civils ltd - consulting engineers

TRANSPORT STATEMENT

Proposed Development:
North of Friars Oak Public House
The Paddock
London Road
Hassocks

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APPENDICES

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EXECUTIVE SUMMARY

This Transport Statement has been written for the proposed development of 18 new units on the land north of Friars Oak Public House on London Road / A273.

The existing site comprises of grassed fields and two residential properties which will be demolished as part of the development.

The proposed development consists of 18 new dwellings together with an on-site link to the cycleway / footway that runs along the eastern side of London Road and the formation of a new access designed in a similar alignment to the existing Paddock property access. The development will include on-site car and cycle parking in line with WSCC requirements.

The proposed new site vehicular access will be laid out in accordance with West Sussex County Council's standards as a bell mouth access with a 6m kerb radii and a width of 5 metres. Dropped kerbs and tactile paving will be provided on each side. The access will be designed with adequate visibility in both directions meeting Manual for Streets and DMRB standards.

The proposed development site is located in a relatively accessible area which is close to many local amenities and bus stops providing access to transport and other essential facilities.

The proposed development is likely to generate around 10 vehicle trips in both the AM and PM peak hours, about 43 over the course of a 12hour weekday (0700-1900), and about 53 on an average day (AADT). These can be accommodated on the highway network with no material operational impacts and no material impact on air quality in the Stonepound AQMA.

There are no unacceptable highway or transport impacts as a result of the proposed development.

1.0 INTRODUCTION

Context

1.1 This report has been prepared by GTA Civils Ltd for LCE Architects in conjunction with the above development and no responsibility is accepted to any third party for all or part of this study in connection with this or any other development.

1.2 GTA Civils Ltd has been commissioned by LCE Architects to prepare a Transport Statement in connection with the proposed development of 18 new residential units on the land north of the Friars Oak Public House on London Road / A273, Hassocks.

The Report

1.3 This Transport Statement has been written to include the following scope of work:

- Site visit;
- Initial discussions with WSCC as Highway Authority;
- Review of local planning and transport policies and their relevance to transport issues for this site;
- Review of proposed access arrangements to ensure they meet with local and national standards;
- Review of site accessibility by all transport modes (public transport, walking, cycling);
- Consider any information regarding the existing use of the site;
- Initial TRICS assessment to obtain likely trip rates for the proposed development;
- Distribute and review impact of the generated traffic on the local network;
- Review impact of traffic generated from the development;
- Review proposed car and cycle parking provision in light of the estimated site trip generations and local standards;
- Review of the internal layout of the development with reference to relevant guidance documents.

Policy Context

1.4 This report has been written in accordance with the following frameworks:

- National Planning Policy Framework;
- DfT Guidance on Transport Assessments;
- West Sussex County Council's Local Transport Plan;
- West Sussex County Council's Transport Assessment Guidance;
- Mid Sussex District Council's current and emerging Local Plan Policies.

2.0 SITE LOCATION

2.1 The site is located on the east side of London Road which is a classified 'A' road (A273) forming part of the West Sussex Strategic Highway Network.

2.2 An aerial view of the site location is illustrated below in **Figure 1** with the red line site boundary also shown. A larger site location plan can be seen in **Appendix A**.

Figure 1 Aerial view of site location

3.0 EXISTING SITE

3.1 The existing site covers 2.4 hectares of land comprising the following plots:

- Land between the Friar's Oak Public House and the Paddock (disused playing field owned by Mitchells & Butlers);
- The Paddock;
- Evergreen.

3.2 The site currently has two existing accesses onto London Road / A273; one at each of the residential properties both measuring around 3.5 metres in width.

4.0 PROPOSED DEVELOPMENT

General

4.1 The proposed development consists of 18No new units. The development mix is proposed as follows:

- 5No x 3 bedroom affordable units @ 75m^2
- 3No x 3 bedroom market units @ 140m^2
- 10No x 4 bedroom market units @ 180m^2

4.2 Part of the eastern half of the site is within Flood Zone 2 whilst the western half (fronting London Road) is within Floor Zone 1 (and so suitable for development). As a consequence of these factors, the proposed site will be laid out with the housing positioned along the western site boundary.

Proposed Access

4.3 Access to the site will continue to be from London Road / A273 as shown within the layout plans in **Appendix B** in a similar location to the existing Paddock access.

4.4 The proposed access will be laid out in accordance with West Sussex County Council's standards with a bell mouth access with 6m kerb radii and a width of 5 metres. Dropped kerbs and tactile paving will be provided on each side. A 1.8m wide footway will be provided on each side of the proposed access road. There will also be a 2 metre wide cycleway/pedestrian link from London Road into the southern end of the site.

4.5 The Design Manual for Roads and Bridges (DMRB) and the Manual for Streets 2 (MfS2) are the appropriate guidance documents for determining visibility splay requirements for this type of road.

4.6 Visibility splays are made up of the X distance (distance back into the new access from the edge of carriageway of the main) and the Y distance (the distance along the main road in each direction).

4.7 A distance of 2.4 metres is the appropriate X distance for most roads including this site. The Y distance is determined based on the speed limit of 40mph. The required Y distance in each direction, using the two guides is shown below:

- **DMRB** 120 metres
- **MfS 2** 70 metres

4.8 Even taking the higher DMRB requirement, visibility splays of 2.4 metres x 120 metres are achievable in each direction due to the alignment of London Road and the very wide verges.

This may require some trimming back of the existing overhanging hedge. Therefore, an access laid out to appropriate standards with adequate visibility is achievable.

Stage 1 Road Safety Audit

4.9 A Stage 1 Road Safety Audit was undertaken by Elix Consultancy Limited on Tuesday 12th April 2016 and the site was examined in daylight hours between 1030 and 1115 on Thursday 14th April and has been included within **Appendix D** of this report. The purpose of the RSA1 is to assess the suitability of the proposed access arrangements as part of the development.

4.10 The Road Safety Audit was carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems identified have been noted in the Designer's Response report included in **Appendix E** which responds to the suggestions for safety improvements.

4.11 A number of relatively minor points were raised within the RSA1. Overall, the problems highlighted can all be addressed at the detailed design stage.

Proposed Parking

4.12 On-site parking provisions will be laid out in accordance with West Sussex County Council's 'Guidance for Car Parking in New Residential Developments' and the WSCC car parking demand calculator. The calculation tool will give the appropriate level of parking provision with regards to the ward and district within West Sussex, the number of bedrooms and habitable rooms per unit etc., and should be used as a guide. See **Table 1** below.

Table 1 WSCC Car Parking Demand Calculator Results

	Ref.		A	B	C	TOTAL
DEVELOPMENT MIX	Unit Type		Houses	Houses	Houses	-
	Unit Tenure		Council/Housing Association	Private	Private	-
	Habitable Rooms (per unit)		5	5	6	-
	No. of Units		5	3	10	**18**
ALLOCATED	Spaces (per unit)		2	2	2	-
PARKING DEMAND	Allocated No.		10	6	20	**36**
	Unallocated for Residents	Per Unit	0	0	0	-
		Total	1	0	2	**3.02**
	Unallocated for visitors	Per Unit	0	0	0	-
		Total	1	1	2	**3.60**
	Total Demand		**12**	**7**	**24**	**43**

The results from the WSCC car parking demand calculator suggest that there will be a total demand for a provision of 43 car parking spaces as part of the development.

4.13 It is proposed that all units will have 2 parking spaces provided on plot, therefore, a total of 36 car parking spaces will be allocated to the 18No proposed units. To meet the above requirement the additional 7 spaces will be unallocated for use by residents and visitors and will be provided in layby form on the proposed on-site access road.

4.14 Covered and secure cycle parking to meet the West Sussex County Council's standards will be provided for each unit. The WSCC 'Guidance on Parking in New Residential Development' document states the following standards:

- ***1No & 2No bedroom houses*** *1 space (per unit)*
- ***3No+ bedroom houses*** *2 spaces (per unit)*

4.15 These will be provided within sheds in the garden area of each unit.

Emergency Access and Service Vehicles

4.16 The proposed access width will be 5m wide and the road will be laid out so that emergency and refuse vehicles can enter and turn on site. This is in line with the requirements set out for emergency vehicles in paragraph 6.7.2 of Manual for Streets.

4.17 All bins will be provided in the front garden of each residential dwelling and the site will be laid out so that refuse vehicles can get within 25 metres of the bin stores. Refuse vehicles will be able to enter and turn on site, meeting the requirements set out in Manual for Streets 1 paragraph 6.8.9.

5.0 SITE ACCESSIBILITY

Highway

5.1 London Road / A273 provides good connections northwards towards Burgess Hill and the A23 trunk road. To the south, there are good vehicle connections to Hassocks, Hurstpierpoint and Brighton. The A273 is a north-south classified 'A' road in mid-Sussex between Haywards Heath and Pycombe. It serves Haywards Heath, Burgess Hill and Hassocks, linking them to Brighton.

5.2 London Road has a carriageway width of around 6 metres and a 2 metre wide combined cycleway/footway along the site frontage on the east side of London Road. There is also a very wide verge on the east side of the road.

5.3 London Road is restricted to a speed limit of 40mph in the vicinity of the site. There is no street lighting provided. The speed limit changes to the national speed limit around 185 metres north of the access to The Paddock property.

Bus

5.4 The nearest bus stops with frequent services are located around 100m south of the proposed on-site cycleway/footway on London Road, this representing around a 1 minute walk. These stops are served by service numbers 40, 40X, 270, 271 and 523; these services provide frequent connections to Brighton, Burgess Hill, Haywards Heath, Crawley, Hurstpierpoint, Haywards Heath Princess Royal Hospital and Brighton Royal Sussex Hospital. Local bus services immediately passing the site which are summarised in **Table 2** below:

Table 2 Local bus services

Service / Route	Approximate Average Frequency		
	Mon-Fri	Sat	Sun
40 - Brighton - Hassocks – Burgess Hill - Haywards Heath	Hourly Service	Hourly Service	n/a
40X – Haywards Heath Princess Royal Hospital – Burgess Hill – Brighton Royal Sussex County Hospital	Hourly Service	n/a	4 services daily
270 – East Grinstead – Haywards Heath – Burgess Hill - Brighton	Hourly Service	Hourly service	n/a
271 – Crawley – Burgess Hill – Brighton	Hourly Service	Hourly Service	n/a
523 – Hurstpierpoint – Burgess Hill – Cuckfield	2 services daily	n/a	n/a

5.5 The bus services currently available provide good access for the residents of the proposed development to gain access to local facilities and towns such as Burgess Hill, Haywards Heath and Brighton. It is also noteworthy that some services run at weekends which can be used by young people.

5.6 This is in line with the West Sussex Local Transport Plan which addresses the needs of older people requiring 'bus stops close by and easy to reach' as well as young people who require 'bus services during the day but also into evenings and weekends'.

Rail

5.7 The local railway station is Hassocks which is located around 1200m from the site access. This is considered within walking distance for commuting purposes (15 minutes' walk time) and is about 3 minutes away by car. The station also provides 74 cycle parking spaces giving the option for residents to cycle to the station.

5.8 Services from this station are run by Gatwick Express, Thameslink and Southern and provide links to key destinations such as Brighton, Gatwick Airport, London Victoria and Bedford. The journey times and service frequencies during peak periods are set out below in **Table 3**.

Table 3 Local rail services

Destination	Frequency (during peak hours)	Journey time
Burgess Hill	0759, 0811, 0819, 0829, 0836, 0844, 1711, 1745	4 minutes
Brighton	0806, 0819, 0839, 0856, 1705, 1709, 1711, 1730, 1740, 1751, 1759	11 minutes
London Victoria	0819, 0829, 0836, 0844, 1711, 1736, 1745	48 minutes – 1 hr 11 minutes
Littlehampton	0819, 0856, 1709, 1711, 1751	1 hr – 1 hr 17 minutes
Bedford	0811, 0829, 0844, 1711, 1745	2 hrs 20 minutes

Walking and Cycling

5.9 Locally, the topography of the ground is fairly level which is conducive to walking and cycling. A number of the local roads within Hassocks are lightly trafficked and therefore, are suitable for walking and cycling.

5.10 The Institution of Highway and Transportation (IHT) publication 'Guidelines for Providing Journeys on Foot, 2000') contains a table *(Table 2.1)* of suggested walking distances for different purposes. **Table 4** recreates this table:

Table 4 Extract from IHT 'Guidelines for Providing for Journeys on Foot'

Distance in metres	Town Centres	Commuting	School / Elsewhere
Acceptable	*200*	*500*	*400*
Desirable	*400*	*1000*	*800*
Maximum	*800*	*2000*	*1200*

5.11 Within the vicinity of the site there are many local facilities and essential services that will be easily accessible for future residents of the new development. In the local area the residents of the proposed development will be able to easily access entertainment, education, employment and transport. There are convenience stores and supermarkets all within walking distance of the site. Key destinations in the local area are listed below in **Tables 5–9**.

Table 5 Shops/Employment – Accessibility to Local Convenience Stores, Supermarkets and Employment Facilities

Destination	Distance from site *(metres)*	Time taken to walk *(minutes)*	Within CIHT Guidelines *(YES/NO)*
Supermarket (Sainsburys Local)	1180	15	YES
Convenience Store (McColl's)	1200	18	YES
Bank (Nationwide)	1160	17	YES
Car Sales (PDH Cars Ltd)	815	10	YES

Table 6 Surgeries – Accessibility of development site to Surgeries/Pharmacies

Destination	Distance from site *(metres)*	Time taken to walk *(minutes)*	Within CIHT Guidelines *(YES/NO)*
The Heeler Centre	1200	16	YES
Hassocks Dental Surgery	1400	17	NO
Boots Pharmacy	1400	17	NO
Hassocks Eyecare Centre	1200	16	YES

Table 7 Schools – Accessibility of development site to local Schools

Destination	Distance from site *(metres)*	Time taken to walk *(minutes)*	Within CIHT Guidelines *(YES/NO)*
Mill Nursery	1100	9	YES
Hassocks Infant School	1300	17	NO
The Windmill Junior School	1900	24	NO
Downlands Community Secondary School	1700	21	NO

Table 8 Entertainment – Accessibility of development site to Entertainment Facilities

Destination	Distance from site *(metres)*	Time taken to walk *(minutes)*	Within CIHT Guidelines *(YES/NO)*
Various Eating Establishments (London Rd & Keymer Rd)	20 – 1170	1 – 15	YES
Various Hairdressers (Belmont Close & Keymer Rd)	313 – 1180	4 – 16	YES
Various Retail Shops (London Rd & Keymer Rd)	745 – 1200	9 – 16	YES

Table 9 Community Facilities – Accessibility of development site to Community Facilities

Destination	Distance from site *(metres)*	Time taken to walk *(minutes)*	Within CIHT Guidelines *(YES/NO)*
Hassocks Library	1800	24	NO
Royal Mail	1200	16	YES
St Francis of Assisi Church	420	5	YES
Post Office	1300	17	NO
Hassocks Community Cycle Hire	1120	15	YES

5.12 As seen from **Tables 5–9** above, the local amenities are mostly within maximum CIHT walking distance from the site. Residents are unlikely to require their private cars to make such short journeys and so this will encourage walking/cycling and the use of sustainable public transport.

6.0 TRIP GENERATIONS AND MODE CHOICE

Trip Rates

6.1 Trip generations for the site proposals are derived from interrogation of the TRICS database. The trip rates have been established using a sample of surveyed sites which, from the examples available, best described the characteristics of sites in the Hassocks area. The analysis was restricted to those database examples with multi-modal surveys. Trip rates were based on suburban and edge-of-town private housing examples only, and are therefore robust. The trip rates apply to both existing and proposed site development.

6.2 Full TRICS outputs are shown at **Appendix C**, summarised in **Table 10.**

Table 10 TRICS Person Trip Rates

Dwelling type	Mode	2-way person trip rate		
		0800-0900	1700-1800	Daily (12hr)
Private Houses	**Total**	1.111	0.903	8.485
	Veh. Occupants	0.759	0.659	6.184
Suburban & Edge-of-town sites	**Public Transport users**	0.003	0.012	0.116
	Walk	0.322	0.190	1.918
	Cycle	0.027	0.041	0.267

Mode Choice

6.3 Using the TRICS multi-modal sample rates, estimates of modal use for all person trips generated by the site proposals have been calculated. 2011 Census Journey to Work also provides data on mode choice for that trip purpose. **Table 11** compares the percentage mode choices from the two data sets.

Table 11 Mode shares – comparison of Census JtW and TRICS

	2011 Census - % of all journeys to work for residents in Hassocks (Mid Sussex MOA017)	TRICS Multi-modal - % of daily 2-way trips (Mixed residential)
Total all person trips	100%	100%
Vehicle occupants	68%	73%
Car driver	*63%*	-
Car passenger	*4%*	-
Motorcycle	*1%*	-
Total sustainable	32%	27%
Train	*19%*	*}2%*
Bus	*2%*	*PT users*
Walk	*9%*	*22%*
Cycle	*2%*	*3%*

Values rounded to nearest whole %

6.4 Both datasets show the highest modal use is by private car, with about 70% of all trips made as a car occupant (driver or passenger). However, although the proportions of total trips made by sustainable modes are similar, the share between sustainable modes is different with the proportion that are by train much higher in the Census dataset (reflecting the influence of morning and evening travel to and from employment served by rail accessible centres, including London) and the proportion that are on foot much higher in the TRICS dataset (reflecting the influence of non-work trip purposes such as education and local social/recreation/shopping).

Person Trip Generations

6.5 **Table 12** shows new person trips by mode to/from the net proposed development in the peak hours and across the day. Net proposed development is the difference between the 2 existing properties on the site and the 18 proposed dwellings. The total number of person trips in each time period has been derived using the TRICS data. The share between modes is also based on the TRICS proportions, adjusted in the daily figures to reflect the Census Journey to Work mode share by train which would largely take place outside the standard peak hours.

Table 12 Modal Person Trips by Time Period

TRIP TYPE	PERSON TRIPS		
	AM Peak	PM Peak	Daily (12hr)
TOTAL	18	14	136
Vehicle Occupants	12	10	99
Sustainable:	6	4	37
Public Transport	0	0	16
Train	*0*	*0*	*14*
Bus	*0*	*0*	*2*
Walk	5	3	17
Cycle	1	1	4

Vehicle Trip Generations

6.6 **Table 13** summarises the vehicle trip rates from the TRICS outputs in **Appendix C**.

Table 13 Vehicle Trip Rates

Dwelling type	0800-0900			1700-1800			Daily (12hr)		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Private Houses	0.135	0.402	0.537	0.361	0.161	0.522	2.367	2.373	4.740

6.7 **Table 14** shows the consequential vehicle trip generations of the net proposed development in the AM and PM peak hours and over the course of a day.

Table 14 Vehicle Trip Generations for Proposed Development

DEVELOPMENT TYPE	0800-0900			1700-1800			Daily (12hr)		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
2 existing units	0.3	0.8	1.1	0.7	0.3	1.0	4.7	4.7	9.4
18 proposed units	2.4	7.2	9.7	6.5	2.9	9.4	42.6	42.7	85.3
16 net units (18 proposed less 2 existing)	2.1	6.4	8.6	5.8	2.6	8.4	37.9	38.0	75.8

6.8 The proposed development would therefore generate an additional 8-9 2-way vehicle trips in each of the AM and PM peak hours and about 76 additional vehicle trips over the 12 hour day.

7.0 HIGHWAY NETWORK ASSESSMENTS

Scope

7.1 The assessment of transport impacts has been carried out on the basis that all the trips generated by the proposed development are new, i.e. no offset of the small amount of existing trips from the existing use has been taken into account.

7.2 The ability of the local highway network to satisfactorily accommodate new traffic generations to/from the proposed development has been assessed in terms of impacts at:

- the proposed site access junction with A273; and
- at the A273 Stonepound crossroads to the south.

7.3 The A273 Stonepound crossroads was included as the junction and its approaches are a declared Air Quality Management Area (AQMA).

Base Year Traffic Flows

7.4 Base year traffic flows for the A273 past the site have been established by reference to manual traffic turning counts in June 2014 reported as Traffic Figures 1 & 2 in the Transport Assessment submitted in support of application DM/15/0266 relating to a proposed development on Land West of London Road, Hassocks.

7.5 The data extracted relates to the A273 to the north of the petrol station. Although further to the south than the proposed site access, the flows are an acceptable representation of those that would arise at the proposed access.

7.6 AM and PM peak base year 2014 flows on A273 past the site are shown in **Table 15**.

Table 15 Base Year (2014) flows on A273 at proposed site access

AM peak vehs (HGV+buses)		PM peak vehs (HGV+buses)	
Northbound	Southbound	Northbound	Southbound
749 (10)	537 (18)	535 (6)	676 (10)

7.7 AM and PM peak hour traffic flows at Stonepound Crossroads have also been established by reference to the manual traffic turning counts in June 2014 reported as Traffic Figures 1 & 2 in the Transport Assessment submitted in support of application DM/15/0266 relating to a proposed development on Land West of London Road, Hassocks.

Forecast Traffic Growth

Assessment Years

7.8 Assessments undertaken included the following scenarios:

Base year (2014);
Forecast year (2021); and
Forecast year (2021) plus the proposed development.

7.9 The assessment forecast year has been taken as 2021, i.e. 5 years from submission of planning application in 2016.

Commitments

7.10 No relevant commitments have been identified in the vicinity of the site.

Other Growth

7.11 Growth factors from the 2014 Base Year to the 2021 Forecast Year were calculated using TEMPRO. Factors were derived for a range of areas reflecting the likely mix of traffic contributing to existing and future flows on A273 at the site access. TEMPRO factors are NTM adjusted, urban principal roads, and are shown in **Table 16** below.

Table 16 Traffic Growth Factors 2014-2021

AREA	AM peak	PM peak	Average weekday	Average day
Brighton & Hove	1.1051	1.1014	1.1013	1.0999
Mid Sussex	1.0858	1.0883	1.0911	1.0905
Burgess Hill	1.0876	1.0901	1.0930	1.0926

7.12 Over all scenarios the growth to forecast year is therefore about +10%.

Trip Distribution

7.13 The distribution of trips to/from the north and south at the site access junction with A273 has been based on the pattern of Census journey to work movements by car drivers from Hassocks as a whole. This shows that 60% of journeys to work by residents of Hassocks as car driver are to/from the north and 40% to/from the south (including Hassocks itself).

7.14 Trips made on other non-work purposes, particularly those during the rest of the day, are likely to be less biased towards Burgess Hill and Haywards Heath, and more towards Hassocks itself, than the journey to work pattern. A 50% / 50% split (north / south) has therefore been assumed for the distribution of vehicle trips associated with the site at all times of the day.

7.15 **Table 17** shows the resultant turning movements at the proposed site access of traffic associated with the proposed development of 18 dwellings.

Table 17 Site Access Junction development turning flows

	To north	To south	From north	From south
AM peak	4	4	1	1
PM peak	2	2	3	3
12 hour Daily	22	22	22	22

Note: all values based on Table 14 rounded to nearest whole number

Assessment Hours

7.16 The base year traffic data was not available in quarter hour time slices in the source public documentation but it is reasonable to assume in the circumstances of this site that the hourly flow is evenly spread over the component quarter hours. The actual peak hours in base year were stated to be 0745-0845 in the AM and 1715-1815 in the PM.

7.17 To determine the impacts of the proposed development at each assessment junction, the TRICS derived trip generations in **Table 14** for AM and PM peak hours have been added to the Forecast Year flows for the actual peak traffic hours. TRICS data is only available in standard hours (i.e. commencing on the hour start). The TRICS derived trip generations associated with the development proposals are therefore for 0800-0900 (max AM hour) and 1700-1800 (max PM hour). In both peaks, therefore, the assessments of the Forecast Year plus proposed development scenarios represent a worst case as actual generations arising from the proposed development would be lower during 0745-0845 and 1715-1815 than during 1700-1800.

Junction Capacity Assessments

7.18 To determine whether the impact of traffic arising from the proposed development at the assessment junctions would justify more detailed capacity assessments, the total additional traffic arising from the proposed development at each junction has been compared to the Forecast Year without development traffic flows, as shown in **Table 18.**

7.19 The Table shows that, in both peak hours, the increase in traffic arising from the proposed development in the Forecast Year at both assessment junctions is less than 1% and well under the 5% level usually considered to represent a potentially material impact.

Table 19 Assessment Junction Inflows

LOCATION	TOTAL JUNCTION INFLOW (vehs/hr)			
	2014 BASE	2021 FORECAST (TEMPRO GROWTH X1.1)	2021 FORECAST + 18 UNITS	% INCREASE v FORECAST
AM PEAK HOUR (0745-0845)				
A273 / SITE ACCESS	1286	1415	1425	+0.7%
A273 STONEPOUND CROSSROADS	2016	2218	2223	+0.2%
PM PEAK HOUR (1715-1815)				
A273 / SITE ACCESS	1211	1332	1342	+0.8%
A273 STONEPOUND CROSSROADS	2018	2220	2225	+0.2%

7.20 The small volumes of traffic generated by the proposed development can be satisfactorily provided for at the site access by means of the proposed simple priority junction.

7.21 The very small additional traffic generated by the proposed development and using Stonepound crossroads would have no material impact on the operation of the junction.

7.22 Detailed junction capacity assessments (PICADY and LINSIG respectively) are therefore not warranted at either assessment junction and no further junction capacity assessments have therefore been carried out.

Impact on Stonepound AQMA

7.23 Key traffic data to determine traffic related air quality impacts are AADT flows (i.e. the average daily flows over the whole year) and the proportion of heavy vehicles within the total flow. **Table 17** shows that the proposed development would generate only 44 vehicle trips per 12 hour weekday through the Stonepound junction, all of which would be light vehicles. The additional 44 2-way trips would be equivalent to about 53 additional AADT trips (using standard 1.20 expansion factor from 12hour weekday to AADT derived from DfT Road Transport Statistics Table TRA0307).

7.24 The highway authority's response to planning application DM/15/0266 states that the total daily 2-way flows on A273 south of the crossroads and Hurst Road to the west are 14535 and 8007 respectively in 2014. No data is quoted for the other two junction arms. However, using that highway authority data and the 2014 peak period turning counts at the junction reported as Traffic Figures 1 & 2 in the Transport Assessment in support of that planning application, it can be reliably estimated that the total amount of traffic currently using Stonepound crossroads is about 24250 vehs/day AADT junction inflow.

7.25 The additional AADT traffic through the junction generated by the proposed development (53 per day AADT) therefore represents an increase of only 0.2%. This would not be material in terms of its impact on air quality in the AQMA.

7.26 Notwithstanding that, each dwelling is to be provided with electric vehicle charging points to encourage their use, and thereby to reduce any general air quality consequences of vehicular use associated with the proposed development.

Summary

7.27 The local highway network can accommodate the additional traffic arising from the proposed development with no material operational impacts and no material impacts on air quality in the Stonepound AQMA.

8.0 IMPACT ASSESSMENTS

General

8.1 The assessment of transport impacts has been carried out on the basis that all the trips generated by the proposed development are new, i.e. no offset of any small amount of existing trips has been taken into account.

Pedestrian Network

8.2 The development will create about 17 pedestrian trips (inbound and outbound combined) over the course of the day.

8.3 This level of activity does not necessitate any widespread improvements to the footway infrastructure in the local area. An on-site link will be provided to the cycleway / footway that runs along the eastern side of London Road.

8.4 The Travel Plan for the proposed development will include encouragement of walking between the proposed development and facilities in the centre of Hassocks.

Public Transport Networks

8.5 It is predicted that the development will generate about 16 trips by public transport (inbound and outbound combined) over the course of the day. Few (only 2 a day) would be by bus and the existing bus services could accommodate this low level of new development generated bus trips.

8.6 The development will generate about 14 trips by rail over the course of the day. Although 2-way trips, these could be expected to be largely outbound in the morning pre-peak and inbound in the evening post-peak. The station is within walking distance of the site.

8.7 The Travel Plan for the proposed development will include encouragement of the use of public transport to and from the site.

Cycling

8.8 The development will create about 4 cycle trips (inbound and outbound combined) over the course of the day.

8.9 This level of activity does not necessitate any provision of new cycling infrastructure. An on-site link will be provided to the cycleway / footway that runs along the eastern side of London Road.

8.10 The town centre is within easy cycling distance as are other key local destinations.

8.11 The Travel Plan for the proposed development will include encouragement of cycling for trips to and from the town centre and other key local destinations.

Highway Network

8.12 The ability of the local highway network to accommodate existing and future flows has been assessed. The local highway network can accommodate the additional traffic arising from the proposed development with no material operational impacts. The very small amount of new traffic generated by the site and passing through Stonepound crossroads would have no material impact on air quality in the AQMA.

Parking

8.13 The proposed on-site vehicle parking will be designed in accordance with the West Sussex County Council Parking Demand Calculator to ensure an appropriate number of vehicle parking spaces are provided.

8.14 Therefore, 36No car parking spaces will be allocated to the 18 units at a provision of 2 spaces per unit. To meet the WSCC requirement there will be an additional 7No unallocated spaces for use by residents and visitors, these will be provided in layby form on the proposed on-site access road.

8.14 Cycle parking will also be provided in line with West Sussex County Council standards.

9.0 CONCLUSIONS

9.1 The proposed development consists of 18 new dwellings together with an on-site link to the cycleway / footway that runs along the eastern side of London Road and the formation of a new access designed in a similar alignment to the existing Paddock property access. The development will include on-site car and cycle parking in line with WSCC requirements.

9.2 The total on-site car parking provision has been designed in accordance with the WSCC car parking demand calculator. It is proposed that all units will have 2 parking spaces provided on plot, therefore, a total of 36 car parking spaces will be allocated to the 18No proposed units. To meet the requirement the additional 7 spaces will be unallocated for use by residents and visitors and will be provided in layby form on the proposed on-site access road.

9.3 The proposed new site vehicular access will be laid out in accordance with West Sussex County Council's standards as a bell mouth access with a 6m kerb radii and a width of 5 metres. Dropped kerbs and tactile paving will be provided on each side. The access will be designed with adequate visibility in both directions meeting Manual for Streets and DMRB standards.

9.4 The proposed development site is located in a relatively accessible area which is close to many local amenities and bus stops providing access to transport and other essential facilities.

9.5 The proposed development is likely to generate around 10 vehicle trips in both the AM and PM peak hours, about 43 over the course of a 12hour weekday (0700-1900), and about 53 on an average day (AADT). These can be accommodated on the highway network with no material operational impacts and no material impact on air quality in the Stonepound AQMA.

9.6 A Stage 1 Road Safety Audit was undertaken to identify any features of the access design that could be removed or modified in order to improve the safety of the scheme. The RSA1 highlighted 7 problems which can all be addressed within the detailed design stage.

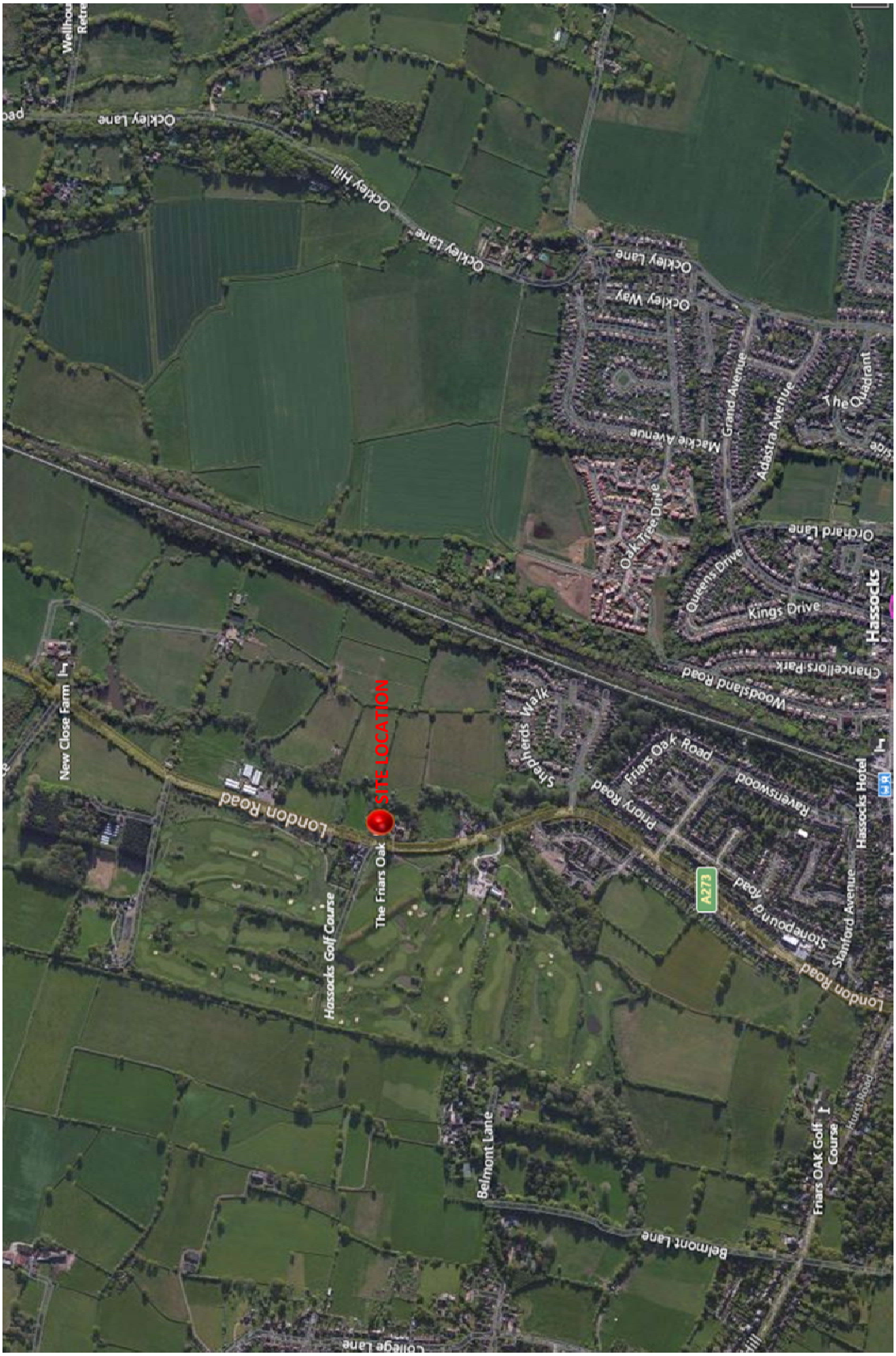
9.7 Therefore, there are no unacceptable highway or transport impacts as a result of the proposed development.

APPENDICES

Appendix A	Site Location Plan
Appendix B	Site Layout Plans
Appendix C	TRICS Outputs
Appendix D	Stage 1 Road Safety Audit (April 2016)
Appendix E	Designer's Response to RSA1

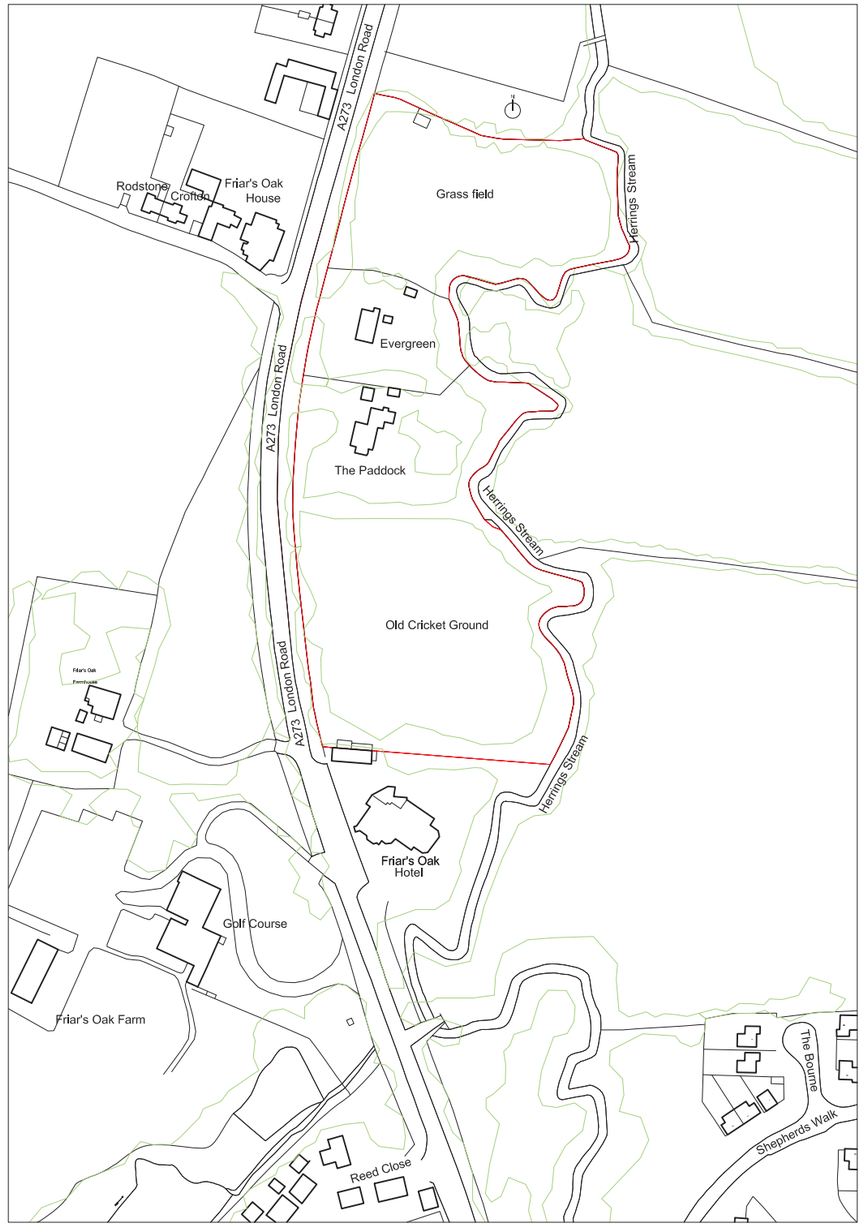
Appendix A Site Location Plan

Appendix A Site Location Plan



Appendix B Site Layout Plans

Site Location Plan 1:500@A1



Site Location Plan 1:1250@A1

revision	date	description	dwn	chkd

LCE Architects
design management consultancy

164-165 western road brighton BN1 2BB t 01273 206710 f 01273 206891
e LCE.brighton@LCEarch.com w LCEarch.com ISO 9001:2000 certified

project
The Paddock
Hassocks

scale
as shown

date
09.05.14

client
Phillip Harris, Julie Neary & Colin Brace

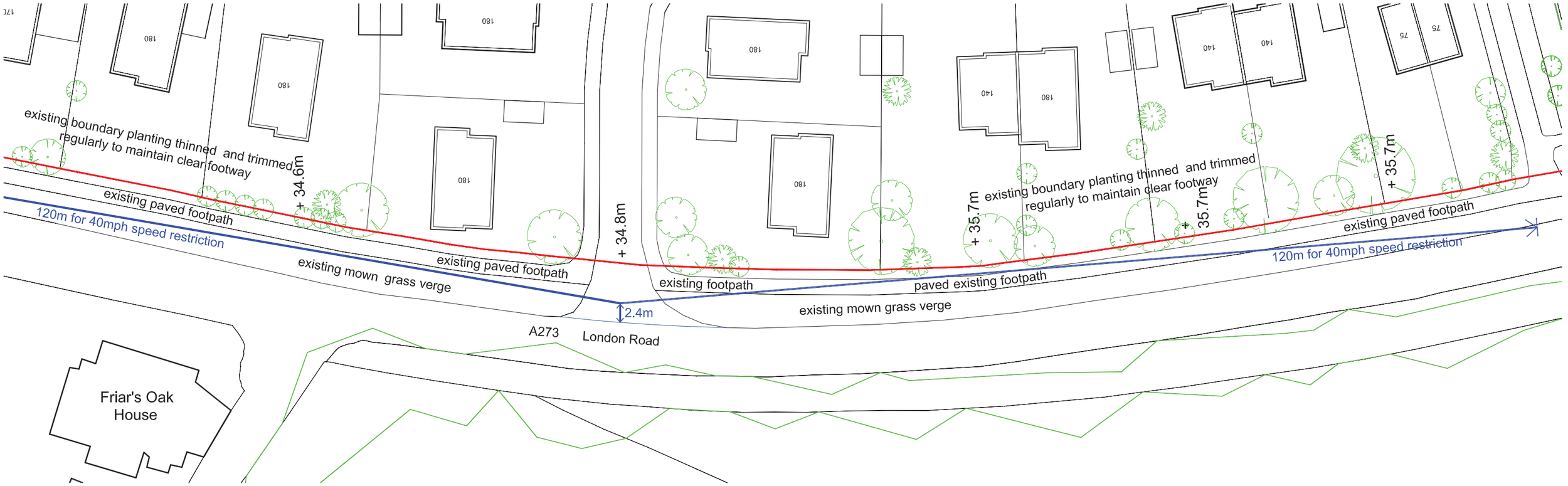
drawn
AW

checked
..

drawing
Site Location Plan and Block Plan

drawing number
16911/PA/001

revision
.



revision	date	description	dwn	chkd
A	12.02.16	General updates	JF	AW

LCE architects UK
design management consultancy

164-165 Western Road Brighton BN1 2BB
T 01273 206710 F 01273 206891 E info@LCEarch.com W LCEarch.com
LCE architects a subsidiary of LCE holdings Ltd ISO 9001:2008 certified

project	The Paddock Hassocks
scale	as shown
date	15.04.16
client	Phillip Harris, Julie Neary & Colin Brace
drawn	AW
checked	..
drawing	Visibility Splays -
drawing number	16911/PA/004
revision	-

Appendix C TRICS Outputs

Calculation Reference: AUDIT-349901-160411-0423

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	SC	SURREY	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
	SM	SOMERSET	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	2 days
08	NORTH WEST		
	CH	CHESHIRE	2 days

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

Filtering Stage 2 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: 10 to 71 (units:)
Range Selected by User: 6 to 100 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/08 to 12/11/15

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	2 days
Tuesday	2 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	9 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 undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	6

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	8
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

Filtering Stage 3 selection:

Use Class:

C3	9 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:

1,001 to 5,000	2 days
5,001 to 10,000	4 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	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	2 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	3 days

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

Car ownership within 5 miles:

1.1 to 1.5	9 days

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

Travel Plan:

No	9 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.

LIST OF SITES relevant to selection parameters

1 CH-03-A-05 DETACHED CHESHIRE
SYDNEY ROAD
SYDNEY
CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

2 CH-03-A-08 DETACHED CHESHIRE
WHITCHURCH ROAD
BOUGHTON HEATH
CHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 22/05/12 Survey Type: MANUAL

3 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

4 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

5 NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 23
Survey date: WEDNESDAY 18/09/13 Survey Type: MANUAL

6 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

7 SH-03-A-03 DETATCHED SHROPSHIRE
SOMERBY DRIVE
BICTON HEATH
SHREWSBURY
Edge of Town
No Sub Category
Total Number of dwellings: 10
Survey date: FRIDAY 26/06/09 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 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

9 SM-03-A-01 DETACHED & SEMI SOMERSET
WEMBDON ROAD
NORTHFIELD
BRIDGWATER
Edge of Town
Residential Zone
Total Number of dwellings: 33
Survey date: THURSDAY 24/09/15 Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
ES-03-A-02	high public transport provision
HC-03-A-17	site contains flats
NY-03-A-10	site contains flats
SH-03-A-06	anomylous low trip rate

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL 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	9	38	0.109	9	38	0.311	9	38	0.420
08:00 - 09:00	9	38	0.135	9	38	0.402	9	38	0.537
09:00 - 10:00	9	38	0.185	9	38	0.217	9	38	0.402
10:00 - 11:00	9	38	0.129	9	38	0.173	9	38	0.302
11:00 - 12:00	9	38	0.173	9	38	0.173	9	38	0.346
12:00 - 13:00	9	38	0.164	9	38	0.147	9	38	0.311
13:00 - 14:00	9	38	0.167	9	38	0.150	9	38	0.317
14:00 - 15:00	9	38	0.173	9	38	0.167	9	38	0.340
15:00 - 16:00	9	38	0.255	9	38	0.167	9	38	0.422
16:00 - 17:00	9	38	0.284	9	38	0.164	9	38	0.448
17:00 - 18:00	9	38	0.361	9	38	0.161	9	38	0.522
18:00 - 19:00	9	38	0.232	9	38	0.141	9	38	0.373
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.367			2.373			4.740

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.000	9	38	0.000	9	38	0.000
08:00 - 09:00	9	38	0.003	9	38	0.003	9	38	0.006
09:00 - 10:00	9	38	0.003	9	38	0.003	9	38	0.006
10:00 - 11:00	9	38	0.000	9	38	0.000	9	38	0.000
11:00 - 12:00	9	38	0.000	9	38	0.000	9	38	0.000
12:00 - 13:00	9	38	0.000	9	38	0.000	9	38	0.000
13:00 - 14:00	9	38	0.003	9	38	0.000	9	38	0.003
14:00 - 15:00	9	38	0.000	9	38	0.003	9	38	0.003
15:00 - 16:00	9	38	0.000	9	38	0.000	9	38	0.000
16:00 - 17:00	9	38	0.000	9	38	0.000	9	38	0.000
17:00 - 18:00	9	38	0.000	9	38	0.000	9	38	0.000
18:00 - 19:00	9	38	0.000	9	38	0.000	9	38	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.009			0.018

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.006	9	38	0.041	9	38	0.047
08:00 - 09:00	9	38	0.006	9	38	0.021	9	38	0.027
09:00 - 10:00	9	38	0.003	9	38	0.009	9	38	0.012
10:00 - 11:00	9	38	0.009	9	38	0.009	9	38	0.018
11:00 - 12:00	9	38	0.003	9	38	0.009	9	38	0.012
12:00 - 13:00	9	38	0.009	9	38	0.009	9	38	0.018
13:00 - 14:00	9	38	0.012	9	38	0.000	9	38	0.012
14:00 - 15:00	9	38	0.012	9	38	0.006	9	38	0.018
15:00 - 16:00	9	38	0.015	9	38	0.000	9	38	0.015
16:00 - 17:00	9	38	0.023	9	38	0.009	9	38	0.032
17:00 - 18:00	9	38	0.032	9	38	0.009	9	38	0.041
18:00 - 19:00	9	38	0.009	9	38	0.006	9	38	0.015
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.139			0.128			0.267

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.111	9	38	0.393	9	38	0.504
08:00 - 09:00	9	38	0.164	9	38	0.595	9	38	0.759
09:00 - 10:00	9	38	0.205	9	38	0.290	9	38	0.495
10:00 - 11:00	9	38	0.150	9	38	0.208	9	38	0.358
11:00 - 12:00	9	38	0.243	9	38	0.208	9	38	0.451
12:00 - 13:00	9	38	0.202	9	38	0.185	9	38	0.387
13:00 - 14:00	9	38	0.205	9	38	0.191	9	38	0.396
14:00 - 15:00	9	38	0.217	9	38	0.202	9	38	0.419
15:00 - 16:00	9	38	0.416	9	38	0.214	9	38	0.630
16:00 - 17:00	9	38	0.405	9	38	0.223	9	38	0.628
17:00 - 18:00	9	38	0.460	9	38	0.199	9	38	0.659
18:00 - 19:00	9	38	0.293	9	38	0.205	9	38	0.498
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.071			3.113			6.184

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.012	9	38	0.120	9	38	0.132
08:00 - 09:00	9	38	0.076	9	38	0.246	9	38	0.322
09:00 - 10:00	9	38	0.073	9	38	0.065	9	38	0.138
10:00 - 11:00	9	38	0.044	9	38	0.062	9	38	0.106
11:00 - 12:00	9	38	0.053	9	38	0.038	9	38	0.091
12:00 - 13:00	9	38	0.056	9	38	0.035	9	38	0.091
13:00 - 14:00	9	38	0.062	9	38	0.073	9	38	0.135
14:00 - 15:00	9	38	0.053	9	38	0.062	9	38	0.115
15:00 - 16:00	9	38	0.176	9	38	0.117	9	38	0.293
16:00 - 17:00	9	38	0.129	9	38	0.079	9	38	0.208
17:00 - 18:00	9	38	0.155	9	38	0.035	9	38	0.190
18:00 - 19:00	9	38	0.059	9	38	0.038	9	38	0.097
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.948			0.970			1.918

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.000	9	38	0.015	9	38	0.015
08:00 - 09:00	9	38	0.000	9	38	0.000	9	38	0.000
09:00 - 10:00	9	38	0.000	9	38	0.003	9	38	0.003
10:00 - 11:00	9	38	0.000	9	38	0.009	9	38	0.009
11:00 - 12:00	9	38	0.003	9	38	0.000	9	38	0.003
12:00 - 13:00	9	38	0.006	9	38	0.003	9	38	0.009
13:00 - 14:00	9	38	0.000	9	38	0.003	9	38	0.003
14:00 - 15:00	9	38	0.003	9	38	0.006	9	38	0.009
15:00 - 16:00	9	38	0.000	9	38	0.000	9	38	0.000
16:00 - 17:00	9	38	0.009	9	38	0.000	9	38	0.009
17:00 - 18:00	9	38	0.006	9	38	0.000	9	38	0.006
18:00 - 19:00	9	38	0.009	9	38	0.000	9	38	0.009
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.036			0.039			0.075

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL RAIL PASSENGERS
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	9	38	0.000	9	38	0.018	9	38	0.018
08:00 - 09:00	9	38	0.000	9	38	0.003	9	38	0.003
09:00 - 10:00	9	38	0.000	9	38	0.003	9	38	0.003
10:00 - 11:00	9	38	0.000	9	38	0.000	9	38	0.000
11:00 - 12:00	9	38	0.000	9	38	0.003	9	38	0.003
12:00 - 13:00	9	38	0.000	9	38	0.003	9	38	0.003
13:00 - 14:00	9	38	0.000	9	38	0.000	9	38	0.000
14:00 - 15:00	9	38	0.003	9	38	0.003	9	38	0.006
15:00 - 16:00	9	38	0.000	9	38	0.000	9	38	0.000
16:00 - 17:00	9	38	0.000	9	38	0.000	9	38	0.000
17:00 - 18:00	9	38	0.006	9	38	0.000	9	38	0.006
18:00 - 19:00	9	38	0.000	9	38	0.000	9	38	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.033			0.042

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL COACH PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.000	9	38	0.000	9	38	0.000
08:00 - 09:00	9	38	0.000	9	38	0.000	9	38	0.000
09:00 - 10:00	9	38	0.000	9	38	0.000	9	38	0.000
10:00 - 11:00	9	38	0.000	9	38	0.000	9	38	0.000
11:00 - 12:00	9	38	0.000	9	38	0.000	9	38	0.000
12:00 - 13:00	9	38	0.000	9	38	0.000	9	38	0.000
13:00 - 14:00	9	38	0.000	9	38	0.000	9	38	0.000
14:00 - 15:00	9	38	0.000	9	38	0.000	9	38	0.000
15:00 - 16:00	9	38	0.000	9	38	0.000	9	38	0.000
16:00 - 17:00	9	38	0.000	9	38	0.000	9	38	0.000
17:00 - 18:00	9	38	0.000	9	38	0.000	9	38	0.000
18:00 - 19:00	9	38	0.000	9	38	0.000	9	38	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.000	9	38	0.032	9	38	0.032
08:00 - 09:00	9	38	0.000	9	38	0.003	9	38	0.003
09:00 - 10:00	9	38	0.000	9	38	0.006	9	38	0.006
10:00 - 11:00	9	38	0.000	9	38	0.009	9	38	0.009
11:00 - 12:00	9	38	0.003	9	38	0.003	9	38	0.006
12:00 - 13:00	9	38	0.006	9	38	0.006	9	38	0.012
13:00 - 14:00	9	38	0.000	9	38	0.003	9	38	0.003
14:00 - 15:00	9	38	0.006	9	38	0.009	9	38	0.015
15:00 - 16:00	9	38	0.000	9	38	0.000	9	38	0.000
16:00 - 17:00	9	38	0.009	9	38	0.000	9	38	0.009
17:00 - 18:00	9	38	0.012	9	38	0.000	9	38	0.012
18:00 - 19:00	9	38	0.009	9	38	0.000	9	38	0.009
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.045			0.071			0.116

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	9	38	0.129	9	38	0.587	9	38	0.716
08:00 - 09:00	9	38	0.246	9	38	0.865	9	38	1.111
09:00 - 10:00	9	38	0.282	9	38	0.370	9	38	0.652
10:00 - 11:00	9	38	0.202	9	38	0.287	9	38	0.489
11:00 - 12:00	9	38	0.302	9	38	0.258	9	38	0.560
12:00 - 13:00	9	38	0.273	9	38	0.235	9	38	0.508
13:00 - 14:00	9	38	0.279	9	38	0.267	9	38	0.546
14:00 - 15:00	9	38	0.287	9	38	0.279	9	38	0.566
15:00 - 16:00	9	38	0.607	9	38	0.331	9	38	0.938
16:00 - 17:00	9	38	0.566	9	38	0.311	9	38	0.877
17:00 - 18:00	9	38	0.660	9	38	0.243	9	38	0.903
18:00 - 19:00	9	38	0.370	9	38	0.249	9	38	0.619
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.203			4.282			8.485

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:	10 - 71 (units:)
Survey date date range:	01/01/08 - 12/11/15
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	5

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

Appendix D Stage 1 Road Safety Audit (April 2016)

The Paddock
London Road
Hassock
BN6 9NA

Proposed Development – The Paddock, London Road

STAGE 1 ROAD SAFETY AUDIT

Report No. EC/2016/04/GTA3

April 2016

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APPENDICES

1. INTRODUCTION

1.1 General

1.1.1 Elix Consultancy Limited has been commissioned by GTA Civils Ltd to undertake a Stage 1 Road Safety Audit on the proposed development to land located at The Paddock, London Road, Hassocks. The development consists widening of an existing single drive access to provide a new junction serving a number of residential units. The scheme proposes a new junction with amendments to the existing footway along London Road. This report describes a Stage 1 Road Safety Audit of the proposed access arrangements as part of the development. The audit has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems identified have been noted in this report together with suggestions for safety improvements, which we recommend should be studied for implementation

1.1.2 The scope of the audit relates to the proposed access arrangements onto London Road, in conjunction with the proposed development of The Paddock. The works comprise of modifications to an existing site access point to accommodate the proposed new development and the increased number of vehicle movements. The new access road into the development will result in widening of the existing private driveway that serves the existing residential unit to provide a new junction onto London Road.

1.1.3 London Road is a lit, single carriageway road subject to a 40mph speed limit with the national speed limit located approximately 120 metres to the north of the proposed new junction and estate road.

1.1.4 The Road Safety Audit Team Membership was the following:

Paul Nevard, MSc, BA (Hons) CMILT, MCIHT	Director - Elix Consultancy Ltd Principal Traffic Engineer Road Safety Audit Team Leader
Vinny Rey, BA (Hons) MCIHT, MSoRSA	Elix Consultancy Principal Traffic Engineer Road Safety Audit Team Member

1.1.5 This audit took place at the Elix Consultancy office on Tuesday 12th April 2016 and the site was examined by Vinny Rey and Paul Nevard together in daylight hours between 10.30 and 11.15 hours, Thursday 14th April 2016. The weather during the daytime site visit was sunny and dry. During the time of the visit, traffic flows were moderate to London Road and vehicle speeds were observed as also being moderate.

1.1.6 The Road Safety Audit also comprised of an examination of the site supplied to the Road Safety Audit Team, referenced in Appendix A of this report. The location of problems raised can be found within the report, photographed for reference or referenced in Appendix B of this report.

1.1.7 The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) Standard HD19/15. The Road Safety Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. This

Road Safety Audit has not considered structural safety or checked for compliance to standards. This safety audit does not perform any “Technical Check” function on these proposals. It is assumed that the Project Sponsor is satisfied that such a “Technical Check” has been successfully completed prior to requesting this safety audit.

1.1.8 This Road Safety Audit has been undertaken based on the Road Safety Audit Team's previous experience and knowledge in undertaking Accident Investigation, Road Safety Engineering and Road Safety Audits. No member of the Road Safety Audit Team has had any previous input to the design of the scheme.

1.1.9 All ‘Problems’ are considered of potential significance to road safety and to warrant further consideration by the scheme’s promoters and designers.

1.2 Purpose of Scheme

1.2.1 The purpose of the scheme is to assess the suitability of the proposed development access points in terms of geometry, use and visibility taking into consideration the impact of the proposed residential development and the amendments to the existing carriageway and creation of the new junction.

2. PROBLEMS IDENTIFIED IN PREVIOUS ROAD SAFETY AUDITS

No previous audits have been supplied to the Audit Team and the Audit Team believe that none have been produced.

3. PROBLEMS IDENTIFIED AT THIS STAGE 1 ROAD SAFETY AUDIT

3.1 General

3.1.1 PROBLEM

Location: London Road - existing carriageway and proposed access point.

Summary: Lack of details regarding proposed drainage could result in localised ponding. This could prevent cyclists or pedestrians from using the carriageway and/or footway proposed, compromising road safety.

Detail: Amendments to the carriageway, existing access and kerb alignment will be carried out at the junction and therefore localised ponding could worsen as a result without confirmation of the planned drainage details.

RECOMMENDATION

Ensure that adequate drainage information is shown and indicated on any further detail design plans.

3.1.2 PROBLEM

Location: Proposed Access Road / Junction

Summary: Lack of details regarding the proposed road markings and street lighting could result in loss of control collisions and compromise pedestrian and cyclist safety.

Detail: As a result of the new junction proposed, existing lighting columns are not present and a new estate road will adjoin London Road. There is no information on the road markings and proposed lighting levels and whether lighting will be provided for the junction or whether new columns would be provided to help highlight the cycle path and footway.

RECOMMENDATION

Additional information required to show the proposed road markings and lighting to be provided and any additional columns to be installed within the new estate road.

3.2 Local Alignment

No problems relating to local alignment have been identified as part of this audit.

3.3 Junctions

3.3.1 PROBLEM

Location: Proposed Access Road / Junction

Summary: Lack of details regarding the swept path of larger vehicles could result in vehicle or pedestrian conflict and collisions.

Detail: No details regarding the turning of larger vehicles in and out of the junction has been provided. In addition, It is unclear from the plan provided whether the turning facility proposed within the new estate would be sufficient for larger vehicles. Insufficient carriageway width at the proposed junction with London Road could result in side swipe collisions for larger vehicles or larger vehicles overrunning the footway leading to vehicle / pedestrian and cyclist conflict. Similarly, inadequate turning facilities would impact larger vehicles, particularly emergency service vehicles and service delivery vehicles. The lack of space to turn could result in larger vehicles reversing the length of the access road in order to leave the site. As the proposed development is a residential development, there are likely to be pedestrians at the location which could result in vehicle / pedestrian conflict.

RECOMMENDATION

Ensure that adequate turning movements by larger vehicles can be made when entering and exiting the development site and ensure the turning facility provided is of sufficient width to allow for proper use and enable larger vehicles to exit the site in a forward gear motion. Track plots are required to ensure such manoeuvres could be carried out.

3.3.2 PROBLEM

Location: Proposed New Access Road / Junction adjoining London Road

Summary: Lack of details regarding tactile paving could compromise pedestrian safety, particularly for the visually impaired.

Detail: Lack of details and information on the proposed colour and materials of the tactile paving at the mouth of the junction.

RECOMMENDATION

Ensure that adequate information is provided as part of any subsequent detail design package. Details of contrasting materials and tactile paving arrangements for pedestrian and/or cyclists as part of the design will be necessary.

3.4 Non-Motorised User Provision

3.4.1 PROBLEM

Location: Proposed New Access / Junction

Summary: New junction will intersect existing cycle path and footway and could result in cyclist colliding with vehicles..

Detail: The existing vehicles access serving The Paddock will be widened to provide a new estate road and junction into London Road. An existing cycle path runs parallel to London Road on the footway, shared with pedestrians. There is currently contrasting surfaces and markings as appropriate to warn cyclist of the small access points located along the route. However, it was noted that the markings are badly faded and the cyclists at the location were observed not to give way or proceed with caution at the current vehicle access points. With a higher volume of vehicle movements at the location due to the new estate road, the current state of road markings and signage may not be sufficient to give advance warning to cyclists and/or motorists. This could result in vehicle / cyclist collisions.

RECOMMENDATION

Provide further details on the proposed amendments at the junction and alterations to address the alterations to the cycle path, including any other amendments deemed appropriate to London Road.

3.4.2 PROBLEM

Location: London Road and Proposed New Estate Road.

Summary: Lack of warning to drivers on new estate road and London Road could result in driver and pedestrian conflict.

Detail: It is proposed to provide a new estate road and junction to London Road. Advance warning to drivers on the estate road and London Road would be essential to ensure there is sufficient advance warning of the new junction and new road layout. Advance warning of pedestrians and/or cyclists would also be required for drivers emerging from the new estate road.

RECOMMENDATION

Provide warning signs and/or road markings to the proposed estate road and/or London Road as appropriate.

3.5 Road Signs, Carriageway Markings & Street Lighting

3.5.1 PROBLEM

Location: Proposed New Access Road / Junction

Summary: Lack of Give Way signs could result in driver confusion with drivers not giving way at the junction resulting in a head on collisions.

Detail: The proposed junction / access does not indicate transverse Give Way markings or the presence of a triangular Give Way marking or upright Give Way sign to diagram 602 (Traffic Signs Regulations and General Directions).

RECOMMENDATION

The triangular marking (diagram 1023) may be used only when a transverse Give Way line to diagram 1003 is provided. However, when the junction is either heavily trafficked, or the presence of another road is not obvious, the marking should be accompanied by the upright Give Way sign to diagram 602. Given the new Junction that will be serving a number of new dwellings, design amendments are required to ensure drivers are aware of the requirement to give way at the junction.

End of list of Problems identified and Recommendations offered in this Stage 1 Audit

4. AUDIT TEAM STATEMENT

We certify that this audit has been carried out in accordance with HD 19/15.

AUDIT TEAM LEADER

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Signed:

Date: 15/04/2016

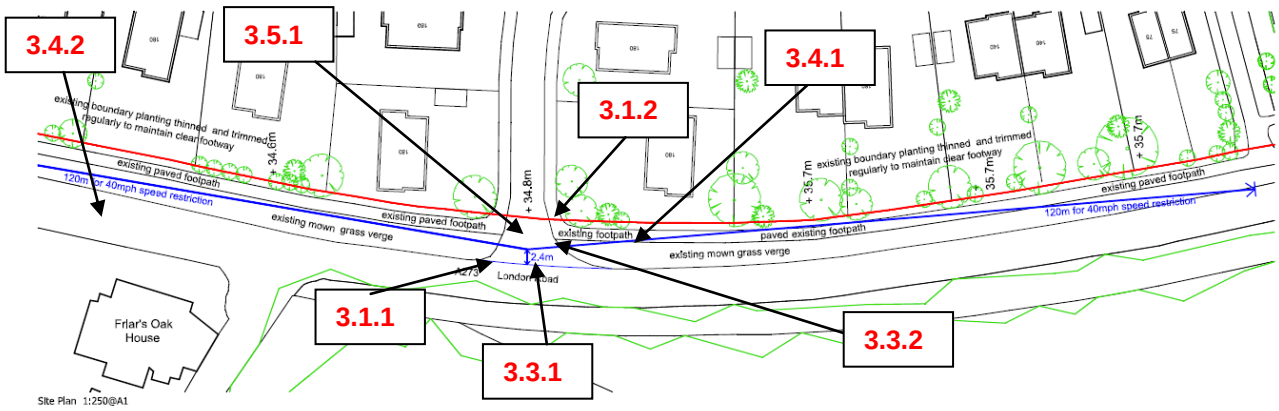
APPENDIX A

List of documents and plans considered during this Stage 1 Road Safety Audit:

- 16911 PA 004.pdf

APPENDIX B

Location of problems identified at this Stage 1 Road Safety Audit



Appendix E Designer's Response to RSA1

civils ltd - consulting engineers

DESIGNER'S RESPONSE TO RSA1

In relation to:

Widening of existing access to provide a new junction serving the proposed new residential units on the land
North of Friars Oak Public House
The Paddock
London Road
Hassocks

CLIENT
LCE Architects
c/o Graham Austin
164-165 Western Road
Brighton
BN1 2BB

CONSULTING ENGINEERS
gta civils ltd
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Ref: 6207/2.3
Date: April 2016

CONTENTS

1.0 INTRODUCTION

1.1 Elix Consultancy Limited has been commissioned by GTA Civils Ltd to undertake a Stage 1 Road Safety Audit on the proposed development to land located at The Paddock, London Road, Hassocks. The development consists widening of an existing single access to provide a new access serving a number of residential units including amendments to the existing footway along London Road.

1.2 The RSA1 was undertaken on Tuesday 12th April 2016 and the site was examined by Elix Consultancy in daylight hours between 1030 and 1115 on Thursday 14th April 2016. There are 7 points from the RSA1 that are addressed within section 2.0 of this report.

2.0 DESIGNER'S RESPONSE TO THE RSA1 POINTS

2.1 A number of points were raised through the RSA1 process. Therefore, the points raised are listed in **Table 1** below, together with the recommendation and Designer's Response.

Table 1 RSA1 Problems, Recommendations & Designer's Response

Problem	Location	Description	Recommendation	Designer's Response	Comments
RSA1 – 3.1.1	London Road - existing carriageway and proposed access point	Lack of details regarding proposed drainage could result in localised ponding. This could prevent cyclists or pedestrians from using the carriageway and/or footway proposed, compromising road safety.	*Ensure that adequate drainage information is shown and indicated on any further detail design plans.*	At the detailed design stage, drainage in the vicinity of the access will be considered. New gullies will be provided where necessary.	
RSA1 – 3.1.2	Proposed Access Road / Junction	Lack of details regarding the proposed road markings and street lighting could result in loss of control collisions and compromise pedestrian and cyclist safety.	*Additional information required to show the proposed road markings and lighting to be provided and any additional columns to be installed within the new estate road.*	The proposed road markings and lighting details will be provided as part of the detailed design.	
RSA1 – 3.3.1	Proposed Access Road / Junction	Lack of details regarding the swept path of larger vehicles could result	*Ensure that adequate turning movements by larger vehicles can be made*	The access will be sufficient to allow adequate turning movements by	

		in vehicle or pedestrian conflict and collisions.	*when entering and exiting the development site and ensure the turning facility provided is of sufficient width to allow for proper use and enable larger vehicles to exit the site in a forward gear motion. Track plots are required to ensure such manoeuvres could be carried out.*	larger vehicles can be made when entering and exiting the development site.	
RSA1 – 3.3.2	Proposed New Access Road / Junction adjoining London Road	Lack of details regarding tactile paving could compromise pedestrian safety, particularly for the visually impaired.	*Ensure that adequate information is provided as part of any subsequent detail design package. Details of contrasting materials and tactile paving arrangements for pedestrian and/or cyclists as part of the design will be necessary.*	As part of the detailed design, contrasting materials and tactile paving arrangements for pedestrian and/or cyclists will be included.	
RSA1 – 3.4.1	Proposed New Access / Junction	New junction will intersect existing cycle path and footway and could result in cyclist colliding with vehicles.	*Provide further details on the proposed amendments at the junction and alterations to address the alterations to the cycle path, including any other amendments deemed appropriate to London Road.*	As part of the detailed design, the proposed amendments at the junction and alterations to address the alterations to the cycle path, including any other amendments deemed appropriate to London Road will be included.	
RSA1 – 3.4.2	London Road and Proposed	Lack of warning to drivers on new estate road and London Road could	*Provide warning signs and/or road markings to the proposed estate road*	As part of the detailed design, warning signs and/or road	

	New Estate Road	result in driver and pedestrian conflict.	*and/or London Road as appropriate.*	markings to the proposed estate road and/or London Road will be provided.	
RSA1 – 3.5.1	Proposed New Access Road / Junction	Lack of Give Way signs could result in driver confusion with drivers not giving way at the junction resulting in a head on collisions.	*The triangular marking (diagram 1023) may be used only when a transverse Give Way line to diagram 1003 is provided. However, when the junction is either heavily trafficked, or the presence of another road is not obvious, the marking should be accompanied by the upright Give Way sign to diagram 602. Given the new Junction that will be serving a number of new dwellings, design amendments are required to ensure drivers are aware of the requirement to give way at the junction.*	As part of the detailed design, triangular marking (diagram 1023) may be used only when a transverse Give Way line to diagram 1003 will be provided.	

3.0 CONCLUSIONS

3.1 The RSA1 raised a number of points of a minor nature which can be satisfactorily addressed. There were 7 problems raised in the RSA1, 5 of which relate to the proposed new access road / junction, the remaining to relate to London Road. Overall, the concerns raised can be dealt with accordingly as part of the detailed design stage.