



# TRANSPORT ASSESSMENT

May 2018

Former Wernos Washery  
Tycroes  
Carmarthenshire

**acstro**

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## Revision History

Issue 1	5 <sup>th</sup> May 2018	

1139 Wernos Washery TA.docx

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## 1 Introduction

- 1.1 Acstro has been appointed to prepare a Transport Assessment to support the promotion of land at the former Wernos Washery, Tycroes as a candidate site for inclusion, as suitable for residential development, in Carmarthenshire County Council's Revised Local Development Plan 2018 – 2033.
- 1.2 The candidate site's location is shown in Appendix 1. Various issues and constraints determine that the entirety of the site cannot be developed. The 'developable' area of the site is shown edged in blue and is considered capable of delivering up to 600 residential units.

### Appendix 1 Location Plan

- 1.3 This document considers the transport implications of the proposed development of the candidate site and follows the general guidance of Carmarthenshire's 'Site Assessment Methodology – February 2018'. In particular, this Transport Statement demonstrates that the candidate site is in a sustainable location that is closely related to existing facilities and services and is accessible to pedestrians, cyclists and public transport users. It is also demonstrated that safe vehicular access to the site can be provided.
- 1.4 The structure of the Transport Statement is as follows:
  - Section 2 describes the relevant planning policy context that is relevant in terms of transport issues;
  - Section 3 describes the site's location, its proximity to services and facilities and its accessibility by all forms of transport.
  - Section 4 describes the proposed development and its access arrangements. An estimate of the likely trip generation of the proposed development of the land is also provided.
  - Section 5 provides a summary and conclusion.

## 2 Policy Context

### Planning Policy Wales

- 2.1 Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government.
- 2.2 In terms of transport related policies it places the sustainability of development at the heart of the decision making process (pp 4.7.4) and requires that new development proposals minimize the need to travel and increase accessibility by modes other than the private car. It requires that major generators of travel demand be located within existing urban areas that are well served by public transport, or can be reached by walking or cycling.
- 2.3 The principles discussed above are repeated again in PPW's Chapter 8, which deals specifically with Transport issues. In 8.1.4 it reinforces the Welsh Government's objectives for transport through:
- reducing the need to travel, especially by private car, by locating development where there is good access by public transport, walking and cycling;
  - locating development near other related uses to encourage multi-purpose trips and reduce the length of journeys;
  - improving accessibility by walking, cycling and public transport;
  - ensuring that transport is accessible to all, taking into account the needs of disabled and other less mobile people;
  - promoting walking and cycling;
  - supporting the provision of high quality public transport;
  - supporting traffic management measures;
  - promoting sustainable transport options for freight and commerce;
  - supporting sustainable travel options in rural areas;
  - supporting necessary infrastructure improvements; and
  - ensuring that, as far as possible, transport infrastructure does not contribute to land take, urban sprawl or neighbourhood severance.
- 2.4 In terms of plan making and development control it advises (8.7.1) that the following issues should be taken into account:
- the impacts of the proposed development on travel demand;
  - the level and nature of public transport provision;
  - accessibility by a range of different transport modes;
  - the willingness of a developer to promote travel by public transport, walking or cycling, or to provide infrastructure or measures to manage traffic
  - the environmental impact of both transport infrastructure and the traffic generated; and
  - the effects on the safety and convenience of other users.

- 2.5 PPW also requires that the proposed access to a development should reflect the likely travel patterns involved. It should ensure that people can reach the development, as far as practicable, by walking, cycling and public transport, as well as by car (pp 8.7.3).

#### [TAN18 Transportation](#)

- 2.6 Planning Policy Wales Technical Advice Note 18 (TAN18) details the Welsh Government's policies in terms of transportation and repeats the general principles advocated in PPW i.e. that development is encouraged in sustainable, accessible, locations that will reduce the need to travel by car. Its aim is to promote an efficient and sustainable transport system and to counter the negative impacts associated with road traffic growth, for example increased air pollution, green house gases and congestion (2.1). It sees the integration of transport and land use planning as key (2.3) in achieving the Welsh Government's sustainable development policy objectives by:
- promoting travel efficient settlement patterns;
  - ensuring new development is located where there is good access by public transport, walking and cycling thereby minimizing the need for travel and fostering social inclusion;
  - managing parking provision;
  - ensuring that new development includes appropriate provision for pedestrians, cycling, public transport, and traffic management and parking/servicing;
  - encouraging the location of development near other related uses to encourage multi-purpose trips; and
  - ensuring that transport infrastructure necessary to serve new development allows existing transport networks to continue to perform their identified functions.
- 2.7 The needs of walkers and cyclists must be taken into consideration and the use of these most sustainable forms of transport encouraged in all developments (TAN18 Chapter 6). Similarly, all development should be accessible by public transport (Chapter 7).

#### [The Active Travel \(Wales\) Act 2013](#)

- 2.8 The Active Travel (Wales) Act 2013 is Welsh Government legislation aimed to support an increase in the level of walking and cycling in Wales; to encourage a shift in travel behaviour to active travel modes, and to facilitate the building of walking and cycling infrastructure.
- 2.9 The Active Travel (Wales) Act 2013 makes it a legal requirement for local authorities in Wales to map and plan for suitable routes for active travel, and to build and improve infrastructure for walking and cycling every year. It creates new duties to consider the needs of walkers and cyclists and make better provision for them. It also requires the consideration of walking and cycling as a mode of transport and the Act focuses on the promotion of walking and cycling for purposeful journeys, rather than as a purely recreational activity.
- 2.10 The Act is supported by the Active Travel Action Plan Wales (2014), and many of the actions of the Active Travel Action Plan Wales document also benefit recreational or competitive walking and cycling. 'Walking' in the Active Travel Action Plan for Wales includes the use of wheelchairs and mobility scooters and 'cycling' includes the use of electric bikes, but not motorcycles.

Carmarthenshire Local Development Plan 2006 -2021

- 2.11 The LDP seeks to promote sustainable development. Policy GP1 requires that development, amongst other things, has an appropriate and safe access and does not give rise to parking or highway safety concerns and that it promotes ease of access by pedestrians, cyclists and public transport users.
- 2.12 Policy SP3 sets out the settlement framework for the County. The candidate site is within the Ammanford / Cross Hands Growth Area.
- 2.13 The existing settlement limit for Tycroes runs along part of the western boundary of the candidate site. The candidate site's southern and northern boundaries are close to the settlement limits of Pantyffynnon and Penybanc, respectively. The candidate site is therefore closely related to the existing settlements and the facilities that they provide.
- 2.14 Policy TR3 relates to the design of highways in developments and requires that developments provide:
- An integrated network of convenient and safe pedestrian and cycle routes (within and from the site) which promotes the interests of pedestrians, cyclists and public transport;
  - Suitable provision for access by public transport;
  - Appropriate parking and where applicable, servicing space in accordance with required standards;
  - Infrastructure and spaces allowing safe and easy access for those with mobility difficulties;
  - Required access standards reflective of the relevant Class of road and speed restrictions including visibility splays and design features and calming measures necessary to ensure highway safety and the ease of movement is maintained, and where required enhanced;
  - Provision for Sustainable Urban Drainage Systems to allow for the disposal of surface water run off from the highway.
- 2.15 Proposals that do not generate unacceptable levels of traffic on the surrounding road network and would not be detrimental to highway safety or cause significant harm to the amenity of residents will be permitted.
- 2.16 Proposals that will not result in offsite congestion in terms of parking or service provision or where the capacity of the network is sufficient to serve the development will be permitted. Developers may be required to facilitate appropriate works as part of the granting of any permission.

### 3 Location & Accessibility

#### Location

- 3.1 The site is shown in the context of nearby facilities and the surrounding transport network in Appendix 2.

#### **Appendix 2 Site Context**

- 3.2 The site is located immediately to the west of Tycroes, south of Penybanc and north of Pantyffynnon. Ammanford's town centre is approximately 2km to the east of the site.
- 3.3 There are a number of facilities available within close proximity to the site including a primary school, shops and a convenience store, public house, railway station and community facilities. Walk distances to some of these facilities from the candidate site are provided in the table below.

Facility	Walk Distance from Site
Tycroes Primary School*	600m
Tycroes Surgery*	500m
Tycroes Shops (Ammanford Road)*	600m
Tycroes Rugby Club*	850m
Mountain Gate Public House**	400m
Pantyffynnon Railway Station***	400m

**Table 1 Walk Distances from the Site to Local Facilities**

- 3.4 The walk distances quoted above are measured from the most convenient access point to the site for trips to those destinations. The access points to the candidate site will be discussed in more detail later in this document.
- 3.5 A broader range of services and facilities are available in Ammanford, some 2km to the east.
- 3.6 In summary, the site is in an appropriate location where there is a wide range of services and facilities nearby. This will minimise the distance travelled by residents of the site to access services and increase the possibility that sustainable modes of travel are used to make those trips.

#### Active Travel

- 3.7 The Chartered Institution of Highways and Transportation's (CIHT) 'Planning for Walking' (2015) states that "Across Britain about 80 per cent of journeys shorter than 1 mile (1.6km) are made wholly on foot – something that has changed little in thirty years. In 2012 walkers accounted for 79 per cent of all journeys shorter than 1 mile, but beyond that distance cars are the dominant mode (DfT, annual)". It is considered that 2km, a distance that can be walked in around 25 to 30 minutes, represents a reasonable distance to expect that walking can be a viable option.

- 3.8 The Chartered Institution of Highways and Transportation's 'Planning for Cycling' (2014) states that 'cycle use is more seasonal than for other modes, with up to twice as many cyclists in summer compared with winter. The majority of cycling trips are for short distances, with 80% being less than five miles (8km) and with 40% being less than two miles (3km). However, the majority of trips by all modes are also short distances (67% are less than five miles, and 38% are less than two miles); therefore, the bicycle is a potential mode for many of these trips (National Travel Survey, 2013, Department for Transport).'
- 3.9 As described previously there is a good range of services and facilities within the 2km walking distance to the candidate site. Walking trips between these services and the candidate site can be made, for the most part, along segregated footways where street lighting is provided.
- 3.10 The site is within convenient cycling distance to Ammanford (2km) and Cross Hands (6km).
- 3.11 There is public footpath that crosses the site from Heol Brown in Tycroes to Mill Terrace in Pantyffynnon. The development of the site provides the opportunity to enhance this existing link, for pedestrian and cycle use, and improve connectivity between Tycroes and Pantyffynnon.
- 3.12 There are a number of informal paths and tracks within the site that are accessed from Pont y Clerc at the site's north eastern corner. Opportunities exist to retain and improve these paths and develop others through the site to improve accessibility to the site and general amenity for walkers and cyclists.
- 3.13 At Pantyffynnon walkers and cyclists can access the Fair Trade Way that provides a shared, traffic free, route to Ammanford

#### Public Transport

- 3.14 Bus stops are located along the A483 to the north of the site and Tycroes Road to the south. These provide access to a range of services that link the site to Ammanford, Swansea, Carmarthen and other settlements.

Accessed From	Service No.	Route	Details / Frequency
A483 Stops	124	Brynamman – Ammanford - Tycroes	Hourly (Mon – Sat)
	128	Ammanford - Llanelli	4 daily services (Mon-Sat)
	X13	Llandeilo - Swansea	30 Minute Frequency (Mon – Sat)
Tycroes Road	126	Ammanford - Cwmgwili	2 daily services (Mon – Sat)
	129	Ammanford - Carmarthen	8 daily services (Mon – Sat)

**Table 2 Local Bus Services**

- 3.15 Pantyffynnon railway station is located approximately 3km to the east of the site. The station provides access to the Heart of Wales line services. There are four trains a day to Shrewsbury northbound from Monday to Saturday (plus a fifth to Llandovery) and five southbound to Llanelli and Swansea.



### Highway Network

- 3.16 The A483, that runs to the north of the site links Ammanford to the M4 and is subject to a 30mph speed limit in the vicinity of the site.
- 3.17 Publicly available traffic data<sup>1</sup> shows that the A483 south of Ammanford currently carries some 11,000 daily vehicle movements (average Annual Daily Traffic – AADT). Peak hour traffic generally accounts for some 10% of daily traffic and so it is estimated that there are approximately 1,100 two-way traffic movements during the peak hours.
- 3.18 The Design Manual for Roads and Bridges (DMRB) – TA79/99 provides guidance on the traffic capacity of urban roads. It suggests<sup>2</sup> that a road of similar dimensions to the A483 can accommodate some 1,100 peak hour movements in the busiest direction and some 1,800 two-way peak hour movements. The estimated 1,100 peak hour movements therefore represents some 61% of the road's theoretical capacity and that capacity exists to accommodate some 700 additional peak hour or 7,000 additional daily vehicle movements.
- 3.19 The site is accessed from the A483 at Pont Fferws. This access has recently been improved in association with a residential development of some 24 dwellings.



**Figure 1 Existing A483 Access**

- 3.20 The existing junction's layout is shown in Figure 1 and Appendix 3 and has a simple T-junction arrangement. The access provides a 7.3m wide carriageway with footways on both sides. Visibility splays of 2.4 x 120m is available in both directions. Visibility to the east from a X-distance of 4.5m is partially obscured by an existing bridge parapet.

<sup>1</sup> <http://www.dft.gov.uk/traffic-counts/cp.php?la=Carmarthenshire#78412>

<sup>2</sup> TA79/99 Table 2. Taking Road Type as 'UAP3' and 6.75m carriageway width.

### Appendix 3 Existing A483 Access

- 3.21 To the south of the site, Tycroes Road is some 6.5m in width and also subject to a 30mph speed limit. Heol Brown is a cul-de-sac that is accessed from Tycroes Road and extends to the edge of the candidate site. There is an existing footpath that leads from Heol Brown into the candidate site.
- 3.22 Tycroes Road joins the A483 in the centre of Tycroes village. Tycroes Road joins the A483 at a bend in the trunk road's alignment and in close proximity with another junction with Penygarn Road.



**Figure 2 Existing A483/Tycroes Road/Penygarn Road junction**

- 3.23 A review of the safety record of the highway network in the vicinity of the candidate site has been undertaken.
- 3.24 Over the latest three-year period (2015 to 2017 inclusive) there have been no recorded injury accidents near the site's access from the A483 at Pont Fferws, indicating that the existing junction operates safely.
- 3.25 There is however a recorded fatal accident at the Tycroes Road / A483 junction and three separate serious severity accidents on the A483 within some 400m of the Tycroes Road junction. The severity of these four accidents that occur within or near to the village's centre is a concern.
- 3.26 The development of the candidate site will inevitably increase traffic on this section of road. It is recommended that if / when a planning application is prepared detailed analysis of the safety of the A483 is undertaken. If that analysis concludes that there is an ongoing safety problem at Tycroes, mitigation measures will be developed in consultation with the trunk road authority and delivered as part of the development.

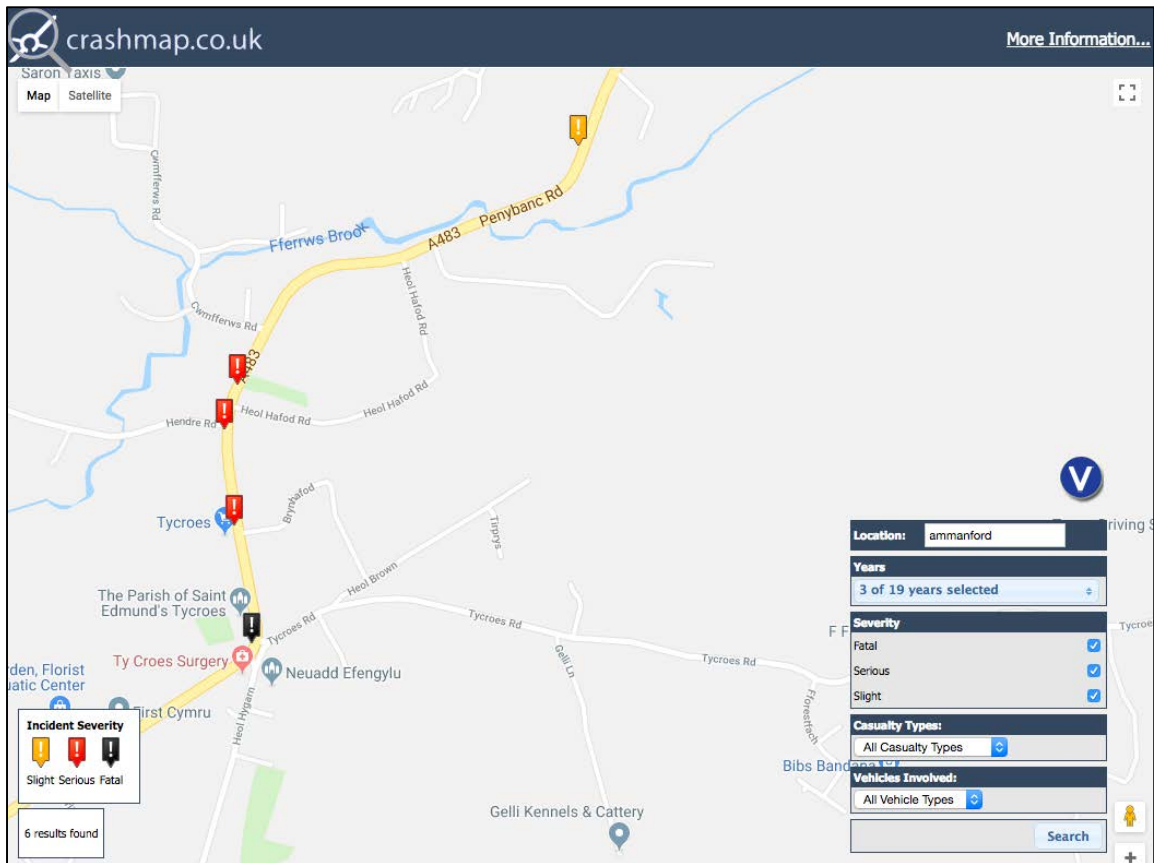


Figure 3 Injury Accident Locations & Severity (2015 - 2017)

## 4 Proposed Development

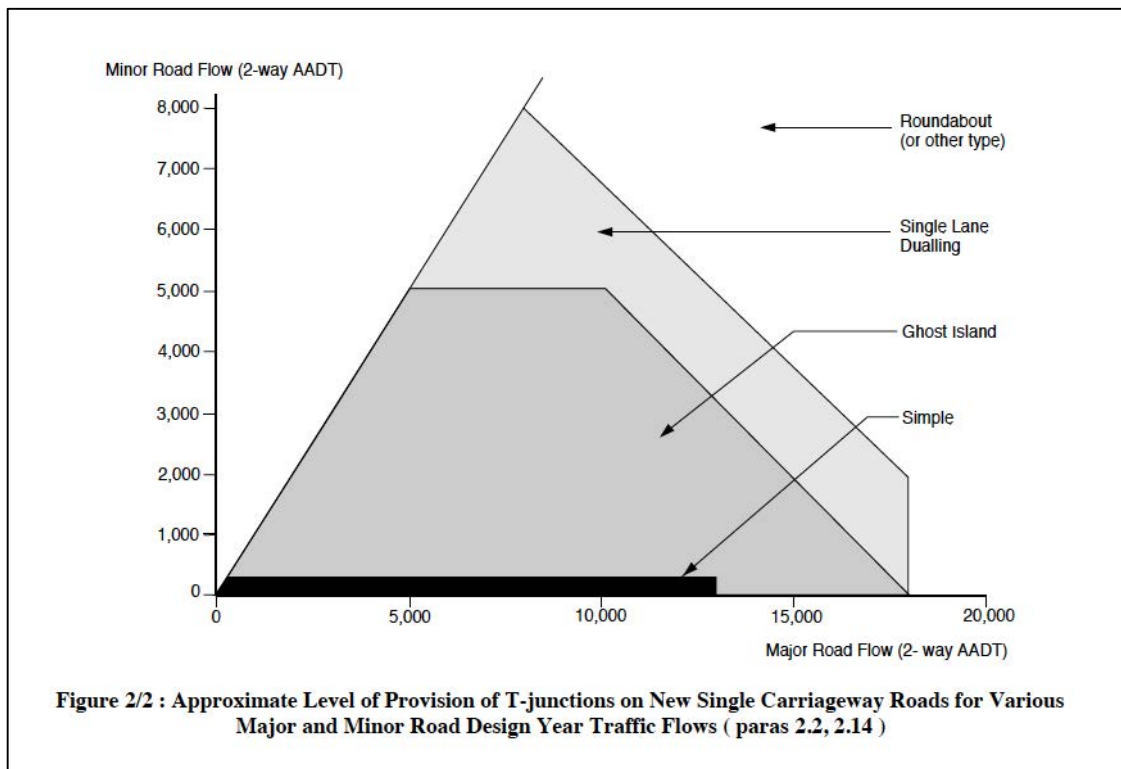
- 4.1 It is considered that the candidate site is possible of delivering approximately 600 dwellings.

### Access

- 4.2 An indicative access arrangement is shown as Appendix 4.

### Appendix 4 Indicative Access Arrangement

- 4.3 The site's principal access will be from the A483 at Pont Fferws. This is currently a simple T-junction. Guidance on the appropriate layout of a trunk road junction is provided in DMRB's TD42/95. From the extract provided in Figure 4 below it can be seen that where the major road's traffic flow is 11,000 (AADT) a ghost-island junction is required where the minor road flow is over around 300 AADT. A ghost-island junction can accommodate minor road traffic flow of up to 5,000 AADT.



**Figure 4 Extract from DMRB TD42/95**

- 4.4 An AADT of around 300 equates to the traffic generated by around 40 dwellings and therefore it is evident that this junction will need to be upgraded to provide a ghost-island (right-turn lane) in order to accommodate the wider development of the candidate site. Appendix 5 shows how the junction can be upgraded to provide a ghost-island.

### Appendix 5 A483 Pont Fferws Junction Upgrade

- 4.5 Consideration has been given to accessing the site from the south (Tycroes Road). Development traffic from a southern access would access the A483 at the existing Tycroes Road / A483 / Penygarn Road junction. This would not be desirable due to the complex layout of the junction its poor safety record. As such there will be no vehicular access to the site from Tycroes Road.
- 4.6 Tycroes Road and Heol Brown does however provide the most direct link between the site and the facilities available at Tycroes. It is proposed therefore that the existing footpath link into the site from Heol Brown be retained and enhanced to provide a shared pedestrian and cycle link. The opportunity exists for the existing footpath through the site to be upgraded to a shared pedestrian and cycle facility that will provide a traffic free link between Heol Brown and Mill Terrace in Pantyffynnon. This will provide a good quality resource for users of the candidate site and deliver wider benefits by improving connectivity between Tycroes to the west of the site and Pantyffynnon, the Fair Trade Way active travel route and Ammanford to the west.
- 4.7 The pedestrian/cycle link at Heol Brown can, in addition, be designed to allow emergency vehicular access to and from the site in the event that it's vehicular access at Pont Fferws becomes blocked.
- 4.8 Additional pedestrian and cycle links can be developed by utilising the existing network of informal tracks and paths that are currently accessed from Pont y Clerc at the site's north eastern corner. These links can be used to improve connectivity between Penybanc and Pantyffynnon.
- 4.9 The indicative access arrangement demonstrates that a safe and appropriate access can be provided to the candidate site.

#### Trip Generation

- 4.10 The potential trip generation of the proposed development of the site has been estimated by reference to the TRICS trip rate database, a database of over 7,100 traffic surveys of various types of development throughout the UK and Ireland.
- 4.11 From the TRICS database evidence of the trip rates of developments of privately owned houses (development of between 300 and 900 units) in urban locations (but not town centres or edge of town centres) in mainland Britain (excluding Greater London) have been analysed. Full details are provided as Appendix 6 and summarised below.

#### **Appendix 6 TRICS Trip Rate Data**

Time Range	Trip Rate per House			Trip Generation (100 Houses)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
am peak Hour 08:00-09:00	0.12	0.391	0.511	72	235	307
pm Peak Hour 16:00-17:00	0.307	0.177	0.484	198	112	310
Daily	0.33	0.187	0.517	1376	1439	2815

**Table 3 Vehicle Trip Rates & Proposed Development Trip Generation**

- 4.12 The TRICS data suggests that the proposed development will generate some 310 peak hour vehicle movements and around 2,800 daily vehicle movements.

- 4.13 Development traffic entering the existing highway (A483) at Pont Fferws would split with some travelling to/from the east (Ammanford direction) and some to/from the west (Tycroes, Cross Hands and M4 direction). It is reasonable to estimate that that the split will be broadly even. In that case the increase in peak hour traffic to the east and west of the site will be approximately 155 additional movements. In the previous chapter it was demonstrated that the A483 has the capacity for an additional 700 peak hour movements (see 3.18) and it is evident therefore that the candidate site's traffic can be accommodated by the highway network.
- 4.14 When a planning application is submitted a detailed Transport Assessment will be prepared that considers traffic conditions at that time and quantifies the impacts of the development traffic on surrounding streets and junctions. If any significant impacts are identified suitable mitigation measures will be formulated and agreed with the relevant Highway Authorities.

## 5 Summary & Conclusion

5.1 In summary this Transport Statement has demonstrated that:

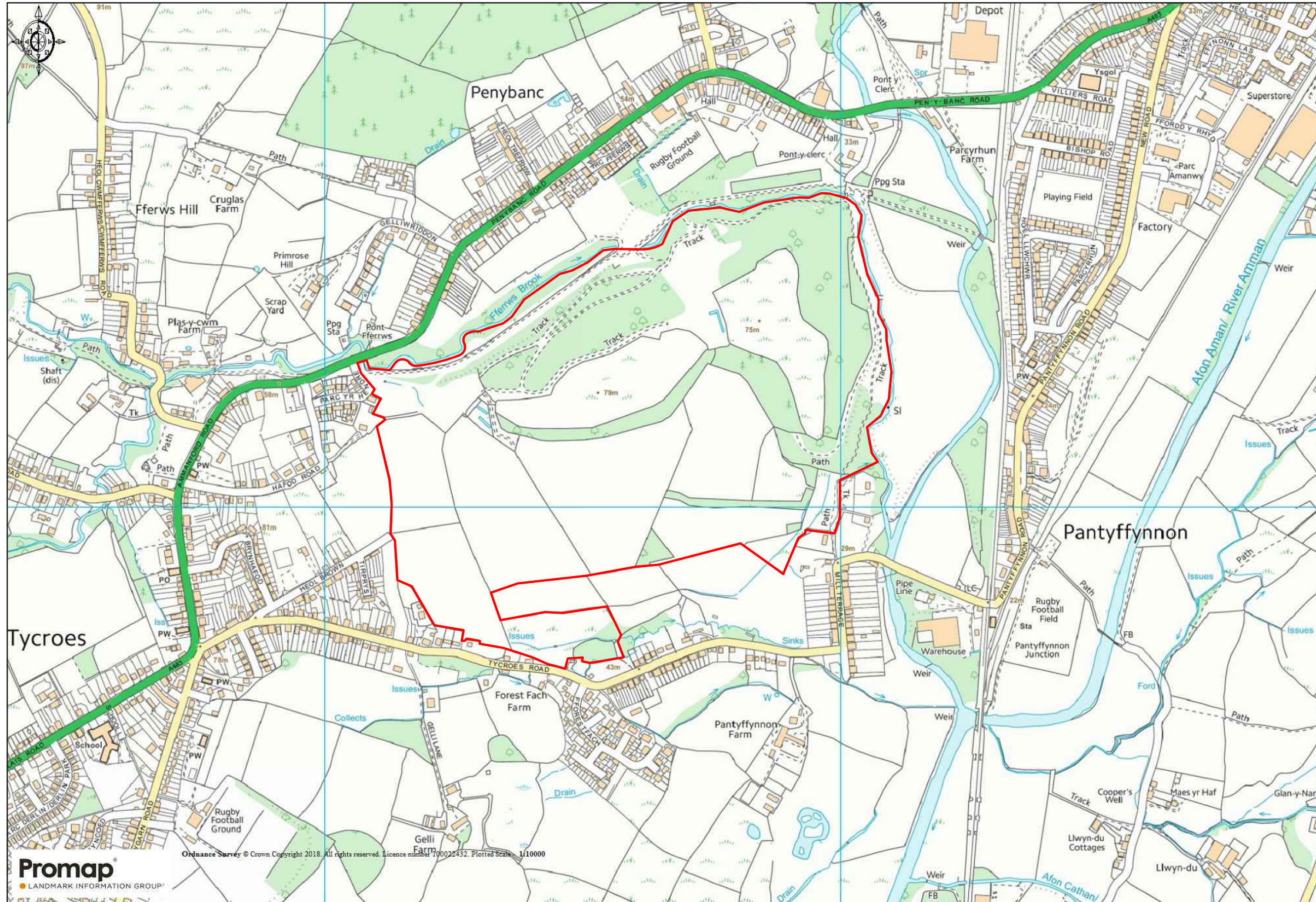
- The candidate site's location is closely related to Tycroes, Penybanc and Pantyffynnon;
- There are a good range of services and facilities near to the site offering education, shopping, employment, leisure and social opportunities. These can be accessed from the site by walking, cycling or by public transport.
- The site is accessible to pedestrians and is well connected to the existing footway network.
- A safe and appropriate access, that meets current design standards, can be provided to the site from the A483 at Pont Fferws. Emergency vehicular access can be provided at Heol Brown.
- There are existing pedestrian accesses to the site at Heol Brown and Mill Terrace with a connecting public footpath that runs across the candidate site. The opportunity exists for this to be enhanced to provide a shared use pedestrian / cycle route. This will improve connectivity between existing communities to the east and west of the site.
- The estimated traffic generation of the proposed development can be accommodated by the A483 trunk road that serves the site.

5.2 As such it is considered that the candidate site meets planning policy requirements in terms of being in an appropriate location that is safely accessible by all forms of transport and that the impacts of the development on the continued operation and safety of the surrounding highway network would be acceptable.

5.3 It is concluded therefore that there are no transport related issues that should prevent the inclusion of this candidate site in Carmarthenshire County Council's Revised Local Development Plan 2018 – 2033.

# Appendix 1 Location Plan





A	First Issue	08-05-18
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**acstro**

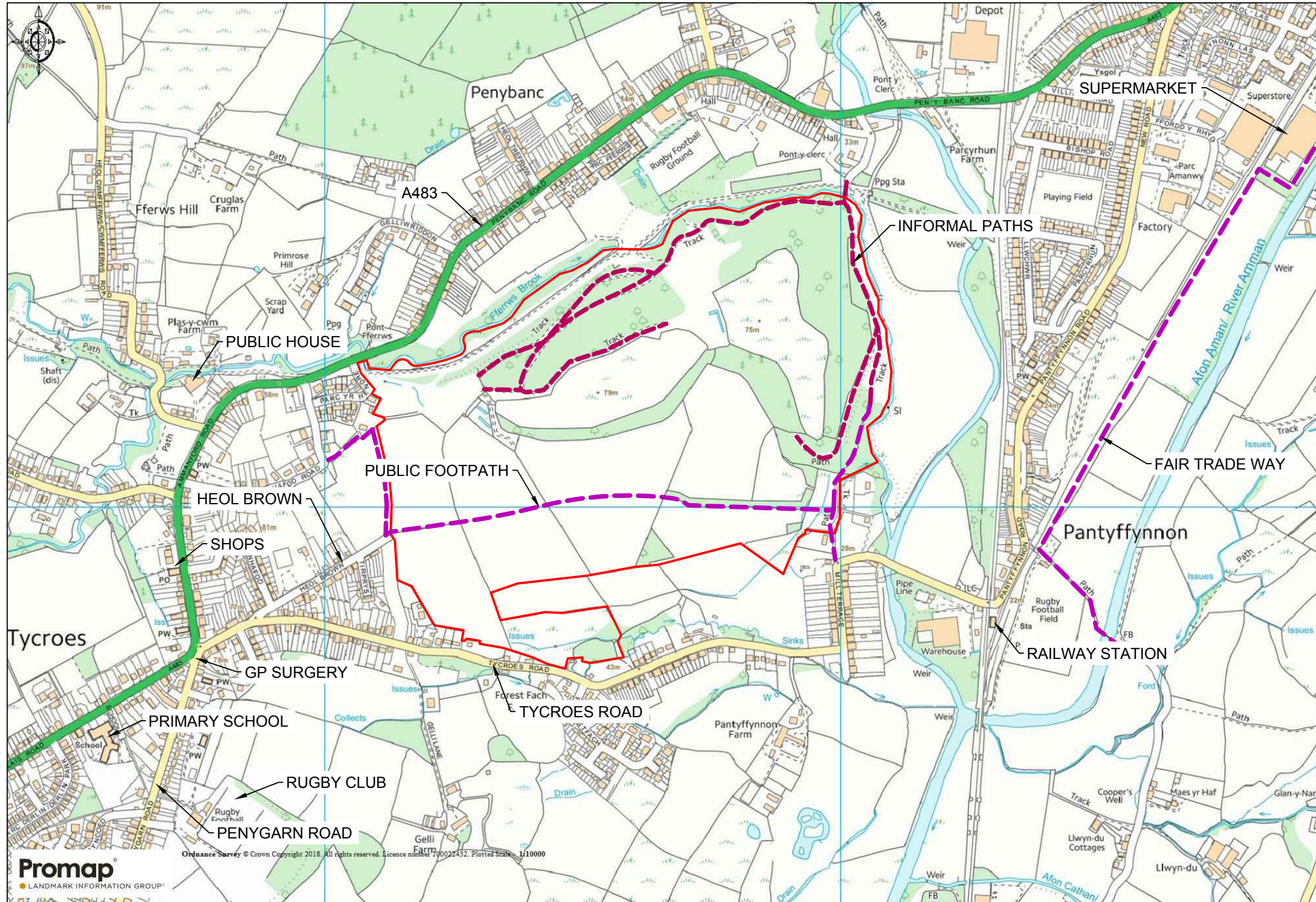
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**FORMER WERNOS WASHERY  
TYCROES**

**LOCATION PLAN**

1139	001	A
	AS SHOWN	@ A3

## **Appendix 2 Site Context**



Promap  
 LANDMARK INFORMATION GROUP  
 Ordnance Survey © Crown Copyright 2018. All rights reserved. Licence number 100022432. Plotted Scale: 1:10000

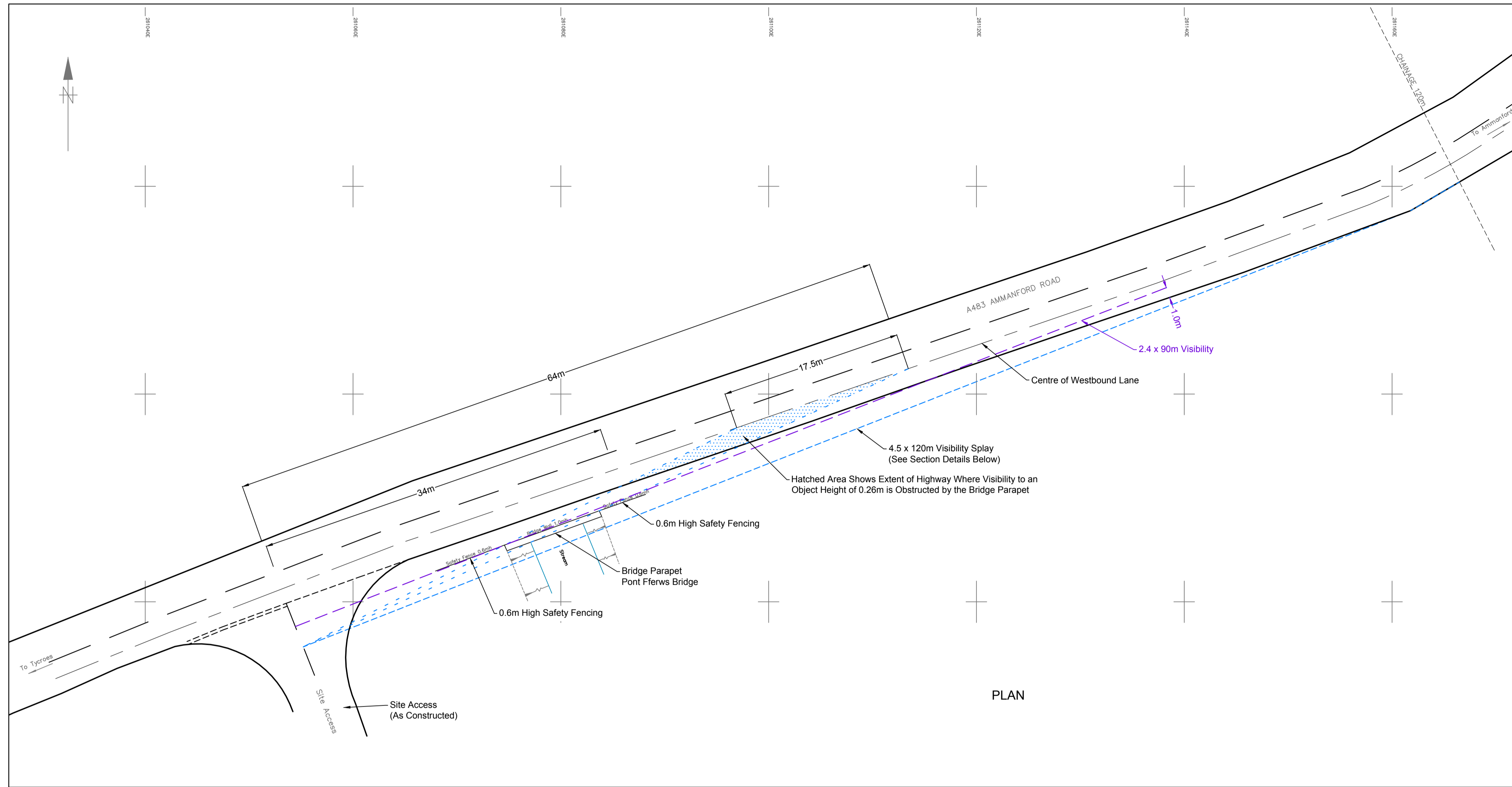
A	First Issue	08-05-18
 Prifffyrdd a Thrafnidiaeth Highways & Transportation Ty Penbryn, Salem, Llandeilo, SA19 7LT E-mail: mail@acstro.com www.acstro.com Tel: 01558 824021		

**FORMER WERNOS WASHERY  
 TYCROES**

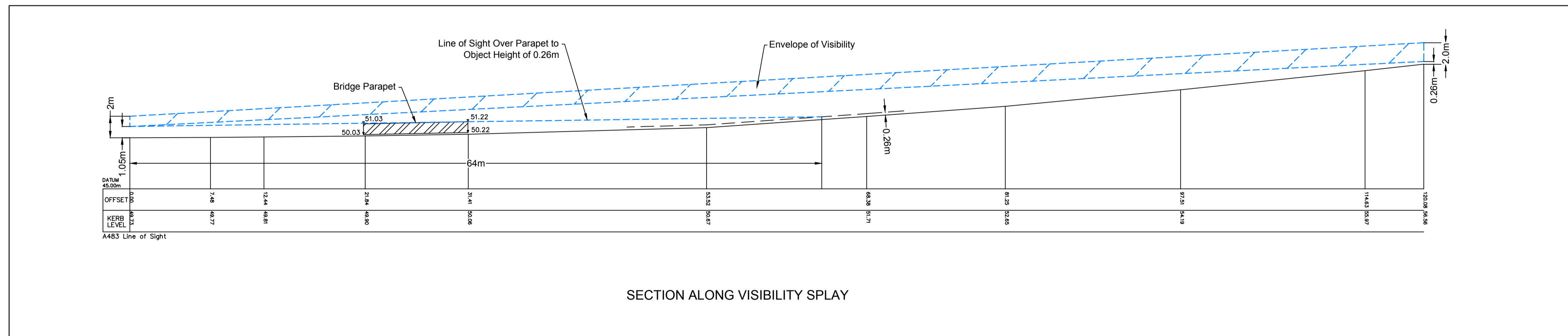
**SITE CONTEXT**

1139	002	A
	AS SHOWN	@ A3

## **Appendix 3 Existing A483 Access**



PLAN



SECTION ALONG VISIBILITY SPLAY

PHOTOGRAPHS OF A CAR APPROACHING THE SITE  
ACCESS FROM THE EAST  
PHOTOGRAPHS TAKEN FROM A X-DISTANCE OF 4.5m



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6

B	2.4 x 90m Splay Added	19-01-17
A	First Issue	04-02-16

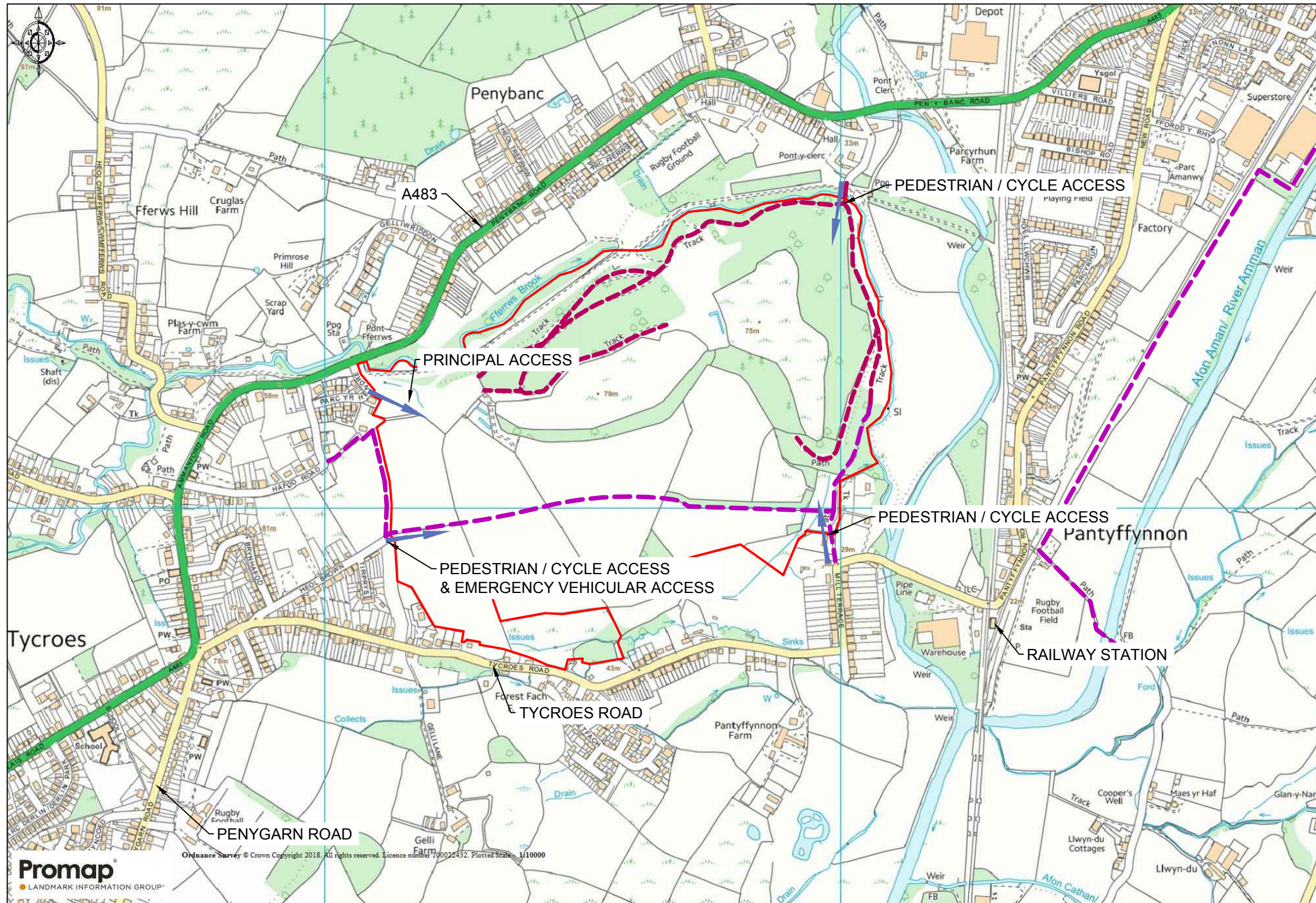
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DEVELOPMENT SOUTH OF A483, TYCROES, AMMANFORD

AS BUILT JUNCTION & VISIBILITY TO THE EAST

0947	001	B
	1:250	@ A1

## **Appendix 4 Indicative Access Arrangement**



Promap  
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A	First Issue	08-05-18
 Prifffyrdd a Thrafnidiaeth Highways & Transportation Ty Penbryn, Salem, Llandeilo, SA19 7LT E-mail: mail@acstro.com www.acstro.com Tel: 01558 824021		

**FORMER WERNOS WASHERY  
 TYCROES**

**ACCESS ARRANGEMENTS**

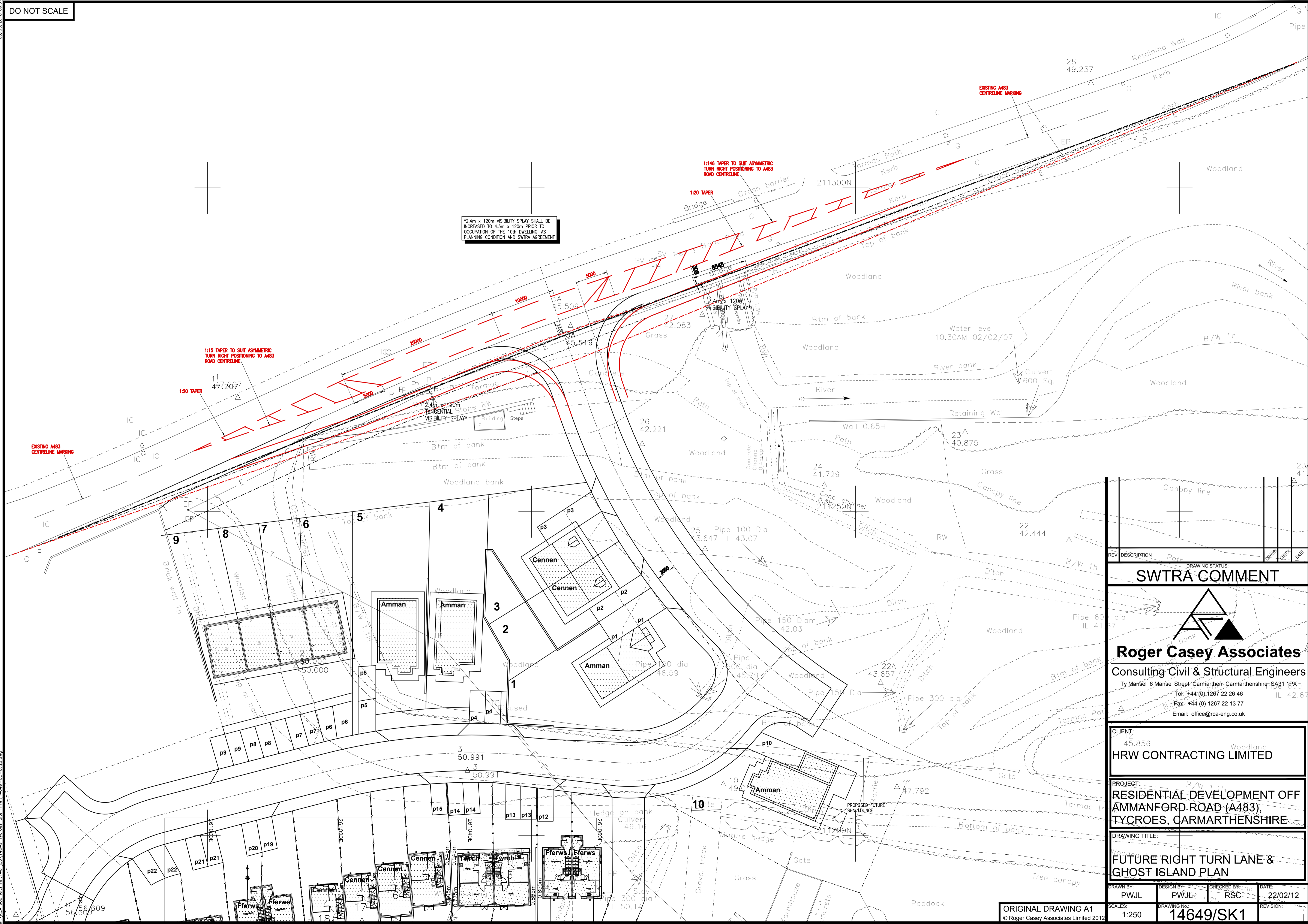
1139	003	A
	AS SHOWN	@ A3

## **Appendix 5 A483 Pont Fferws Junction Upgrade**



08/05/2018 09:57  
M:\RCA\_Job\_Archive\146\_rbx\14649\_Tycroes Site HRW\14649-03-0726.dwg

DO NOT SCALE



\*2.4m x 120m VISIBILITY SPLAY SHALL BE INCREASED TO 4.5m x 120m PRIOR TO OCCUPATION OF THE 10th DWELLING, AS PLANNING CONDITION AND SWTRA AGREEMENT

REV	DESCRIPTION	DATE	DRAWN	CHECK	DATE

DRAWING STATUS: SWTRA COMMENT

**Roger Casey Associates**  
 Consulting Civil & Structural Engineers  
 Ty Mansel 6 Mansel Street Carmarthen Carmarthenshire SA31 1PX  
 Tel: +44 (0) 1267 22 26 46  
 Fax: +44 (0) 1267 22 13 77  
 Email: office@rca-eng.co.uk

CLIENT:	45.856
HRW CONTRACTING LIMITED	

PROJECT:  
**RESIDENTIAL DEVELOPMENT OFF AMMANFORD ROAD (A483), TYCROES, CARMARTHENSIRE**

DRAWING TITLE:  
**FUTURE RIGHT TURN LANE & GHOST ISLAND PLAN**

DRAWN BY:	DESIGN BY:	CHECKED BY:	DATE:
PWJL	PWJL	RSC	22/02/12
SCALES:	DRAWING No:	REVISION:	
1:250	14649/SK1		

ORIGINAL DRAWING A1  
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## **Appendix 6 TRICS Trip Rate Data**

Calculation Reference: AUDIT-648801-180508-0551

## TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL  
 Category : A - HOUSES PRIVATELY OWNED  
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	KC KENT	1 days
	SC SURREY	1 days
	WS WEST SUSSEX	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days

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

## Secondary 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: Number of dwellings  
 Actual Range: 363 to 805 (units: )  
 Range Selected by User: 300 to 900 (units: )

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 27/09/17

*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:

Monday	1 days
Tuesday	1 days
Wednesday	1 days
Thursday	3 days
Friday	1 days

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

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	5
Neighbourhood Centre (PPS6 Local Centre)	1

*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:

Residential Zone	6
No Sub Category	1

*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.*

Secondary Filtering selection:

Use Class:

C3 7 days

*This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.*

Population within 1 mile:

5,001 to 10,000 2 days  
10,001 to 15,000 3 days  
20,001 to 25,000 2 days

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

Population within 5 miles:

25,001 to 50,000 1 days  
50,001 to 75,000 2 days  
75,001 to 100,000 1 days  
125,001 to 250,000 3 days

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

Car ownership within 5 miles:

0.6 to 1.0 2 days  
1.1 to 1.5 5 days

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

Travel Plan:

Not Known 3 days  
Yes 1 days  
No 3 days

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

PTAL Rating:

No PTAL Present 7 days

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

LIST OF SITES relevant to selection parameters

1	ES-03-A-01 OLD MALLING WAY SOUTH MALLING LEWES Edge of Town Residential Zone Total Number of dwellings: 491 <i>Survey date: THURSDAY 29/03/01</i>	MIXED HOUSES/FLATS EAST SUSSEX	<i>Survey Type: MANUAL</i>
2	KC-03-A-06 MARGATE ROAD  HERNE BAY Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 363 <i>Survey date: WEDNESDAY 27/09/17</i>	MIXED HOUSES & FLATS KENT	<i>Survey Type: MANUAL</i>
3	MS-03-A-01 PALACE FIELDS AVENUE  RUNCORN Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of dwellings: 372 <i>Survey date: THURSDAY 06/10/05</i>	TERRACED MERSEYSIDE	<i>Survey Type: MANUAL</i>
4	NE-03-A-02 HANOVER WALK  SCUNTHORPE Edge of Town No Sub Category Total Number of dwellings: 432 <i>Survey date: MONDAY 12/05/14</i>	SEMI DETACHED & DETACHED NORTH EAST LINCOLNSHIRE	<i>Survey Type: MANUAL</i>
5	SC-03-A-02 A24  EPSOM Edge of Town Residential Zone Total Number of dwellings: 514 <i>Survey date: TUESDAY 03/10/00</i>	SEMI DETACHED SURREY	<i>Survey Type: MANUAL</i>
6	WO-03-A-04 MALVERN ROAD  WORCESTER Edge of Town Residential Zone Total Number of dwellings: 792 <i>Survey date: FRIDAY 24/05/02</i>	MIXED HOUSES WORCESTERSHIRE	<i>Survey Type: MANUAL</i>
7	WS-03-A-06 ELLIS ROAD S BROADBRIDGE HEATH WEST HORSHAM Edge of Town Residential Zone Total Number of dwellings: 805 <i>Survey date: THURSDAY 02/03/17</i>	MIXED HOUSES WEST SUSSEX	<i>Survey Type: MANUAL</i>

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED  
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	538	0.070	7	538	0.273	7	538	0.343
08:00 - 09:00	7	538	0.120	7	538	0.391	7	538	0.511
09:00 - 10:00	7	538	0.157	7	538	0.179	7	538	0.336
10:00 - 11:00	7	538	0.128	7	538	0.157	7	538	0.285
11:00 - 12:00	7	538	0.158	7	538	0.164	7	538	0.322
12:00 - 13:00	7	538	0.171	7	538	0.152	7	538	0.323
13:00 - 14:00	7	538	0.155	7	538	0.156	7	538	0.311
14:00 - 15:00	7	538	0.169	7	538	0.181	7	538	0.350
15:00 - 16:00	7	538	0.258	7	538	0.200	7	538	0.458
16:00 - 17:00	7	538	0.274	7	538	0.164	7	538	0.438
17:00 - 18:00	7	538	0.330	7	538	0.187	7	538	0.517
18:00 - 19:00	7	538	0.304	7	538	0.194	7	538	0.498
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
<b>Total Rates:</b>			2.294			2.398			4.692

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.

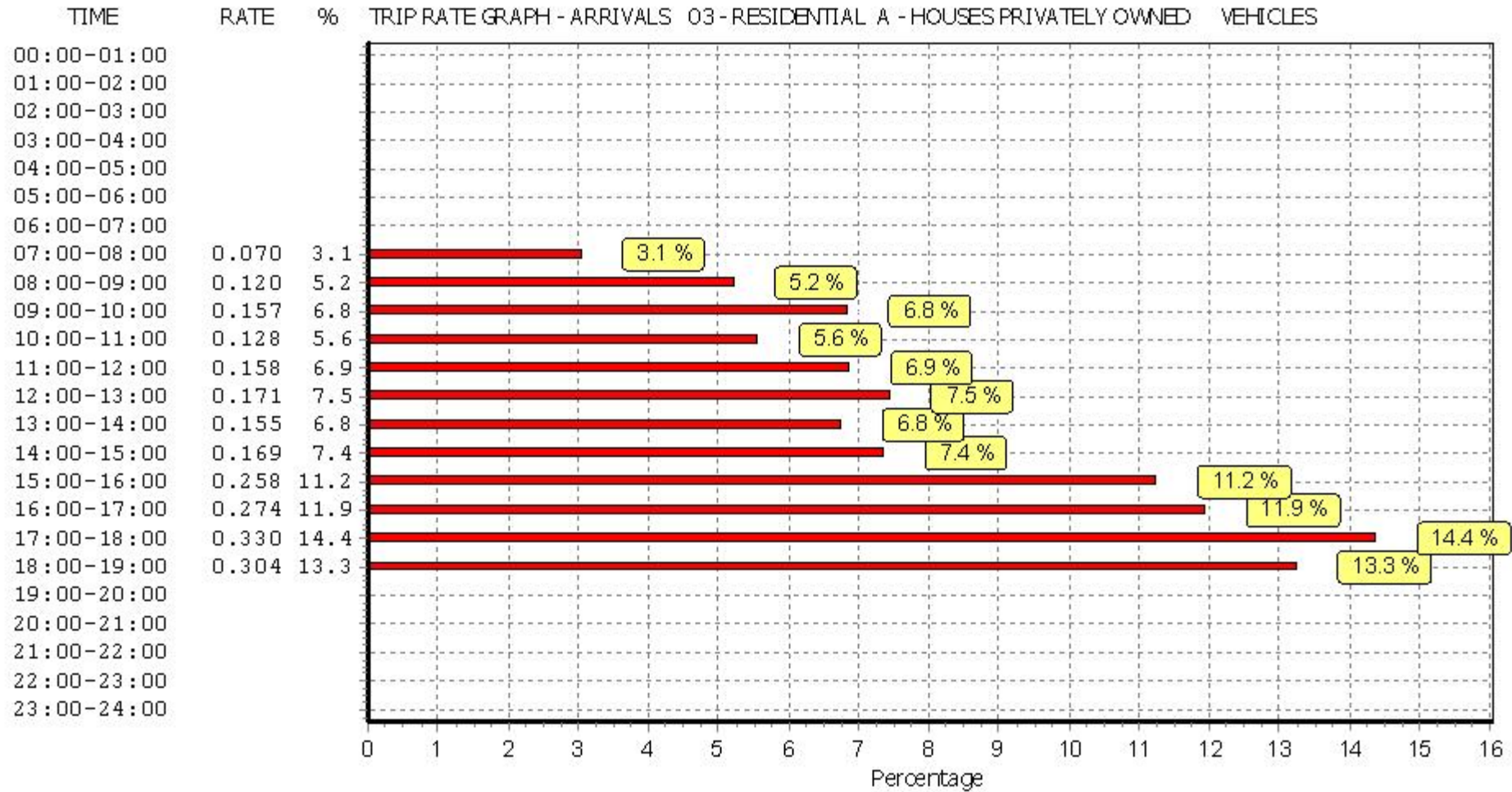
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#### Parameter summary

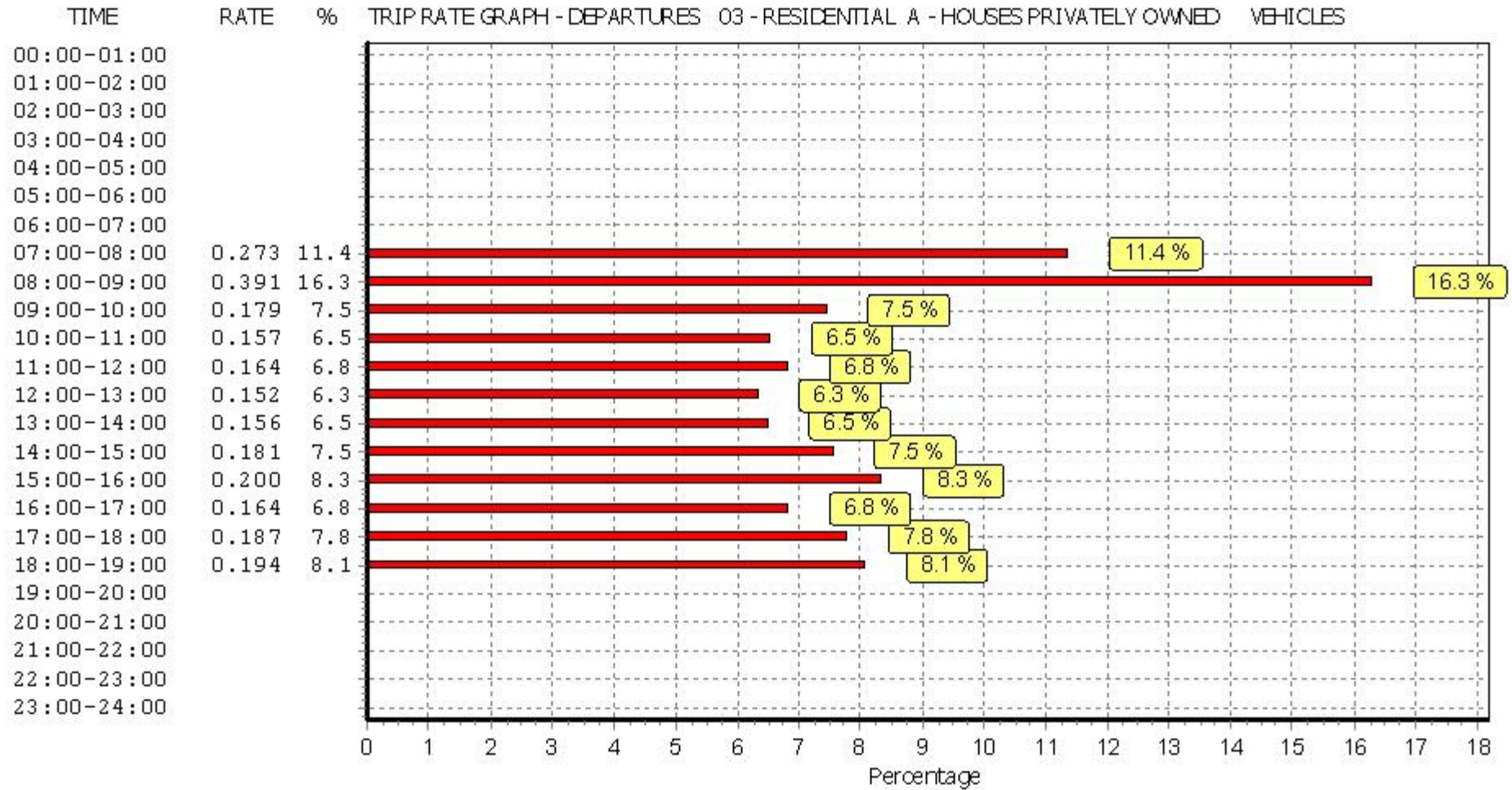
Trip rate parameter range selected:	363 - 805 (units: )
Survey date date range:	01/01/00 - 27/09/17
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

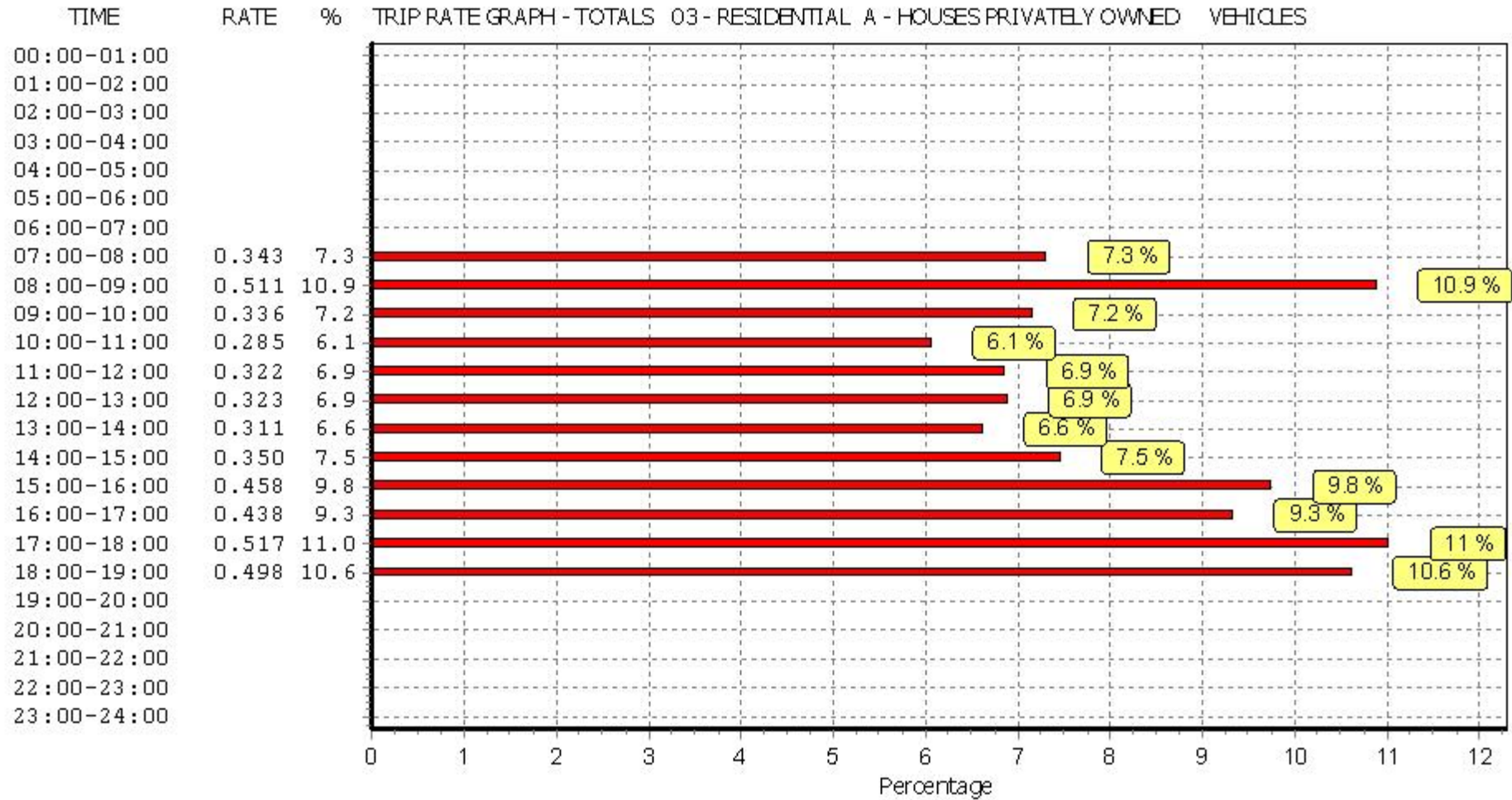


*This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.*





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