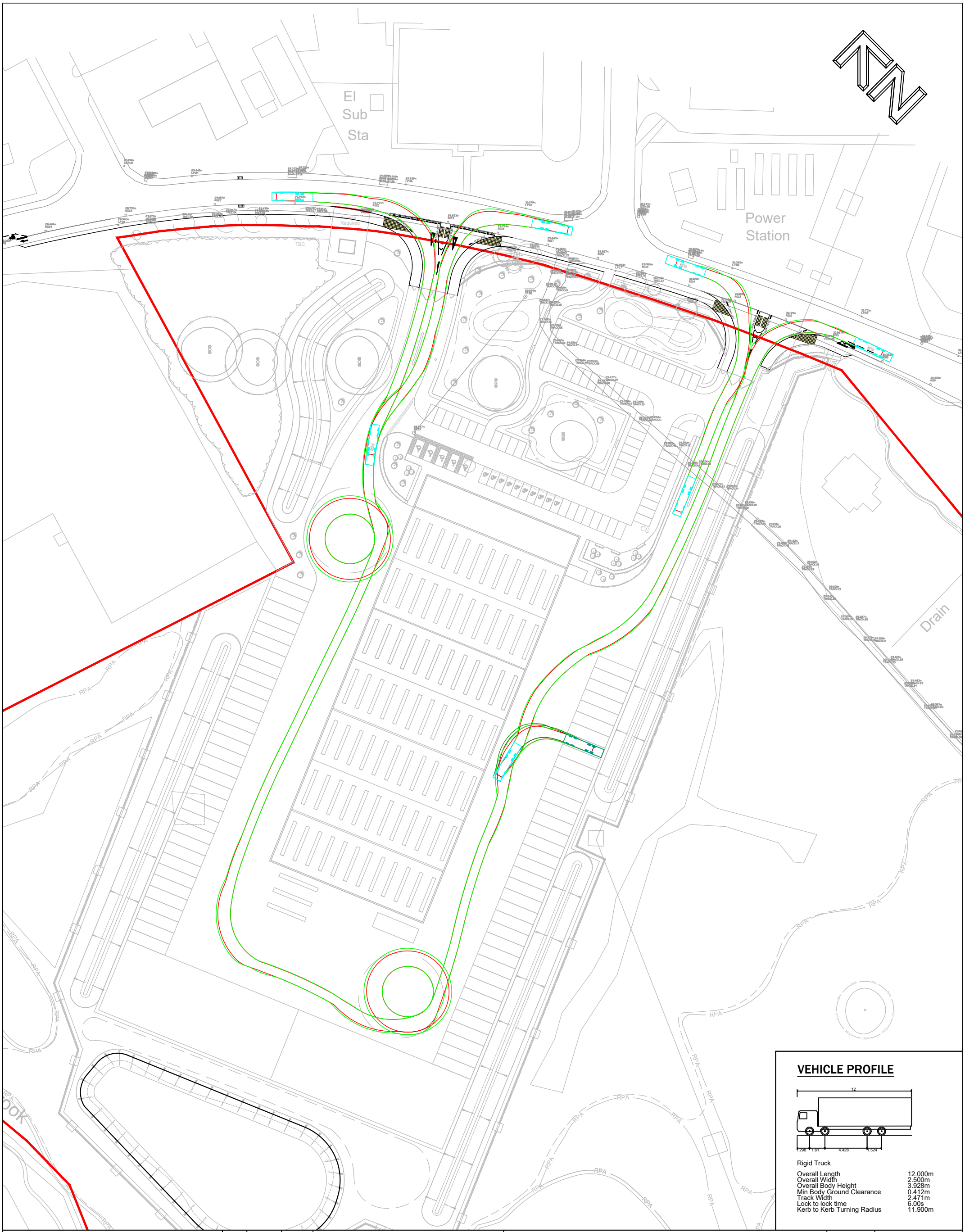
Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

SWEPT PATH ANALYSIS 16.5m ARTICULATED HGV

Drawn by	VB
Issue date	06 FEB 2025
Scale(s)	1:1000 @ A3
Drawing No	P24012-004B
Status	INFORMATION



VEHICLE PROFILE

Rigid Truck

Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.900m

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Rev	Date	By	Revision notes

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Project

THE OAKS,
WREXHAM INDUSTRIAL ESTATE

Title

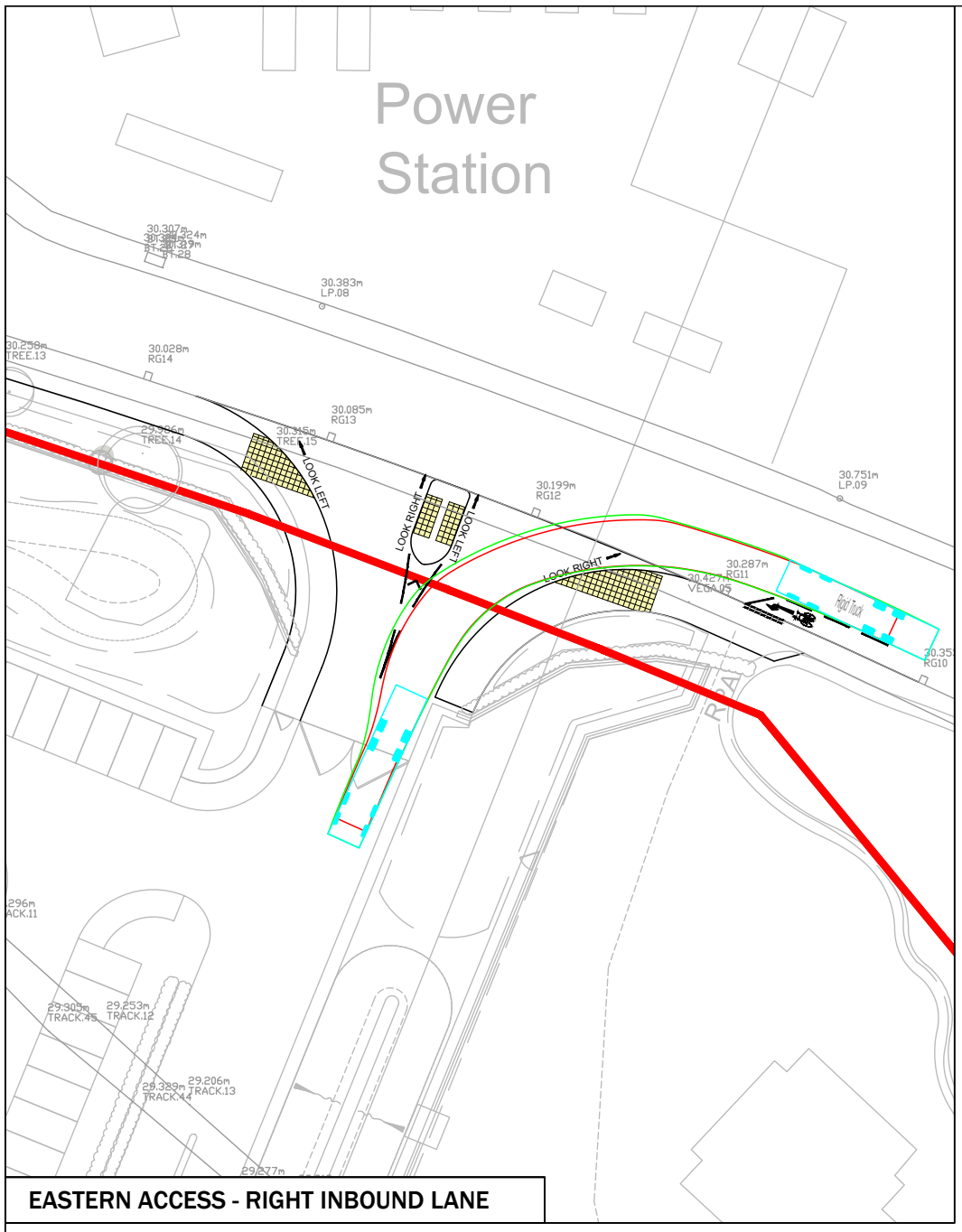
SWEPT PATH ANALYSIS
12m RIGID HGV

Drawn by	Issue date
RO	08 AUG 2025

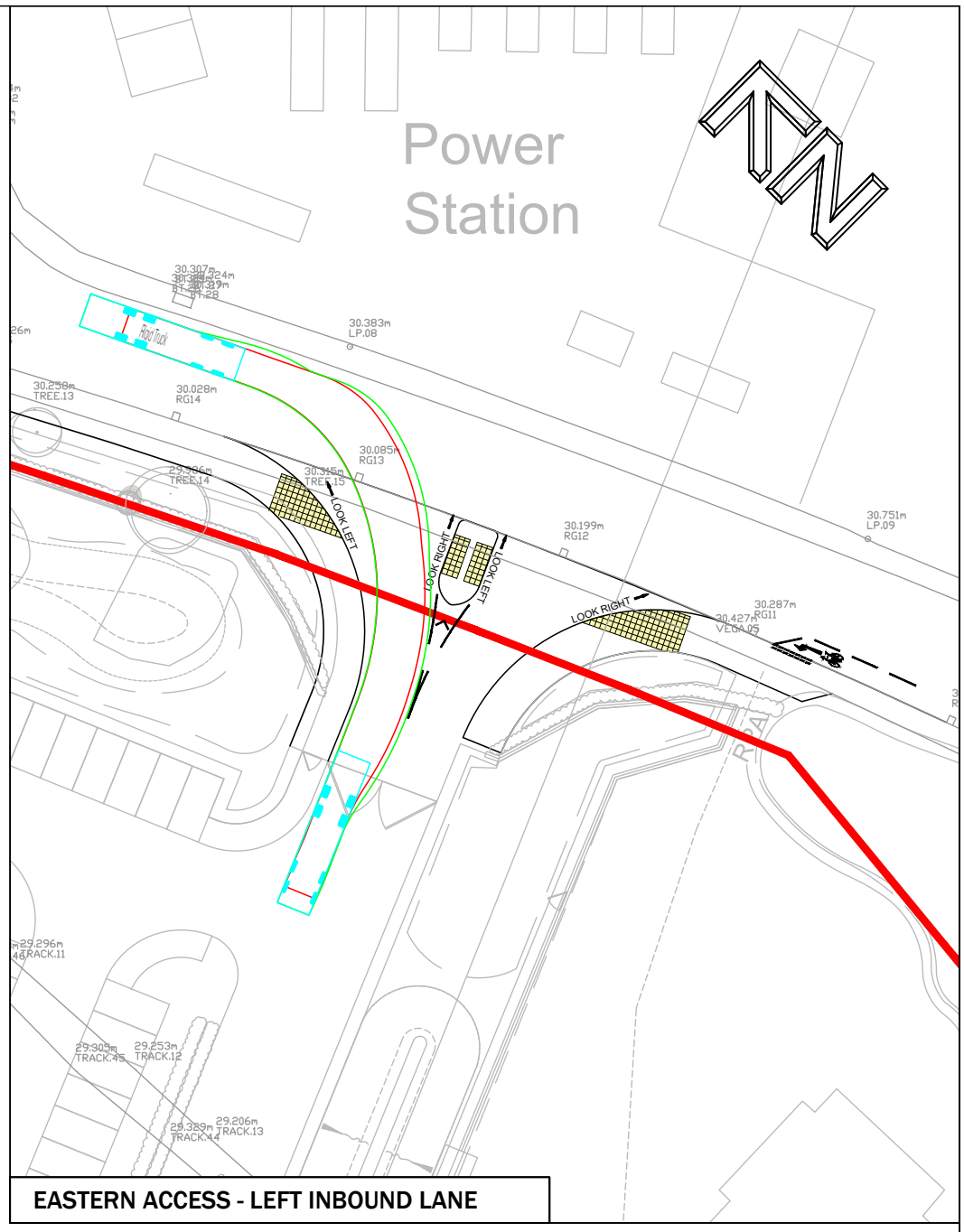
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1:1000 @ A3

Drawing No
P24012-005

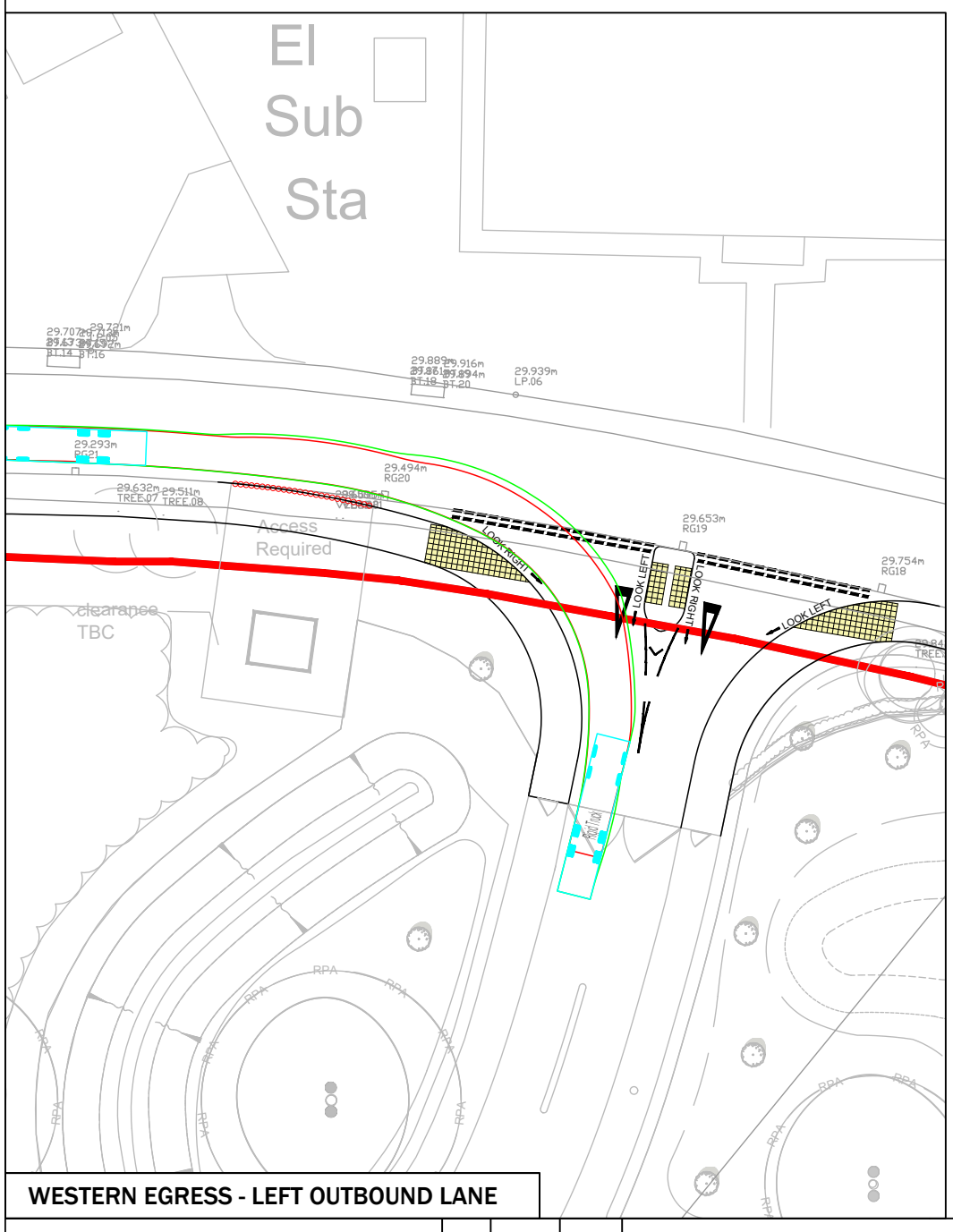
Status
INFORMATION



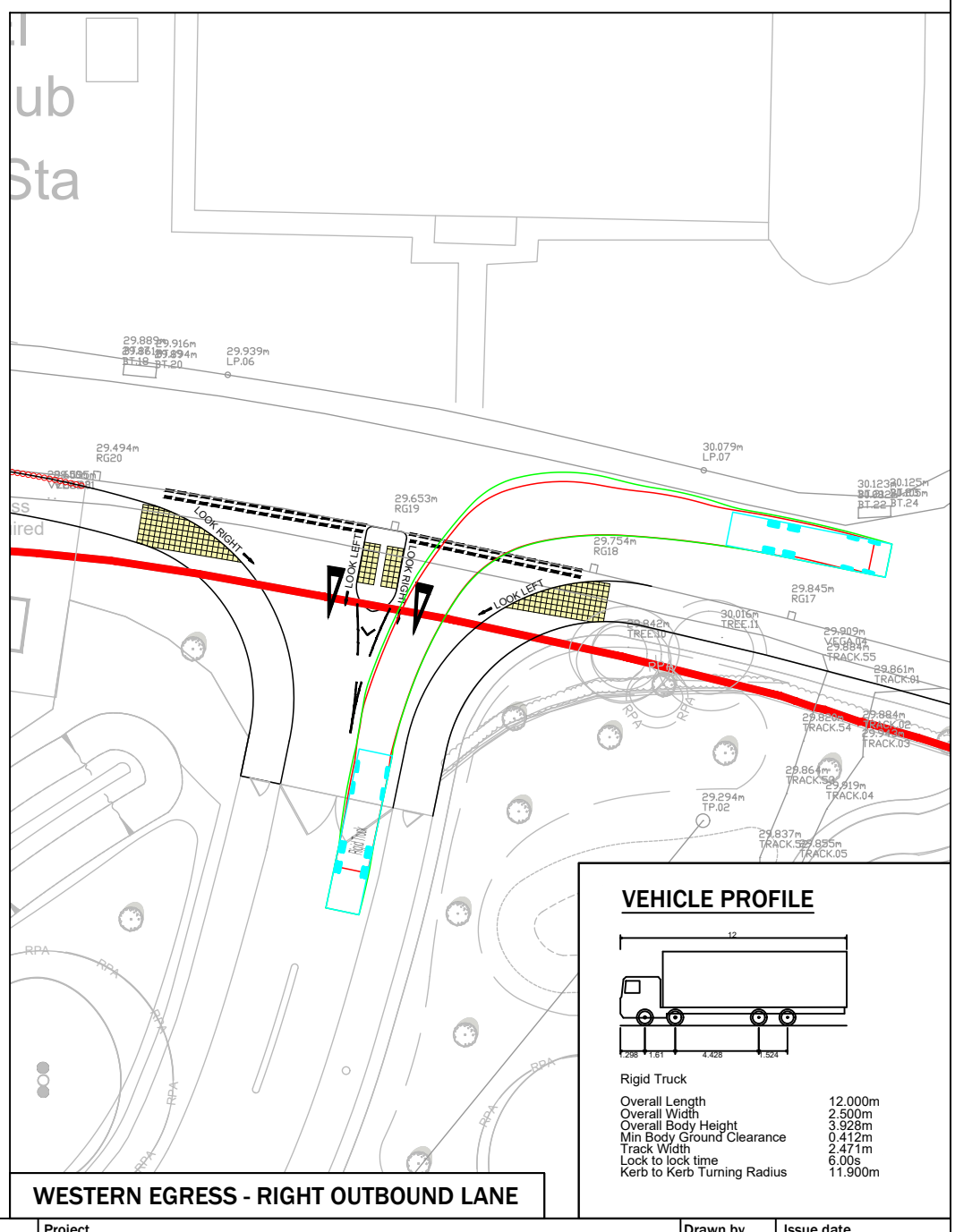
EASTERN ACCESS - RIGHT INBOUND LANE



EASTERN ACCESS - LEFT INBOUND LANE



WESTERN EGRESS - LEFT OUTBOUND LANE



WESTERN EGRESS - RIGHT OUTBOUND LANE

VEHICLE PROFILE

Rigid Truck

Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.900m

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Rev	Date	By	Revision notes
A	11.09.25	VB	MINOR UPDATES FOLLOWING RSA

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Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

SWEPT PATH ANALYSIS 12m RIGID HGV

Drawn by	Issue date
RO	08 AUG 2025

Scale(s)

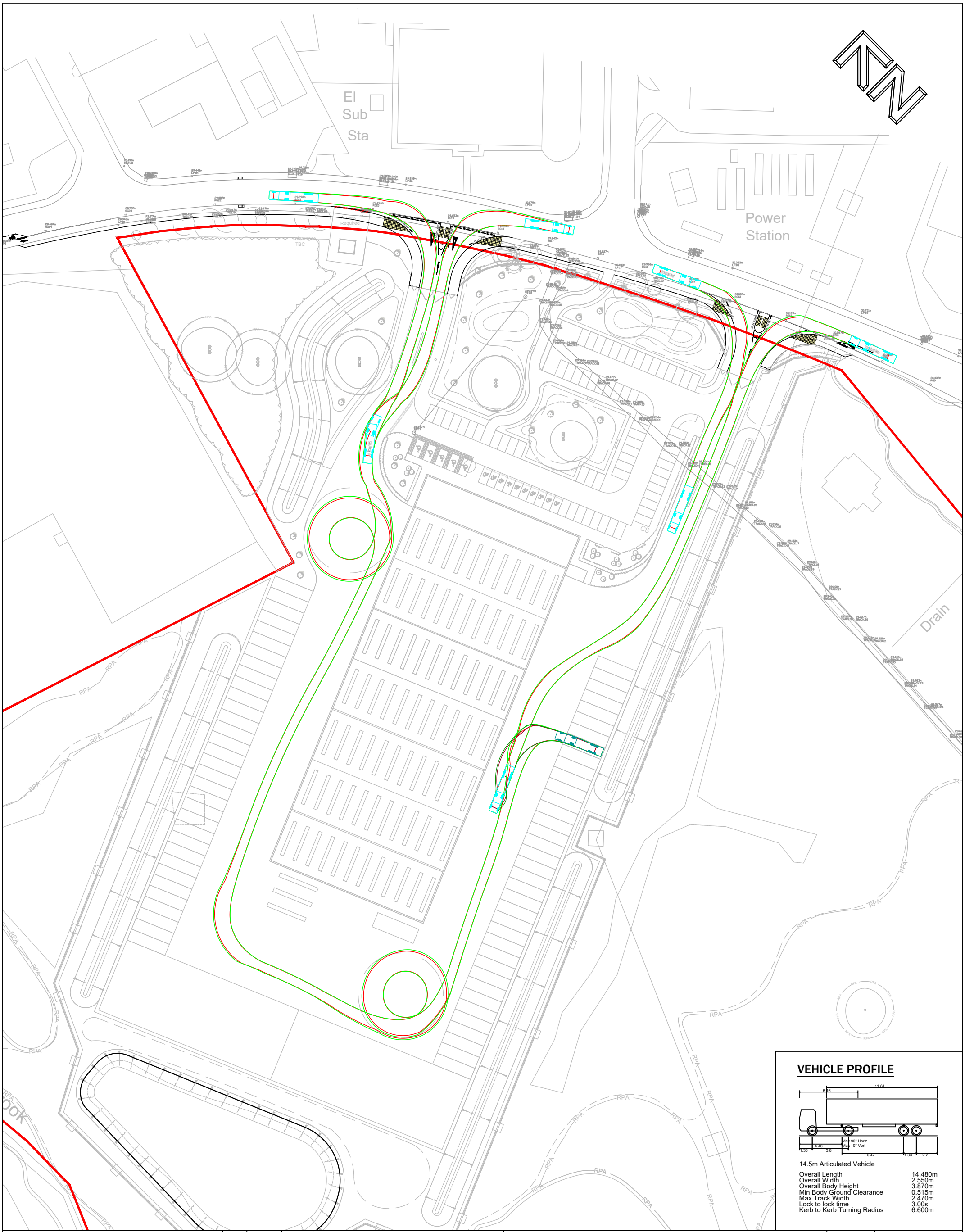
1:500 @ A3

Drawing No

P24012-006A

Status

INFORMATION



VEHICLE PROFILE

14.5m Articulated Vehicle

Overall Length	14.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.600m

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Rev	Date	By	Revision notes

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Project

THE OAKS,
WREXHAM INDUSTRIAL ESTATE

Title

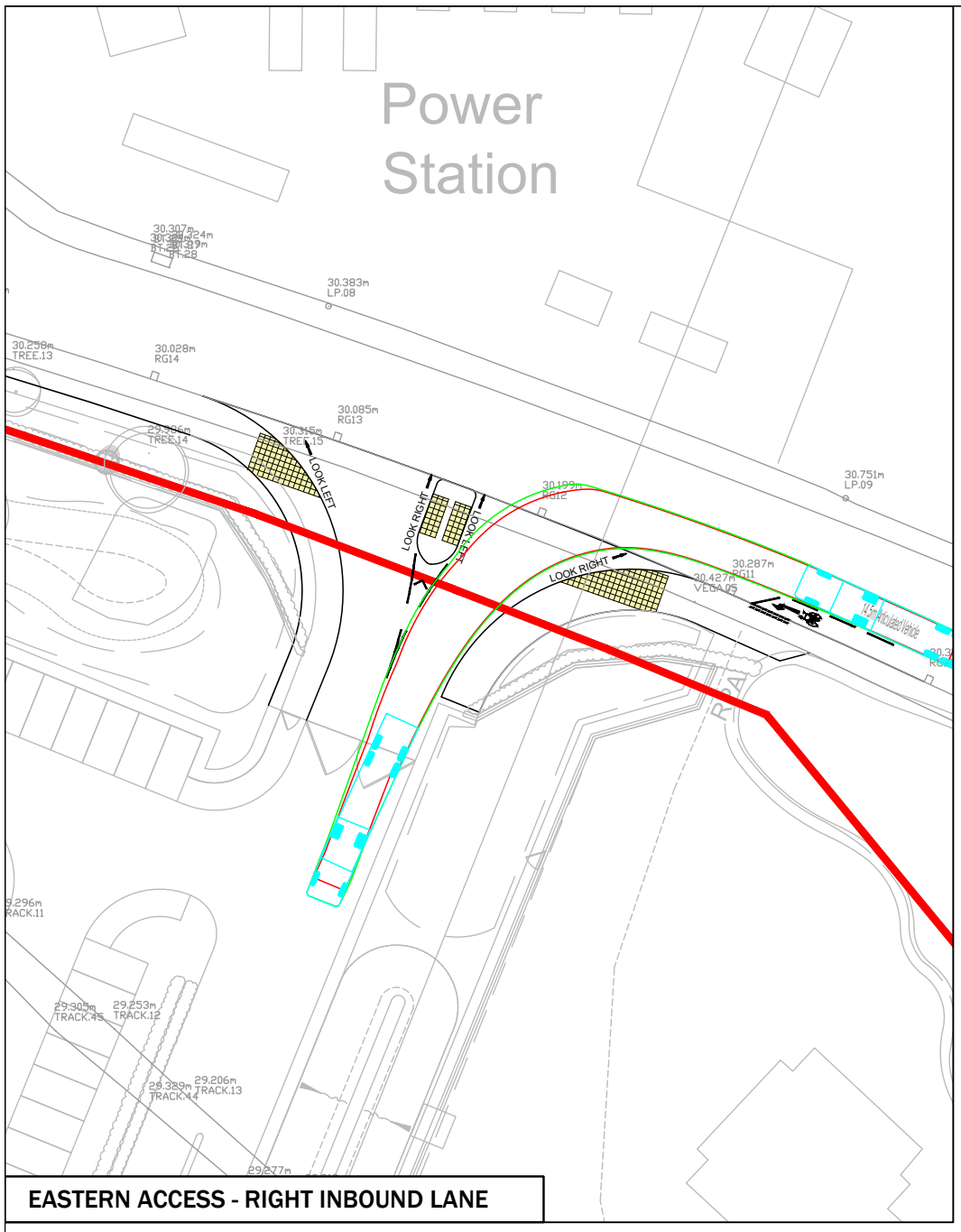
SWEPT PATH ANALYSIS
14.5m ARTICULATED HGV

Drawn by	Issue date
RO	08 AUG 2025

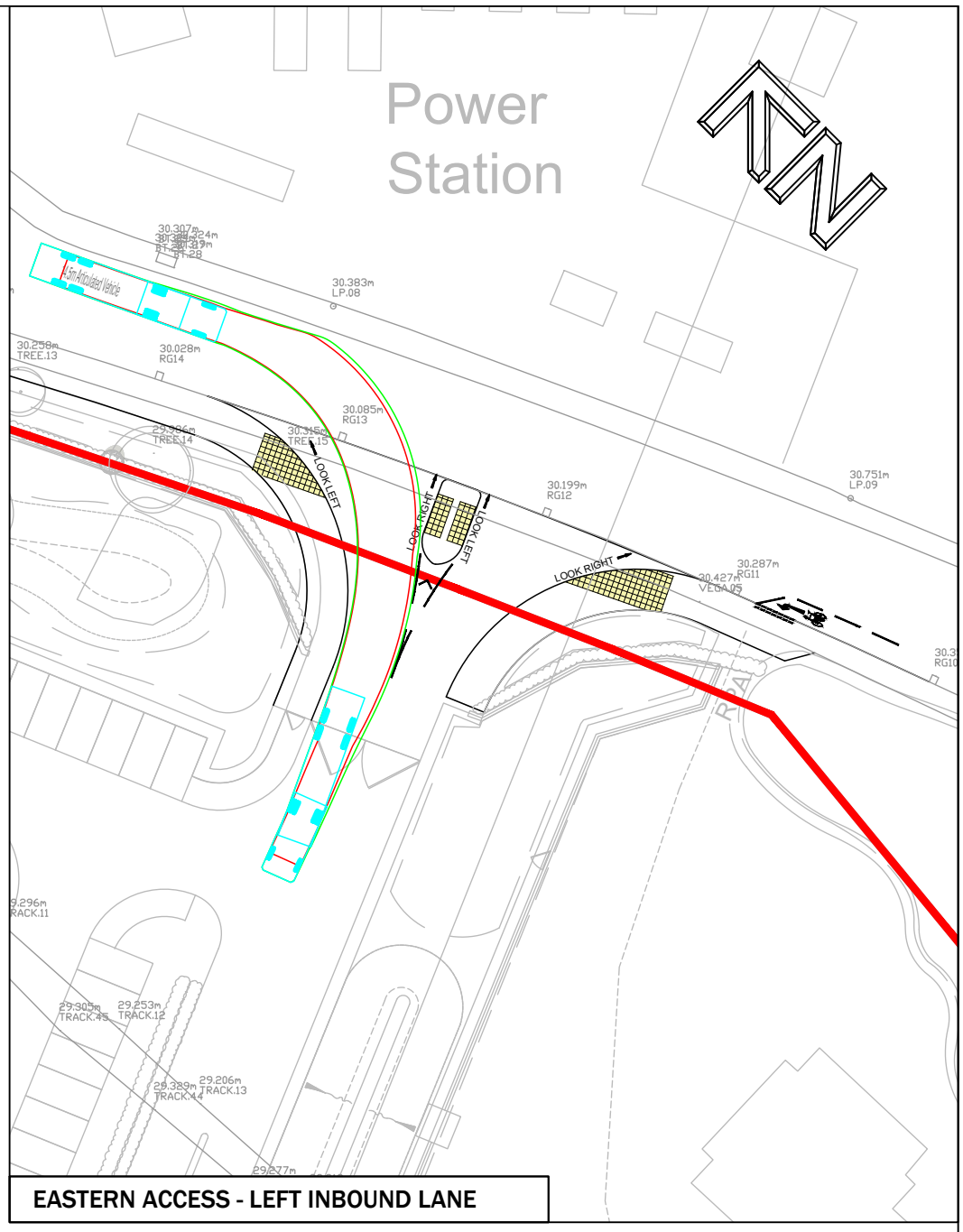
Scale(s)
1:1000 @ A3

Drawing No
P24012-007

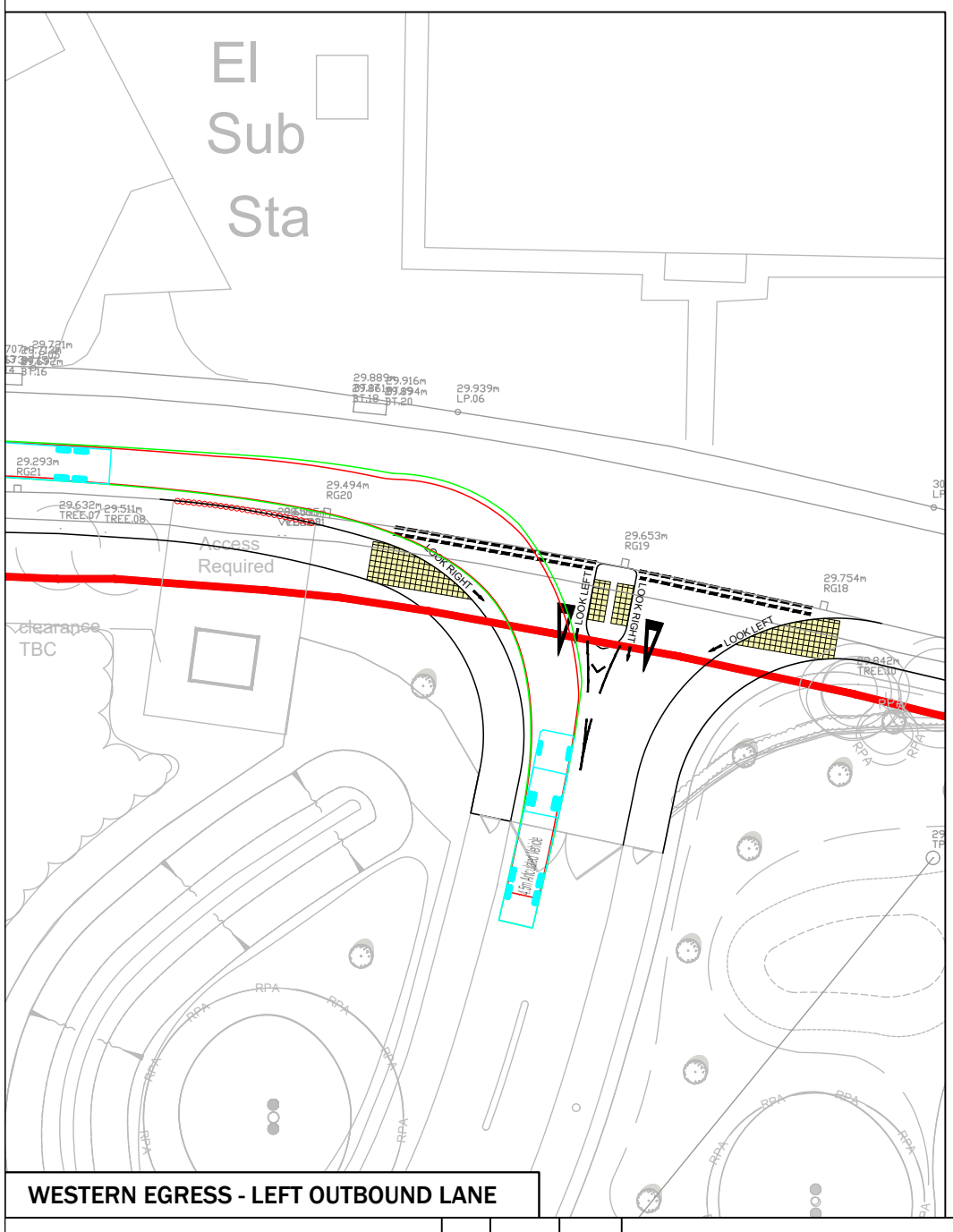
Status
INFORMATION



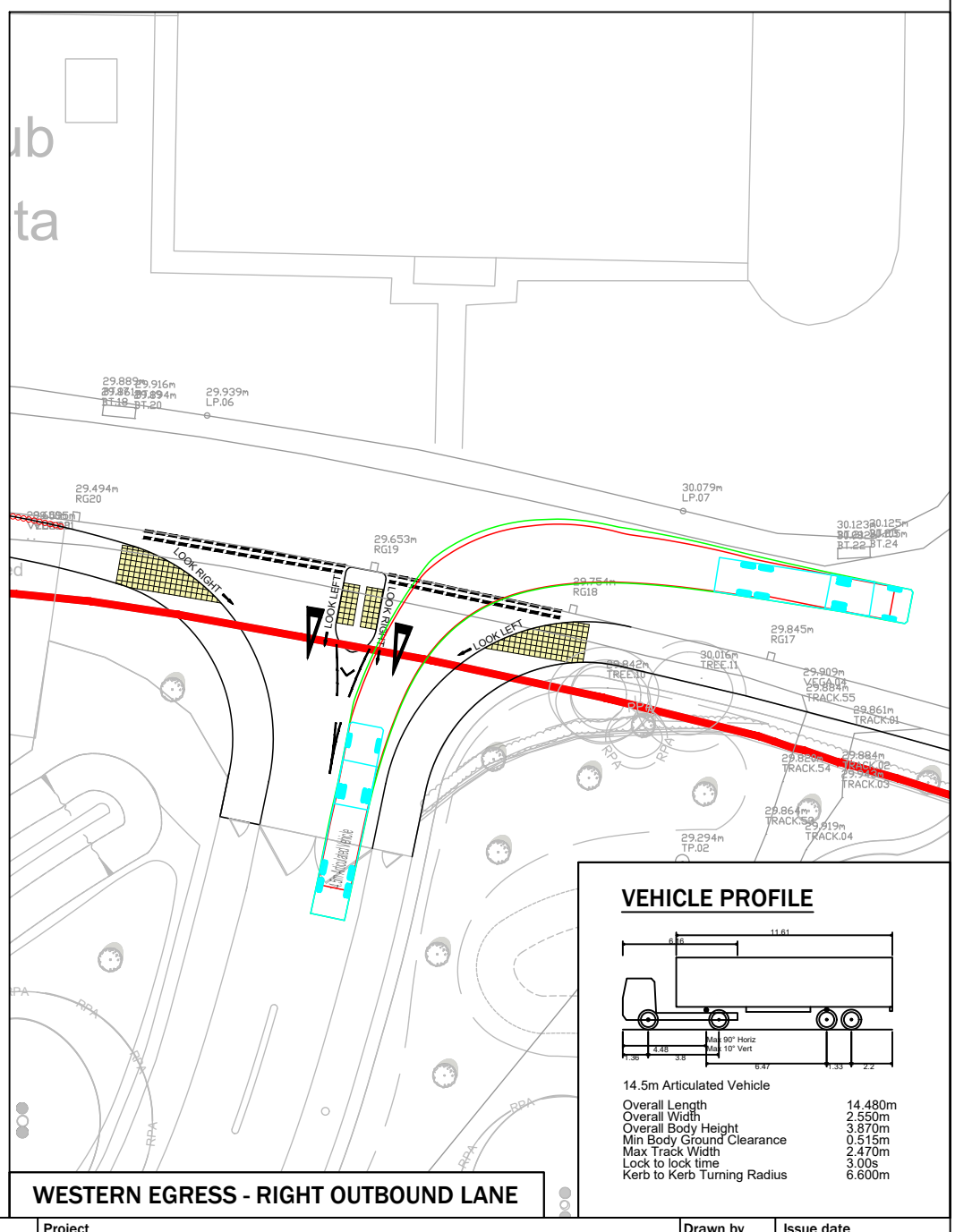
EASTERN ACCESS - RIGHT INBOUND LANE



EASTERN ACCESS - LEFT INBOUND LANE



WESTERN EGRESS - LEFT OUTBOUND LANE



WESTERN EGRESS - RIGHT OUTBOUND LANE

VEHICLE PROFILE

14.5m Articulated Vehicle

Overall Length	14.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.600m

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Rev	Date	By	Revision notes
A	11.09.25	VB	MINOR UPDATES FOLLOWING RSA

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Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

SWEPT PATH ANALYSIS 14.5m ARTICULATED HGV

Drawn by	Issue date
RO	08 AUG 2025

Scale(s)

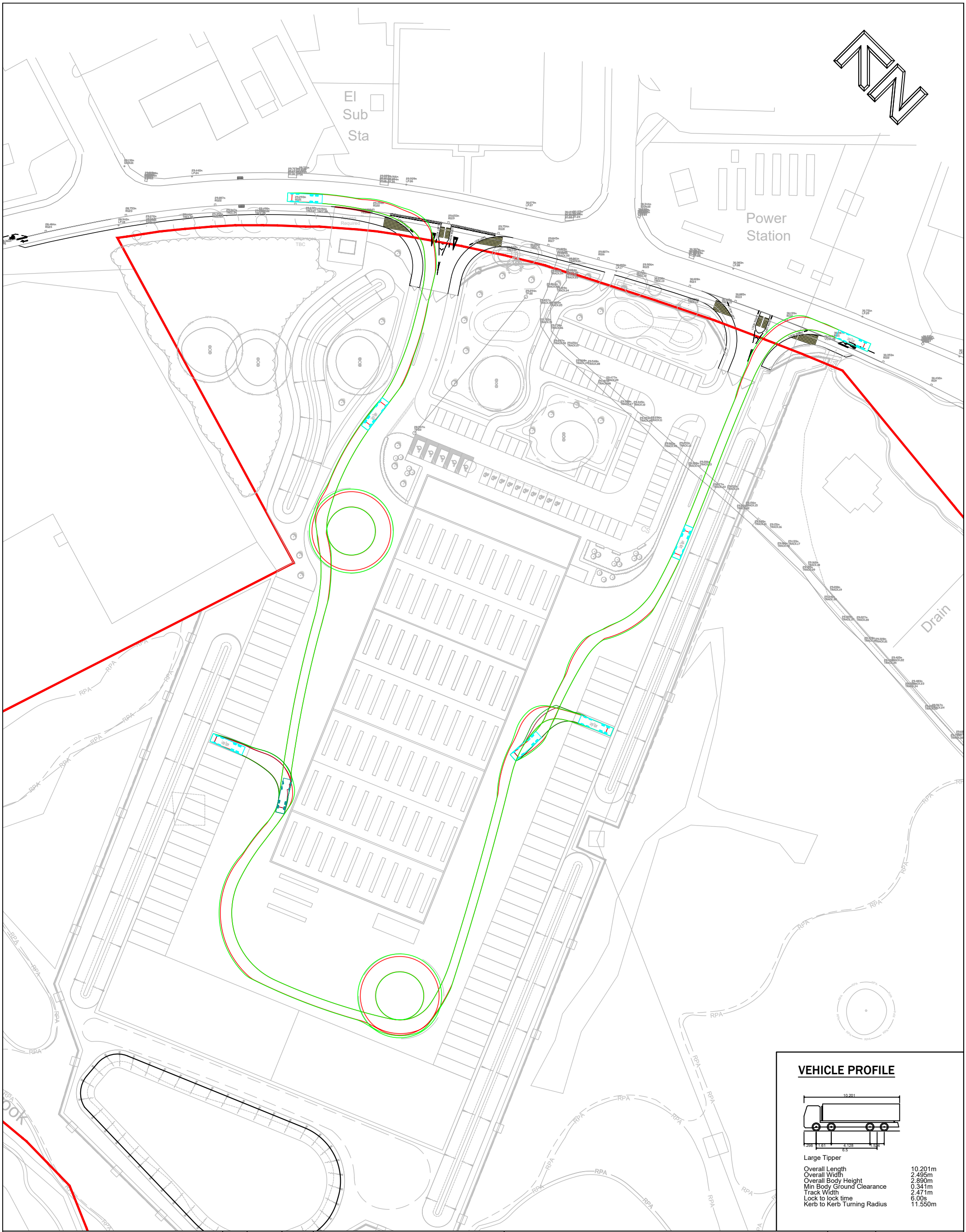
1:500 @ A3

Drawing No

P24012-008A

Status

INFORMATION



VEHICLE PROFILE

Large Tipper

Overall Length	10.201m
Overall Width	2.495m
Overall Body Height	2.890m
Min Body Ground Clearance	0.341m
Track Width	2.471m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	11.550m

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Rev	Date	By	Revision notes

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Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

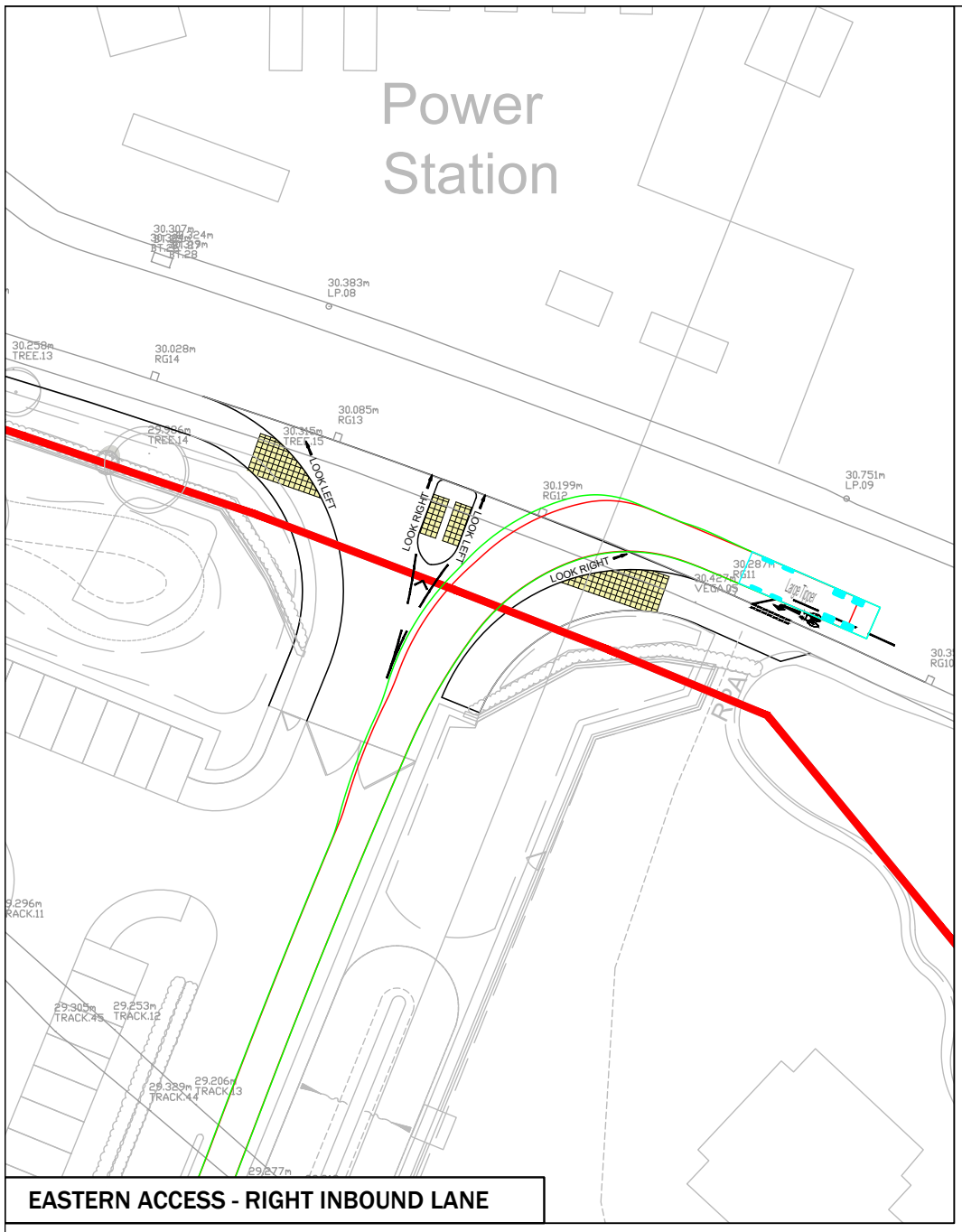
SWEPT PATH ANALYSIS TIPPER TRUCK

Drawn by	Issue date
VB	11 SEPT 2025

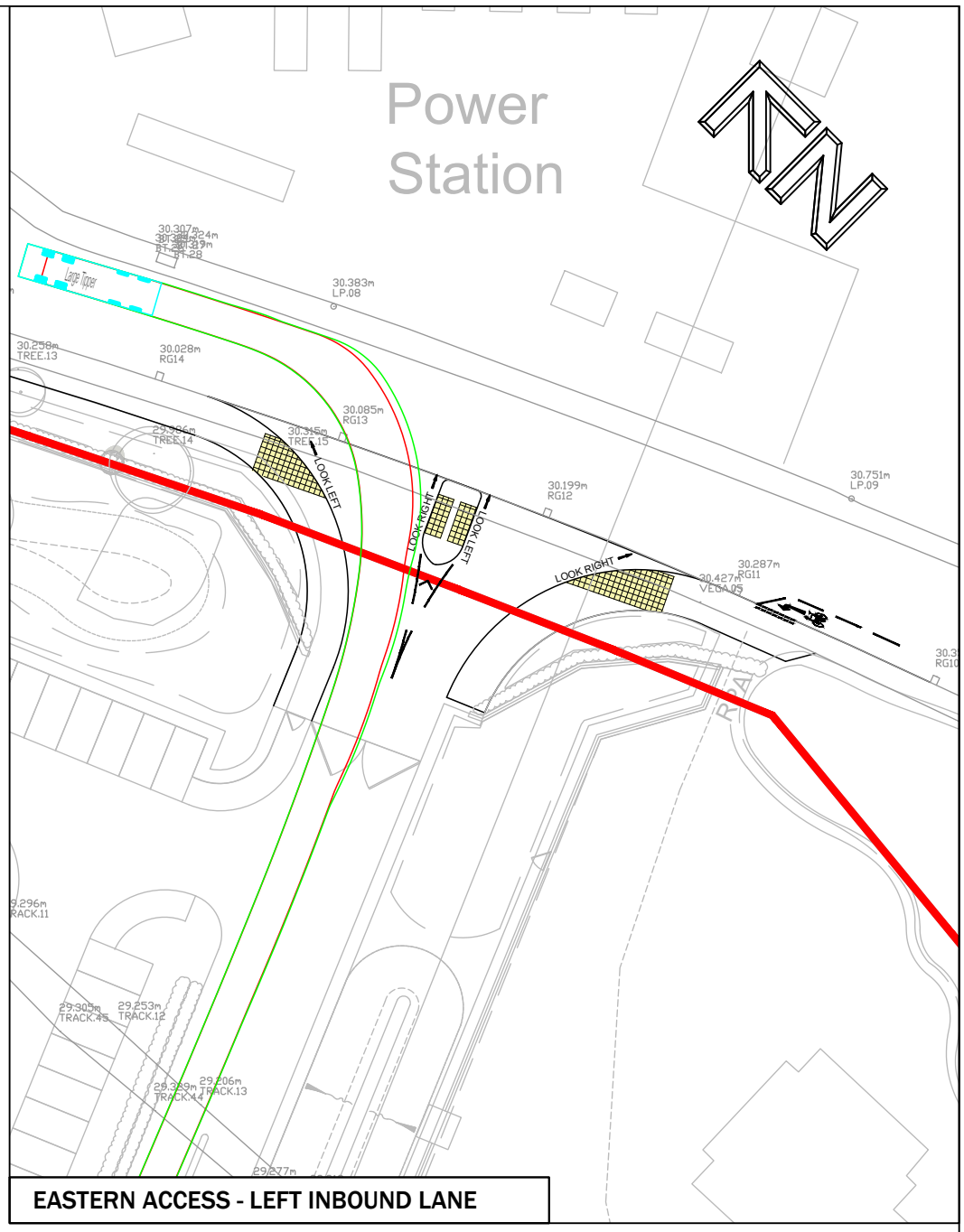
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Drawing No
P24012-009

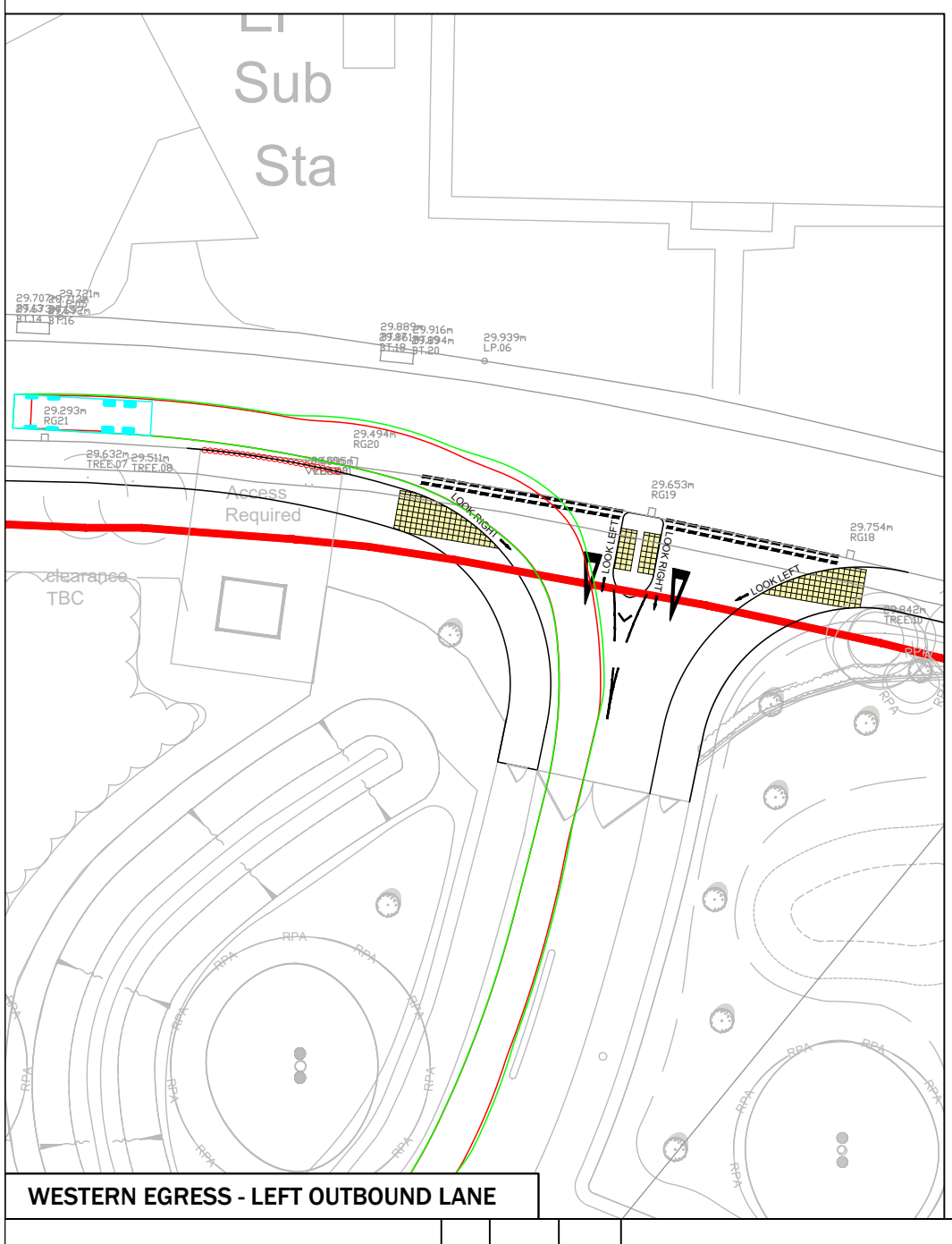
Status
INFORMATION



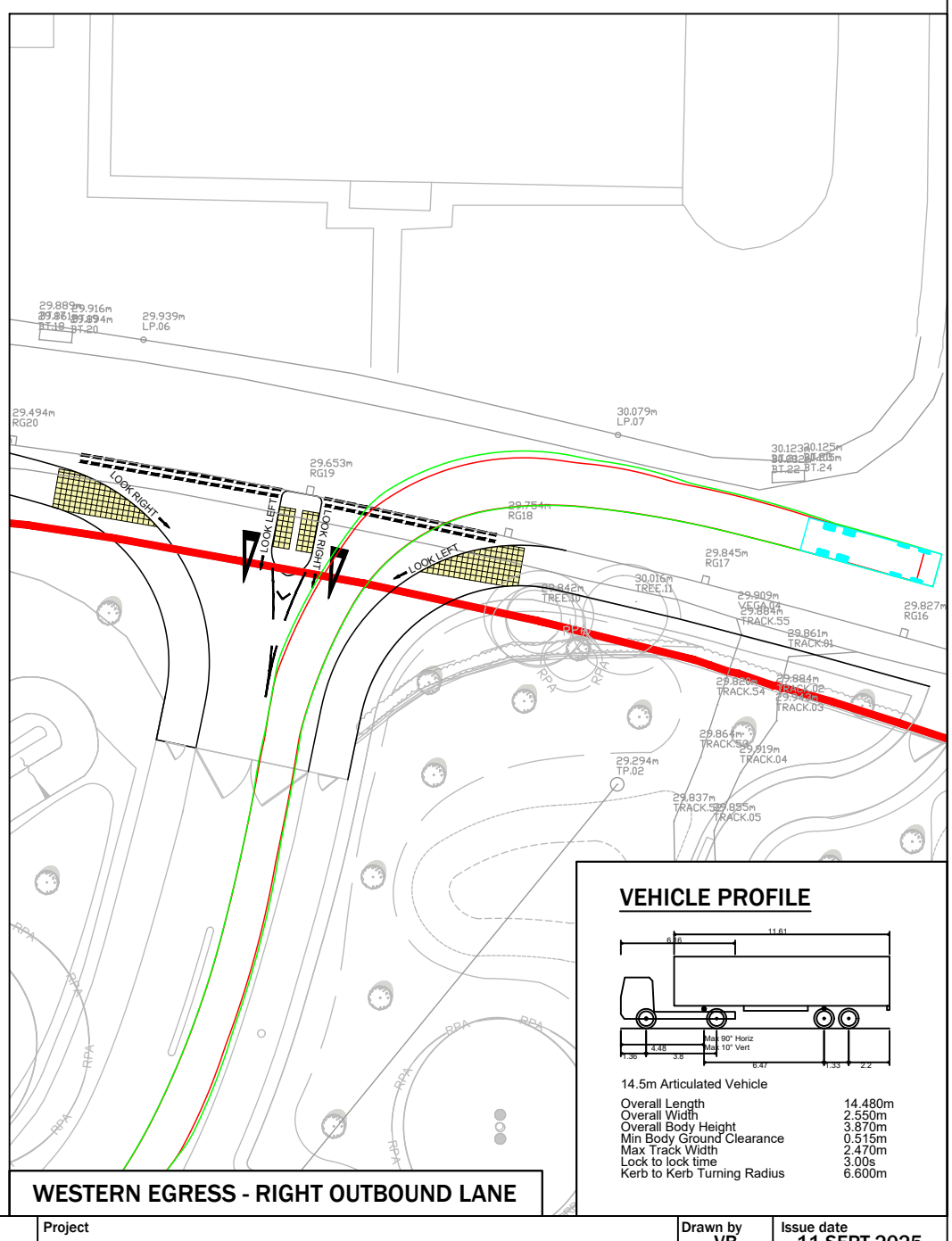
EASTERN ACCESS - RIGHT INBOUND LANE



EASTERN ACCESS - LEFT INBOUND LANE



WESTERN EGRESS - LEFT OUTBOUND LANE



WESTERN EGRESS - RIGHT OUTBOUND LANE

VEHICLE PROFILE

14.5m Articulated Vehicle

Overall Length	14.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.600m

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Rev	Date	By	Revision notes

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Project

THE OAKS, WREXHAM INDUSTRIAL ESTATE

Title

SWEPT PATH ANALYSIS TIPPER TRUCK

Drawn by	Issue date
VB	11 SEPT 2025

Scale(s)

1:500 @ A3

Drawing No

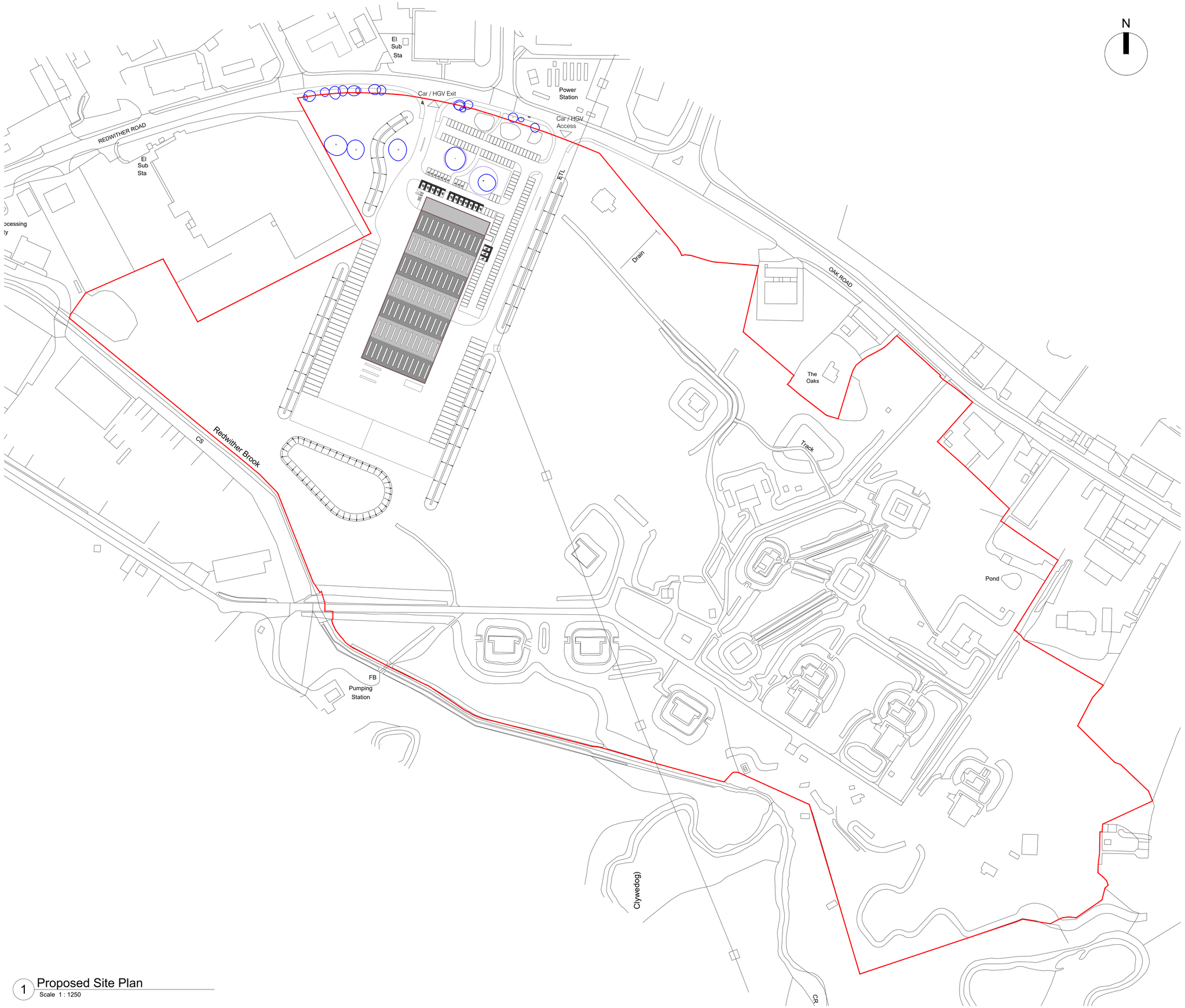
P24012-010

Status

INFORMATION

APPENDIX F

INDICATIVE ADDITIONAL PARKING LAYOUT



1 Proposed Site Plan
Scale 1 : 1250

N

	Description	By	Date
P1	First Issue	LM	05.03.24

FI Ownership

Parking Spaces - 148

0 10 20 40 60m
Scale 1:1250

MCAU
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e: info@mcau.co.uk
www.mcau.co.uk

Client
F.I Real Estate Management

Project
The Oaks
Wrexham

Description
Proposed Site Plan
Additional Parking

Status
Information

Drawn By
LM

Job Number
1256-MCAU

Scale
1:500@A1

Date
Feb 25

Drawing Number
P.02-00-003

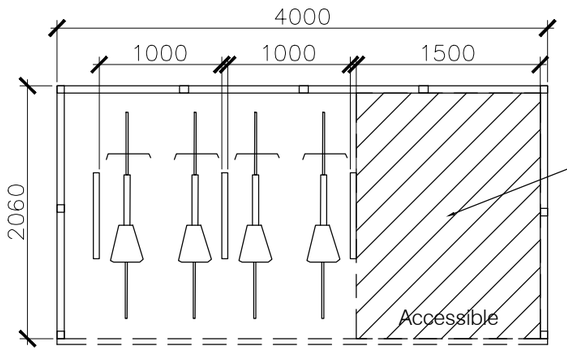
Revision
P1

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APPENDIX G

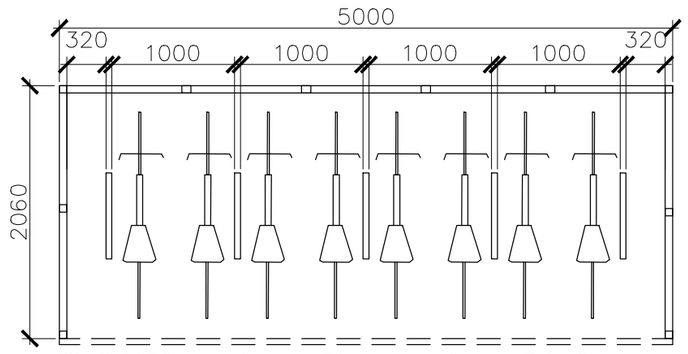
CYCLE STORAGE PLAN

	Description	By	Date
F1	Initial Issue	LM	29.08.25
F2	Design changes	LM	01.09.25



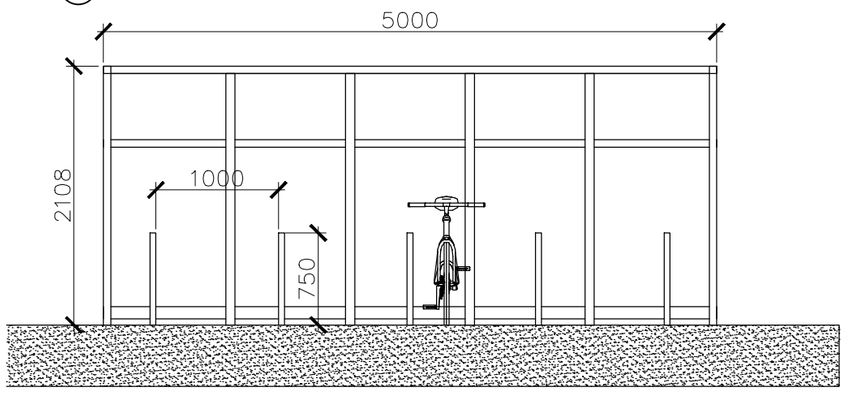
'Sheffield' bike stands to provide 4 spaces and 1 accessible space in a 4m FalcoQuarter Cycle Shelter or equally approved.

1 4m Cycle Shelter Plan

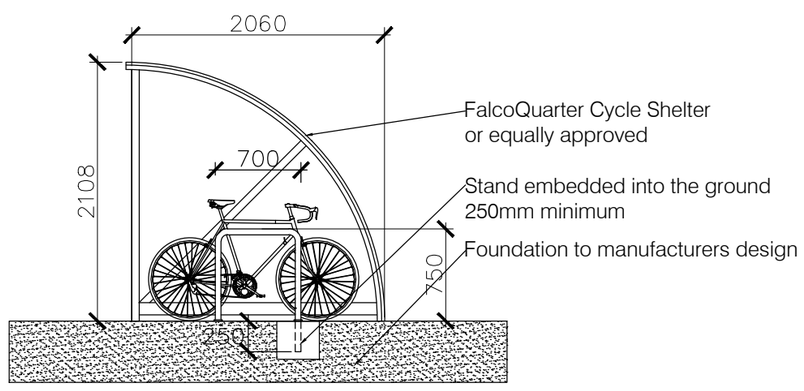


'Sheffield' bike stands to provide 8 spaces in a 5m FalcoQuarter Cycle Shelter or equally approved.

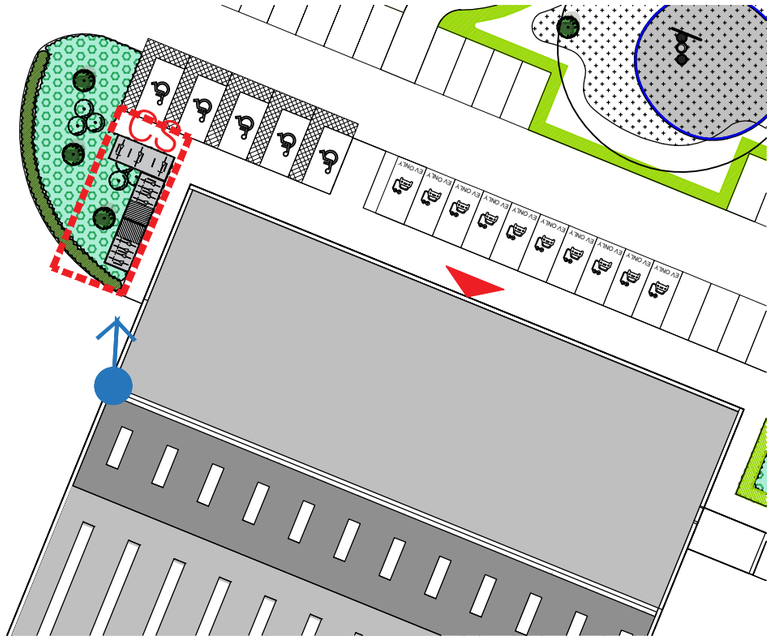
2 5m Cycle Shelter Plan



3 5m Cycle Shelter Front Elevation



4 5m Cycle Shelter Side Section



Entrance

Cycle Store

CCTV

1x5m Falco Shelter = 8 standard spaces
2x4m Falco Shelter = 8 standard spaces and 2 accessible
Total Bike Spaces = 16 standard and 2 accessible

Cycle specification T.B.C with client and to be built to manufacturers design. CCTV locations shown indicatively.

N

0 0.5 1 2 3 4m

Scale 1:50

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Client
F.I Real Estate Management

Description
Cycle Store

Project
The Oaks
Wrexham

Status
SKETCH

Drawn By
LM

Job Number
1256-MCAU

Scale
1:50@A3

Date
Aug 25

Drawing Number
P.90-000

Revision
F2

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APPENDIX H

TRICS OUTPUT

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use: 02 - EMPLOYMENT

Category: C - INDUSTRIAL UNIT

Total Vehicles

Selected regions and areas:

02	**SOUTH EAST**		
	WS	WEST SUSSEX	1 day
06	**WEST MIDLANDS**		
	WK	WARWICKSHIRE	1 day
08	**NORTH WEST**		
	AC	CHESHIRE WEST & CHESTER	1 day
	EC	CHESHIRE EAST	1 day
12	**CONNAUGHT**		
	LT	LEITRIM	1 day
	RO	ROSCOMMON	1 day
14	**LEINSTER**		
	KK	KILKENNY	1 day

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

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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:	GFA
Actual Range:	0.79 to 3.72 (units:sqm)
Range Selected by User:	3500 to 15000 (units:sqm)
Parking Spaces Range:	0 - 1378

Public Transport Provision:

Selection by:	All Surveys Included
Date Range:	08/11/13 to 08/11/23

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:

Friday	2 days
Monday	2 days
Thursday	1 days
Wednesday	2 days

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

Selected survey types:

Manual count	7
Direction ATC Count	0

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 undertaking using machines

Selected Locations:

Edge of Town	6 days
Free Standing (PPS6 Out of Town)	1 days

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:

Development Zone	1 days
Industrial Zone	4 days
No Sub Category	1 days
Out of Town	1 days

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 Vehicle Counts:

Servicing vehicles Excluded	6 days
Servicing vehicles Included	1 days

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Secondary Filtering Selection:

Use Class:

Not Known	7 surveys

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®.

Population within 500m Range:

0 - 850

Population within 1 mile:

1,000 or Less	1 surveys
1,001 to 5,000	2 surveys
10,001 to 15,000	1 surveys
5,001 to 10,000	3 surveys

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

Population within 5 miles:

125,001 to 250,000	1 surveys
25,001 to 50,000	2 surveys
5,001 to 25,000	1 surveys
50,001 to 75,000	2 surveys
75,001 to 100,000	1 surveys

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	1 surveys
1.1 to 1.5	5 surveys
1.6 to 2.0	1 surveys

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.

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Petrol filling station:

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	6 surveys
Yes	1 surveys

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	7 surveys

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

COVID-19 Restrictions:

No

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

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1	**AC-02-C-02**	**INDUSTRIAL MATERIALS**	**CHESHIRE WEST & CHESTER**

JUPITER DRIVE
CHESTER
CHESTER W. EMP. PARK
Edge of Town
Industrial Zone
Site area: 1.63 hect
Survey date: Wednesday 19/11/2014 Survey Type: Manual

2	**EC-02-C-01**	**OFFICE FURNITURE**	**CHESHIRE EAST**

BRUNEL ROAD
MACCLESFIELD
LYME GREEN BUS. PARK
Edge of Town
Development Zone
Site area: 0.91 hect
Survey date: Monday 19/09/2016 Survey Type: Manual

3	**KK-02-C-02**	**COOLING SYSTEMS COMPANY**	**KILKENNY**

HEBRON ROAD
KILKENNY
Edge of Town
Industrial Zone
Site area: 0.79 hect
Survey date: Friday 04/10/2019 Survey Type: Manual

4	**LT-02-C-01**	**MEDICAL PRODUCTS**	**LEITRIM**

CASTLECARA ROAD
CARRICK-ON-SHANNON
DÚN RÍ
Edge of Town
No Sub Category
Site area: 1.475 hect
Survey date: Monday 22/05/2017 Survey Type: Manual

5	**RO-02-C-02**	**METAL COMPANY**	**ROSCOMMON**

MOYDRUM ROAD
ATHLONE
Edge of Town
Industrial Zone
Site area: 3.64 hect
Survey date: Friday 26/09/2014 Survey Type: Manual

6	**WK-02-C-01**	**MACHINE ENGINEERING**	**WARWICKSHIRE**

CASTLE MOUND WAY
RUGBY
Edge of Town
Industrial Zone
Site area: 2.03 hect
Survey date: Wednesday 10/11/2021 Survey Type: Manual

7	**WS-02-C-02**	**AVIATION COMPANY**	**WEST SUSSEX**

MAYDWELL AVENUE
NEAR HORSHAM
SLINFOLD
Free Standing (PPS6 Out of Town)
Out of Town
Site area: 3.72 hect
Survey date: Thursday 23/01/2014 Survey Type: Manual

DESELECTED SURVEYS

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Site Ref	Survey Date	Reason for Deselection
RO-02-C-01	24-09-2014	Site located off main road rather than within Industrial Estate

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TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT

Total Vehicles

Calculation factor: 100 sqm

**BOLD print indicates peak (busiest) period*

Time Range	No. Days	Ave. GFA	Arrivals	Departures	Totals
00:00-01:00					
01:00-02:00					
02:00-03:00					
03:00-04:00					
04:00-05:00					
05:00-06:00	**1**	**9216**	**0.098**	**0.000**	**0.098**
06:00-07:00	**2**	**10296**	**0.087**	**0.024**	**0.111**
07:00-08:00	**7**	**7128**	**0.415**	**0.050**	**0.465**
08:00-09:00	**7**	**7128**	**0.619**	**0.068**	**0.687**
09:00-10:00	**7**	**7128**	**0.138**	**0.092**	**0.230**
10:00-11:00	**7**	**7128**	**0.140**	**0.108**	**0.248**
11:00-12:00	**7**	**7128**	**0.058**	**0.098**	**0.156**
12:00-13:00	**7**	**7128**	**0.144**	**0.172**	**0.316**
13:00-14:00	**7**	**7128**	**0.156**	**0.198**	**0.354**
14:00-15:00	**7**	**7128**	**0.114**	**0.104**	**0.218**
15:00-16:00	**7**	**7128**	**0.166**	**0.275**	**0.441**
16:00-17:00	**7**	**7128**	**0.070**	**0.367**	**0.437**
17:00-18:00	**7**	**7128**	**0.044**	**0.467**	**0.511**
18:00-19:00	**7**	**7128**	**0.044**	**0.184**	**0.228**
19:00-20:00	**2**	**10296**	**0.024**	**0.073**	**0.097**
20:00-21:00	**1**	**9216**	**0.000**	**0.000**	**0.000**
21:00-22:00					
22:00-23:00					
23:00-00:00					
Total Rates:			**2.317**	**2.280**	**4.597**

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:	3500 - 15000 (units: sqm)
Survey date date range:	23/01/2014 - 10/11/2021
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

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APPENDIX I

CAPACITY ASSESSMENT REPORT OUTPUTS

Junctions 11

PICADY 11 - Priority Intersection Module

Version: 11.1.0.2307
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Filename: J1 - ESA (IN).j11
Path: C:\Users\b.gaze\Prime Transport Planning\PrimeSharepoint - Documents\Projects 2024\P24012 - The Oaks, Wrexham Industrial Estate\6.Technical\Models
Report generation date: 11/09/2025 16:17:33

»D1 - 2030 | With Development | AM
»D2 - 2030 | With Development | PM

File summary

File Description

Title	Oak Road/Eastern Site Access
Location	Wrexham
Site number	1
Date	10/09/2025
Version	
Status	Final
Identifier	
Client	FIREM
Jobnumber	P24012
Enumerator	GHC\b.gaze
Description	Checked by D. Stoddart

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

PICADY short flare model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
PICADY 4.1	5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	With Development	AM	ONE HOUR	07:45	09:15	15	✓
D2	2030	With Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

D1 - 2030 | With Development | AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Oak Road/Eastern Site Access	T-Junction	Two-way	Two-way	Two-way		0.50	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.50	A

Arms

Arms

Arm	Name	Description	Arm type
A	Oak Road (Eastern Arm)		Major
B	Eastern Site Access		Minor
C	Oak Road (Western Arm)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Oak Road (Western Arm)	8.00			120.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Eastern Site Access	One lane	4.25	15	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	551	0.092	0.232	0.146	0.331
B-C	713	0.100	0.252	-	-
C-B	643	0.228	0.228	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	With Development	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Oak Road (Eastern Arm)		ONE HOUR	✓	179	100.000
B - Eastern Site Access		ONE HOUR	✓	0	100.000
C - Oak Road (Western Arm)		ONE HOUR	✓	198	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Oak Road (Eastern Arm)	B - Eastern Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	20	159
	B - Eastern Site Access	0	0	0
	C - Oak Road (Western Arm)	172	26	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A - Oak Road (Eastern Arm)	B - Eastern Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	0	14
	B - Eastern Site Access	0	0	0
	C - Oak Road (Western Arm)	10	4	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.05	5.61	0.1	A	31	46
C-A					151	226
A-B					18	28
A-C					146	219

D2 - 2030 | With Development | PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Oak Road/Eastern Site Access	T-Junction	Two-way	Two-way	Two-way		0.02	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.02	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2030	With Development	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Oak Road (Eastern Arm)		ONE HOUR	✓	156	100.000
B - Eastern Site Access		ONE HOUR	✓	0	100.000
C - Oak Road (Western Arm)		ONE HOUR	✓	244	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Oak Road (Eastern Arm)	B - Eastern Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	2	154
	B - Eastern Site Access	0	0	0
	C - Oak Road (Western Arm)	243	1	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A - Oak Road (Eastern Arm)	B - Eastern Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	0	7
	B - Eastern Site Access	0	0	0
	C - Oak Road (Western Arm)	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.00	4.99	0.0	A	1	2
C-A					223	334
A-B					2	3
A-C					141	212

Junctions 11

PICADY 11 - Priority Intersection Module

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Filename: J2 - WSA (OUT).j11
Path: C:\Users\b.gaze\Prime Transport Planning\PrimeSharepoint - Documents\Projects 2024\P24012 - The Oaks, Wrexham Industrial Estate\6.Technical\Models
Report generation date: 11/09/2025 16:18:06

»D1 - 2030 | With Development | AM
»D2 - 2030 | With Development | PM

File summary

File Description

Title	Oak Road/Western Site Access
Location	Wrexham
Site number	2
Date	10/09/2025
Version	
Status	Final
Identifier	
Client	FIREM
Jobnumber	P24012
Enumerator	GHC\b.gaze
Description	Checked by D. Stoddart

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

PICADY short flare model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
PICADY 4.1	5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	With Development	AM	ONE HOUR	07:45	09:15	15	✓
D2	2030	With Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

D1 - 2030 | With Development | AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Western Site Access - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Oak Road/Western Site Access	T-Junction	Two-way	Two-way	Two-way		0.15	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.15	A

Arms

Arms

Arm	Name	Description	Arm type
A	Oak Road (Eastern Arm)		Major
B	Western Site Access		Minor
C	Oak Road (Western Arm)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Oak Road (Western Arm)	8.00			120.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B - Western Site Access	Two lanes	2.20	2.20	15	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	451	0.075	0.189	0.119	0.271
B-C	583	0.082	0.206	-	-
C-B	643	0.228	0.228	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2030	With Development	AM	ONE HOUR	07:45	09:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Oak Road (Eastern Arm)		ONE HOUR	✓	159	100.000
B - Western Site Access		ONE HOUR	✓	6	100.000
C - Oak Road (Western Arm)		ONE HOUR	✓	196	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Oak Road (Eastern Arm)	B - Western Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	0	159
	B - Western Site Access	2	0	4
	C - Oak Road (Western Arm)	196	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A - Oak Road (Eastern Arm)	B - Western Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	0	14
	B - Western Site Access	0	0	33
	C - Oak Road (Western Arm)	9	4	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.01	8.87	0.0	A	4	6
B-A	0.01	9.24	0.0	A	2	3
C-AB	0.00	0.00	0.0	A	0	0
C-A					180	270
A-B					0	0
A-C					146	219

D2 - 2030 | With Development | PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	B - Western Site Access - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Oak Road/Western Site Access	T-Junction	Two-way	Two-way	Two-way		0.79	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.79	A

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2030	With Development	PM	ONE HOUR	16:45	18:15	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Oak Road (Eastern Arm)		ONE HOUR	✓	154	100.000
B - Western Site Access		ONE HOUR	✓	35	100.000
C - Oak Road (Western Arm)		ONE HOUR	✓	220	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Oak Road (Eastern Arm)	B - Western Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	0	154
	B - Western Site Access	24	0	11
	C - Oak Road (Western Arm)	220	0	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To		
		A - Oak Road (Eastern Arm)	B - Western Site Access	C - Oak Road (Western Arm)
From	A - Oak Road (Eastern Arm)	0	0	7
	B - Western Site Access	4	0	0
	C - Oak Road (Western Arm)	8	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.02	6.84	0.0	A	10	15
B-A	0.07	10.34	0.1	B	22	33
C-AB	0.00	0.00	0.0	A	0	0
C-A					202	303
A-B					0	0
A-C					141	212

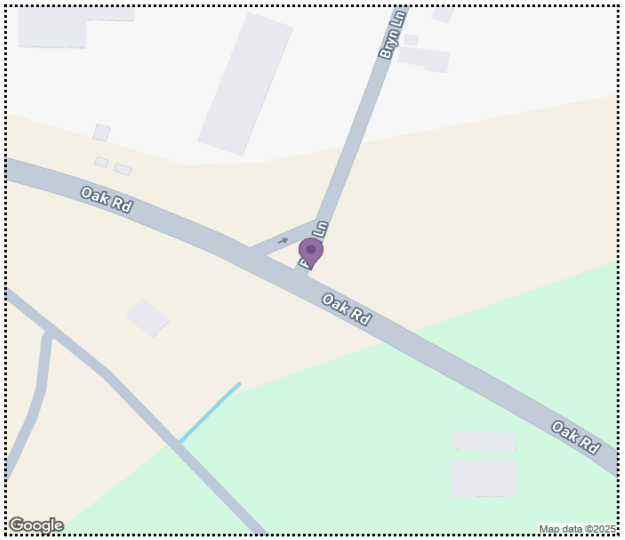
APPENDIX J

COLLISION DATA

crashmap.co.uk

Validated Data

Crash Date:	Monday, November 6, 2023	**Time of Crash:**	17:10:00	**Crash Reference:**	202360A177319
Highest Injury Severity:	Slight	**Road Number:**	U	**Casualties:**	1
Highway Authority:	Wrexham			**Vehicles:**	2
Local Authority:	Wrexham			**OS Grid Reference:**	338771 349454
Weather Description:	Other				
Road Surface Description:	Wet or Damp				
Speed Limit:	40				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: www.crashmap.co.uk/home/faq

To subscribe to unlimited reports using CrashMap Pro visit: www.crashmap.co.uk/home/premium_services

Validated Data

Crash Date: Monday, November 6, 2023 **Time of Crash:** 17:10:00 **Crash Reference:** 202360A177319

Vehicles Involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire cars 2005 onwards)	21	Female	21 - 25	Vehicle is in the act of turning right	Front	Journey as part of work	None	None
2	Car (excluding private hire cars 2005 onwards)	2	Female	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Vehicle or pillion passenger	Male	21 - 25	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/faq

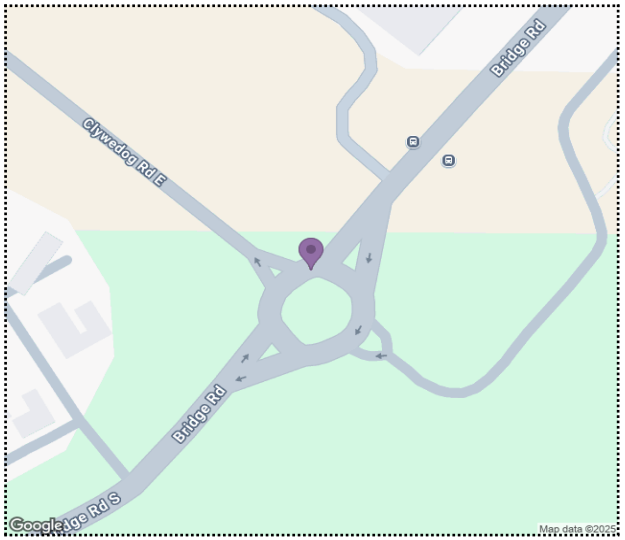
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crashmap.co.uk

Validated Data

Crash Date:	Monday, August 17, 2020	**Time of Crash:**	13:11:00	**Crash Reference:**	202060Y120493
Highest Injury Severity:	Serious	**Road Number:**	U	**Casualties:**	1
Highway Authority:	Wrexham			**Vehicles:**	2
Local Authority:	Wrexham			**OS Grid Reference:**	337621 349095

Weather Description:	Fine without high winds
Road Surface Description:	Dry
Speed Limit:	40
Light Conditions:	Daylight: regardless of presence of streetlights
Carriageway Hazards:	None
Junction Detail:	Roundabout
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres
Road Type:	Roundabout
Junction Control:	Give way or uncontrolled



For more information about the data please visit: www.crashmap.co.uk/home/faq

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Crash Date: Monday, August 17, 2020 **Time of Crash:** 13:11:00 **Crash Reference:** 202060Y120493

Vehicles Involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire cars 2005 onwards)	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Unknown	None	None
2	Motorcycle of unknown engine capacity (2011 onwards)	-1	Male	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Front	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	21 - 25	Unknown or other	Unknown or other

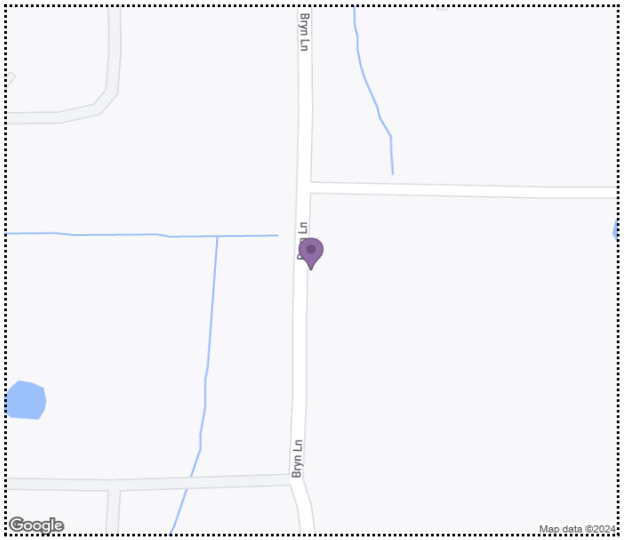
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crashmap.co.uk

Validated Data

Crash Date:	Tuesday, October 18, 2022	**Time of Crash:**	18:15:00	**Crash Reference:**	202260B158304
Highest Injury Severity:	Serious	**Road Number:**	U0	**Casualties:**	2
Highway Authority:	Wrexham			**Vehicles:**	2
Local Authority:	Wrexham			**OS Grid Reference:**	338968 350224
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	60				
Light Conditions:	Darkness: street lighting unknown				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: www.crashmap.co.uk/home/faq

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Crash Date: Tuesday, October 18, 2022 **Time of Crash:** 18:15:00 **Crash Reference:** 202260B158304

Vehicles Involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	36 - 45	Vehicle is waiting to turn right	Did not impact	Unknown	None	None
2	Ridden horse	-1	Female	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Did not impact	Unknown	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	2	Slight	Pedestrian	Male	26 - 35	In carriageway, not crossing	Walking along in carriageway - back to traffic
2	1	Serious	Driver or rider	Female	26 - 35	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/faq

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APPENDIX K

STAGE 1 ROAD SAFETY AUDIT

OAK ROAD, WREXHAM INDUSTRIAL ESTATE
PROPOSED ACCESS STRATEGY

STAGE 1 ROAD SAFETY AUDIT

610/2025/153/01 Rev 1

5 September 2025

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Rev:	Issue Status:	Prepared by/Date:	Checked by/Date:	Approved by/Date:
0	DRAFT	Jon Preston 4 September 2025	Tristan Brooks 4 September 2025	
1	FINAL	Jon Preston 5 September 2025	Tristan Brooks 5 September 2025	Jon Preston 5 September 2025

Report Title:	Oak Road, Wrexham Industrial Estate – Proposed Access Strategy Stage 1 Road Safety Audit
Date:	5 September 2025
Document Reference & Revision:	610/2025/153/01 Rev 1
Prepared by:	Six Ten Highways & Traffic Ltd
On behalf of:	Prime

Disclaimer note

The client has confirmed that it is entering into the agreement under which this report is being prepared on its own behalf and not on behalf of, or for the benefit of any other party and has agreed that in any event of any claim arising out of or in connection with that agreement and/or the report itself it shall be entitled to recover from six:TEN Highways & Traffic Limited only the losses, if any, it has itself suffered.

This report therefore is for the private and confidential use of the client for whom it was prepared solely for the purposes requested by the client. It should not be reproduced in whole or in part or relied upon by any third party for any use whatsoever without the express written authority of six:TEN Highways & Traffic Limited.

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7.0 PERSONAL INJURY COLLISION LOCATION PLAN 10

1.0 INTRODUCTION

1.1 This report results from a preliminary design Stage 1 Road Safety Audit (RSA) carried out on the proposed access strategy highway works at Oak Road, Wrexham Industrial Estate, at the request of Prime, the designer of the scheme who provided the Audit information, and although there was no formal 'audit brief' the RSA team has accepted that sufficient information has been provided to undertake the Stage 1 RSA. The audit team has been approved by the Overseeing Organisation, Wrexham County Borough Council, to carry out Road Safety Audits on their highway network.

1.2 The Road Safety Audit Team was as follows:

Jon Preston MCIHT MSoRSA
Audit Team Leader

Tristan Brooks* Bsc (Hons), MBA, CMILT, MCIHT, MSoRSA, NH RSA Cert of Comp
Audit Team Member

1.3 Audit Team members marked with an asterisk above hold a National Highways approved Certificate of Competency (CoC) in Road Safety Audit, in accordance with Article (1–3) of EC Directive 2008/96/EC.

1.4 The audit took place at the Manchester office of six:TEN Highways and Traffic between 15 August 2025 and 5 September 2025. The Road Safety Audit was undertaken in accordance with the Road Safety Audit information provided. The audit comprised an examination of the documents provided as detailed in Appendix One.

1.5 The Audit Team visited the site together on 16 August 2025 between 15.30hrs and 16:15hrs and comprised a walk and drive-throughs (where available) of the area covered by the scheme. During the site visit the weather was overcast and the carriageway surface was dry. At the time of the site visit traffic movements in the vicinity of the proposed scheme were low with some pedestrian and no cyclist movements observed.

1.6 Oak Road in the vicinity of the proposed highway works is subject to a 40mph speed limit and there is street lighting throughout.

1.7 The terms of reference of the audit are as described in GG 119 Rev.2. The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. This Road Safety Audit has been undertaken based on the Road Safety Audit Team's previous experience and knowledge in undertaking Collision Investigation, Road Safety Engineering and Road Safety Audits.

1.8 The proposed highway works are associated with a proposed industrial development on land to the south of Oak Road and in summary includes:

- Provision of two major/minor priority-controlled T-junctions on the southern side of Oak Road to provide access and egress for the proposed site; and
- Provision of uncontrolled pedestrian crossings on the new development access/egress roads and on Oak Road to the west of the proposed western junction.

1.9 The Audit Team have not been informed of any Departures from Standard for the proposed scheme nor have they been made aware of any previous RSA's undertaken on the scheme.

1.10 Personal injury collision data has been obtained from the online Crashmap database which shows there has been one personal injury collision in the vicinity of the proposed highway works during the latest five-year period (2019-2023) for which data is available. The collision occurred at the junction of Oak Road with Bryn Lane in November 2023, involved two vehicles and resulted in one casualty whose injuries were classified as slight in severity. The Personal Injury Collision Location plan is shown in Appendix Four.

1.11 The scheme has been examined and this report compiled only regarding the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other Standards or criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. Any audit comments should not be construed as implying that a technical audit has been undertaken in any respect.

1.12 Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with GG 119 Rev 2, and in no way, imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.

2.0 ITEMS RAISED AT THIS STAGE 1 ROAD SAFETY AUDIT

2.1 General

2.1.1 No road safety issues identified at this stage.

2.2 Local Alignment

2.2.1 No road safety issues identified at this stage.

2.3 Junctions

2.3.1 Location: Proposed egress junction on Oak Road

Problem

Summary: Junction intervisibility splays may be obscured by parked vehicles which may increase the risk of vehicular collisions

It was observed during the site visit that "At any time" waiting restrictions are currently insitu on both the northern and southern side of the proposed egress junction on Oak Road, albeit the road markings were barely visible in places. It is noted that the existing waiting restriction do not extend to the west of the proposed egress junction, therefore, there is a risk that vehicles parked to the west of the proposed egress junction on Oak Road may obscure the junction intervisibility splay between drivers exiting the site and those travelling east on Oad Road. Obstructions within the junction intervisibility splay may increase the risk of failure to give-way type manoeuvres which could increase the risk of side impact type collisions.

Recommendation

It is recommended that the existing parking situation on Oak Road is investigated, and the design ensures sufficient junction intervisibility splays are provided at the proposed egress junction on Oak Road.

2.4 Walking, Cycling and Horse Riding

2.4.1 Location: At the proposed junctions

Problem

Summary: Atypical two-lane entry and exit incorporating pedestrian refuge island may increase the risk of vehicle/pedestrian collisions

The atypical layout of the proposed access and egress junctions incorporating a pedestrian refuge resulting in vehicles entering/exiting the site either side of the pedestrian refuge may increase the risk of vehicle/pedestrian collisions, as pedestrians may not be expecting vehicles to pass on the "wrong" side of the refuge island and they may cross the carriageway injudiciously.

Recommendation

It is recommended that “Look Left” and “Look Right” carriageway markings are installed as required at the proposed uncontrolled pedestrian crossings on the access and egress junctions, including either side of the junctions and at the pedestrian refuge islands.

2.5 Traffic Signs, Carriageway Markings and Lighting

2.5.1 No road safety issues identified at this stage.

3.0 ROAD SAFETY AUDIT TEAM STATEMENT

We certify that the audit has been carried out in accordance with DMRB GG119 Rev 2.

AUDIT TEAM LEADER

Jon Preston MCIHT MSoRSA

Director — Signed: 

six:TEN Highways & Traffic Ltd — Date: 5 September 2025

AUDIT TEAM MEMBER

Tristan Brooks Bsc (Hons), MBA, CMILT, MCIHT, MSoRSA, NH RSA Cert of Comp

Traffic & Road Safety Engineer — Signed: 

six:TEN Highways & Traffic Ltd — Date: 5 September 2025

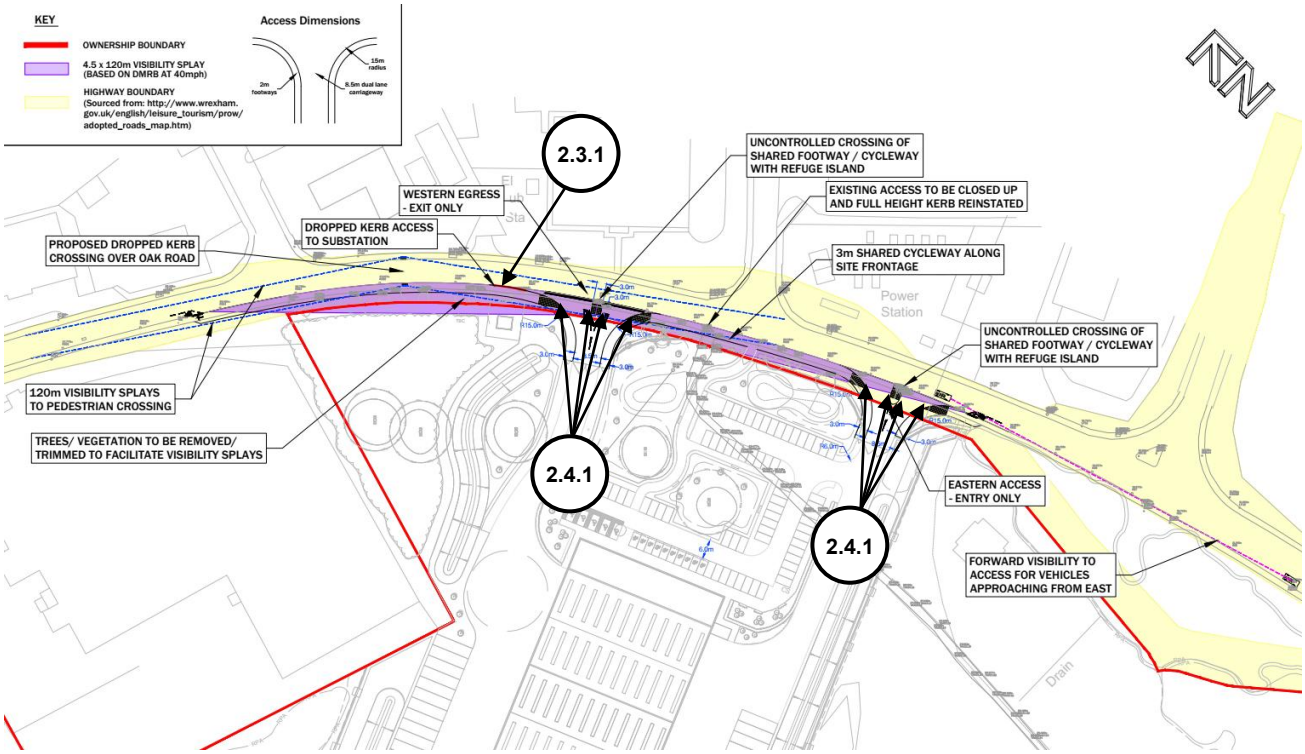
APPENDIX ONE

4.0 LIST OF DRAWINGS AND DOCUMENTS SUPPLIED BY THE DESIGN ORGANISATION

- P24012-001E Proposed Access Strategy
- P24012-002B Swept Path Analysis 16.5m HGV
- P24012-006 12m Rigid Tracking Access Only
- P24012-008 14.5m Artic Tracking Access Only
- 1019 Oak Road Automatic Traffic Count Data
- Latest five-year (2019-2023) personal injury collision data from Crashmap

APPENDIX TWO

5.0 PROBLEM LOCATION PLAN



APPENDIX THREE

6.0 PHOTOGRAPHS



6.1 General view looking west on Oak Road towards the proposed access junction.



6.2 General view looking east on Oak Road towards the proposed egress junction.

APPENDIX FOUR

7.0 PERSONAL INJURY COLLISION LOCATION PLAN

