

LAND EAST OF TYE LANE, WALBERTON

**TRANSPORT ASSESSMENT ADDENDUM
(Tye Lane Access)**

REPORT REF NO. 183248-07

PROJECT NO. 183248

JUNE 2021

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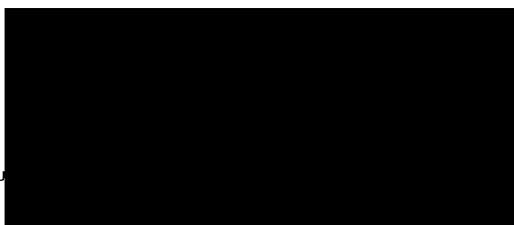
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- C. PICADY Output – Tye Lane/The Street**

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Draft	KM	DH	IW	17/06/2021
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Distribution

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1.0 INTRODUCTION

- 1.1 Ardent Consulting Engineers (ACE) has been appointed by Vistry Group PLC to advise on the transport aspects of the proposed development of land to the east of Tye Lane, Walberton, and to prepare this Transport Assessment Addendum (TAA).
- 1.2 Under Arun District Council (ADC) planning application reference: WA/44/17/OUT, permission was granted for a total of 175 dwellings with access taken from Yapton Lane, which forms the eastern boundary of the site. A Reserved Matters (RM) application (reference: WA/95/18/RES) was approved on the 16th April 2019 and detailed the appearance, landscaping, layout and scale.
- 1.3 Highways England (HE) have proposals to implement a bypass of the A27 around Arundel that could impact upon the consented site access arrangements for the Vistry development. As a result, this TAA has been prepared to consider the implications of adopting site access from Tye Lane in lieu of the consented site access arrangements with Yapton Lane. However, as the proposed bypass has no planning status, this application considers the proposed access onto Tye Lane in isolation. It does not consider the future situation under a new alignment of the A27, which would result in a redistribution of trips on the local highway network. HE confirm that if/when this alternative alignment of the A27 comes forward, any impact on the site access/trip distribution will be considered in detail by HE and if needed this would be mitigated appropriately.
- 1.4 ACE have undertaken scoping discussions with West Sussex County Council (WSSCC) as Highway authority, as well as Highways England (HE) to agree the methodology for this updated assessment. This TAA adopts the previously approved methodology for trip generation and trip distribution contained within Transport Assessment (TA) reports that accompanied the previously consented application,

incorporating appropriate amendments to address the rerouting of trips associated with the alternative access location.

1.5 Following this introduction, the remainder of this report is structured as follows: -

- **Section 2.0** provides a description of the existing situation, including the surrounding area, local highway network and access opportunities by non-car modes;
- **Section 3.0** considers the development proposals and the updated proposed site access arrangements;
- **Section 4.0** sets out the anticipated trip generation and distribution of traffic on the local network associated with the development proposals;
- **Section 5.0** considers local background traffic flows and committed development that have been incorporated into the analysis;
- **Section 6.0** reviews the development impact on the local road network; and
- **Section 7.0** provides a summary and sets out the conclusions.

2.0 EXISTING SITUATION

Site Location

- 2.1 The site is situated on the northern fringes of Walberton Village as shown on **Plate 2.1**.

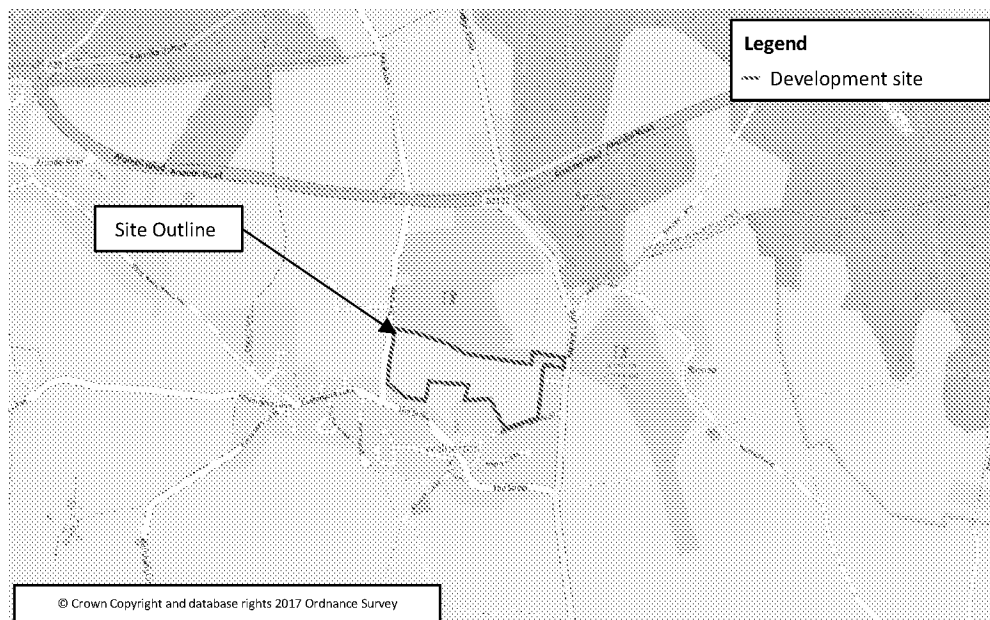


Plate 2.1: Site Location

- 2.2 The site is bound by: Yapton Lane to the east; Tye Lane to the west and Avisford Park Hotel and Golf Club to the north.

Local Highway Network

- 2.3 Yapton Lane is a two-way single carriageway road of varying width, between 6.5m and 7.1m, and has a footway along its western side.
- 2.4 Yapton Lane provides a connection between the centre of Walberton village via The Street to the south and to the A27 to the north.
- 2.5 Tye Lane is a two-way single carriageway road with centreline markings, approximately 4.8m wide along much of its length and it forms the western site boundary. It also connects with the A27 to

the north and to the centre of Walberton village to the south via The Street.

- 2.6 The A27 is part of the strategic road network connecting Brighton and Chichester locally.
- 2.7 Local streets have footways, or where there are no footways are lightly trafficked, and so there are opportunities for pedestrian access to local facilities as per the consented scheme, albeit a revised connection to these facilities is now being proposed.
- 2.8 There is a new shared cycle/pedestrian route that runs between Walberton and Barnham railway station which provides an off-road route.
- 2.9 PIA accident records have been investigated, as summarised in the image below which show in the previously recorded 5-year period there have been no recorded PIA accidents on Tye Lane, the Street or the westbound carriageway of the A27 in the vicinity of the site.

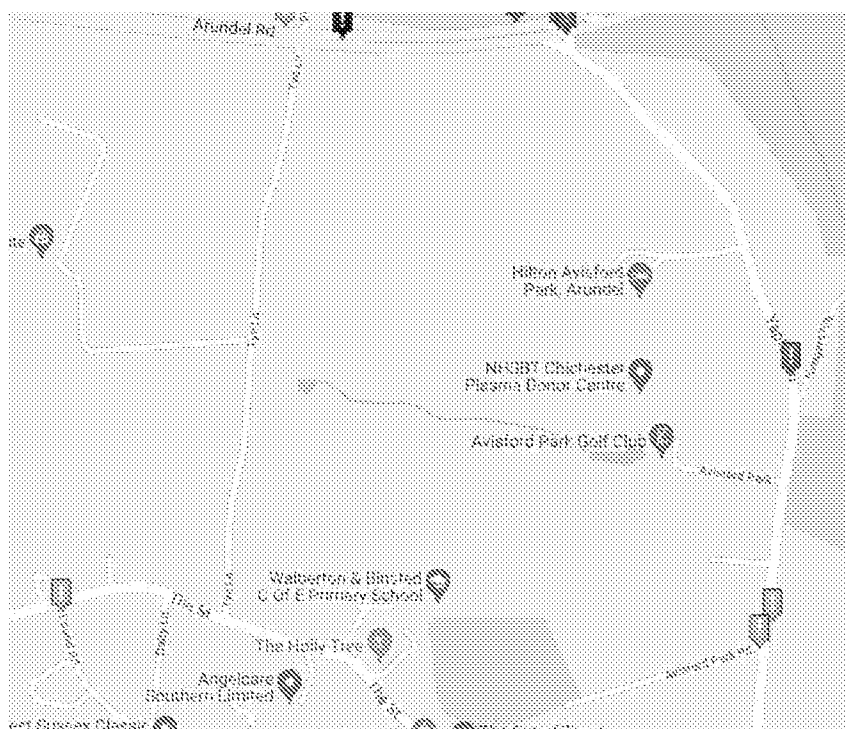


Plate 2.2: Site Location

Public Transport Accessibility

Bus Services

- 2.10 The nearest bus stops are located on Yapton Lane, approximately 475m to the east of the centre of the site or a 6-minute walk. Facilities in the form of bus flagpole and timetable information are provided and these will be upgraded as part of the application.
- 2.11 Further stops are located 550m from the site at The Street, adjacent to the Holly Tree Junction.
- 2.12 The bus stops are served by two regular services, the 85/85A and 66, which operate Monday to Saturday.
- 2.13 A summary of the frequencies of these services are provided within **Table 2.1** below.

Table 2.1: Bus Service Frequency

Route	Bus Stop	Destination	Service Frequency		
			Weekday	Saturdays	Sundays
85/85A	Yapton Lane	Arundel – Walberton – Fontwell – Chichester	Every 2 Hours	Every 2 Hours	-
66	The Street – Old Vicarage / Post Office	Bognor regis – Yapton – Walberton – Barnham – Bognor Regis (circular Route)	Every 4-5 Hours	Every 4-5 Hours	-

- 2.14 In addition to the above, there are also three school services from the bus stop at The Street which travel to Ormiston Six Villages Academy, Chichester High School and St Philip Howard School.

Rail Services

- 2.15 Barnham Railway Station is located some 3km to the south of the site and is accessible via bus route 66 / 85A.
- 2.16 In addition to using the bus, future residents could also use the previously mentioned designated off-road shared footway / cycleway that runs between Walberton and Barnham.
- 2.17 In terms of facilities at Barnham railway station, there are 142 car parking spaces, 2 accessible spaces and 62 secure cycle parking spaces.
- 2.18 Destinations from this station include Southampton, London, Portsmouth, Brighton, Chichester, Bognor Regis and Littlehampton. Up to date information regarding timetables can be accessed www.nationalrail.co.uk.

Local Amenities and Services

- 2.19 The site is situated within close proximity of several shops and amenities within Walberton Village Centre. The location of these facilities is summarised within **Table 2.2**:

Table 2.2: Local Service / Amenities

Service / Amenity	Road Name	Distance from Site
Laundrette	The Street	500m South
Dentist	The Street	500m South
Convenience Store	The Street	500m South
Public House (The Holly Tree)	The Street	575m South

2.20 The Chartered Institution of Highways and Transportation (CIHT) document "Guidelines for Providing For Journeys on Foot" (2000) notes in paragraph 1.12 that walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile. Infrastructure that supports efficient travel on foot is therefore of great importance in the continuation of the promotion of sustainable travel and walking as a viable alternative to short car trips. The list above therefore illustrates that the site is suitable located to promote sustainable travel within the local area.

3.0 DEVELOPMENT PROPOSALS

3.1 The scheme comprises the consented 175 residential dwellings, with the only minor change being:

- Relocation of the main vehicular site access to Tye Lane;
- Closure of access from Yapton Lane; and
- Provision of pedestrian footway link, and emergency access onto Avisford Park Road.

3.2 The TA that accompanied the approved planning application incorporated an analysis of the expected trip generation associated with the proposals adopting a methodology that was agreed with WSCC during pre-application discussions and involved use of the TRICS database.

3.3 The trip generation as presented within the approved scheme TA has been adopted in this assessment, considering the revised routing associated with the loss of the access onto Yapton Lane and the proposed access from Tye Lane.

3.4 The focus of this TAA is in relation to the revised access strategy and associated development traffic impact on the wider road network, given the change in trip distribution that will arise from the new access point, the latter is considered further below.

3.5 The updated access strategy involves a simple priority junction with Tye Lane on the western boundary of the site in lieu of that which was consented from Yapton Lane. The preliminary design is shown on **ACE Drawings 183248-002/003.**

3.6 The proposed design incorporates 5.5m wide carriageway and 7m kerb radii on both sides, which is in excess of the more typical 6m

kerb radii. This has been provided to ease access by larger vehicles and is largely the same as the design consented as part of the original access onto Yapton Lane.

- 3.7 In addition, the design incorporates a new footway provision along the eastern side of Tye Lane, since there are no footways along the site frontage with Tye Lane currently. This route would provide connections with footways in the vicinity of the Tye Lane/The Street junction to the south.
- 3.8 To provide the new footway, the Tye Lane carriageway has been slightly narrowed to between 5.6m and 5.0m. This is still wide enough for an HGV and car to pass (which requires 4.8m) and is also wider than the existing Tye Lane carriageway further north of the access.
- 3.9 The new footway improvement is 1.5m wide at the access and extends southwards at this width where feasible, reducing to a minimum of 1.2m wide owing to land ownership constraints resulting from the extent of adopted highway.
- 3.10 Visibility splays commensurate with measured vehicle speeds (36.4mph northbound and 38.9mph southbound) have been incorporated into the preliminary design and demonstrate that a 2.4m x 54m splay is achievable looking south and a 2.4m x 60m splay is achievable looking north.
- 3.11 These visibility splays require minimal cutting back of the vegetation on the site frontage up to 600mm above ground level to allow visibility splays to be achieved, as shown on the access drawing.
- 3.12 A Stage 1 Road Safety Audit of the proposed arrangements has been completed raising only minor comments, which have been addressed within the Designers Response. These have been prepared as separate document which accompanies the planning application.

- 3.13 Under the consented scheme, a secondary/emergency access was proposed on Tye Lane, however, with the reconfiguration to provide the main vehicular access from Tye Lane, the secondary/emergency access has been relocated to Avisford Park Road, as is also shown on **ACE Drawing 183248-002**. This route is considered suitable as it is currently a public footpath and is already served by the Council's refuse collection vehicles.
- 3.14 The emergency access is designed as 3.7m wide and incorporates a removable bollard to prevent general vehicular access but will be available for pedestrians and cyclists to utilise in order to connect to the surrounding network and destinations to the south. The revised access strategy mirrors the consented approach with access being provided at both ends of the site.
- 3.15 Following discussions with HE a potential improvement scheme is shown **ACE Drawing 183248-005** at the northern end of Tye Lane for vehicles accessing the A27 westbound. Although it is not considered that the slight increase in trips associated with the scheme necessitates these improvements from a capacity perspective, it has been agreed in principle that a potential improvement scheme would accompany this application. These improvements incorporate the required design parameters as set out in CD123, comprising a new merge taper at the Tye Lane/A27 junction, comprising:
- 3.5m lane width (at the end of the corner radii out of the minor road)
 - 40m nose
 - 130 merge taper (in line with 120 kph design speed)
 - 30m kerb radii
- 3.16 In addition to the above it is considered a restriction on U-turn movements at the junction of A27/Yapton Lane could also be provided.

- 3.17 A Stage 1 Road Safety Audit incorporating a Designers Response has been undertaken, which is submitted separately with this application.

4.0 TRIP GENERATION & DISTRIBUTION

Trip Generation

- 4.1. The consented outline application for 175 dwellings was supported by a TA that considered the potential impact of residential development on the site. This TAA therefore reviews the redistribution of the approved 175 dwelling vehicle generation. It is noted that the original assessment was undertaken for a 200-unit scheme. To provide a more accurate assessment within this TAA, the previous approach has been factored to represent the 175 units proposed.
- 4.2. The previously agreed methodology has been adopted to determine the impact of the revised proposal, which is already a consented scheme, and as such there is no uplift in vehicular movements associated with this application with these trips already committed to the local highway network.
- 4.3. The consented scheme TA considered 'Private Housing' trip rates to predict the level of traffic associated with the approved scheme. We have applied these agreed trip rates (outputs at **Appendix A**) to both the private and affordable elements of the proposed scheme, which is considered robust.
- 4.4. **Table 4.1** sets out the trip rates adopted as well as the vehicle trip generation.

Table 4.1: Vehicle Trip Generation

Site	Weekday AM Peak (08:00-09:00)		Weekday PM Peak (17:00-18:00)	
	<i>Arr</i>	<i>Dep</i>	<i>Arr</i>	<i>Dep</i>
Vehicle Trip Rates – Private Houses (per dwelling)	0.143	0.401	0.364	0.212
Consented Trip Generation (175 houses)	25	70	64	37

- 4.5. Background traffic, including that associated with local committed developments are considered in **Section 5.0**.

Trip Distribution

- 4.6. To assess the impact of the revised access strategy, the distribution methodology as adopted within the consented TA has been utilised and updated accordingly.
- 4.7. The original assessment utilised data derived from the National Travel Survey (NTS) for the proportion of peak hour trips made by car, split into journey purpose to understand likely journey purposes during peak hours and this indicated approximately 45% of journeys are for employment purposes and 55% for all other purposes.
- 4.8. For commuting trips, Census data on method of travel to work was utilised for the Arun 003 Super Output Area Middle Layer to consider likely journey destinations and a gravity model was utilised for all other journey purposes. These outputs were then combined to generate an overall distribution for the development proposals. Full detail of the assessment is included in the original TA and have not be replicated here for brevity, as this approach has been agreed with officers as part of the original application and during recent pre-application discussions.
- 4.9. The above approach has been retained and the distribution updated accordingly to reflect the revised access strategy and is shown on the traffic flow diagrams attached at **Appendix B**. The approach follows the approach previously adopted and agreed as part of a previous submission and which has been agreed with HE and WSCC Highways in advance of preparing this TAA.
- 4.10. It is noteworthy that adopting the same distribution principles set out in the original assessment results in a potentially unlikely scenario whereby there are an increased number of vehicles arriving at the site

from the west (through Walberton Village), as set out in the flow diagrams, representing an unrealistic worst-case scenario.

4.11. As shown below it is more likely that multiple routes would be considered by those arriving at the site, likely influenced in part by local traffic conditions at the time of the trip.

4.12. **Plate 4.1** shows potential routing when arriving at the site from the west, indicating a largely comparable journey time/distance for each option when arriving at the site from A27; Arundel Road and Eatergate Lane.

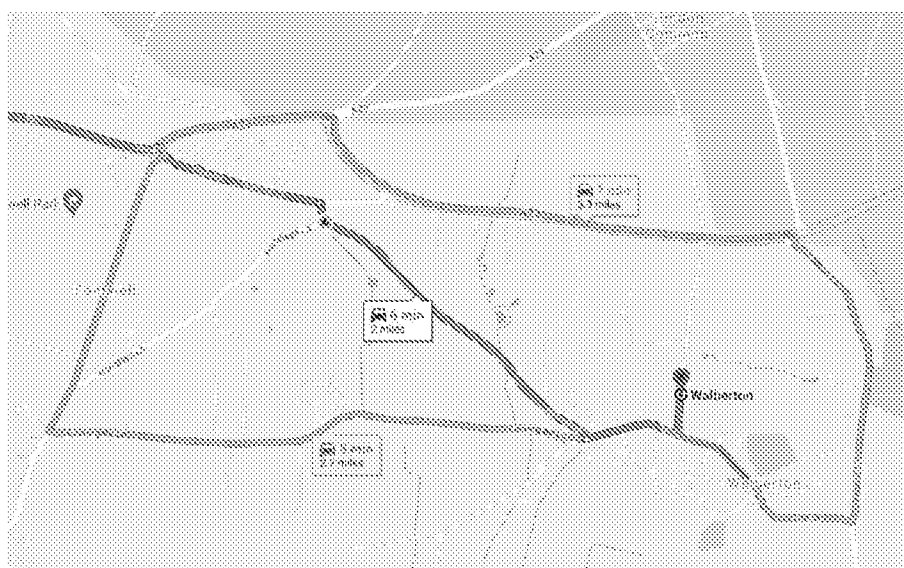


Plate 4.1 – Arrival Routing from the West

4.13. Vehicles departing the site are more likely to make use of the A27 to the north, as this offers journey time/distance savings.

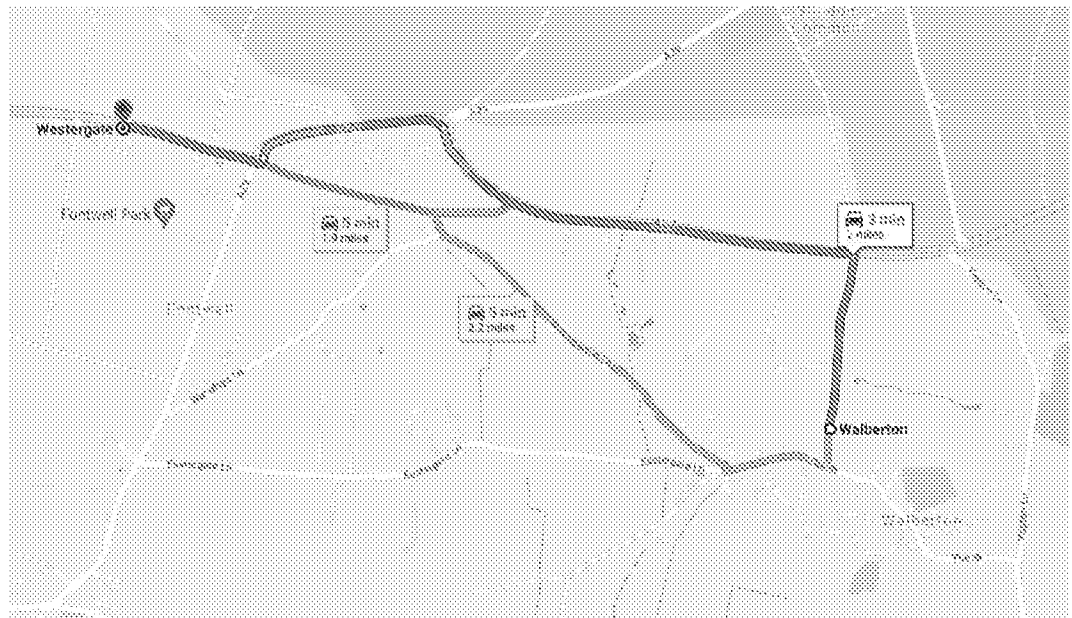


Plate 4.2 – Departure Routing to the West

5.0 BACKGROUND TRAFFIC FLOWS

- 5.1 It was agreed with WSCC as part of discussions for a previous submission that the 2031 future year scenario from the consented scheme should be utilised in this assessment to consider background traffic, as this includes trips committed as part of the current Local Plan period. The TA that accompanied the submission incorporated traffic surveys of the local road network and given current restrictions relating to the COVID-19 pandemic, obtaining up to date background traffic data is not possible, with significant impacts on travel patterns resulting in current survey results being unrepresentative of typical operation. The base data within the TA has therefore been utilised in updating the assessment, supplemented with further traffic data from the TAs submitted in support of nearby developments at Land West of Tye Lane and the uplift application for this site, Land East of Tye Lane.
- 5.2 The TAs from which the data has been obtained include full methodology for deriving future year data, utilising the Trip Ends Model Program (TEMPRO) to derive projected traffic growth from the survey year to represent the future assessment year, and then these were combined with the NTEM factors for each weekday peak period with the National Transport Model (NTM).
- 5.3 It should however be noted that the NTM factors were revised in October 2019 based on latest projection data and, overall, reduced traffic growth was projected in the latest available data, the RTF 2018 Scenario 1 – Reference traffic projections.
- 5.4 As a result, the future year traffic flow conditions adopted within this assessment use older projections that anticipated higher growth in traffic than the latest available data would suggest. The analysis is therefore robust since it would result in a likely overestimation of background traffic levels, and hence lower total traffic volumes than have been utilised in this assessment.

- 5.5 The background traffic levels are shown on the traffic flow diagrams at **Appendix B** as the "Base Case" scenario.
- 5.6 It is also noted that the background traffic flows are robust as changes in general travel/commuting patterns are forecast to result increased homeworking, reduced commuting and fewer commuting trips in the peak hours with more peak spreading of trips, reducing the total number of trips during the peak hours. No adjustment has been made to account for this and so the assessment is robust.

6.0 DEVELOPMENT IMPACT

- 6.1 To assess the impact of the predicted traffic associated with the proposed development, it is necessary to consider the operation of the local highway network in the assessment year both with and without the development traffic.
- 6.2 The "Base Case" scenarios includes for traffic growth whilst the development traffic, as identified above, has been added to the "2031 Base Case" in deriving the "Base Case + Development" flows, which will be utilised to consider the impact of the development traffic.
- 6.3 It was agreed with WSCC Highways that the junction of Tye Lane/The Street junction would be modelled to consider the uplift in traffic.
- 6.4 The results of the capacity analysis of the junction in both the weekday am and pm peak period in the future assessment year of 2031 are summarised in the table below.
- 6.5 This analysis has been undertaken using the appropriate industry-standard software, namely JUNCTIONS9, using the PICADY module for priority T-junctions (developed by TRL).
- 6.6 We have used the *OneHour* (formerly *ODTab*) option to model a 90-minute period (the peak hour itself plus 15 minutes either side, i.e. 07:45-09:15 and 16:45-18:15 respectively) with a synthesised flow profile. This assumes a peak within the peak period, with 22.5% of the hourly flow occurring during the first and fourth 15-minute time slices in the peak hour, and 27.5% in the second and third time slices, and so is robust.
- 6.7 The results tables give, for each flow scenario, the maximum Ratio of Flow to Capacity (RFC) value predicted in association with each give way manoeuvre at the priority junction and the roundabouts during each modelled period, together with the mean queue (in vehicles) and

the average overall delay incurred by every vehicle passing through the junction. An RFC value of 1.0 indicates that it is operating at theoretical capacity, with values below this indicating a junction still has reserve/spare capacity.

- 6.8 It is worth noting that the RFC quoted is the highest observed at any one time period within the synthesised peak period, so may only occur in one of the periods rather than throughout the modelled period, i.e. this could only reflect the operation in a worst case 15 minutes period.

Tye Lane / The Street priority junction

- 6.9 **Table 6.1** summarises the results of the capacity analysis of the Tye Lane / The Street priority junction with the predicted 2031 traffic both with and without the committed development traffic and the proposed development traffic flows in both weekday peak periods modelled using the PICADY module in JUNCTIONS9 and the *OneHour* peak flow profile.

- 6.10 Full program output is provided at **Appendix C**.

Table 6.1: Summary of results of JUNCTIONS9 PICADY capacity assessment of Tye Lane / The Street junction (*OneHour* flow profile)

Manoeuvre	2031 Weekday am peak hour				2031 Weekday pm peak hour			
	Base		Base + Dev		Base		Base + Dev	
	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)	RFC	Queue (Veh)
Left turn out (B-C)	0.010	0.0	0.045	0.0	0.022	0.0	0.041	0.0
Right turn out (B-A)	0.078	0.1	0.091	0.1	0.125	0.1	0.136	0.2
Right turn into Tye Lane and ahead (C-AB)	0.061	0.1	0.103	0.1	0.034	0.0	0.138	0.2
Junction Delay (secs)	1.16		1.73		1.58		2.43	

- 6.11 **Table 6.1** shows that the proposed junction would operate well within theoretical capacity with the predicted 2031 traffic flows in both weekday peak periods with the proposed development traffic included.
- 6.12 The analysis has been undertaken on the proposed Tye Lane improvements arrangement to provide improved pedestrian connectivity between the site and The Street. The preliminary scheme is shown on **ACE Drawing 183248-002**.
- 6.13 This assessment is considered robust as the trip distribution methodology adopted results in the majority of movements turning right into this junction, however as set out above a higher number of trips are likely to be turning left into this junction from the west, which would reduce the number of opposing right turn movements resulting in the junction operating better than indicated above.
- 6.14 ATC Survey for flows on Tye Lane attached show there are fewer than 1,000 AADT on Tye Lane, with a maximum 113 two-way movements in the AM peak hour and 85 in the PM peak hour which equates to an average of 1 vehicular movement every 30 seconds in the AM peak hour, and every 42 seconds in the PM peak hour.
- 6.15 It is difficult to estimate the potential change in flow on the local highway network because of the changes to the Tye Lane/A27 junction, but even if flows were to double on Tye Lane the overall number of movements would still be very low.

A27 / Right Turn into Yapton Lane

- 6.16 As set out in the appended flow diagrams, considering the revised number of units assessed there is a reduced demand for vehicles turning right from A27 into Yapton Lane. It is likely therefore that the Yapton Lane/A27 junction will operate better than previously modelled within the original TA.

- 6.17 Furthermore, considering the more likely distribution of trips to the site from the east, the number of movements is likely to be reduced further than that shown on the traffic flows at **Appendix B**.

Trips Through Walberton Village

- 6.18 Adopting the trip distribution agreed as part of the original assessment results in the majority of movements from the west on the A27 approaching Tye Lane from the east along High Street, via Walberton Village. However, as set out in **Plate 4.1** above there are multiple potential routes to the site from the west that would likely result in a reduced level of traffic arriving from the High Street / Walberton village than presented within **Appendix B**.
- 6.19 Applying an equal split for each of the three routing options from the west results in the forecast split below for potential additional vehicular movements though Walberton Village:
- AM Peak Hour – 31 two-way movements – equivalent to one vehicular movement every 1 minute 56 seconds.
 - PM Peak Hour – 39 two-way movements – equivalent to one vehicular movement every 1 minute 32 seconds.
- 6.20 COBA 2020 states that for a Small Town Road (Road Class 9), which is comparable to The Street, that a link capacity exists of circa 1,200 vehicles per hour. This is far in excess of the flow predicted during the future year assessed, even when including the development flows.
- 6.21 With the additional development trips in the future year there is a maximum of circa 400 two-way movements, which indicates The Street would be operating at a third of its theoretical capacity.

Trips Through Fontwell West Roundabout Junction

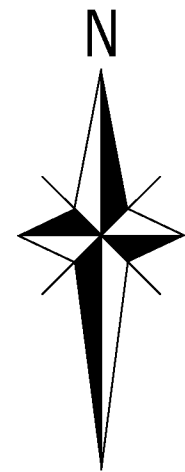
- 6.22 As presented within the traffic flow diagrams at Appendix B, there is anticipated to be a net reduction in traffic through the Fontwell West Roundabout junction to the west of the site.
- 6.23 Given a reduction in the number of dwellings considered this is as would be expected and indicates a lesser impact than has actually already been consented as acceptable could be expected at this junction.

7.0 CONCLUSIONS

- 7.1 Ardent Consulting Engineers (ACE) has been appointed by Vistry Group PLC to advise on the transport aspects of the proposed development of land to the east of Tye Lane, Walberton, and to prepare this Transport Assessment Addendum (TAA).
- 7.2 Under Arun District Council (ADC) planning application reference: WA/44/17/OUT, permission was granted for a total of 175 dwellings with access taken from Yapton Lane, which forms the eastern boundary of the site. A Reserved Matters (RM) application (reference: WA/95/18/RES) was approved on the 16th April 2019 and detailed the appearance, landscaping, layout and scale.
- 7.3 Highways England (HE) have proposals to implement a bypass of the A27 around Arundel that would impact upon the consented site access arrangements for the Vistry development. As a result, this TAA has been prepared to consider the implications of adopting site access from Tye Lane in lieu of the consented site access arrangements with Yapton Lane.
- 7.4 Pre-application discussions were undertaken with WSCC to agree the scope and methodology for the assessment presented within this TAA, and the agreed approach has been adhered to including the distribution reassignment of proposed development traffic, the background traffic data to be adopted as base traffic, including the future year scenario of 2031, and also the junctions where junction capacity modelling is required.
- 7.5 Improvements are proposed to Tye Lane from the proposed site access to the south at the junction with The Street. These comprise the provision of a new footway on the eastern side of the road to facilitate pedestrian movement to the south. However, an alternative 3.7m wide pedestrian link is provided onto Avisford Park Road.

- 7.6 Given the proposals have previously been consented, the principle of development has been established and this TAA is simply to consider the impact of revised traffic distribution.
- 7.7 PICADY junction capacity modelling has been undertaken on the Tye Lane/The Street priority junction, which shows this operates within capacity. The modelled scenario includes a pedestrian improvement scheme to provide a footway along the eastern side of Tye Lane between the site access and existing facilities in the vicinity of The Street.
- 7.8 Overall, it is concluded that the development proposals would not adversely affect the performance of the local highway and public transport networks, accords with local, regional and national planning policies, and should therefore be considered acceptable on highways ground.

Drawings



VIEWPORT 1 - PROPOSED RESIDENTIAL ACCESS AT TYE LANE & VISIBILITY SPLAYS

VIEWPORT 2 - REFUSE VEHICLE ENTERING SITE

VIEWPORT 4 - PROPOSED EMERGENCY ACCESS AT AVISFORD PARK ROAD & SWEEP PATHS

VIEWPORT 3 - REFUSE VEHICLE EXITING SITE

VIEWPORT 5 - FIRE TENDER LEFT TURN INTO EMERGENCY ACCESS

VIEWPORT 6 - FIRE TENDER LEFT TURN OUT OF EMERGENCY ACCESS

VIEWPORT 7 - REFUSE VEHICLE LEFT TURN FROM TYE LANE TO THE STREET

VIEWPORT 8 - REFUSE VEHICLE RIGHT TURN FROM TYE LANE TO THE STREET

VIEWPORT 9 - REFUSE VEHICLE RIGHT TURN TO TYE LANE FROM THE STREET

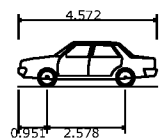
VIEWPORT 10 - REFUSE VEHICLE LEFT TURN TO TYE LANE FROM THE STREET

- KEY:
- SITE BOUNDARY
 - VISIBILITY SPLAYS FOR MEASURED SPEEDS (SEE NOTE 1)
 - VISIBILITY SPLAYS FOR 30mph SPEED LIMIT ON TYE LANE
 - VEGETATION TO BE REMOVED FROM VISIBILITY
 - PROPOSED FOOTWAY
 - INDICATIVE HIGHWAY BOUNDARY
 - TACTILE PAVING

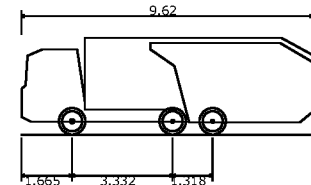
NOTES:

- JUNCTION VISIBILITY SPLAYS BASED ON SPEED SURVEYS UNDERTAKEN ON 08/01/19 RECORDING 85TH PERCENTILE SPEEDS OF 36.4MPH NORTHBOUND AND 38.9MPH SOUTHBOUND AND MIS1 PARAMETERS (1.5secs DRIVER REACTION TIME, 0.45g DECELERATION RATE, SINCE PROPORTION OF HGV/BUSES <5%)
- BASED ON TOPOGRAPHICAL SURVEY PREPARED BY K.A.RYLANCE LIMITED FOR VISTRY HOMES LIMITED, NOVEMBER 2020.
- HIGHWAY BOUNDARY INFORMATION BASED UPON 2020 ORDNANCE SURVEY MAPPING RECEIVED FROM WSSC ON 24/11/2020.

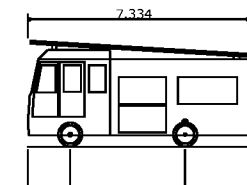
VEHICLES USED:



Car
Overall Length 4.52m
Overall Width 1.76m
Overall Body Height 1.48m
Min Body Ground Clearance 0.24m
Max Track Width 1.71m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.100m



Phoenix 2-18W (with Elite 2 6x2RS chassis)
Overall Length 9.62m
Overall Width 2.34m
Overall Body Height 2.34m
Min Body Ground Clearance 0.38m
Track Width 2.28m
Lock to lock time 5.00s
Kerb to Kerb Turning Radius 8.000m



Fire Tender
Overall Length 7.33m
Overall Width 2.34m
Overall Body Height 2.34m
Min Body Ground Clearance 0.38m
Track Width 2.28m
Lock to lock time 5.00s
Kerb to Kerb Turning Radius 8.000m

FOR INFORMATION ONLY

G	ACCESS & TRACKING AMENDED	KI	KI	KM	18.06.21
F	TRACKING OF THE STREET/ TYE LANE JUNCTION ADDED	MRH	MRH	DH	08.06.21
E	OS MAPPING ADDED	KI	KI	KM	01.06.21
D	ACCESS UPDATED	KI	KI	KM	27.05.21
C	EDGE OF CARRIAGEWAY MARKING ADDED	DV	DV	KM	15.03.21
B	ACCESS UPDATED	DV	DV	KM	26.01.21
A	EMERGENCY ACCESS TRACKS ADDED / FOOTWAY WIDENED TO A MIN. 1.2m / CARRIAGEWAY NARROWED FOLLOWING WSSC COMMENTS	DV	DV	KM	07.01.21
Rev	Description	Dn	Chk	App	Date

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Client

VISTRY SOUTH EAST

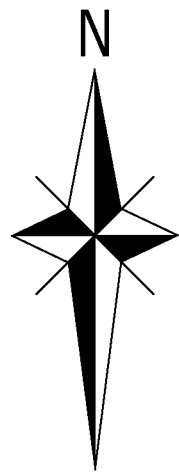
Project Title:

LAND EAST OF TYE LANE, WALBERTON

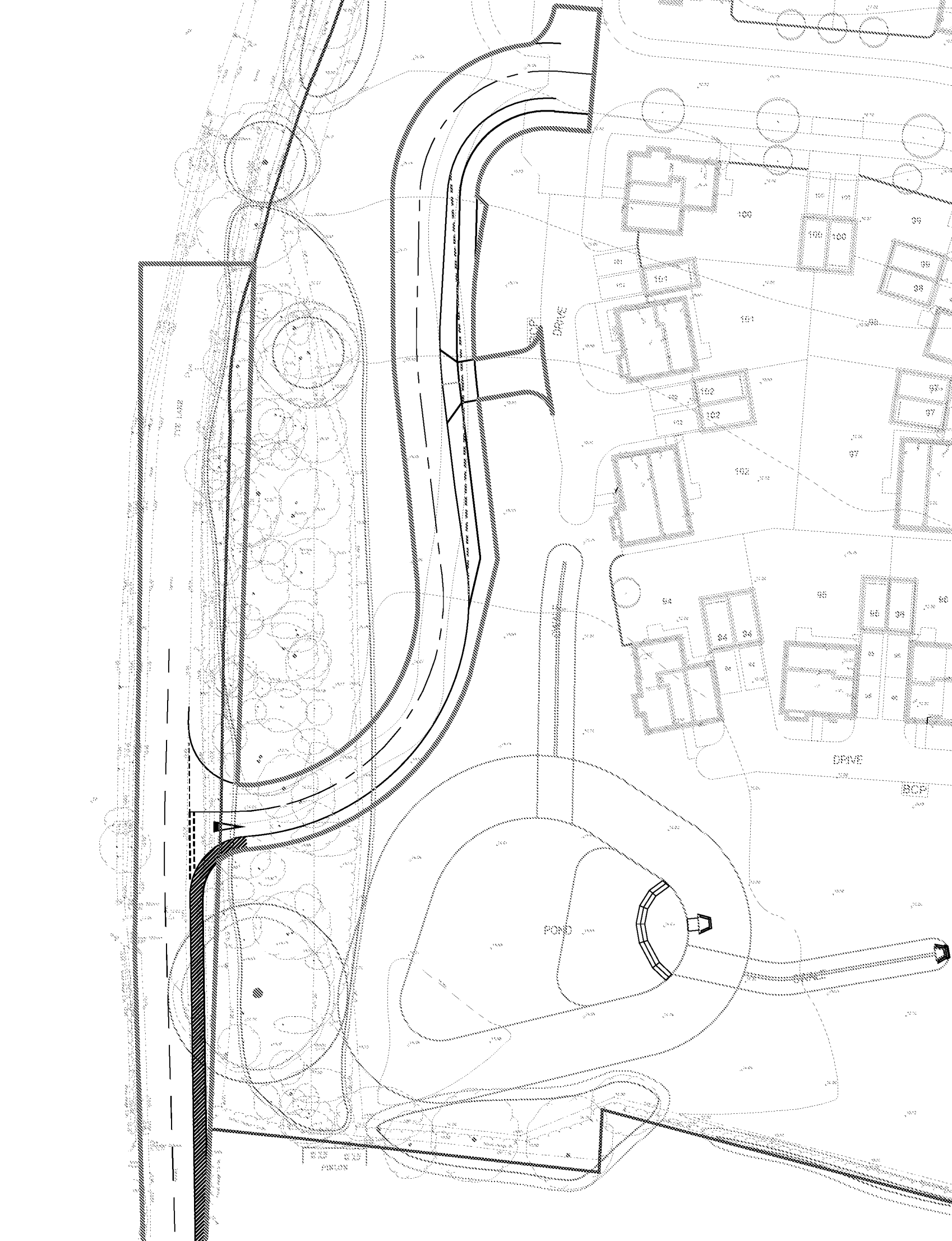
Drawing Title:

PROPOSED ACCESS IMPROVEMENTS
- TYE LANE/AVISFORD PARK ROAD

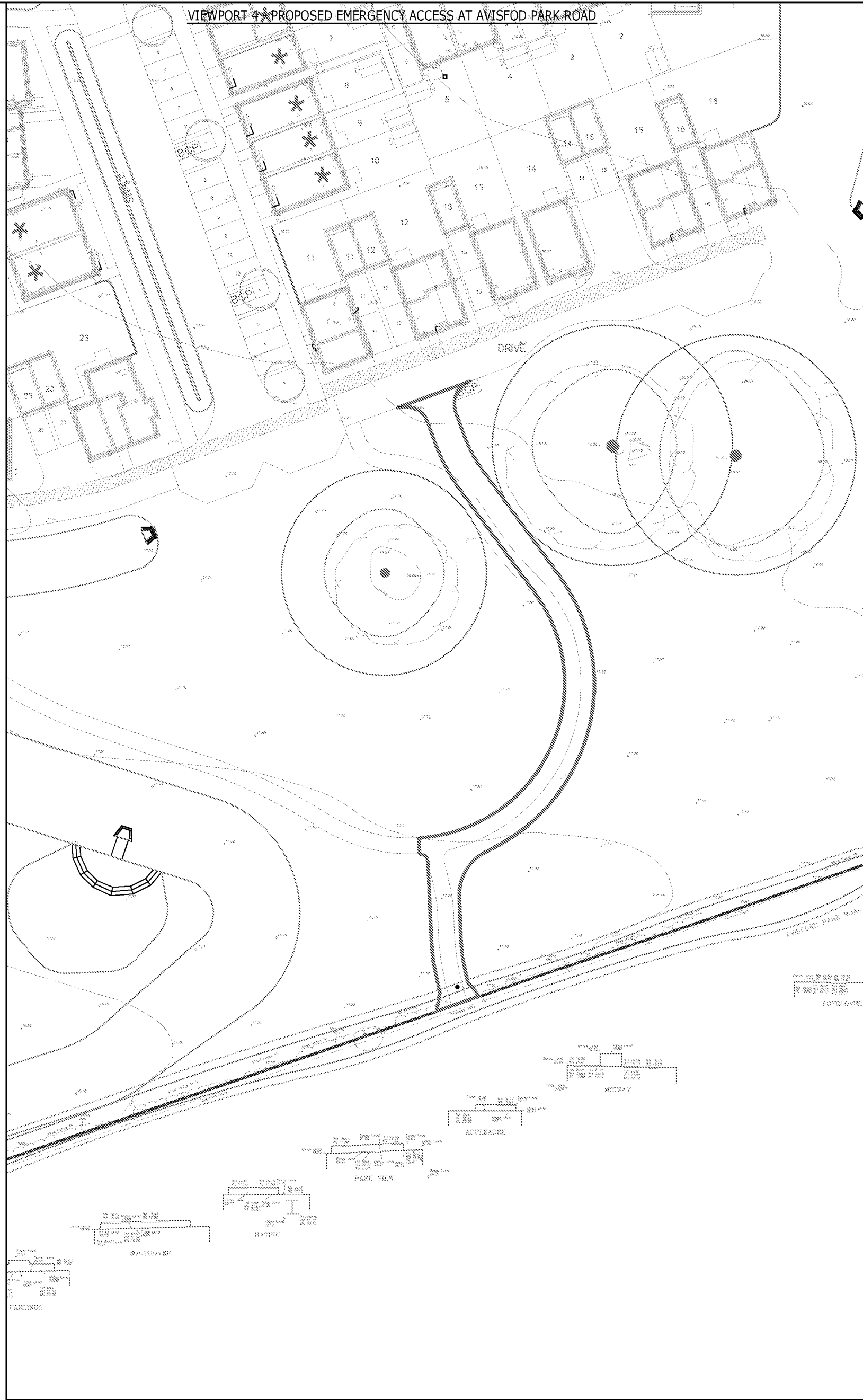
A1 Scale	Date	Designed by
1:500	20.11.2020	KI
Drawn by	Checked by	Approved by
KI	KI	KM
Drawing Number	183248-002	
Rev	C	



VIEWPORT 1 - PROPOSED RESIDENTIAL ACCESS AT TYE LANE



VIEWPORT 2 - PROPOSED EMERGENCY ACCESS AT AVISFOD PARK ROAD



NOTES:

1. BASED ON TOPOGRAPHICAL SURVEY PREPARED BY K.A.RYLAND LIMITED FOR VISTRY HOMES LIMITED, NOVEMBER 2020.

LEGEND

- LAND OWNERSHIP BOUNDARY
———— PLANNING APPLICATION BOUNDARY
- - - - - 2.4 x 25m JUNCTION SPLAY (20mph)
- - - - - 25m FORWARD SPLAY (20mph)

DRAFT

C	TYE LANE ACCESS AMENDED	KI	KI	KM	02.06.21
B	RED LINE BOUNDARY AMENDED	JM	JM	KM	26.01.21
A	RED LINE BOUNDARY AMENDED	KI	KI	KM	01.12.20
Rev	Description	Dn	Chk	App	Date

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Client					
VISTRY SOUTH EAST					
Project Title:					
LAND EAST OF TYE LANE, WALBERTON					
Drawing Title:					
PROPOSED ALTERNATIVE ACCESS					
A1 Scale	Date	Designed by			
1:500	DEC 2020	KI			
Drawn by	Checked by	Approved by			
KI	KI	KM			
Drawing Number		183248-003			Rev
					C



VIEWPORT 1

VIEWPORT 2

KEY PLAN
SCALE - 1:1250



NOTES:

1. BASED ON TOPOGRAPHICAL SURVEY PROVIDED BY HIGHWAYS ENGLAND ON 04.06.2021.
2. LAND TITLE BOUNDARIES TRANPOSED FROM H.M. LAND REGISTRY PLANS.
3. ADOPTED HIGHWAY EXTENTS SUPPLIED BY WSCC AND TRANPOSED TO TOPOGRAPHICAL SURVEY
4. JUNCTION DESIGNED IN ACCORDANCE WITH DMRB CD123 STANDARDS.
5. MERGE RADII IN ACCORDANCE WITH CD123 5.5.6.
6. MERGE TAPER IN ACCORDANCE WITH CD123 5.25-26.
7. HIGHWAY DRAINAGE IS CURRENTLY UNKNOWN.

KEY:

- PROPOSED KERB
- ROAD MARKINGS

FOR INFORMATION ONLY

C	REMOVED BOUNDARY INFORMATION	MRH	MRH	KM	18.06.21
B	REDRAWN ON TOPO SURVEY	MRH	DV	CH	08.06.21
A	UPDATED NOTES	MRH	MRH	KM	04.06.21
Rev	Description	Drn	Chk	App	Date

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worksafe
consultant

SSIP

Client			VISTRY SOUTH EAST		
Project Title:			LAND EAST OF TYE LANE, WALBERTON		
Drawing Title:			PROPOSED A27 / TYE LANE JUNCTION		
A1 Scale	Date	Designed by			
1:500	JUNE 2021	MRH			
Drawn by	Checked by	Approved by			
MRH	DV	KM			
Drawing Number		183248-005		Rev C	

Appendix A

Calculation Reference: AUDIT-236601-170411-0446

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLESSelected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
	SC SURREY	1 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	CW CORNWALL	1 days
	DC DORSET	1 days
	DV DEVON	2 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	2 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	2 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	2 days
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	2 days
09	NORTH	
	CB CUMBRIA	1 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	FA FALKIRK	1 days
	FI FIFE	1 days
	SR STIRLING	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: 51 to 432 (units:)
 Range Selected by User: 50 to 500 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/04/07 to 29/11/16

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	8 days
Tuesday	7 days
Wednesday	4 days
Thursday	5 days
Friday	4 days

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

Selected survey types:

Manual count	28 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)	15
Edge of Town	13

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	23
No Sub Category	5

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	28 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®.

Secondary Filtering selection (Cont.):Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	7 days
10,001 to 15,000	6 days
15,001 to 20,000	8 days
20,001 to 25,000	4 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	4 days
50,001 to 75,000	2 days
75,001 to 100,000	5 days
100,001 to 125,000	6 days
125,001 to 250,000	5 days
250,001 to 500,000	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	6 days
1.1 to 1.5	22 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:

Yes	2 days
No	26 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	28 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	CB-03-A-04	SEMI DETACHED		CUMBRIA
	MOORCLOSE ROAD			
	SALTERBACK			
	WORKINGTON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	82		
	Survey date: FRIDAY	24/04/09		Survey Type: MANUAL
2	CF-03-A-02	MIXED HOUSES		CARDIFF
	DROPE ROAD			
	CARDIFF			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	196		
	Survey date: FRIDAY	05/10/07		Survey Type: MANUAL
3	CH-03-A-02	HOUSES/ FLATS		CHESHIRE
	SYDNEY ROAD			
	CREWE			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	174		
	Survey date: TUESDAY	14/10/08		Survey Type: MANUAL
4	CH-03-A-06	SEMI-DET./ BUNGALOWS		CHESHIRE
	CREWE ROAD			
	CREWE			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Number of dwellings:	129		
	Survey date: TUESDAY	14/10/08		Survey Type: MANUAL
5	CW-03-A-02	SEMI D./ DETACHED		CORNWALL
	BOSVEAN GARDENS			
	TRURO			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	73		
	Survey date: TUESDAY	18/09/07		Survey Type: MANUAL
6	DC-03-A-01	DETACHED		DORSET
	ISAACS CLOSE			
	POOLE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	51		
	Survey date: WEDNESDAY	16/07/08		Survey Type: MANUAL
7	DV-03-A-02	HOUSES & BUNGALOWS		DEVON
	MILLHEAD ROAD			
	HONITON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	116		
	Survey date: FRIDAY	25/09/15		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	DV-03-A-03	TERRACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
9	EX-03-A-01	SEMI -DET.	ESSEX
	MILTON ROAD		
	CORRINGHAM		
	STANFORD-LE-HOPE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	237	
	Survey date: TUESDAY	13/05/08	Survey Type: MANUAL
10	FA-03-A-02	MIXED HOUSES	FALKIRK
	ROSEBANK AVENUE & SPRINGFIELD DRIVE		
	FALKIRK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	161	
	Survey date: WEDNESDAY	29/05/13	Survey Type: MANUAL
11	FI-03-A-03	MIXED HOUSES	FIFE
	WOODMILL ROAD		
	DUNFERMLINE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	155	
	Survey date: MONDAY	30/04/07	Survey Type: MANUAL
12	HC-03-A-18	HOUSES & FLATS	HAMPSHIRE
	CANADA WAY		
	LIPHOOK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	62	
	Survey date: TUESDAY	29/11/16	Survey Type: MANUAL
13	LN-03-A-01	MIXED HOUSES	LINCOLNSHIRE
	BRANT ROAD		
	BRACEBRIDGE		
	LINCOLN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	150	
	Survey date: TUESDAY	15/05/07	Survey Type: MANUAL
14	LN-03-A-02	MIXED HOUSES	LINCOLNSHIRE
	HYKEHAM ROAD		
	LINCOLN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	186	
	Survey date: MONDAY	14/05/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	NE-03-A-02	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	HANOVER WALK		
	SCUNTHORPE		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	432	
	Survey date: MONDAY	12/05/14	Survey Type: MANUAL
16	NF-03-A-02	HOUSES & FLATS	NORFOLK
	DEREHAM ROAD		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	98	
	Survey date: MONDAY	22/10/12	Survey Type: MANUAL
17	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL
18	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE		
	NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
19	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
20	SC-03-A-04	DETACHED & TERRACED	SURREY
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
21	SF-03-A-01	SEMI DETACHED	SUFFOLK
	A1156 FELIXSTOWE ROAD		
	RACECOURSE		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	77	
	Survey date: WEDNESDAY	23/05/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22	SF-03-A-02	SEMI DET./ TERRACED	SUFFOLK
	STOKE PARK DRIVE		
	MAIDENHALL		
	IPSWICH		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	230	
	Survey date: THURSDAY	24/05/07	Survey Type: MANUAL
23	SH-03-A-04	TERRACED	SHROPSHIRE
	ST MICHAEL'S STREET		
	SHREWSBURY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	108	
	Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
24	SH-03-A-05	SEMI-DETACHED/ TERRACED	SHROPSHIRE
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
25	SR-03-A-01	DETACHED	STIRLING
	BENVUE		
	STIRLING		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: MONDAY	23/04/07	Survey Type: MANUAL
26	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	A19 BENTLEY ROAD		
	BENTLEY RISE		
	DONCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
27	WM-03-A-03	MIXED HOUSING	WEST MIDLANDS
	BASELEY WAY		
	ROWLEYS GREEN		
	COVENTRY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	84	
	Survey date: MONDAY	24/09/07	Survey Type: MANUAL
28	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	BROADBRIDGE HEATH		
	HORSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL

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

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	28	127	0.076	28	127	0.287	28	127	0.363
08:00 - 09:00	28	127	0.143	28	127	0.401	28	127	0.544
09:00 - 10:00	28	127	0.155	28	127	0.190	28	127	0.345
10:00 - 11:00	28	127	0.143	28	127	0.183	28	127	0.326
11:00 - 12:00	28	127	0.162	28	127	0.156	28	127	0.318
12:00 - 13:00	28	127	0.186	28	127	0.167	28	127	0.353
13:00 - 14:00	28	127	0.172	28	127	0.169	28	127	0.341
14:00 - 15:00	28	127	0.170	28	127	0.185	28	127	0.355
15:00 - 16:00	28	127	0.276	28	127	0.191	28	127	0.467
16:00 - 17:00	28	127	0.306	28	127	0.189	28	127	0.495
17:00 - 18:00	28	127	0.364	28	127	0.212	28	127	0.576
18:00 - 19:00	28	127	0.264	28	127	0.197	28	127	0.461
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.417			2.527			4.944

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.

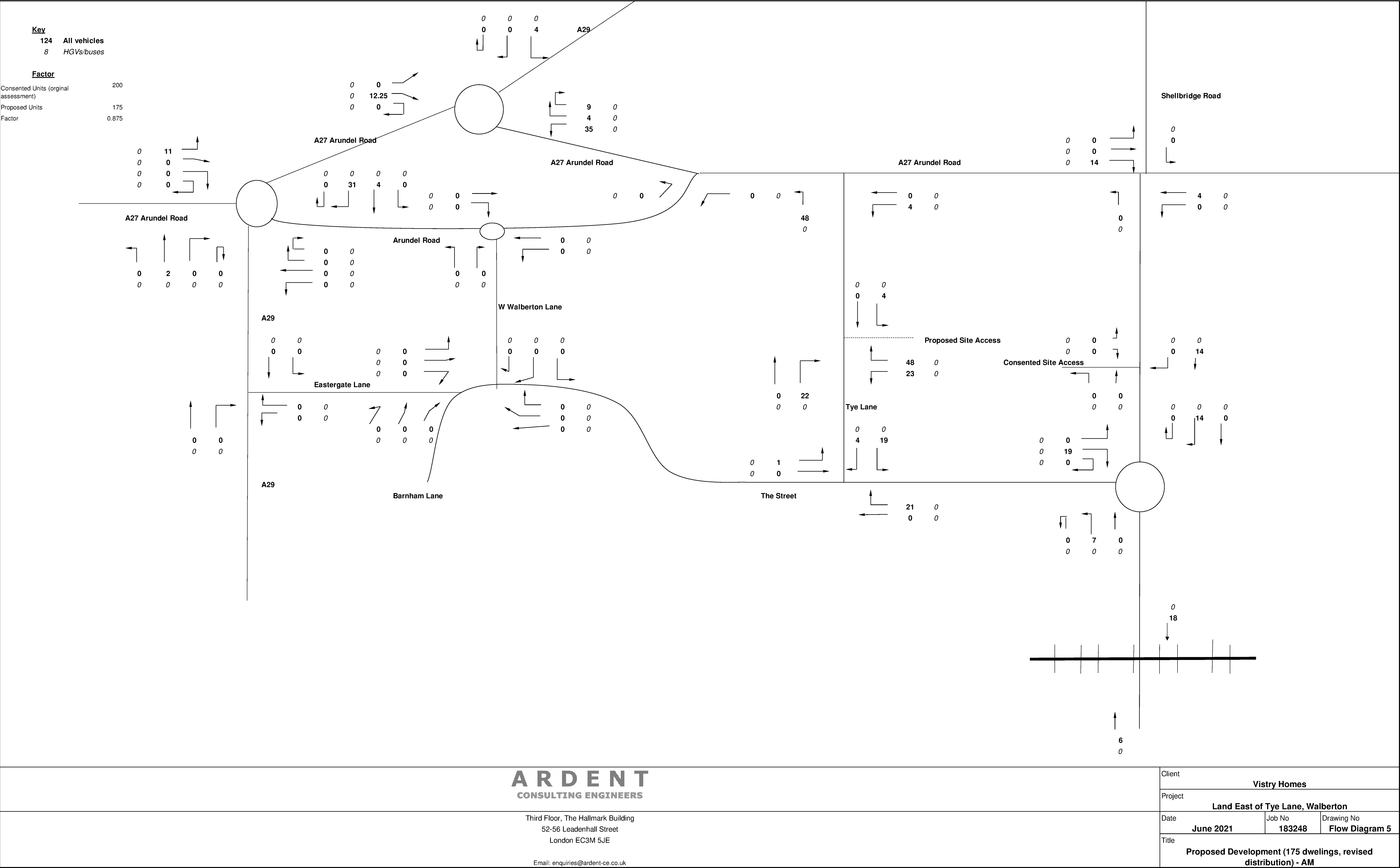
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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.

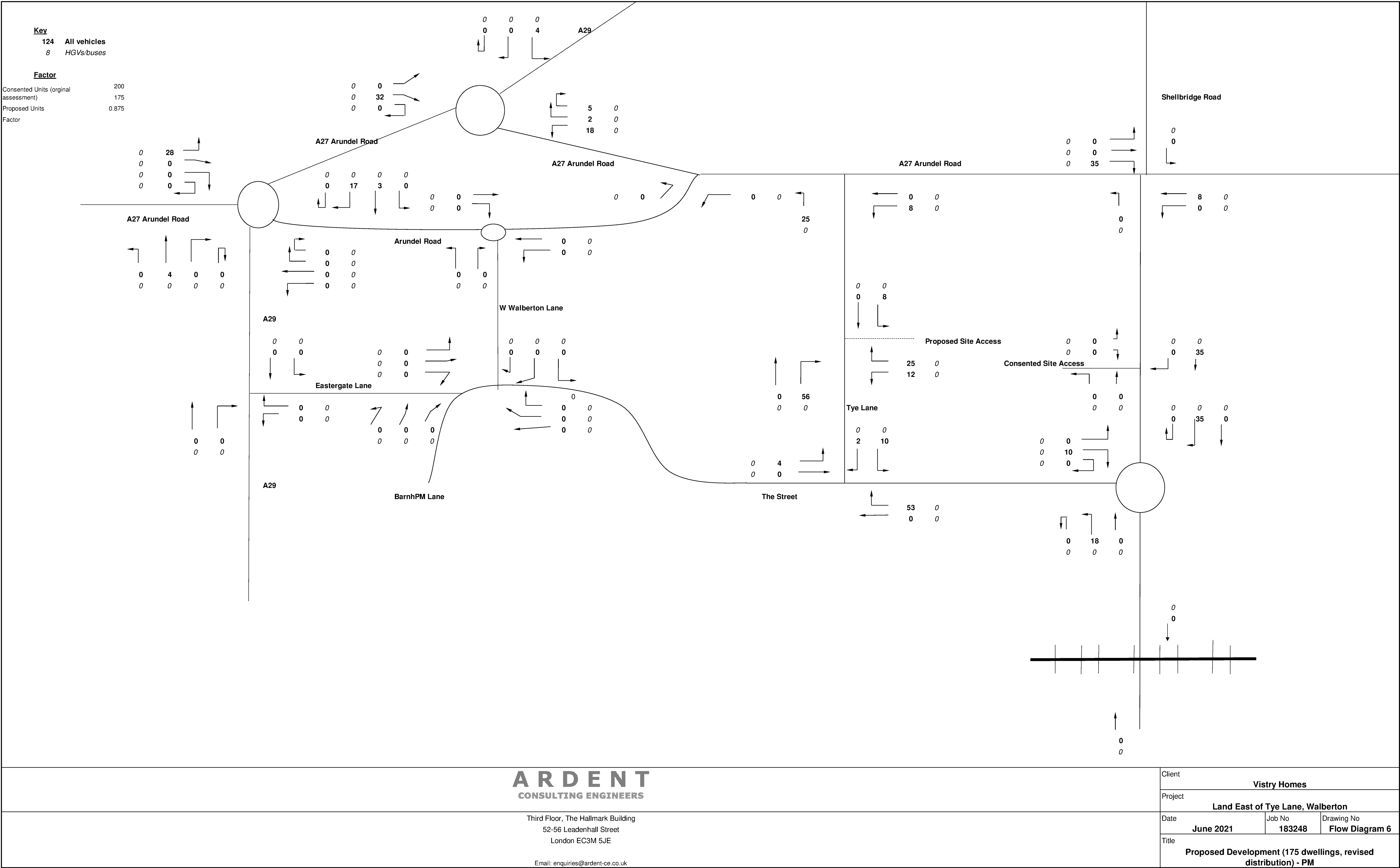
Parameter summary

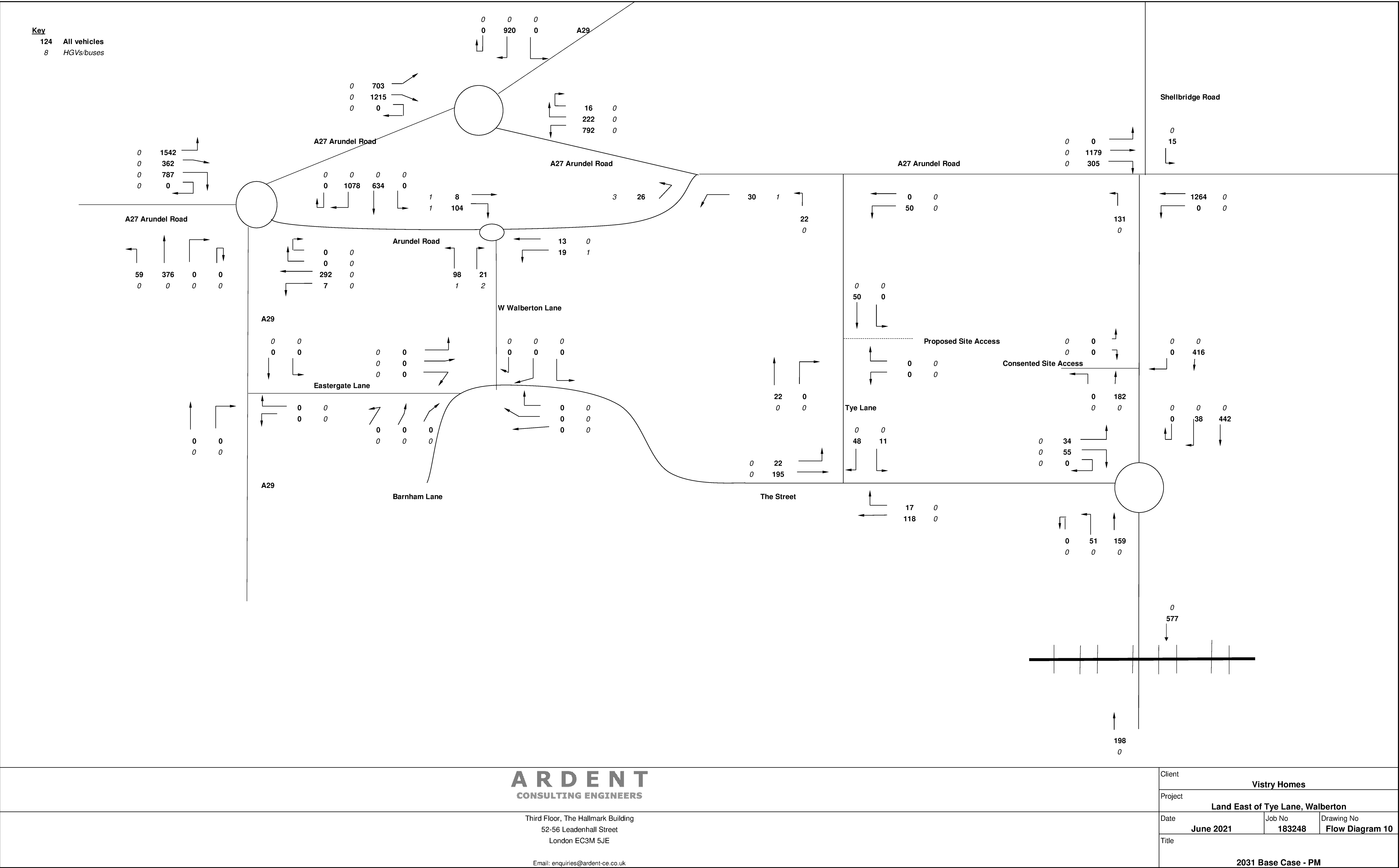
Trip rate parameter range selected: 51 - 432 (units:)
 Survey date range: 01/04/07 - 29/11/16
 Number of weekdays (Monday-Friday): 28
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 2
 Surveys manually removed from selection: 0

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.

Appendix B







Appendix C

Junctions 9							
PICADY 9 - Priority Intersection Module							
Version: 9.5.1.7462							
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution							

Filename: Tye Lane - The Street PICADY - 02.06.21.j9

Path: Y:\ARDENT PROJECTS\183248 - Lane East of Tye Lane, Walberton – DCO\Transport\PICADY

Report generation date: 02/06/2021 21:32:12

- »2031 Base , AM
- »2031 Base, PM
- »2031 Base + Dev, AM
- »2031 Base + Dev, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2031 Base									
Stream B-C	D1	0.0	6.44	0.01	A	D2	0.0	6.56	0.02	A
Stream B-A		0.1	9.49	0.08	A		0.1	9.74	0.13	A
Stream C-AB		0.1	5.49	0.06	A		0.0	5.42	0.03	A
	2031 Base + Dev									
Stream B-C	D3	0.0	6.47	0.05	A	D4	0.0	6.72	0.04	A
Stream B-A		0.1	9.87	0.09	A		0.2	10.33	0.14	E
Stream C-AB		0.2	5.76	0.10	A		0.2	6.08	0.14	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	27/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ARDENTCE\btong
Description	

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	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM	ONE HOUR	00:00	01:30	15	✓
D2	2031 Base	PM	ONE HOUR	00:00	01:30	15	✓
D3	2031 Base + Dev	AM	ONE HOUR	00:00	01:30	15	✓
D4	2031 Base + Dev	PM	ONE HOUR	00:00	01:30	15	✓

Analysis Set Details

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

2031 Base , AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Tye Lane - The Street	T-Junction	Two-way		1.16	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	The Street West		Major
B	Tye Lane		Minor
C	The Street East		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00			150.0	✓	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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.00	3.00	2.50	2.50	2.50		1.00	17	14

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	495	0.086	0.218	0.137	0.311
B-C	633	0.093	0.234	-	-
C-B	661	0.245	0.245	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 Base	AM	ONE HOUR	00:00	01:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	240	100.000
B		ONE HOUR	✓	34	100.000
C		ONE HOUR	✓	168	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	35	205
	B	29	0	5
	C	138	30	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.01	6.44	0.0	A	5	7
B-A	0.08	9.49	0.1	A	27	40
C-AB	0.06	5.49	0.1	A	34	51
C-A					120	180
AB					32	48
AC					188	282

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	4	0.94	587	0.006	4	0.0	0.0	6.175	A
B-A	22	5	438	0.050	22	0.0	0.1	8.646	A
C-AB	27	7	685	0.039	26	0.0	0.1	5.466	A
C-A	100	25			100				
AB	26	7			26				
AC	154	39			154				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	4	1	577	0.008	4	0.0	0.0	6.282	A
B-A	26	7	427	0.061	26	0.1	0.1	8.986	A
C-AB	33	8	690	0.048	33	0.1	0.1	5.479	A
C-A	118	30			118				
AB	31	8			31				
AC	184	46			184				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	1	565	0.010	5	0.0	0.0	6.436	A
B-A	32	8	411	0.078	32	0.1	0.1	9.486	A
C-AB	42	11	698	0.061	42	0.1	0.1	5.491	A
C-A	143	36			143				
AB	39	10			39				
AC	226	56			226				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	6	1	565	0.010	6	0.0	0.0	6.437	A
B-A	32	8	411	0.078	32	0.1	0.1	9.491	A
C-AB	42	11	698	0.061	42	0.1	0.1	5.495	A
C-A	143	36			143				
AB	39	10			39				
AC	226	56			226				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	4	1	577	0.008	5	0.0	0.0	6.283	A
B-A	26	7	427	0.061	26	0.1	0.1	8.991	A
C-AB	33	8	690	0.048	33	0.1	0.1	5.481	A
C-A	118	30			118				
AB	31	8			31				
AC	184	46			184				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	4	0.94	587	0.006	4	0.0	0.0	6.176	A
B-A	22	5	438	0.050	22	0.1	0.1	8.658	A
C-AB	27	7	685	0.039	27	0.1	0.1	5.472	A
C-A	100	25			100				
AB	26	7			26				
AC	154	39			154				

2031 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Tye Lane - The Street	T-Junction	Two-way		1.58	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 Base	PM	ONE HOUR	00:00	01:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	217	100.000
B		ONE HOUR	✓	59	100.000
C		ONE HOUR	✓	135	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	22	195
	B	48	0	11
	C	118	17	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.02	6.56	0.0	A	10	15
B-A	0.13	9.74	0.1	A	44	66
C-AB	0.03	5.42	0.0	A	19	28
C-A					105	158
AB					20	30
AC					179	268

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	8	2	584	0.014	8	0.0	0.0	6.247	A
B-A	36	9	445	0.081	36	0.0	0.1	8.783	A
C-AB	15	4	679	0.022	15	0.0	0.0	5.418	A
C-A	87	22			87				
AB	17	4			17				
AC	147	37			147				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	10	2	575	0.017	10	0.0	0.0	6.374	A
B-A	43	11	436	0.099	43	0.1	0.1	9.167	A
C-AB	18	5	683	0.027	18	0.0	0.0	5.413	A
C-A	103	26			103				
AB	20	5			20				
AC	175	44			175				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	12	3	561	0.022	12	0.0	0.0	6.559	A
B-A	53	13	422	0.125	53	0.1	0.1	9.736	A
C-AB	23	6	689	0.034	23	0.0	0.0	5.407	A
C-A	126	31			126				
AB	24	6			24				
AC	215	54			215				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	12	3	561	0.022	12	0.0	0.0	6.560	A
B-A	53	13	422	0.125	53	0.1	0.1	9.742	A
C-AB	23	6	689	0.034	23	0.0	0.0	5.410	A
C-A	126	31			126				
AB	24	6			24				
AC	215	54			215				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	10	2	574	0.017	10	0.0	0.0	6.378	A
B-A	43	11	436	0.099	43	0.1	0.1	9.178	A
C-AB	18	5	683	0.027	18	0.0	0.0	5.414	A
C-A	103	26			103				
AB	20	5			20				
AC	175	44			175				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	8	2	584	0.014	8	0.0	0.0	6.252	A
B-A	36	9	445	0.081	36	0.1	0.1	8.803	A
C-AB	15	4	679	0.022	15	0.0	0.0	5.421	A
C-A	87	22			87				
AB	17	4			17				
AC	147	37			147				

2031 Base + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Tye Lane - The Street	T-Junction	Two-way		1.73	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2031 Base + Dev	AM	ONE HOUR	00:00	01:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	241	100.000
B		ONE HOUR	✓	57	100.000
C		ONE HOUR	✓	189	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	36	205
	B	33	0	24
	C	138	51	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.05	6.47	0.0	A	22	33
B-A	0.09	9.87	0.1	A	30	45
C-AB	0.10	5.76	0.2	A	58	87
C-A					116	174
AB					33	50
AC					188	282

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	18	5	607	0.030	18	0.0	0.0	6.110	A
B-A	25	6	430	0.058	25	0.0	0.1	8.882	A
C-AB	45	11	685	0.066	45	0.0	0.1	5.624	A
C-A	97	24			97				
AB	27	7			27				
AC	154	39			154				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	22	5	597	0.036	22	0.0	0.0	6.257	A
B-A	30	7	418	0.071	30	0.1	0.1	9.279	A
C-AB	56	14	690	0.081	56	0.1	0.1	5.677	A
C-A	114	28			114				
AB	32	8			32				
AC	184	46			184				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	26	7	583	0.045	26	0.0	0.0	6.466	A
B-A	36	9	401	0.091	36	0.1	0.1	9.870	A
C-AB	72	18	698	0.103	72	0.1	0.1	5.753	A
C-A	136	34			136				
AB	40	10			40				
AC	226	56			226				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	26	7	583	0.045	26	0.0	0.0	6.468	A
B-A	36	9	401	0.091	36	0.1	0.1	9.874	A
C-AB	72	18	698	0.103	72	0.1	0.2	5.758	A
C-A	136	34			136				
AB	40	10			40				
AC	226	56			226				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	22	5	597	0.036	22	0.0	0.0	6.261	A
B-A	30	7	418	0.071	30	0.1	0.1	9.287	A
C-AB	56	14	690	0.081	56	0.2	0.1	5.681	A
C-A	114	28			114				
AB	32	8			32				
AC	184	46			184				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	18	5	606	0.030	18	0.0	0.0	6.121	A
B-A	25	6	430	0.058	25	0.1	0.1	8.899	A
C-AB	45	11	685	0.066	45	0.1	0.1	5.632	A
C-A	97	24			97				
AB	27	7			27				
AC	154	39			154				

2031 Base + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Tye Lane - The Street	T-Junction	Two-way		2.43	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 Base + Dev	PM	ONE HOUR	00:00	01:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	221	100.000
B		ONE HOUR	✓	71	100.000
C		ONE HOUR	✓	188	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
	A	B	C	
From	A	0	26	195
	B	50	0	21
	C	118	70	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-C	0.04	6.72	0.0	A	19	29
B-A	0.14	10.33	0.2	B	46	69
C-AB	0.14	6.08	0.2	A	77	115
C-A					96	144
AB					24	36
AC					179	268

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	16	4	583	0.027	16	0.0	0.0	6.344	A
B-A	38	9	433	0.087	37	0.0	0.1	9.097	A
C-AB	61	15	678	0.089	60	0.0	0.1	5.820	A
C-A	81	20			81				
AB	20	5			20				
AC	147	37			147				

00:15 - 00:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	573	0.033	19	0.0	0.0	6.496	A
B-A	45	11	420	0.107	45	0.1	0.1	9.584	A
C-AB	75	19	682	0.109	74	0.1	0.1	5.924	A
C-A	94	24			94				
AB	23	6			23				
AC	175	44			175				

00:30 - 00:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	559	0.041	23	0.0	0.0	6.722	A
B-A	55	14	404	0.136	55	0.1	0.2	10.319	B
C-AB	95	24	688	0.138	95	0.1	0.2	6.073	A
C-A	112	28			112				
AB	29	7			29				
AC	215	54			215				

00:45 - 01:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	23	6	558	0.041	23	0.0	0.0	6.723	A
B-A	55	14	404	0.136	55	0.2	0.2	10.329	B
C-AB	95	24	688	0.138	95	0.2	0.2	6.078	A
C-A	112	28			112				
AB	29	7			29				
AC	215	54			215				

01:00 - 01:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	19	5	573	0.033	19	0.0	0.0	6.501	A
B-A	45	11	420	0.107	45	0.2	0.1	9.597	A
C-AB	75	19	682	0.109	75	0.2	0.1	5.929	A
C-A	94	24			94				
AB	23	6			23				
AC	175	44			175				

01:15 - 01:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-C	16	4	583	0.027	16	0.0	0.0	6.349	A
B-A	38	9	432	0.087	38	0.1	0.1	9.123	A
C-AB	61	15	678	0.090	61	0.1	0.1	5.831	A
C-A	81	20			81				
AB	20	5			20				
AC	147	37			147				