



B R I G H T P L A N

**84 -104 RAGGED HALL LANE, CHISWELL
GREEN, ST ALBANS**

RESIDENTIAL DEVELOPMENT

Transport Statement

Prepared on Behalf of

Mr M. Holderness

6314

May 2022



DOCUMENT CONTROL

Project: 84 -104 Ragged Hall Lane, Chiswell Green, St Albans
Residential Development

Document: Transport Statement
Client: Mr M. Holderness

Reference: 6314

Document Checking:

Author: SMO

Date: 28/04/2022

Checked by: EJD

Date: 28/04/2022

Approved by: ALB

Date: 28/04/2022

Status:

Issue	Date	Status	Issued by
01	28/04/2022	Draft	EJD
02	27/05/2022	Final	EJD



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APPENDICES

Appendix A	ATC Survey
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1 INTRODUCTION

- 1.1.1 This Transport Statement (TS) has been prepared by Bright Plan on behalf of Mr M. Holderness to support a planning application for a residential development on land at 84 – 104 Ragged Hall Lane, Chiswell Green. The application site is situated on the northern side of Ragged Hall Lane. The site location is shown in **Figure 1.1**.



Figure 1.1: Site Location

- 1.1.2 The existing site comprises of undeveloped land covered by a mix of vegetation and has no direct access onto the local road network. The proposed development would involve the construction of 7 residential dwellings served from 2 new accesses adjoining Ragged Hall Lane.

1.2 Scope of Transport Statement

- 1.2.1 This TS outlines the key transport planning matters in accordance with national, regional, and local guidance, considering the proposed development layout, car and cycle parking requirements, access arrangements, servicing arrangements, and the trip impact on the local road network.
- 1.2.2 The site has been assessed against the background of transport planning policy set out in the National Planning Policy Framework and St Albans City and District Council (SACDC) local transport policies. The site's highways design has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) and Manual for Streets (MfS) 1 and 2.
- 1.2.3 The remainder of this report comprises the following sections: -



- i. **Section 2** sets out the transport conditions in the local area and highway network and provides a review of highway safety.
- ii. **Section 3** provides an assessment of the proposed access and internal layout design, parking provision and the site's servicing arrangements.
- iii. **Section 4** provides an assessment of the anticipated traffic impact resulting from the development supported by a trip generation assessment.
- iv. **Section 5** provides a summary of the TS conclusions.



2 BASELINE CONDITIONS

2.1 Site Location and Description

- 2.1.1 The existing site encompasses an area of c.0.73ha comprised of undeveloped land. The site is bordered Ragged Hall Lane on the south, residential properties to the east and west, and further undeveloped land to the north. Public Right of Way (PROW) St Michael Rural 010 runs through the site along its eastern boundary. The existing site context is shown in **Figure 2.1**.



Figure 2.1: Site Context

2.2 Local Road Network

- 2.2.1 Ragged Hall Lane is a 2-way single carriageway with a c.2.8m width along the site frontage, however widens to c.6.0m immediately to the east of the site. The carriageway is subject to the national speed limit (60mph), transitioning to 30mph c.1.5m to the east of the site. Ragged Hall Lane's highway features are shown in **Figure 2.2**.



Ragged Hall Lane Heading East



Ragged Hall Lane Heading West

Figure 2.2: Ragged Hall Lane's Highways Features

2.3 Wider Highway Network

- 2.3.1 The application site is situated c.360m to the south of the A14, and c.1km to the west of the A405, which provide access to Hatfield and Watford respectively. In addition, the roads facilitate access to the M1 and the M25 to the west and south of the site, which form part of the Strategic Road Network (SRN). The site's location in the context of the wider highway network is shown in **Figure 2.3**.

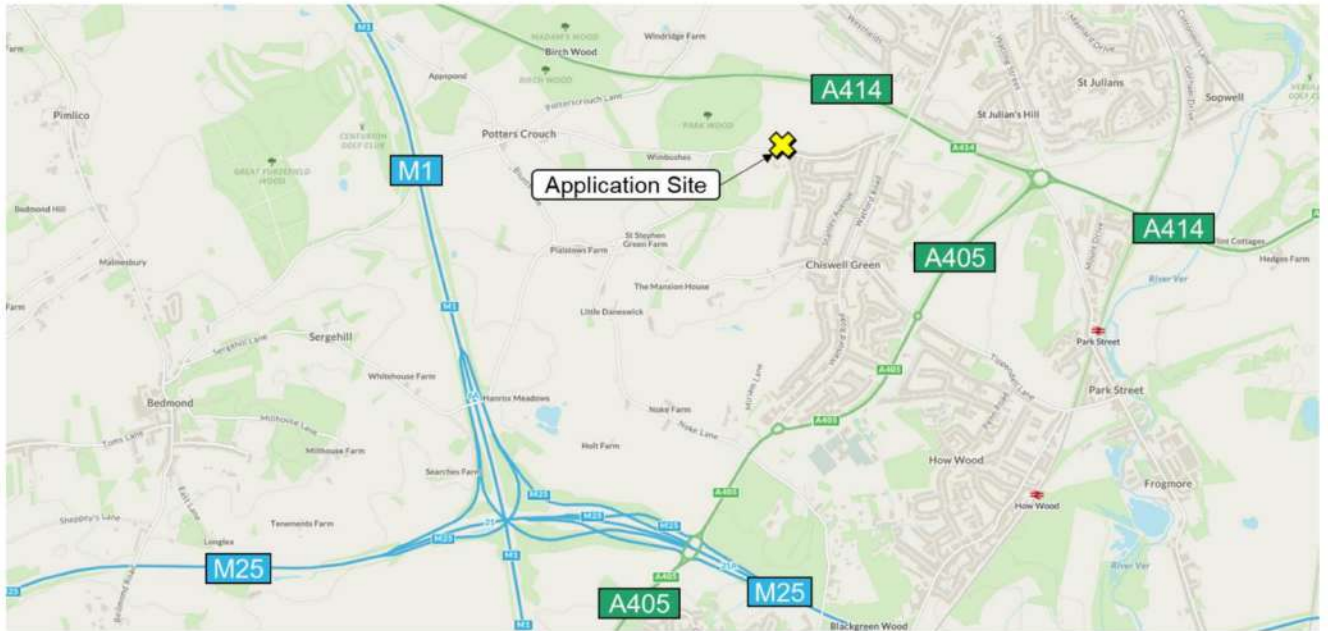


Figure 2.3: Wider Highway Network

2.4 Accessibility

Pedestrian Accessibility

- 2.4.1 Ragged Hall Lane provides a c.2.0m wide pedestrian footway on its northern side running up to the southeast corner of the site. The footway connects to the wider footway network providing a link to local services and amenities. Additionally, PROW 010 runs through the site on its eastern boundary, providing an alternative route towards St Albans to the north. The existing footway infrastructure within the vicinity of the site is shown in **Figure 2.4**.



Figure 2.4: Existing Footways



2.4.2 The Chartered Institute of Highways and Transportation's (CIHT) publication 'Providing for Journeys on Foot' (2000) states that the average length of a journey on foot is 1km. It further recommends a preferred maximum walking distance of 2km for commuting journeys. As shown on **Plan 01**, a range of services and amenities, including bus stops and St Albans Abbey railway station, are situated within 2km of the application site.

Cycle Accessibility

2.4.3 National Cycle Route (NCR) No. 6 is situated c.600m to the east of the site providing a cycle route to Harpenden to the north and Watford to the south. NCR 6 connects with NCR 16 within St Albans, facilitating access to Hatfield. Additionally, routes 6 and 61 connect to the wider NCR network including NCR 12 and NCR 57. The existing cycle infrastructure is shown in **Figure 2.5**.

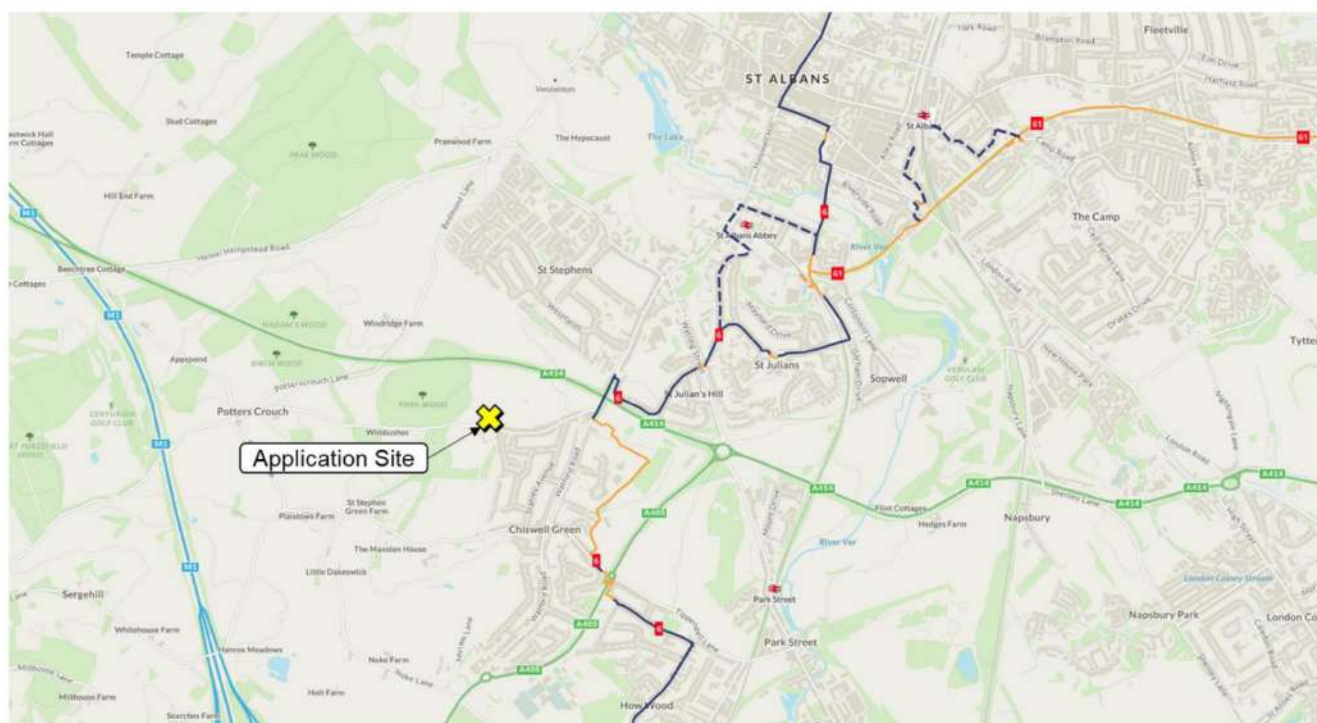


Figure 2.5: Cycle Network

2.4.4 The CIHT's publication 'Cycle Friendly Infrastructure' (1996), suggests that reasonably fit individuals can comfortably cycle a distance of 8 kilometres to workplace destinations. The settlements of St Albans and Watford are therefore accessible by bicycle from the site.

Accessibility by Bus

2.4.5 The 'Ragged Hall Lane' bus stops are located c.600m to the east of the site. The bus stop is served by the no.321 and 361 providing services between Luton and Watford. A summary of the services available is provided in **Figure 2.6**.



Service	Route Summary	Typical Frequency	Operating Hours
321	Luton Station – Stockwood – New Greens – St Albans – Chiswell Green – Watford Railway Station – Watford Clarendon Road	Every 20 mins	Mon – Fri: 05:20 – 00:06 Sat: 06:35 – 00:06 Sun: 07:45 – 23:48
361	Garston – Bricket Wood – Chiswell Green – St Albans – New Greens	Every hour	Mon – Fri: 07:25 – 17:12 Sat: 08:40 – 18:03

Figure 2.6: Bus Services Available from 'Ragged Hall Lane' Bus Stop

Accessibility by Train

2.4.6 St Albans Abbey railway station is located approximately 2.0km to the north of the site and provides regular services to Watford Junction. Additionally, St Albans City railway station is located approximately 4.4km north of the site, providing additional services to Luton, Bedford, Gatwick Airport, Sutton, Rainham and Brighton. A summary of services available from St Albans Abbey and St Albans City railway stations is provided in **Figure 2.7**.

Service	Route Summary	Typical Journey Time	Typical Frequency
Watford Junction	St Albans Abbey – Watford North – Watford Junction	17 mins	Every 50 mins
Luton	St Albans City – Harpenden – Luton Airport – Luton	15 mins	Every 15 mins
Bedford	St Albans City – Harpenden – Luton Airport – Luton – Flitwick – Bedford	40 mins	Every 15 mins
Gatwick Airport	St Albans City – St Pancras – London Bridge – East Croydon – Gatwick Airport	1 hour 8 mins	Every 15 mins
Sutton	St Albans City – Hendon – Kentish Town – St Pancras – City Thameslink – Blackfriars – Elephant and Castle – Hackbridge – Sutton	1 hour 25 mins	Every 10 mins
Rainham	St Albans City – Radlett – West Hampstead – London Bridge – Greenwich – Woolwich Arsenal – Dartford – Strood – Rainham (Kent)	1 hour 39 mins	Every 20 mins
Brighton	St Albans City – St Pancras – London Bridge – Gatwick Airport – Three Bridges – Burgess Hill – Brighton	1 hour 46 mins	Every 15 mins

Figure 2.7: Rail Services Available from St Albans Railway Stations

2.5 Accident Data

2.5.1 To determine highway safety on the local road network an assessment of Personal Injury Accidents (PIAs) has been undertaken for a 5-year period from January 2017 to January 2022 using the CrashMap online data portal. The study considered Ragged Hall Lane up to its junction with the B4630 Watford Road.



2.5.2 Patterns displayed in the data can be assessed with regards to their proximity, frequency, severity, and the cause of the incident to establish if there are any underlying highways design issues that require a more detailed investigation. Collisions are classified as 'slight', 'serious' or 'fatal', depending on the severity of the injuries sustained. The locations of the incidents relative to the site are displayed in **Figure 2.8**.

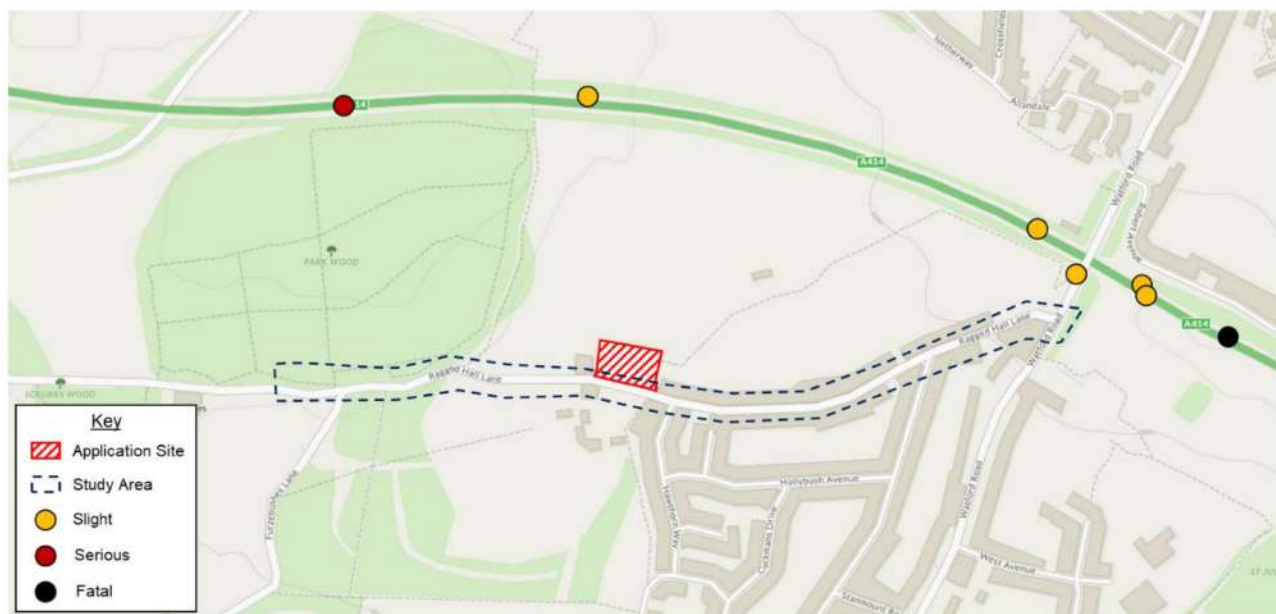


Figure 2.8: PIA Distribution

2.5.3 No incidents were recorded within the study area during the 5-year period. The PIA record does not reveal any pattern that would suggest there are highway safety issues on the local road network.

2.6 Traffic Data

2.6.1 To establish the existing traffic conditions in the vicinity of the proposed development, an Automatic Traffic Count (ATC) speed survey was commissioned on Ragged Hall Lane between the 25th of April and the 1st of May 2022. The raw survey data is attached in **Appendix A** and a summary is provided in **Figures 2.9** and **2.10**.



Flow Direction	AADT	Mean Speeds	85th Percentile Speeds
Eastbound Ragged Hall Lane	168	20.4mph	25.6mph
Westbound Ragged Hall Lane	128	21.1mph	26.3mph
Combined	296	-	-

Figure 2.9: ATC Survey - Speeds & AADT Summary

Flow Direction	Light	Medium	Heavy	Motorbike	Pushbike	Combined
Eastbound Ragged Hall Lane	48.91%	3.53%	0.10%	0.63%	3.67%	56.84%
Westbound Ragged Hall Lane	36.97%	3.00%	0.10%	0.19%	2.90%	43.16%
Combined	85.89%	6.52%	0.19%	0.82%	6.57%	100.00%

Figure 2.10: ATC Survey – Traffic Composition Summary



3 PROPOSED DEVELOPMENT

3.1 Site Overview

3.1.1 The proposed development would involve the construction of 7 x 5-bedroom dwellings and 2 new accesses adjoining Ragged Hall Lane. The proposed layout is shown on **Drawing 2022-6314-000**.

3.2 Vehicle Access

3.2.1 The proposed development would be served from 2 new vehicle access adjoining Ragged Hall Lane. The accesses would take the form of T-junctions with simple priority arrangements. The accesses would be 5.5m wide, supported by 6.0m corner radii. The proposed access designs are demonstrated in **Drawing 2022-6314-001**.

3.2.2 In addition, Ragged Hall Lane would be widened to 4.8m in the vicinity of the accesses. The widened road would allow vehicles to pass within the vicinity of the site accesses and would enable larger vehicles to access/egress the site. The localised widening is shown on **Drawing 2022-6314-001**.

Visibility Splays

3.2.3 To determine visibility requirements along DMRB CD 109 calculation coefficients have been applied to the 85th percentile design speeds recorded along Ragged Hall Lane as demonstrated in **Figure 3.1**.

Direction	85 th Percentile Design Speed	DMRB Requirement
Eastbound (Primary)	25.6mph	2.4m x 49.6m
Westbound (Secondary)	26.3mph	2.4m x 51.7m

Figure 3.1: Visibility Requirements

3.2.4 Visibility splays measuring 2.4m x 49.6m to the west, and 2.4m x 51.7m to the east, are achievable in accordance with DMRB CD109 standards. The required visibility splays are demonstrated within **Drawing 2022-6314-001**.

Vehicle Swept Path Analysis

3.2.5 A vehicle swept path analysis has been undertaken to review the operation of the proposed site accesses. The vehicle swept path analysis demonstrates the following vehicle manoeuvres: -

- i. Concurrent access and egress at the western access by a large estate car and a large delivery van in **Drawing 2022-6314-002**.
- ii. Concurrent access and egress at the eastern access by a large estate car and a large delivery van in **Drawing 2022-6314-003**.



- iii. Access and egress by a fire tender (the largest emergency vehicle) in **Drawing 2022-6314-004**.
- iv. Access and egress by a large refuse freighter in **Drawing 2022-6314-005**.

3.3 Pedestrian Access

- 3.3.1 The proposed development would be served via a 2.0m wide footway running along the route of the existing PROW 010, and connecting with the existing footway to the east of the site. Corduroy paving would be provided at the end of the route to warn pedestrians on approach to Ragged Hall Lane's carriageway.
- 3.3.2 The internal roads would use a shared surface, and a connection between the roads would allow continuous pedestrian access through the site. The proposed pedestrian infrastructure is demonstrated in **Drawing 2022-6314-000**.

3.4 Stage 1 Road Safety Audit

- 3.4.1 The proposed access arrangements have been subject to a Stage 1 Road Safety Audit (RSA), undertaken by Road Safety Answers in May 2022. The Stage 1 RSA and the RSA Response Report are attached at **Appendix B**.
- 3.4.2 The audit identified 4 problems and recommended with the proposed design. Problems 2.2, 2.3 and 2.4 are accepted, and the recommended measures have been incorporated into the design.
- 3.4.3 Problem 2.1 is not accepted, and the recommended measure has not been provided. An extract from the RSA Response Report setting out the problem, recommendation and designer's response is provided in **Figure 3.2**.



RSA Problem	<p>2.1 – Summary: Increased risk of side impact collisions due to eastbound vehicles travelling faster along Ragged Hall Lane.</p> <p>The current visibility splay westwards from Hawthorn Way, at the eastern end of the carriageway widening scheme, is limited (circa 2.4m x 15m). The proposal to widen Ragged Hall Lane for 80m to the west of this junction is likely to encourage higher eastbound speeds through this junction: the national speed limit terminates at this junction and drivers often take higher speeds into a lower speed limit. Although the measured 85th percentile speed eastbound are only circa 26mph at present, it is likely to increase slightly once the widening is built, increasing the risk of side impact collisions at the Hawthorn Way junction where the visibility westwards is currently poor for drivers at the give way. Relocating the termination point of the national speed limit further west would be likely to mitigate this problem.</p>
RSA Recommendation	<p>The start of the 30mph speed limit on Ragged Hall Lane should be relocated to the western end of the road widening i.e. to a location near the driveway of no. 110 Ragged Hall Lane.</p>
Design Organisation Response	<p>The proposed carriageway widening would be provided for a 70m length. The carriageway would also remain narrower (4.8m) than the 30mph carriageway to the east (c.6.0m) and would remain rural in character. There would be no changes to extant forward visibility in either approach direction.</p> <p>A review of collisions found no record of incidents at the junction or on Ragged Hall Lane in the vicinity of the site.</p> <p>Whilst quantification of the effects of the proposal is not possible, it is clear that the limited extent of widening, the proposed 4.8m width, the carriageways character and achievable forward visibility is such that speeds would not materially change in the vicinity of the site frontage.</p> <p>Evidence from Manual for Streets guidance can be drawn upon to demonstrate this. Figure 7.16 of MfS identifies that even with good visibility, road widths of 5m (larger than the 4.8m width proposed), would be expected to experience average speeds of just over 20mph, and 85th percentile design speeds of c.27mph. These speeds are comparable to those recorded within the ATC survey.</p> <p>In the unlikely event that there are substantive changes to driver behaviour, the Stage 3 Road Safety Audit would present an opportunity to identify appropriate mitigation. In instances where speeding is present at speed transitions, relocation of transition points often has limited impact when there are compliance issues. In the event of speeding, traffic calming / alterations to road geometry would have a greater impact.</p>

Figure 3.2: Extract from Road Safety Audit Response Report

3.5 Internal Layout

3.5.1 The proposed accesses would provide access to 2 internal roads, from which private driveways would adjoin. The roads would use a shared surface arrangements in accordance with MfS guidance which suggests that shared surfaces are appropriate where carriageways form cul-de-sacs, where parking is controlled or takes place in designated areas, and the vehicle flow is below 100 movements per hour.

3.6 Emergency Access

3.6.1 In accordance with Manual for Streets guidance the following design compliances are met: -

- i. Fire tender would be able to access within 45.0m of every unit.



- ii. Fire tenders could achieve an appropriate level of access without requiring reversing distances greater than 20.0m.
- iii. A minimum carriageway width in excess of 3.7m is maintained throughout the site.

3.6.2 A vehicle swept path analysis has been undertaken demonstrating fire tenders negotiating the site accesses, internal carriageways and performing turning manoeuvres in **Drawing 2022-6314-004**.

3.7 Servicing Arrangements

3.7.1 The site's geometries are such that large service vehicles can negotiate the proposed accesses and access all units. A vehicle swept path analysis has been undertaken demonstrating that a large refuse vehicle (the largest service vehicle) can negotiate the site accesses and internal roads, as well as perform turning manoeuvres in **Drawing 2022-6314-005**.

3.7.2 Bin carry distances between properties and refuse collectors would be within the maximum thresholds set out in MfS from all properties (25m for collectors 30m for residents).

3.8 Car Parking Provision

3.8.1 The proposed parking provision has been provided in line with the standards set out within Policy 40 of the 'City and District of St Albans District's Local Plan Review 1994 Saved and Deleted Policies Version' (July 2020). The required and proposed parking provision is set out in **Figure 3.3**.

Unit Type	Number of Units	St Albans City and District Council Car Parking Standard Per Unit	Required Provision	Proposed Provision
4 + bed dwelling	7	3 allocated and 0.5 unallocated	3 allocated per unit and 4 unallocated	3 allocated per unit and 4 unallocated

Figure 3.3: SACDC Parking Standards

3.8.2 Each unit would provide a garage with internal dimensions of 3.0m x 6.0m, as well as private drives which could accommodate at least 3 additional vehicles. Whilst the site does not provide designated unallocated spaces, each unit would provide space to park at least 4 vehicles, and could therefore accommodate parking demand associated with visitors.

3.8.3 A vehicle swept path analysis has been undertaken demonstrating car parking manoeuvres in **Drawing 2022-6314-006**.

3.9 Cycle Parking Provision

3.9.1 The proposed site's cycle parking provision has been provided in line with SACDC's 'Revised Parking Policies and Standards' (January 2002). The cycle parking standards, and the proposed provision are set out in **Figure 3.3**.



Unit Type	St Albans City and District Council Cycle Parking Standard per Unit	Proposed Cycle Parking
C3 Residential	1 Long Term space per unit (If no garage or shed is provided)	2 spaces per dwelling within garages

Figure 3.3: SACDC Cycle Parking Standards

3.9.2 Cycle parking would be provided within the garages of each dwelling.



4 TRIP GENERATION

4.1 Vehicle Trip Generation

4.1.1 To assess the traffic impact of the proposed development, the TRICS database (7.9.1) has been interrogated to assess the likely traffic volumes generated by the development proposal. All trips generated by the new development are considered new to the local road network.

4.1.2 To establish the number of trips that could be generated by the proposed residential dwellings, the parameters identified in **Figure 4.1** have been used to filter the TRICS database.

TRICS Version 7.9.1	
Filtering Parameter	Criteria Selected
i. Land Use	Residential, Houses Privately Owned
ii. Selected Regions	England (Excluding Greater London)
iii. No of Dwellings	Range Selected: 1 to 40
iv. Date Range	01/01/14 to 18/10/21
v. Selected Days	Weekdays
vi. Selected Locations	Edge of Town
vii. Sub-categories:	Residential Zone

Figure 4.1: TRICS Filtering Parameters

4.1.3 The TRICS output is provided in **Appendix C**, whilst a summary of the weekday peak hour and daily trip rates and vehicle movements associated with the 7 dwellings is provided in **Figure 4.2**.

Trip Rate per Dwelling			
	Arrivals	Departures	Two-way Total
AM Peak Hour	0.141	0.353	0.494
PM Peak Hour	0.337	0.145	0.482
Daily Traffic	2.229	2.346	4.575
TRICS Vehicle Trip Generation (7 Dwellings)			
AM Peak Hour	1	2	3
PM Peak Hour	2	1	3
Daily Traffic	16	16	32

Figure 4.2: Proposed Trip Generation

4.1.4 The TRICS assessment suggests that the site would generate 32 daily 2-way vehicle movements of which 3 would occur during the network's AM peak traffic hour, and 3 would occur in the network's PM peak traffic hour.



4.1.5 The additional daily vehicle trips resulting from the proposed development would have a negligible impact on the local road network in terms of highway capacity and safety.



5 SUMMARY AND CONCLUSIONS

5.1.1 This Transport Statement has been prepared by Bright Plan Ltd on behalf of Mr M. Holderness to support a planning application for a residential development comprising 7 new dwellings on land at 84 -104 Ragged Hall Lane, Chiswell Green, St Albans.

5.1.2 The conclusions of this report are as follows: -

- i. The application site is accessibly located within walking and cycling distance of services and amenities, including bus stops and railway stations.
- ii. The PIA record does not reveal any pattern in terms of distribution, severity, or incident circumstances that would be exacerbated by the proposal.
- iii. Vehicle access to the site would be served from 2 new accesses adjoining the northern side of Ragged Hall Lane. Ragged Hall Lane would be locally widened to 4.8m in the vicinity of the site accesses.
- iv. The proposed vehicle accesses would provide visibility splays in accordance with DMRB CD 109 requirements based on recorded 85th percentile design speeds
- v. The proposed accesses been subject to a vehicle swept path analysis demonstrating access by private cars, emergency vehicles, and refuse vehicles.
- vi. The site's carriageway geometries can accommodate access and turning manoeuvres by large emergency vehicles and service vehicles.
- vii. The site would provide car and cycle parking in line with SACDC's residential car and cycle parking standards.
- viii. A TRICS assessment has been undertaken suggesting that the development would generate 32 additional daily 2-way vehicle movements, of which, 3 would occur in the AM peak hour, and 3 would occur in the PM peak hour.
- ix. The number of additional daily vehicle trips resulting from the proposed development would have a negligible impact on the local road network in terms of highway capacity and safety.



PLANS

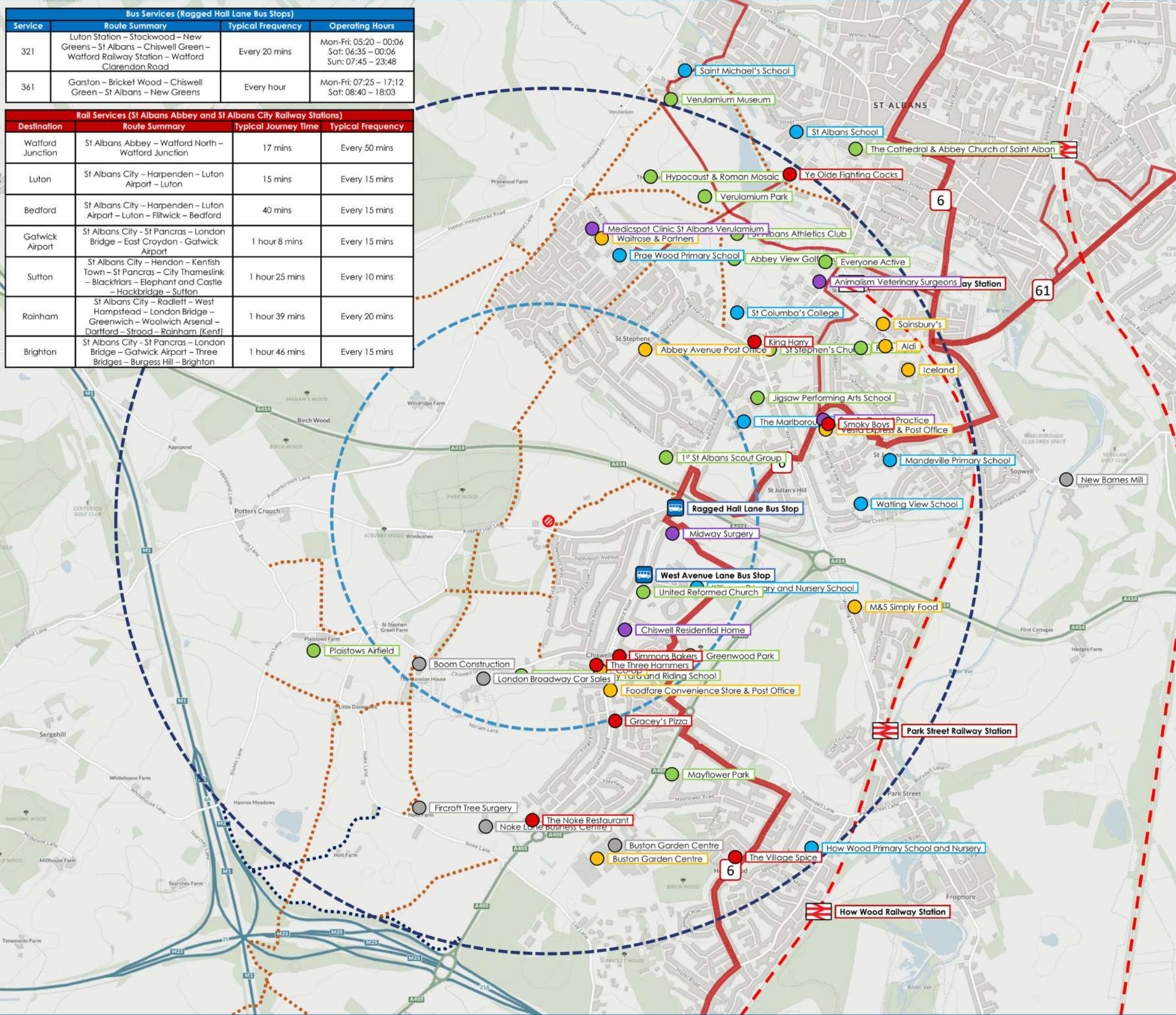
Plan 01 Accessibility Plan

Bus Services (Ragged Hall Lane Bus Stops)			
Service	Route Summary	Typical Frequency	Operating Hours
321	Luton Station – Stockwood – New Greens – St Albans – Chiswell Green – Watford Railway Station – Watford Clarendon Road	Every 20 mins	Mon-Fri: 05:20 – 00:06 Sat: 06:35 – 00:06 Sun: 07:45 – 23:48
361	Garston – Bricket Wood – Chiswell Green – St Albans – New Greens	Every hour	Mon-Fri: 07:25 – 17:12 Sat: 08:40 – 18:03

Rail Services (St Albans Abbey and St Albans City Railway Stations)			
Destination	Route Summary	Typical Journey Time	Typical Frequency
Watford Junction	St Albans Abbey – Watford North – Watford Junction	17 mins	Every 50 mins
Luton	St Albans City – Harpenden – Luton Airport – Luton	15 mins	Every 15 mins
Bedford	St Albans City – Harpenden – Luton Airport – Luton – Filtwick – Bedford	40 mins	Every 15 mins
Gatwick Airport	St Albans City – St Pancras – London Bridge – East Croydon – Gatwick Airport	1 hour 8 mins	Every 15 mins
Sutton	St Albans City – Hendon – Kentish Town – St Pancras – City Thameslink – Blackfriars – Elephant and Castle – Hackbridge – Sutton	1 hour 25 mins	Every 10 mins
Rainham	St Albans City – Radlett – West Hampstead – London Bridge – Greenwich – Woolwich Arsenal – Dartford – Strood – Rainham (Kent)	1 hour 39 mins	Every 20 mins
Brighton	St Albans City – St Pancras – London Bridge – Gatwick Airport – Three Bridges – Burgess Hill – Brighton	1 hour 46 mins	Every 15 mins

Legend

- Site Location
- 1km Isochrone
- 2km Isochrone
- Railway Station
- Railway
- Bus Stop
- National Cycle Route
- Local Cycle Route
- Retail
- Education
- Leisure
- Health Care
- Food & Drink
- Employment
- PROW Footpath
- PROW Bridleway



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Title: Accessibility Plan

Project: 84 – 104 Ragged Hall Lane, Chiswell Green, St Albans

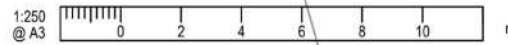
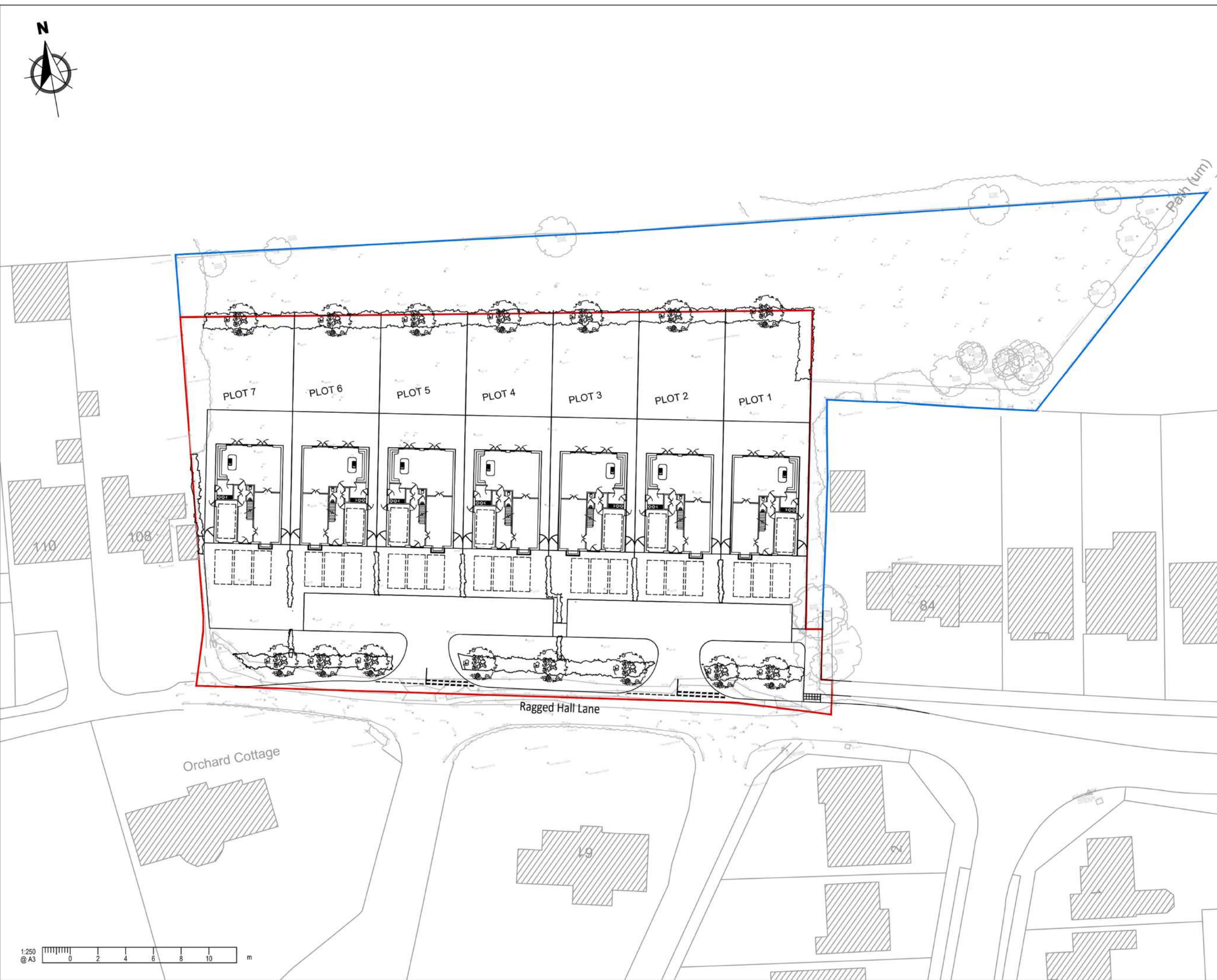
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6314	Plan 01	-



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NOTES

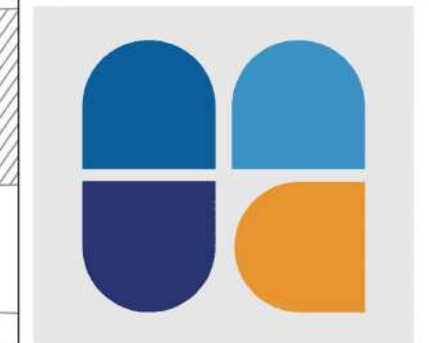
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1. This drawing is to be read in conjunction with all other Bright Plan drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
2. Bright Plan accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.

-Legend-

- Application Boundary
- Ownership Boundary

-	Original Issue	26/05/2022
Rev.	Amendments	Date



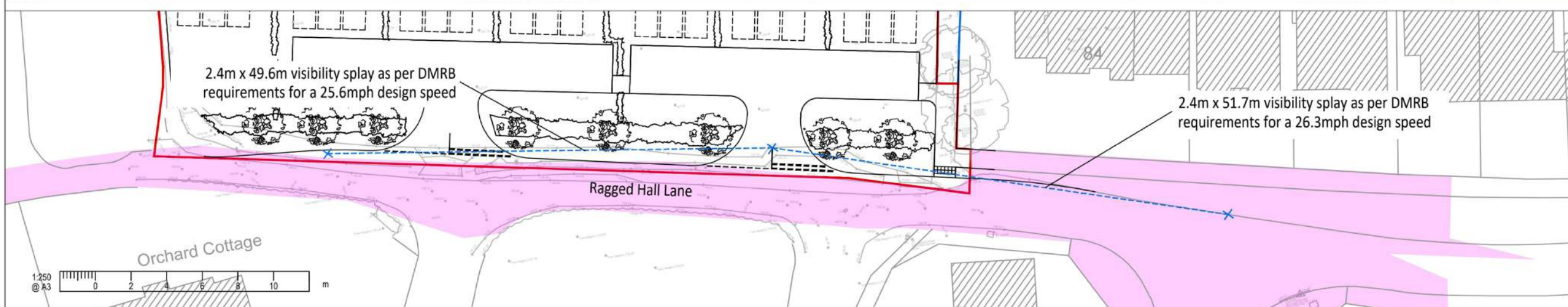
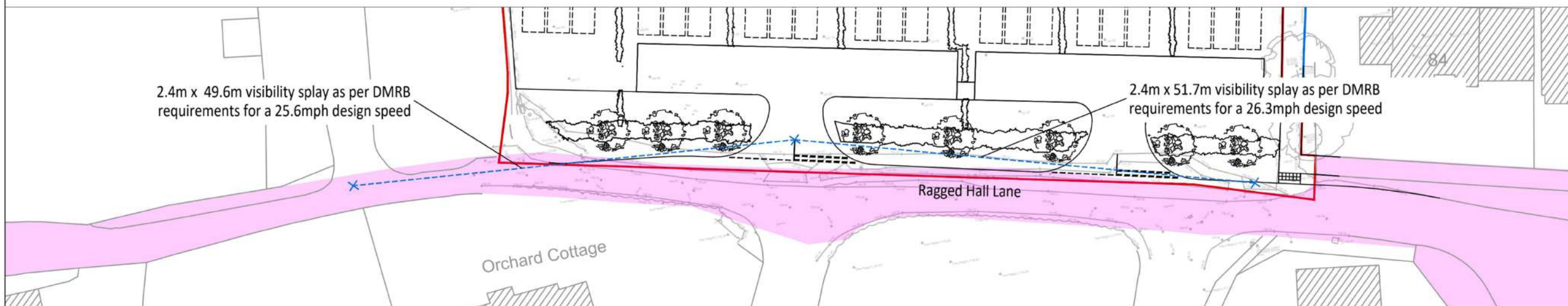
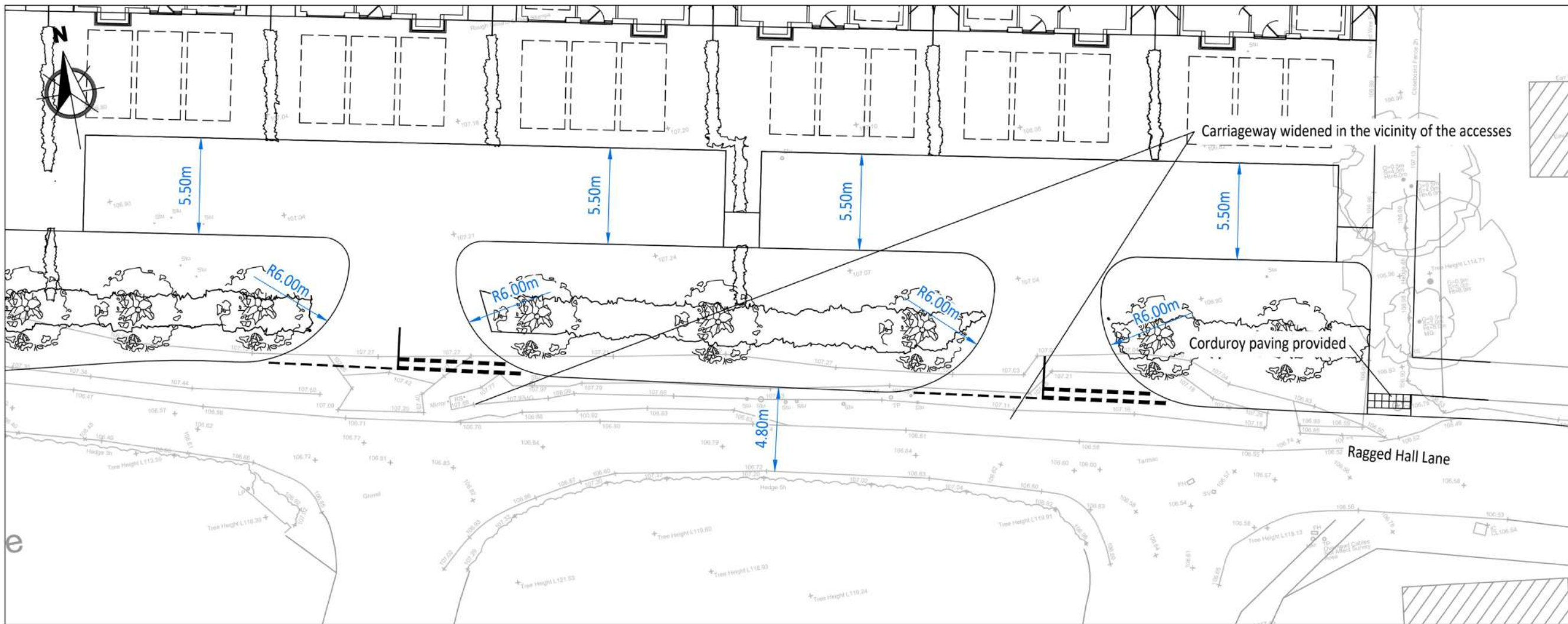
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 www.bpcivils.co.uk

Drawing Status	Final			
Client	Mr M. Holderness			
Project	84 -104 Ragged Hall Lane, Chiswell Green			
Drawing Title	Site Overview			
Scale	1:500	Date	May 22	
Drawn By	SMO	Checked By	ALB	
Drawing No.	2022-6314-000		Rev.	-

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-Legend-

- Application Boundary
- Ownership Boundary
- Public Highway
- Existing Road Markings
- - - Priority Junction Visibility Splay



Rev.	Amendments	Date
C	Site Boundary Updated	26/05/2022
B	Revised Layout	26/05/2022
A	Revised Layout	10/05/2022
-	Original Issue	06/04/2022



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Drawing Status	Final
Client	Mr M. Holderness
Project	84 -104 Ragged Hall Lane, Chiswell Green
Drawing Title	Access Overview and Visibility Splays
Scale	1:250
Date	May 22
Drawn By	SMO
Checked By	ALB
Drawing No.	2022-6314-001
Rev.	C

NOTES

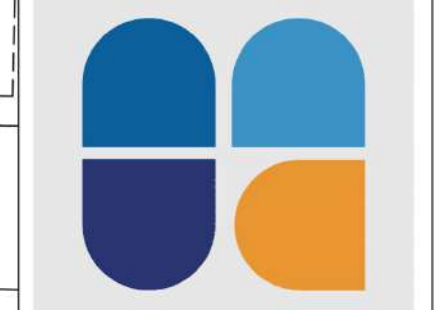
1. This drawing is to be read in conjunction with all other Bright Plan drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
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-Legend-

- Existing Road Markings
- Swept Path-
 - Wheel Track
 - Over Swing

	Estate Car	Overall Length	4.845m
		Overall Width	1.750m
		Overall Body Height	1.424m
		Min Body Ground Clearance	0.189m
		Max Track Width	1.655m
		Lock to lock time	4.00s
		Kerb to Kerb Turning Radius	4.950m
	Iveco Van Daily 35C 12/15/18 (w/b 3.3m)	Overall Length	5.997m
		Overall Width	1.996m
		Overall Body Height	2.335m
		Min Body Ground Clearance	0.154m
		Track Width	1.996m
		Lock to lock time	6.00s
		Kerb to Kerb Turning Radius	5.600m

A	Revised Layout	26/05/2022
-	Original Issue	06/04/2022
Rev.	Amendments	Date



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Drawing Status: Final

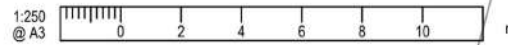
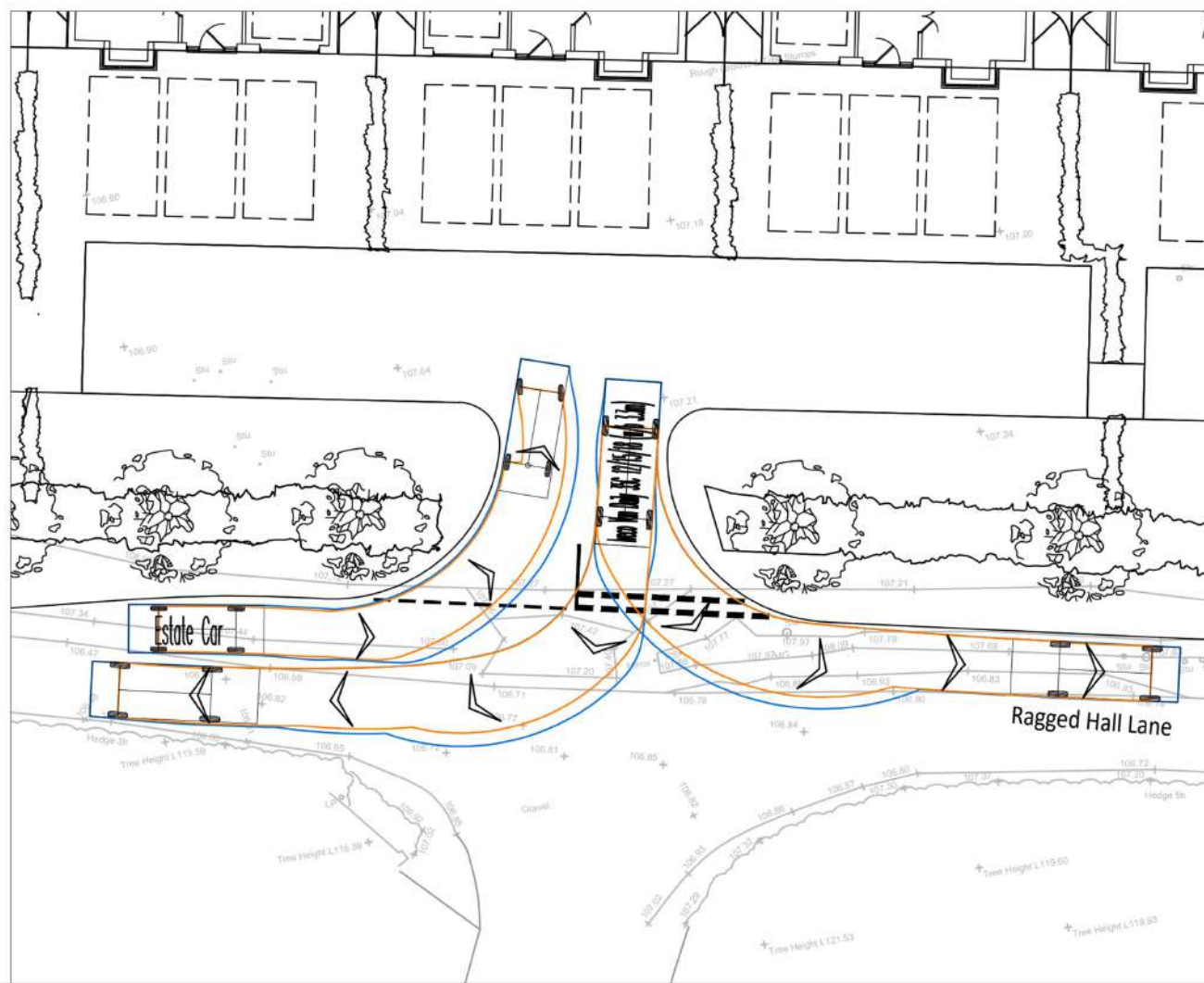
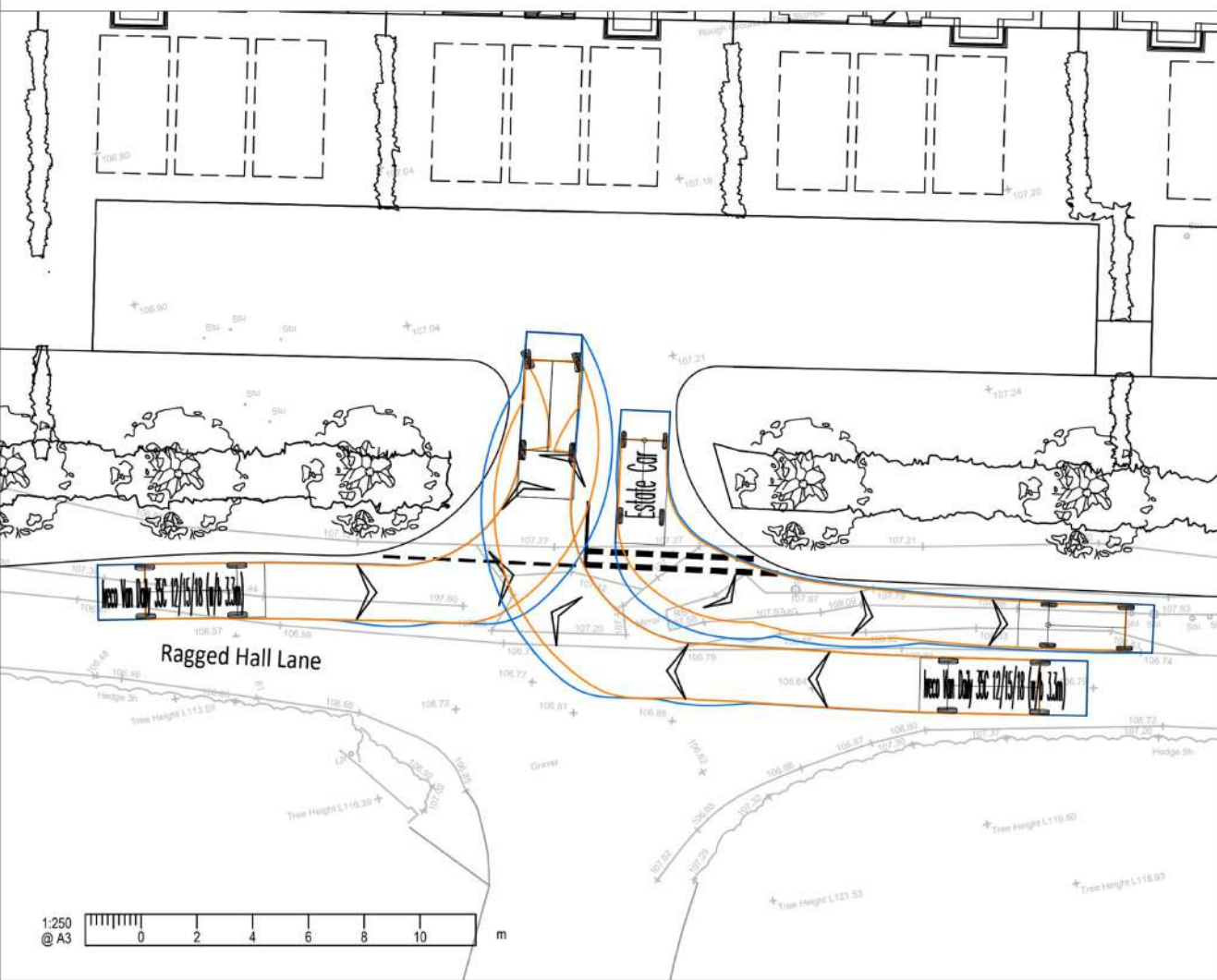
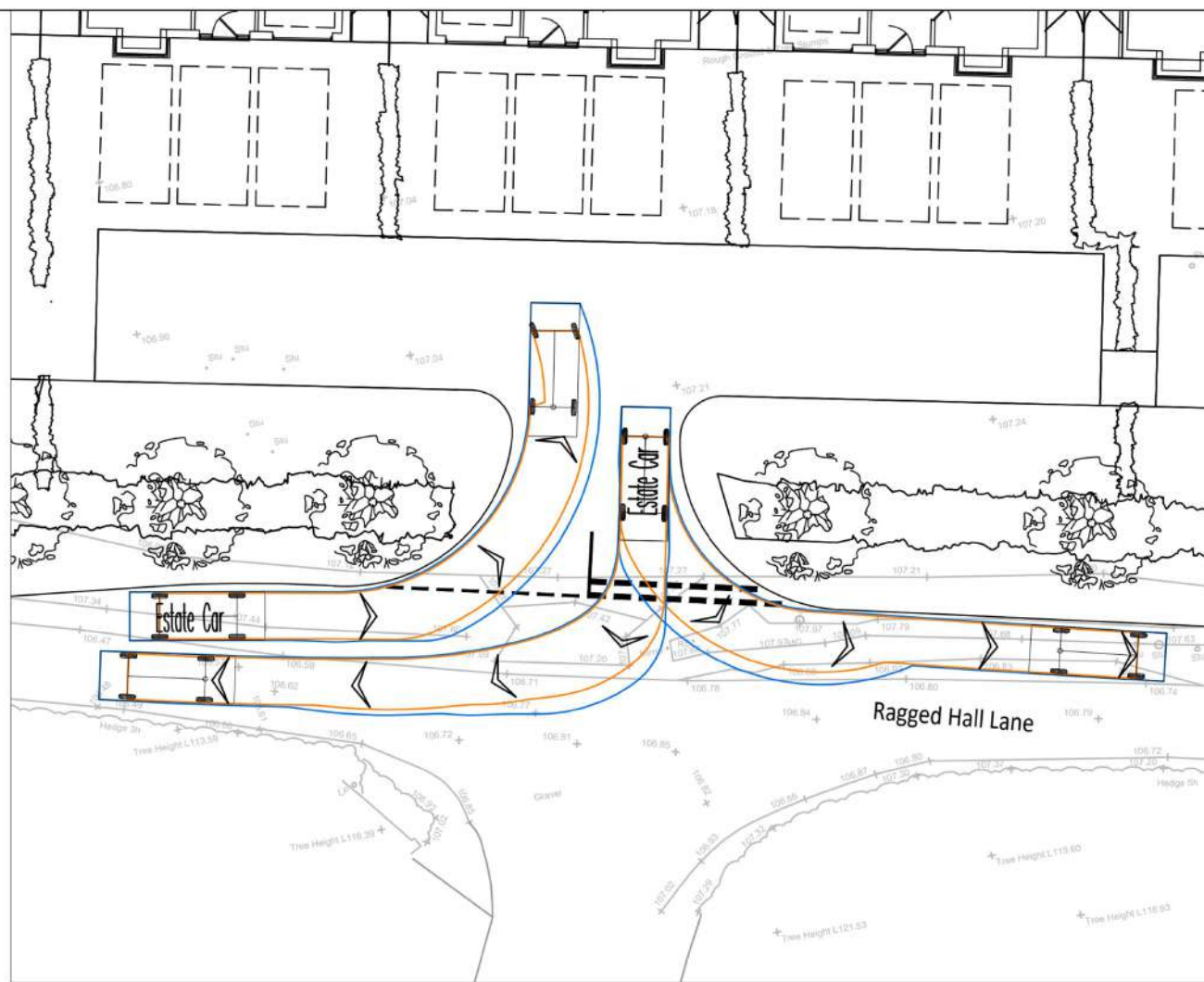
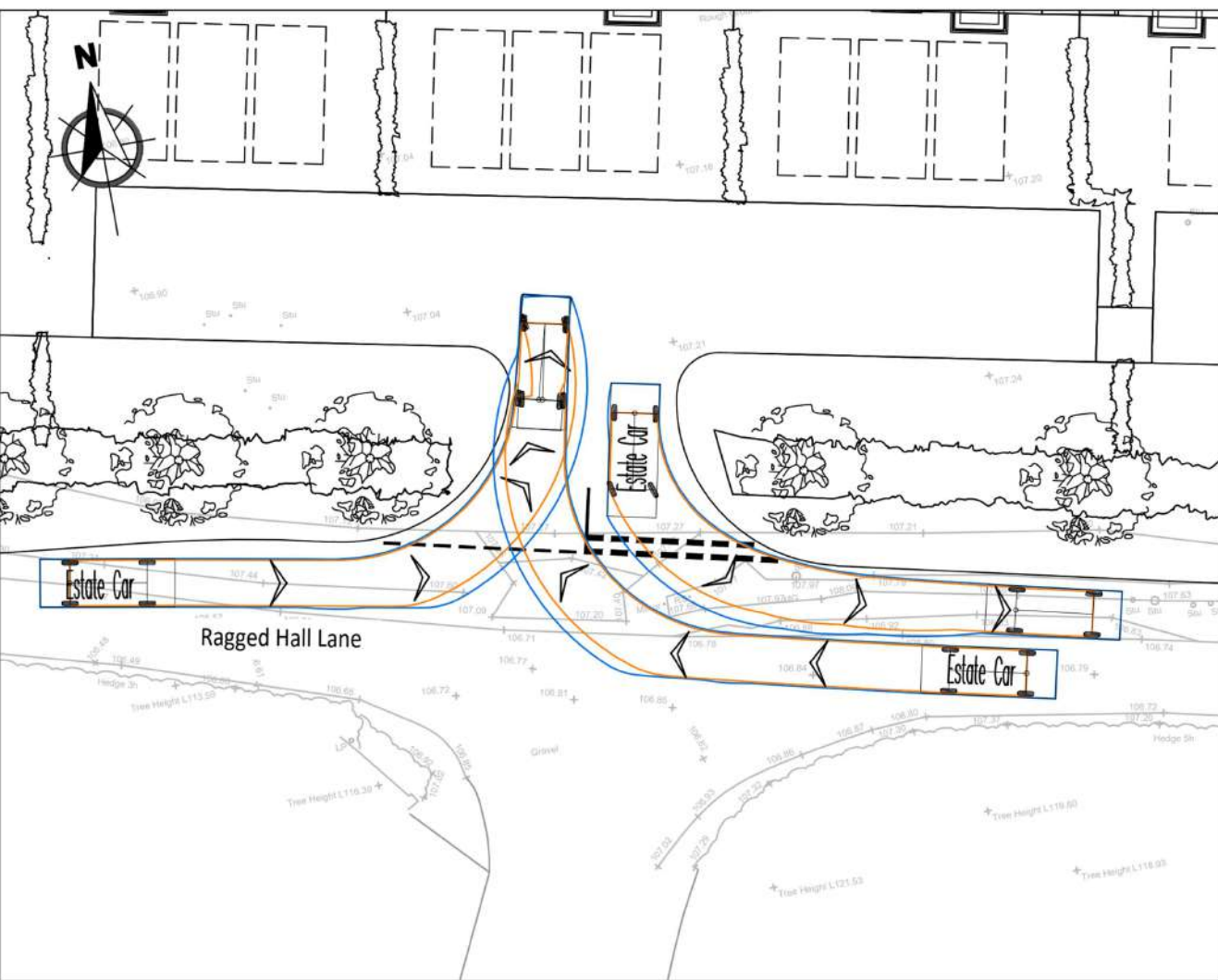
Client: Mr M. Holderness

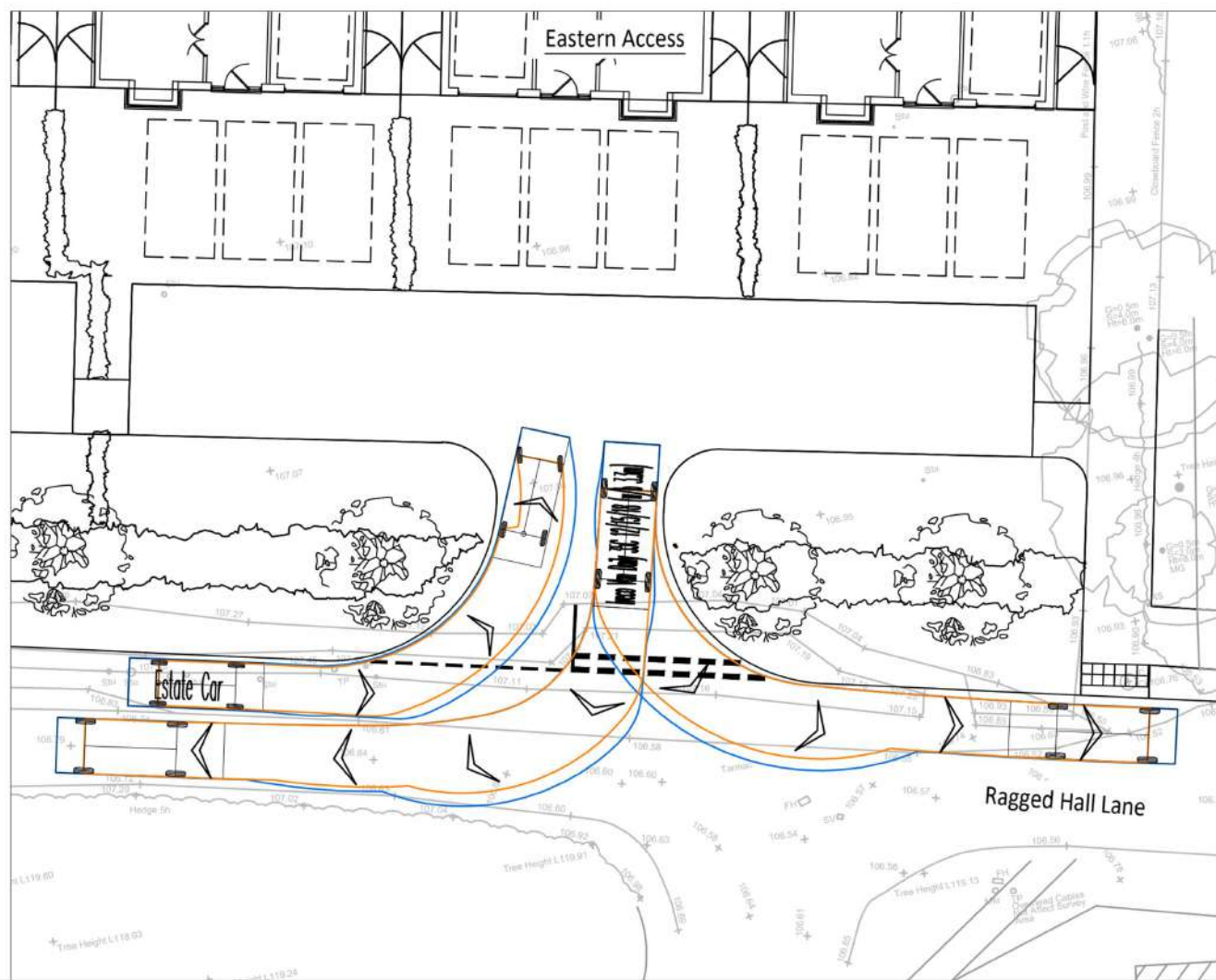
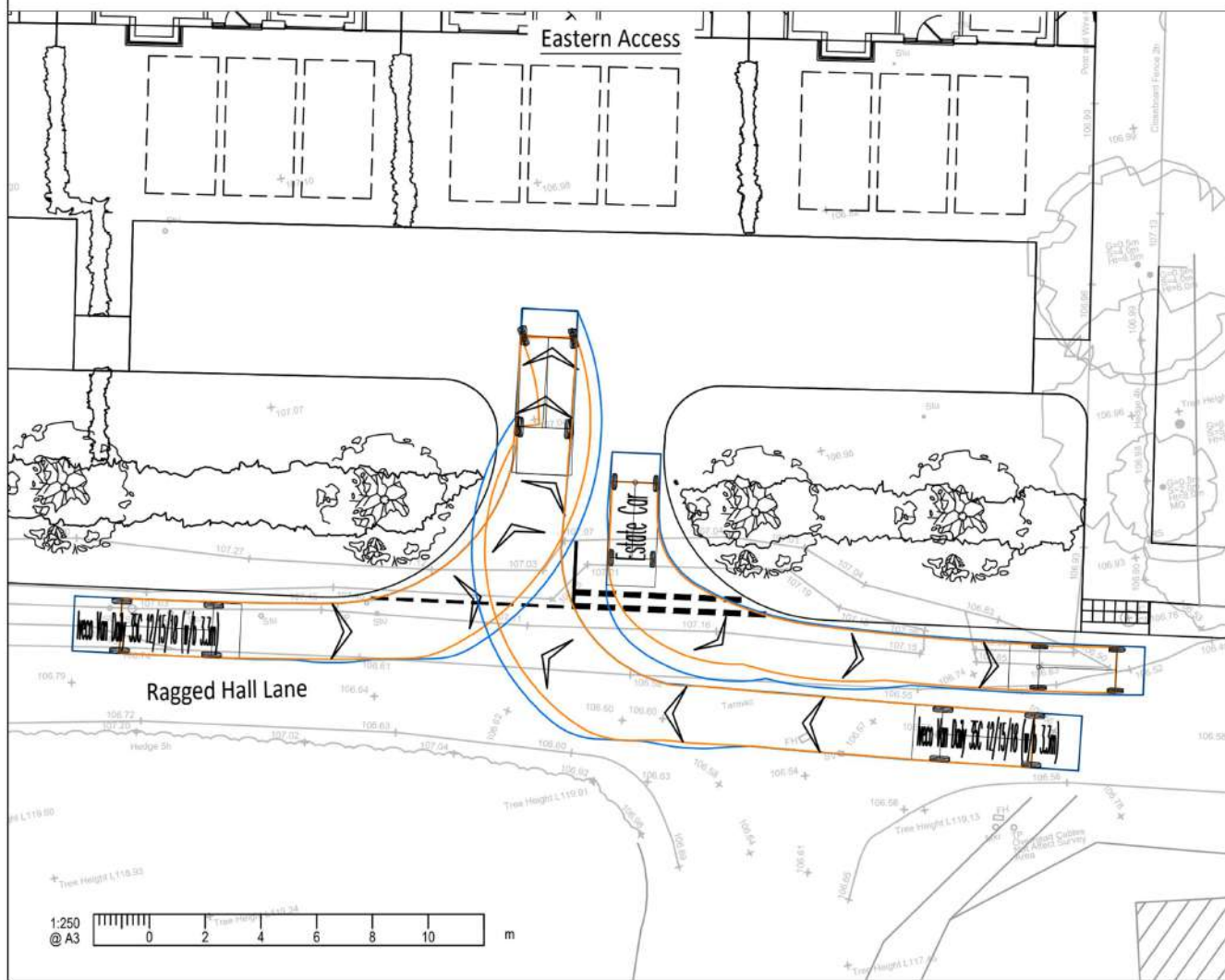
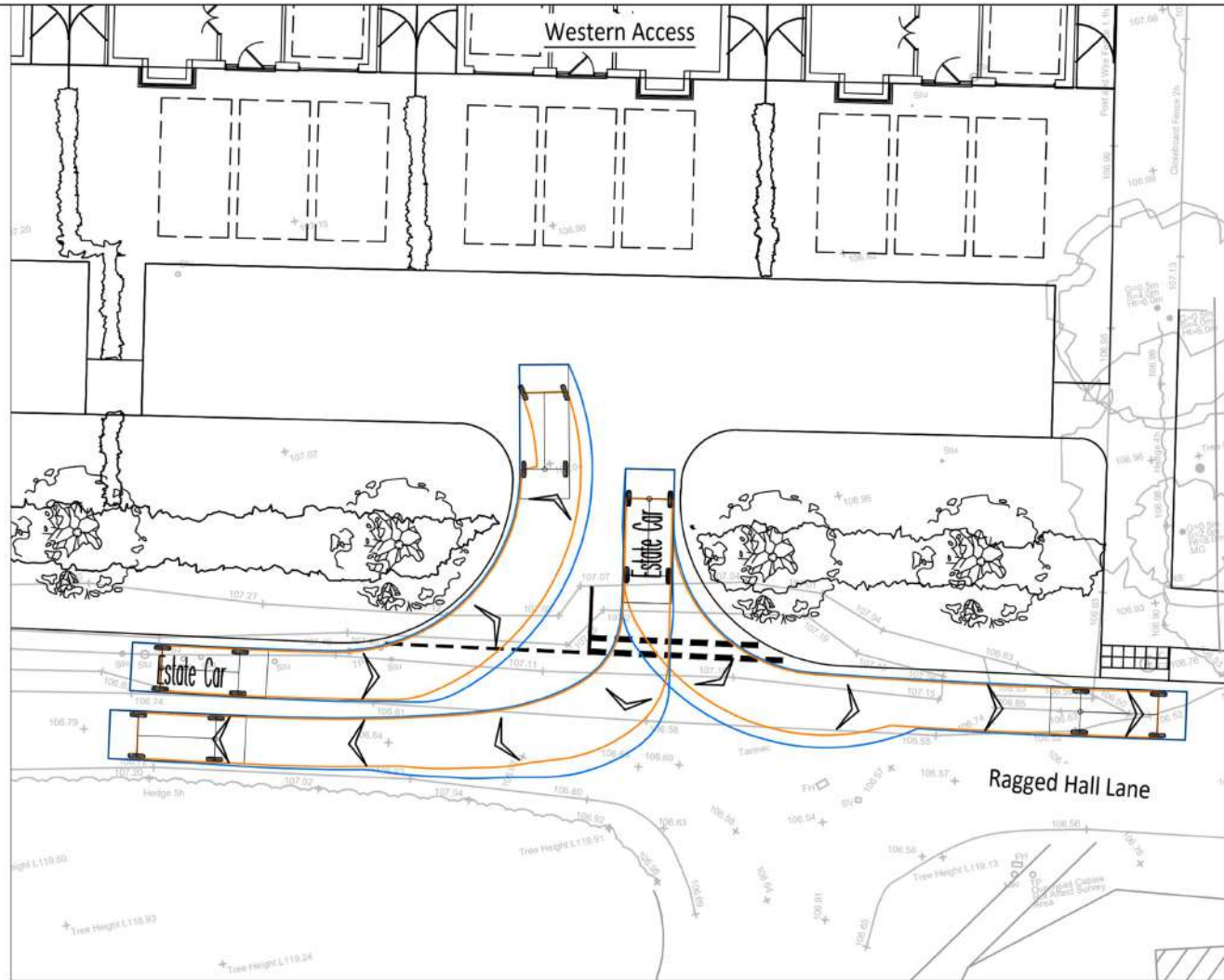
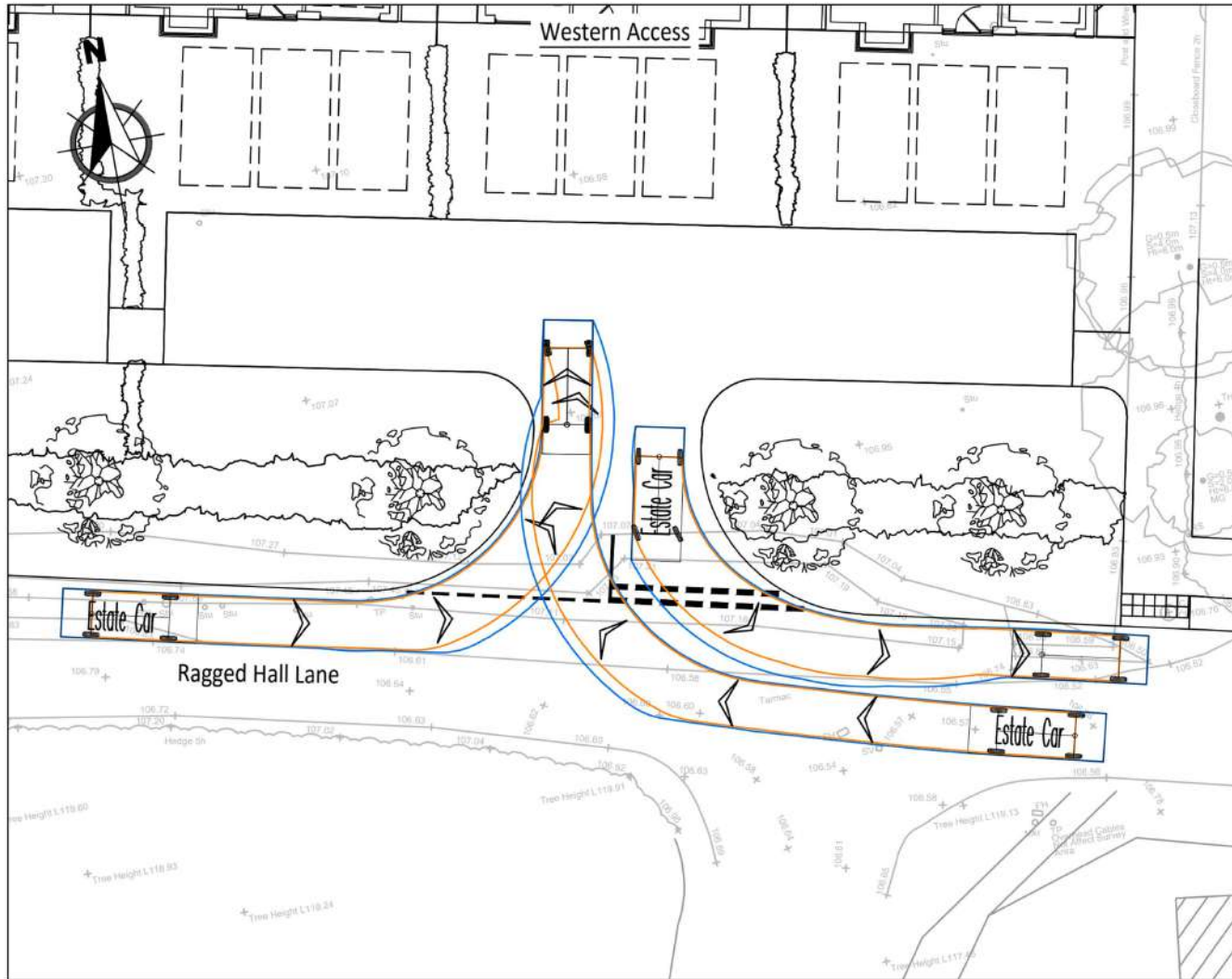
Project: 84 -104 Ragged Hall Lane, Chiswell Green

Drawing Title: Western Access Estate Car and Delivery Van Vehicle Swept Path Analysis

Scale: 1:250 Date: May 22 Drawn By: SMO Checked By: ALB

Drawing No.: 2022-6314-002 Rev.: A






NOTES


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-Legend-

- Existing Road Markings
- Swept Path-
 - Wheel Track
 - Over Swing



Estate Car
Overall Length 4.845m
Overall Width 1.750m
Overall Body Height 1.424m
Min Body Ground Clearance 0.189m
Max Track Width 1.655m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 4.950m



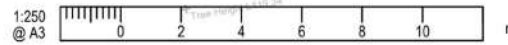
Iveco Van Daily 35C 12/15/18 (w/b 3.3m)
Overall Length 5.997m
Overall Width 1.996m
Overall Body Height 2.335m
Min Body Ground Clearance 0.154m
Track Width 1.996m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 5.600m

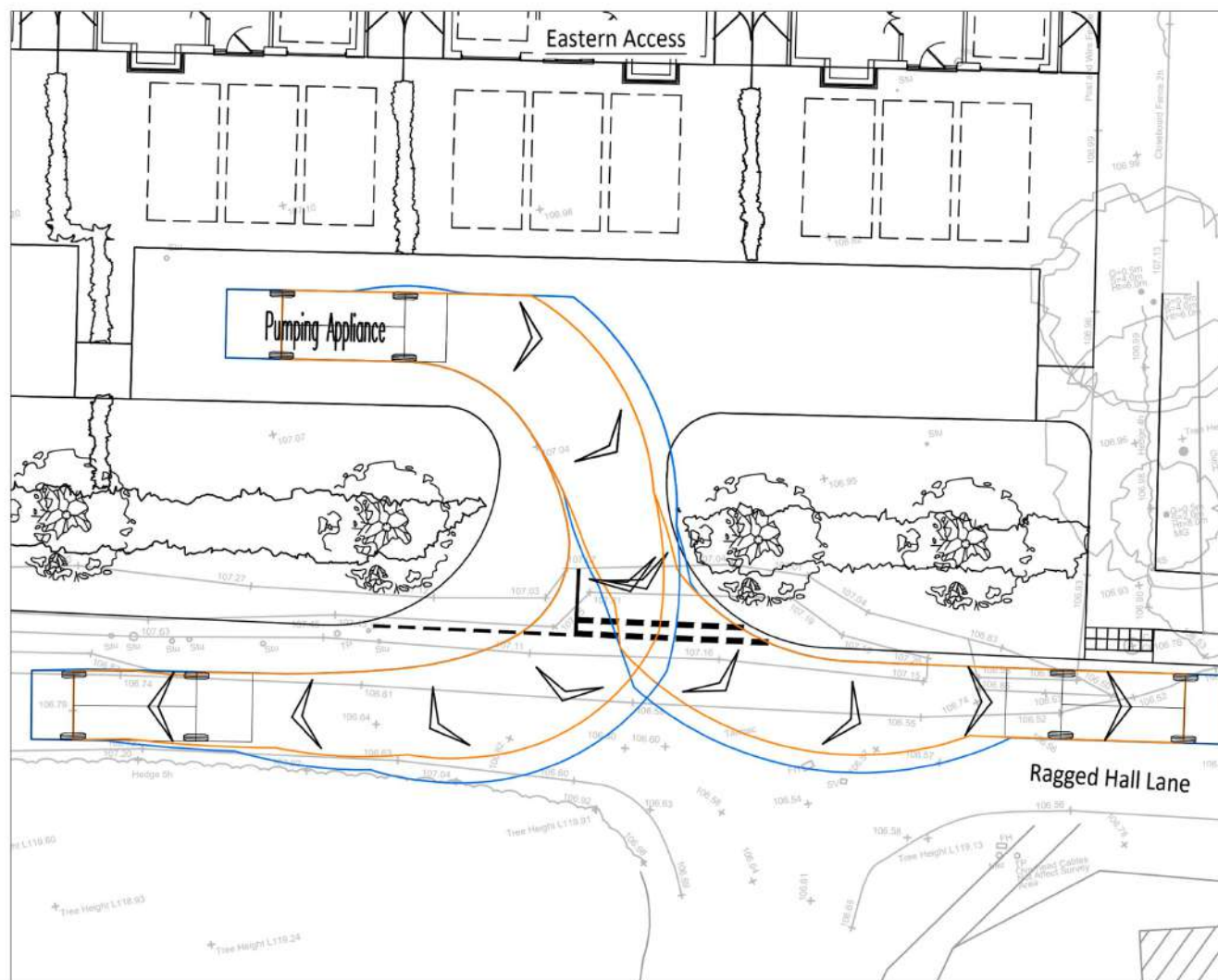
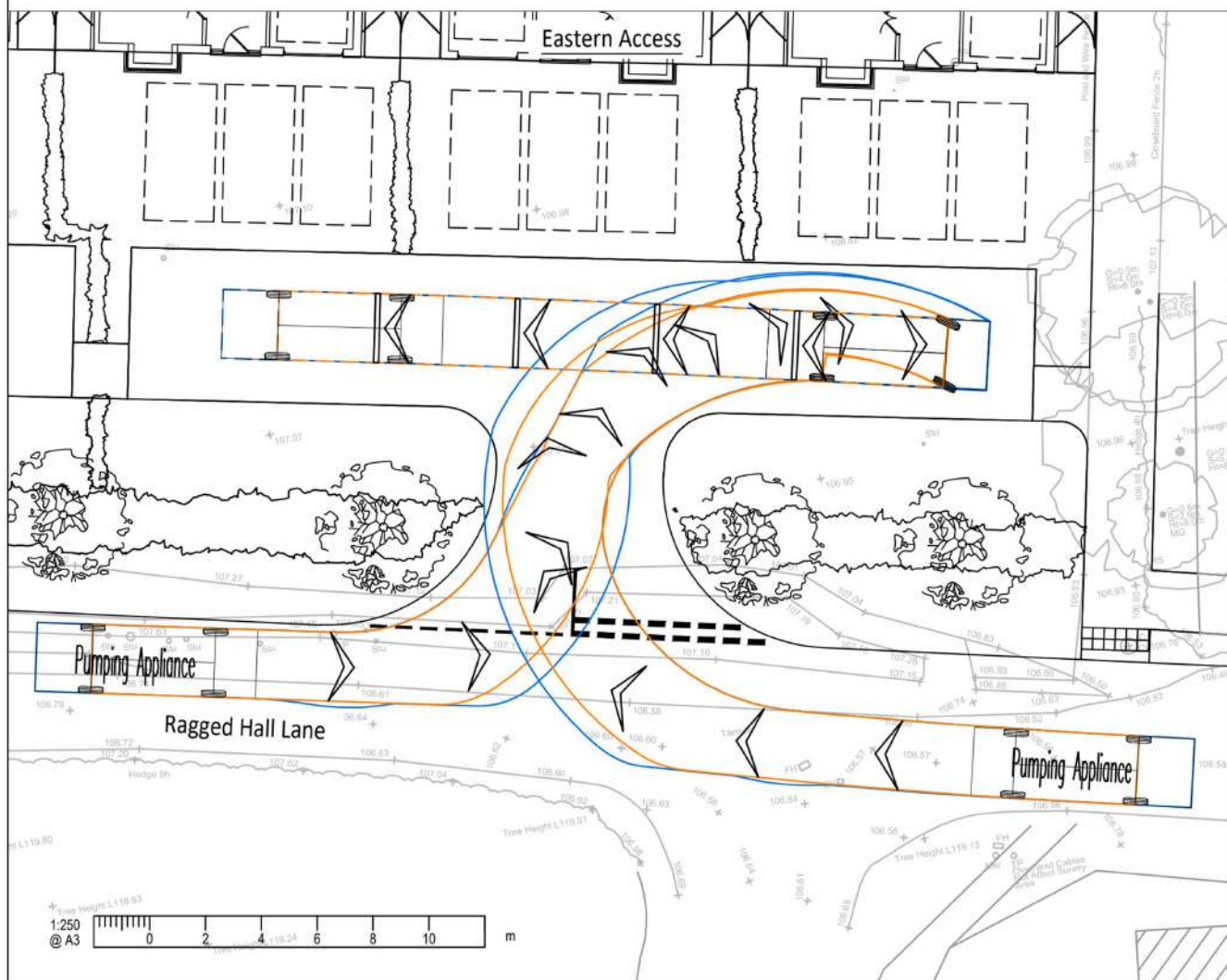
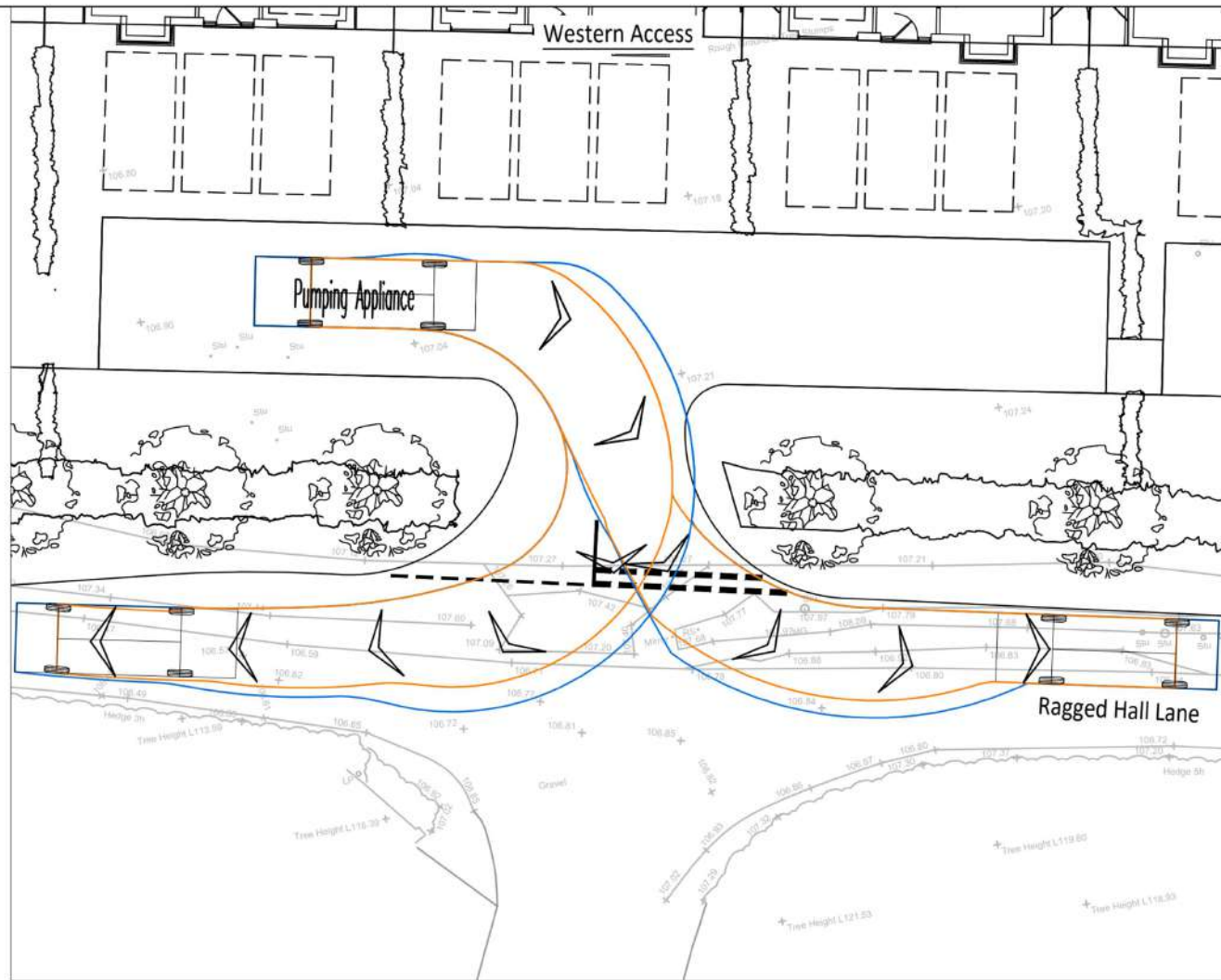
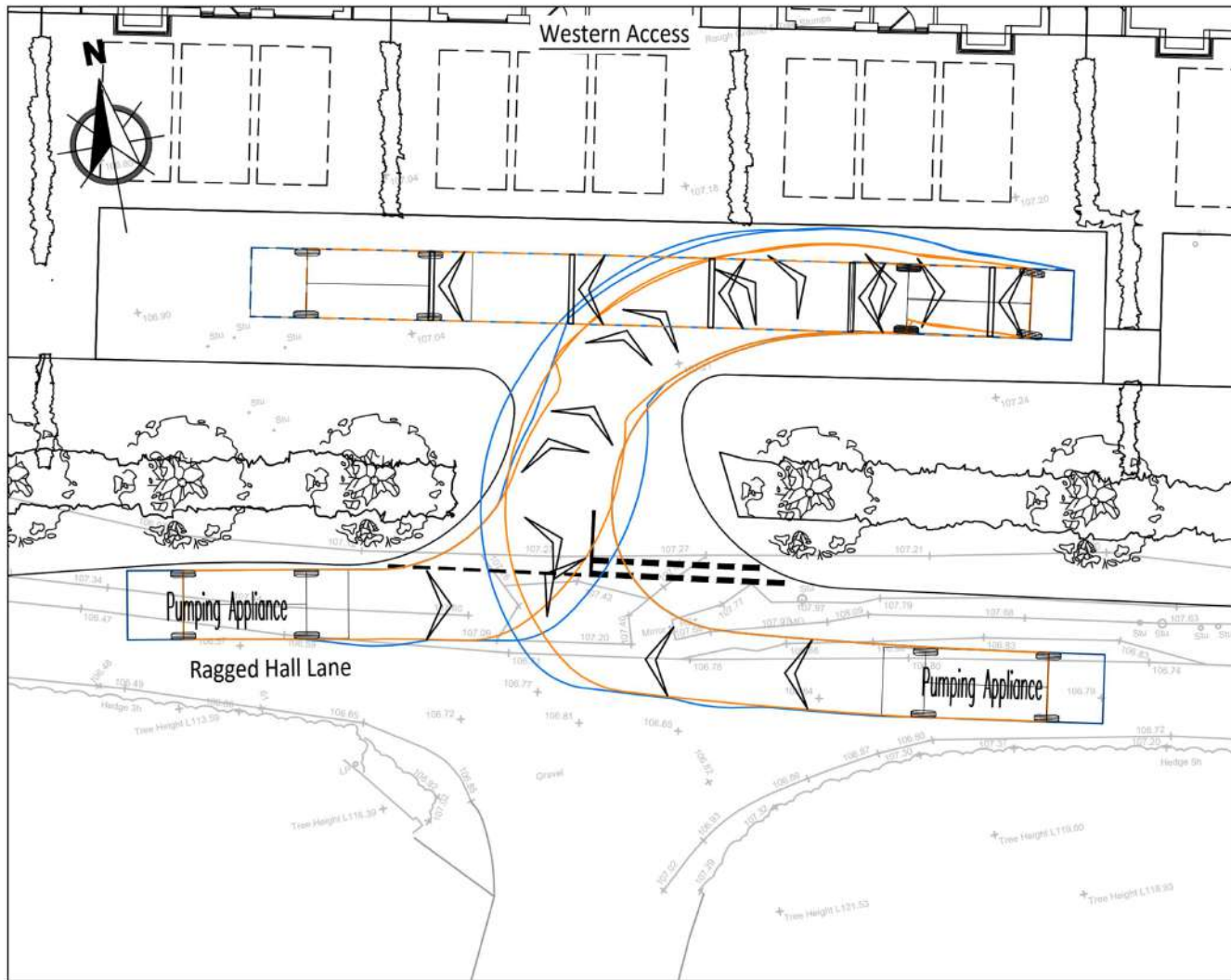
A	Revised Layout	26/05/2022
-	Original Issue	06/04/2022
Rev.	Amendments	Date



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Drawing Status	Final
Client	Mr M. Holderness
Project	84 -104 Ragged Hall Lane, Chiswell Green
Drawing Title	Eastern Access Estate Car and Delivery Van Vehicle Swept Path Analysis
Scale	1:250
Date	May 22
Drawn By	SMO
Checked By	ALB
Drawing No.	2022-6314-003
Rev.	A

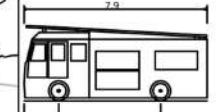




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-Legend-

- Existing Road Markings
- Swept Path-
 - Wheel Track
 - Over Swing



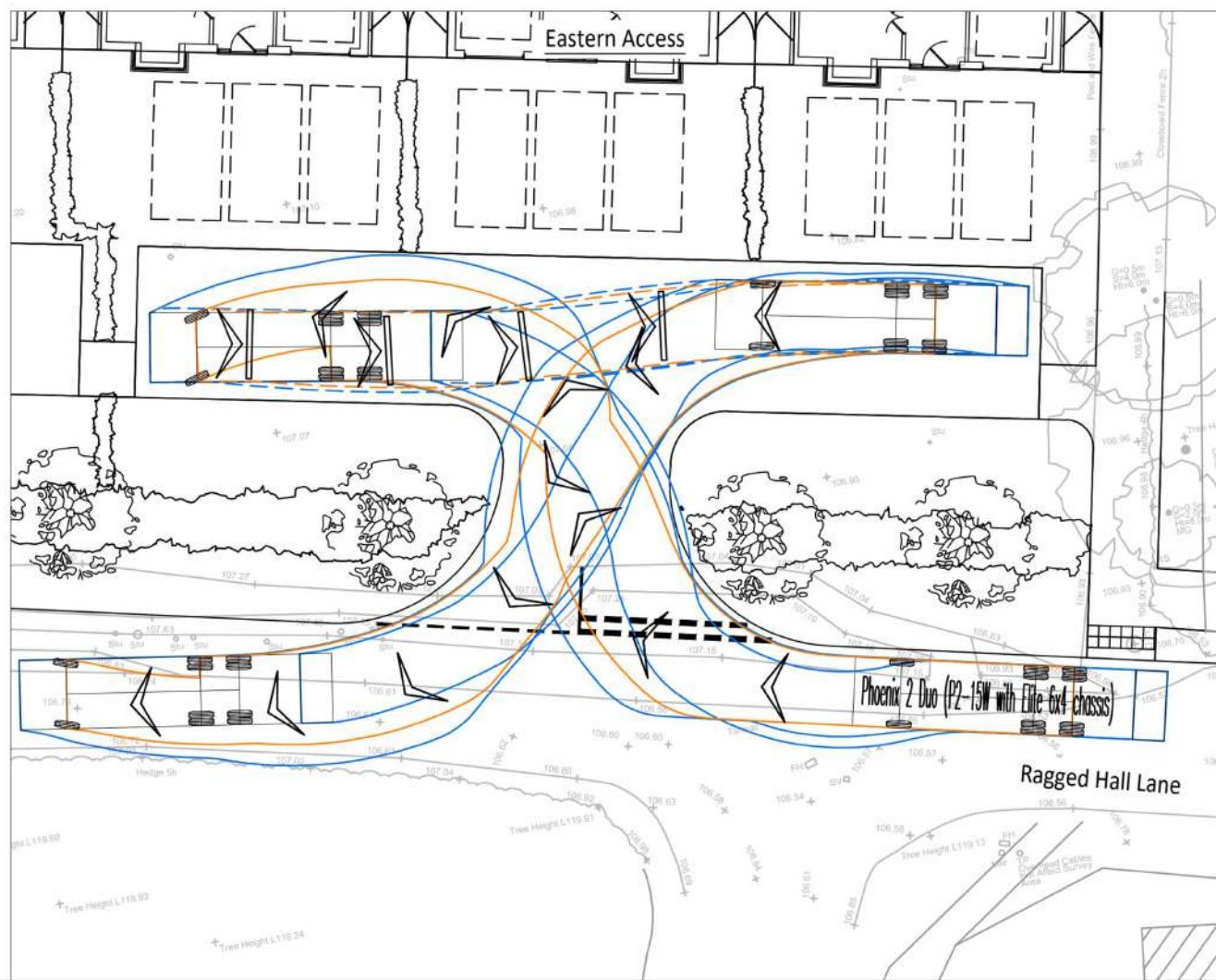
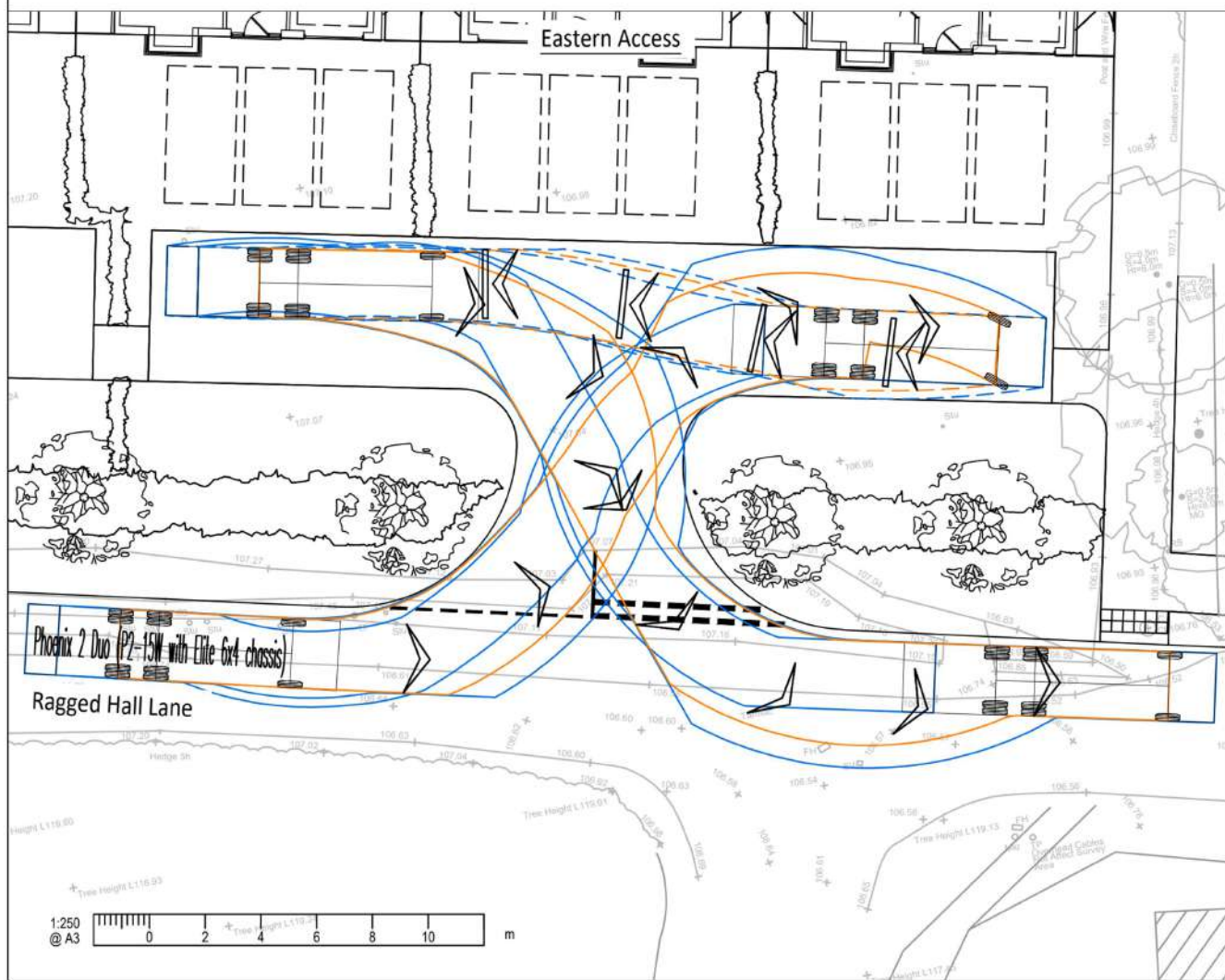
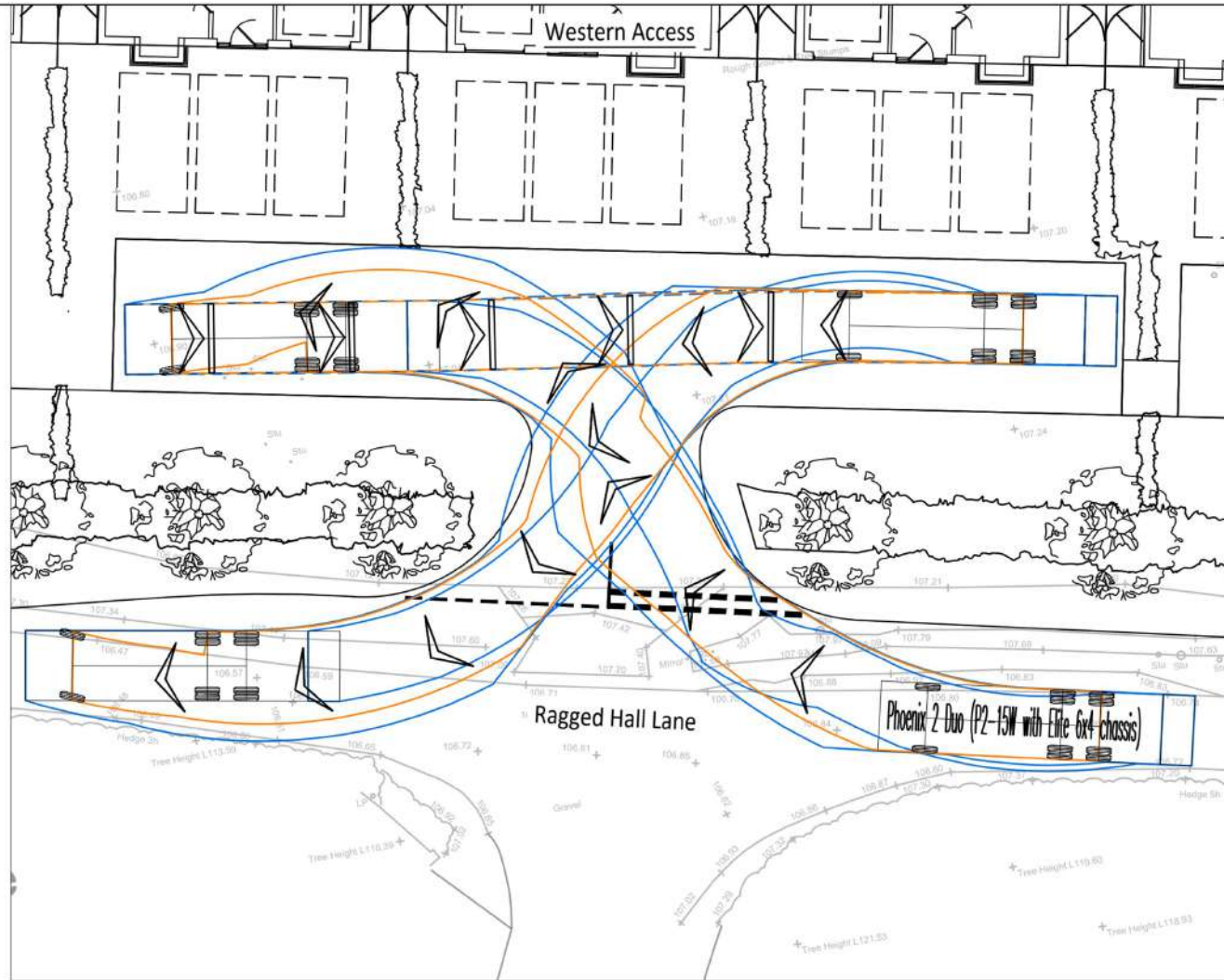
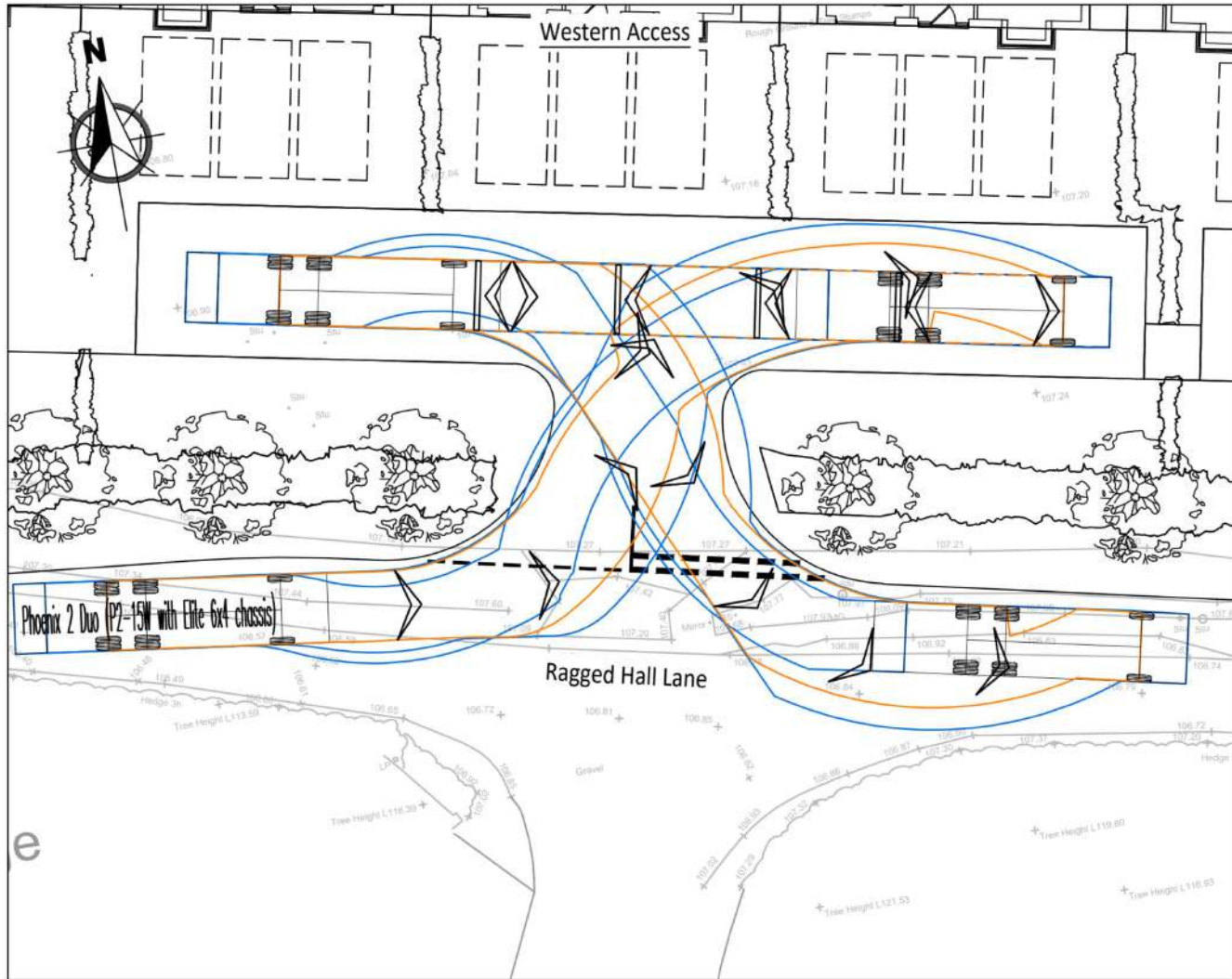
Pumping Appliance Overall Length	7.900m
Pumping Appliance Overall Width	2.500m
Pumping Appliance Overall Body Height	3.300m
Pumping Appliance Min Body Ground Clearance	0.140m
Pumping Appliance Track Width	2.500m
Pumping Appliance Lock to lock time	4.00s
Pumping Appliance Kerb to Kerb Turning Radius	7.750m

Original Issue	26/05/2022
Rev.	Amendments Date



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Drawing Status	Final
Client	Mr M. Holderness
Project	84 -104 Ragged Hall Lane, Chiswell Green
Drawing Title	Fire Tender Vehicle Swept Path Analysis
Scale	1:250
Date	May 22
Drawn By	SMO
Checked By	ALB
Drawing No.	2022-6314-004
Rev.	-

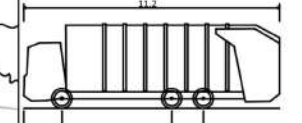


NOTES

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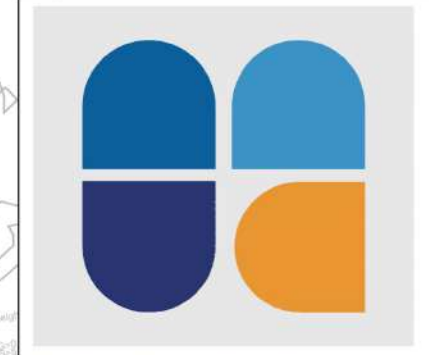
-Legend-

- Existing Road Markings
- Swept Path-
 - Wheel Track
 - Over Swing



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
 Overall Length 11.200m
 Overall Width 2.530m
 Overall Body Height 3.751m
 Min Body Ground Clearance 0.304m
 Track Width 2.500m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 9.500m

Original Issue	26/04/2022
Rev.	Amendments Date



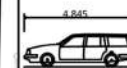
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Drawing Status	Draft		
Client	Mr M. Holderness		
Project	Final Chiswell Green		
Drawing Title	Refuse Freighter Vehicle Swept Path Analysis		
Scale	1:250	Date	May 22
		Drawn By	SMO
		Checked By	ALB
Drawing No.	2022-6314-005		Rev.
			-

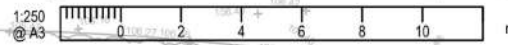
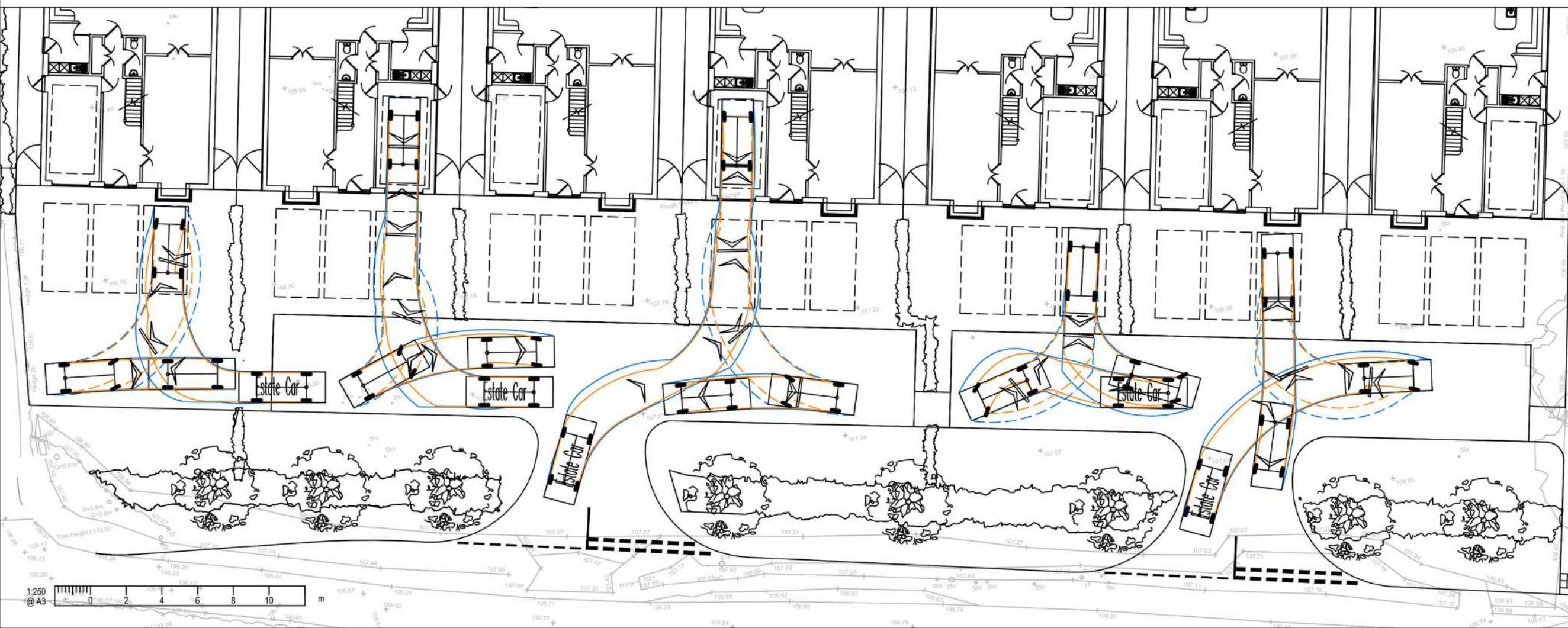
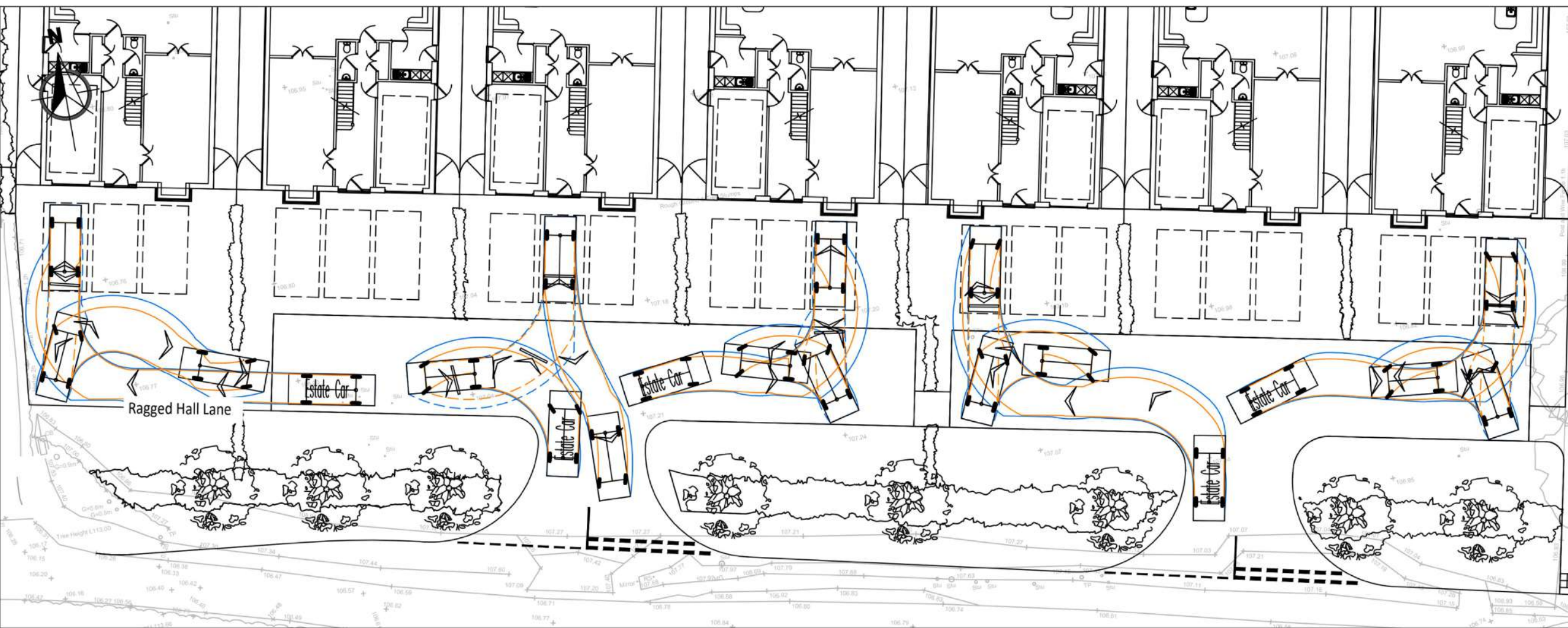
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-Legend-

- Existing Road Markings
- Swept Path-
 - Wheel Track
 - Over Swing



Estate Car Overall Length	4.845m
Estate Car Overall Width	1.750m
Estate Car Overall Body Height	1.424m
Estate Car Min Body Ground Clearance	0.189m
Estate Car Max Track Width	1.655m
Estate Car Lock to lock time	4.00s
Estate Car Kerb to Kerb Turning Radius	4.950m



Original Issue	26/05/2022	
Rev.	Amendments	Date



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Drawing Status	Final						
Client	Mr M. Holderness						
Project	84 -104 Ragged Hall Lane, Chiswell Green						
Drawing Title	Parking Vehicle Swept Path Analysis						
Scale	1:250	Date	May 22	Drawn By	SMO	Checked By	ALB
Drawing No.	2022-6314-006	Rev.	-				



APPENDICES



Appendix A ATC Survey



OBTRADA



Ragged Hall Lane, Chiswell Green, St. Albans

Globals

Report Id	CustomList-19
Descriptor	OB Directions Combined
Created by	MetroCount Traffic Executive
Creation Time (UTC)	2022-05-03T13:08:42
Legal	Copyright (c)1997 - 2018 MetroCount
Graphic	
Language	English
Country	United Kingdom
Time	UTC + 60 min
Create Version	5.0.5.0
Metric	Part metric
Speed Unit	mph
Length Unit	metre
Mass Unit	tonne

Dataset

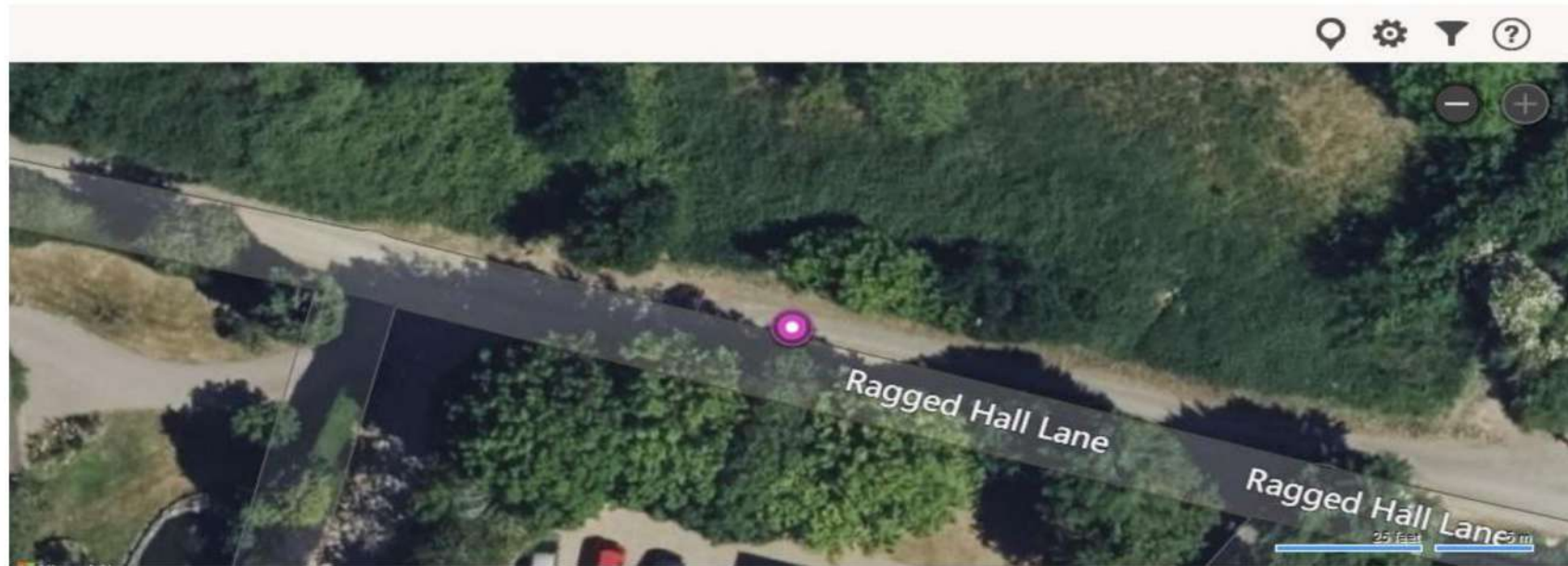
Site Name	Ragged Hall Lane
Site Attribute	ATC 3
File Name	C:\Users\nickh\Desktop\Ragged Hall Lane 0 2022-05-03 1234.EC0
File Type	Plus
Algorithm	Factory default axle
Description	Ragged Hall Lane, Chiswell Green, St. Albans
Lane	0
Direction	6
Direction Text	6 - West bound A]B, East bound B]A.
Layout Text	Axle sensors - Paired (Class/Speed/Count)
Setup Time	2022-04-22T13:39:37
Start Time	2022-04-22T13:39:37
Finish Time	2022-05-03T12:22:37
Operator	OR
Configuration	40 MC5600 80 00 14 6a 6a ? W261VG0Z MC56-L5 [MC55] (c)Microcom 19Oct04
Scheme:	VRX



Ragged Hall Lane, Chiswell Green, St. Albans

ATC Location

51.733885, -0.363775



7 Day Weather Report

Below are the prevailing weather conditions for each day during the survey period. This is historical weather forecasting from <https://www.wunderground.com/>

25 April 2022

Cloudy

26 April 2022

Mostly Sunny

27 April 2022

Cloudy

28 April 2022

Cloudy

29 April 2022

Cloudy

30 April 2022

Mostly Sunny

01 May 2022

Cloudy



Light

Class 1	SV	2 axles	Short Vehicle Car or Light Van
Class 2	SVT	3,4 or 5 axle	Short Vehicle Towing Trailer, Caravan, Boat etc



Medium

Class 3	TB2	2 axle	Two axle truck or bus
Class 4	TB3	3 axle	Three axle truck or bus
Class 5	T4	>3 axle	Four axle truck



Heavy

Class 6	ART3	3 axle	Three axle articulated vehicle or rigid vehicle and trailer
Class 7	ART4	4 axle	Four axle articulated vehicle or rigid vehicle and trailer
Class 8	ART5	5 axle	Five axle articulated vehicle or rigid vehicle and trailer
Class 9	RT6	>6 axle	Six (or more) axle articulated vehicle or rigid vehicle and trailer
Class 10	BD	>6 axle	B - Double or Heavy truck and trailer
Class 11	DRT	>6 axle	Double road train or heavy truck and two trailers
Class 12	TRT	>6 axle	Triple road train or heavy truck and three (or more) trailers



Light

Class 14	M/C	2 axle	Motorcycle
Class 15	Cycle	2 axle	Bicycle

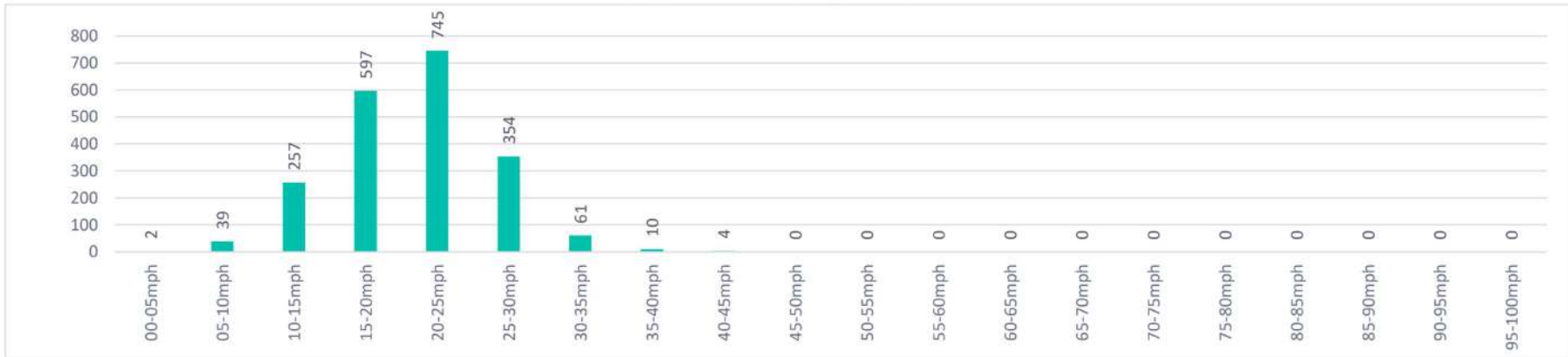


Ragged Hall Lane, Chiswell Green, St. Albans

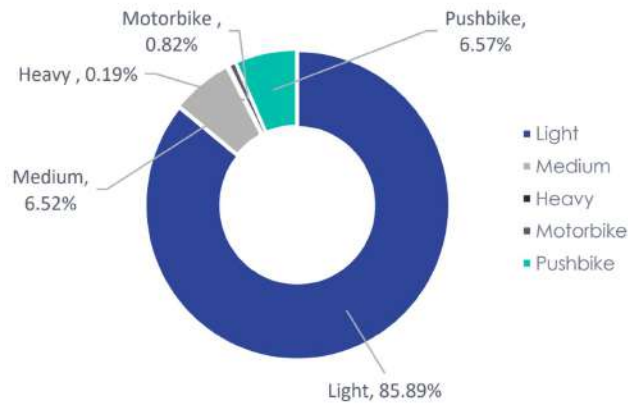
Totals Over 7 Days

	Total Vehicles	Average Speed	85th Percentile	Posted Speed Limit	Total Vehicles Over Pos
Eastbound	1176	20.4	25.6	60	
Westbound	893	21.1	26.3		
Combined	2069	20.8	26.0		0

Vehicle numbers per speed bin



Traffic Composition Over 7 Days



	Light	Medium	Heavy	Motorbike	Pushbike	Combined
Eastbound	48.91%	3.53%	0.10%	0.63%	3.67%	56.84%
Westbound	36.97%	3.00%	0.10%	0.19%	2.90%	43.16%
Combined	85.89%	6.52%	0.19%	0.82%	6.57%	100.00%

Report Id - CustomBl-19
 Site Name - Ragged Hall Lane
 Description - Ragged Hall Lane, Chiswell Green, St. Albans
 Direction - North East South West

27 April 2022

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Cls 14	Cls 15	Cld	Total	Vbin 5	Vbin 10	Vbin 15	Vbin 20	Vbin 25	Vbin 30	Vbin 35	Vbin 40	Vbin 45	Vbin 50	Vbin 55	Vbin 60	Vbin 65	Vbin 70	Vbin 75	Vbin 80	Vbin 85	Vbin 90	Vbin 95	Vbin 100	Mean	Vpp 85				
0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-			
0000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	W	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.3	-		
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
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0300	0	0	1	0	0	0	0	0	0	0	0	0	0	0	E	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.2	-		
0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
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0400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	W	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.2	-		
0500	2	0	0	0	0	0	0	0	0	0	0	0	0	0	E	2	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.8	-		
0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0600	4	0	0	0	0	0	0	0	0	0	0	0	0	0	E	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.5	-		
0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	
0700	11	0	1	0	0	0	0	0	0	0	0	0	0	0	E	12	0	0	2	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	25.6		
0700	7	0	1	0	0	0	0	0	0	0	0	0	0	0	W	8	0	0	1	2	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.8	-		
0800	47	0	1	0	0	0	0	0	0	0	0	0	0	0	E	46	0	0	0	4	27	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.9	26.8		
0800	5	0	0	0	0	0	0	0	0	0	0	0	0	1	W	6	0	0	0	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.9	-		
0900	4	0	0	0	0	0	0	0	0	0	0	0	0	0	E	4	0	0	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.9	-		
0900	8	0	0	0	0	0	0	0	0	0	0	0	0	0	W	9	0	0	2	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.7	-		
1000	6	0	0	0	0	0	0	0	0	0	0	0	0	1	E	7	0	0	2	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.1	-		
1000	4	0	2	0	0	0	0	0	0	0	0	0	0	2	W	8	0	0	1	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.5	-		
1100	9	0	1	0	0	0	0	0	0	0	0	0	0	1	E	11	0	0	3	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.3	21.2		
1100	8	0	1	0	0	0	0	0	0	0	0	0	0	1	W	10	0	0	2	3	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.8	-		
1200	9	0	0	0	0	0	0	0	0	0	0	0	0	1	E	10	0	0	1	6	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.2	-		
1200	8	0	1	0	0	0	0	0	0	0	0	0	0	0	W	9	0	0	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18.5	-		
1300	4	0	1	0	0	0	0	0	0	0	0	0	0	2	E	7	0	0	1	2	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.7	-		
1300	1	0	1	0	0	0	0	0	0	0	0	0	0	0	W	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.4	-		
1400	9	0	2	0	0	0	0	0	0	0	0	0	0	0	E	11	0	0	2	4	4	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.6	25.9		
1400	5	0	2	0	0	0	0	0	0	0	0	0	0	0	W	7	0	0	0	2	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.2	-		
1500	7	0	3	0	0	0	0	0	0	0	0	0	0	0	E	10	1	0	3	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16.9	-		
1500	9	0	2	0	0	0	0	0	0	0	0	0	0	0	W	11	0	0	0	2	6	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.5	30.4	
1600	4	0	1	0	0	0	0	0	0	0	0	0	0	1	E	6	0	0	0	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	-		
1600	8	0	0	0	0	0	0	0	0	0	0	0	0	1	W	9	0	0	1	1	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.7	-		
1700	10	0	0	0	0	0	0	0	0	0	0	0	0	3	E	13	0	0	3	1	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	24.6		
1700	11	0	1	0	0	0	0	0	0	0	0	0	0	0	W	12	0	0	1	0	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2	26.2		
1800	10	0	0	0	0	0	0	0	0	0	0	0	0	2	E	12	0	0	1	4	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.8	26.1		
1800	17	0	2	0	0	0	0	0	0	0	0	0	0	1	W	20	0	0	2	7	6	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.6	28.4		
1900	6	0	2	0	0	0	0	0	0	0	0	0	0	0	E	8	0	0	1	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20.2	-		
1900	7	0	1	0	0	0	0	0	0	0	0	0	0	0	W	8	0	0	2	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	-		
2000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	E	5	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19.9	-		
2000	4	0	0	0	0	0	0	0	0	0	0	0	0	0	W	4	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23.6	-		
2100	2	0	0	0	0	0	0	0	0	0	0	0	0	0	E	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21.4	-		
2100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	W	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29.6	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-		
2300	2	0	0																																							

Report Id - CustomList-19
 Site Name - Ragged Hall Lane
 Description - Ragged Hall Lane, Chiswell Green, St. Albans
 Direction - North East South West

Grand Total

Time	Cls 1	Cls 2	Cls 3	Cls 4	Cls 5	Cls 6	Cls 7	Cls 8	Cls 9	Cls 10	Cls 11	Cls 12	Cls 14	Cls 15	Cd	Total	Vbin 0	Vbin 5	Vbin 10	Vbin 15	Vbin 20	Vbin 25	Vbin 30	Vbin 35	Vbin 40	Vbin 45	Vbin 50	Vbin 55	Vbin 60	Vbin 65	Vbin 70	Vbin 75	Vbin 80	Vbin 85	Vbin 90	Vbin 95	Vbin 100	Mean	Vpp	
--	1010	2	68	1	4	0	1	0	0	1	0	0	13	76	E	1176	2	20	155	367	414	181	30	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	20.4	25.6
--	763	2	56	0	6	1	0	0	1	0	0	0	4	60	W	893	0	19	102	230	331	173	31	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	21.1	26.3



Appendix B Stage 1 Road Safety Audit and RSA Response Report

Road Safety Answers

Road Safety Audit Stage 1


Access to Ragged Hall Lane, St. Albans



Client: Bright Plan

Road Safety Answers reference no: RSA561

Control Sheet

	Name	Date	Signature
Author	Paul Martin	23/05/2022	
Checker	David Dodd	23/05/2022	
Authoriser	Paul Martin	23/05/2022	

Report Version

RSA Report Ref.	Version	Date of Issue
RSA561	Final	23/05/2022

1. Introduction

1.1 This report describes a Stage 1 Road Safety Audit carried out on the preliminary design for access to Ragged Hall Lane, St. Albans, for Bright Plan, at the request of the Overseeing Organisation, Hertfordshire County Council. The audit was carried out in the office of Road Safety Answers Ltd during May 2022.

1.2 The audit team members were as follows:

Team Leader

Paul Martin - BSc (Hons), CEng, FCIHT, FSoRSA, IEng, MICE
HE Approved RSA Certificate of Competency (2013)
Director, Road Safety Answers Ltd

Team Member

David Dodd – BSc(Hons), DipNEBOSH, FIHE, IEng. MCIHT, MSoRSA
Independent Highway and Road Safety Consultant

1.3 The audit comprised an examination of the documents listed in **Appendix A**, and included the drawings supplied by Ed Dodd of Bright Plan. The site was visited by the Audit Team, together, on 23rd May 2022 between 10.10 and 10.35 hours. The weather was cloudy and the road surface was dry. Traffic flows were light along Ragged Hall Lane. Pedestrian and cycle flows were light.

1.4 The terms of reference of the audit are as described in the UK's national standard for road safety audit, GG 119 (Revision 2). The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

1.5 All the problems described in this report are considered by the audit team to require action to improve the safety of the scheme and minimise accident occurrence. A plan showing the locations of the problems is shown in **Appendix B**.

1.6 The purpose of the scheme is to provide access to a residential development of 7 units on the northern side of Ragged Hall Lane.

1.7 The scheme consists the following elements:

- A widening of the carriageway of Ragged Lane on its northern side, westwards, from its current width of circa 3m to 4.8m, over a distance of 80m from the point at which the current residential properties on the north side terminate;

- Two 6m wide priority junctions, serving a 5.5m access road running parallel to Ragged Hall Lane, each access point has 6m shoulder radii;
- Each access junction has visibility splays of 51.7m east x 2.4m x 49.6m west, the 'y' distances in accordance with the DMRB requirements for the measured design speeds of 25.6mph eastbound and 26.3mph westbound;
- Each of the visibility splays will require the removal of the existing vegetation and hedgerow in each direction.

1.8 No details of street lighting, surface water drainage or advanced signing have been provided. These issues are not, therefore, considered further in this report, unless these existing facilities are likely to engender a safety problem with the new proposals.

2. Items resulting from this Stage 1 Audit

2.1 PROBLEM

Location: A – Junction of Ragged Hall Lane and Hawthorn Way (Drg. 2022-6314-001 Rev. A)

Summary: Increased risk of side impact collisions due to eastbound vehicles travelling faster along Ragged Hall Lane.

The current visibility splay westwards from Hawthorn Way, at the eastern end of the carriageway widening scheme, is limited (circa 2.4m x 15m). The proposal to widen Ragged Hall Lane for 80m to the west of this junction is likely to encourage higher eastbound speeds through this junction: the national speed limit terminates at this junction and drivers often take higher speeds into a lower speed limit. Although the measured 85th percentile speed eastbound are only circa 26mph at present, it is likely to increase slightly once the widening is built, increasing the risk of side impact collisions at the Hawthorn Way junction where the visibility westwards is currently poor for drivers at the give way. Relocating the termination point of the national speed limit further west would be likely to mitigate this problem.

RECOMMENDATION

The start of the 30mph speed limit on Ragged Hall Lane should be relocated to the western end of the road widening i.e. to a location near the driveway of no. 110 Ragged Hall Lane.

Design Team Response:

Highway Authority Response:

2.2 PROBLEM

Location: B – Northern kerblines on either side of the western access serving the development (Drg. 2022-6314-001 Rev. A).

Summary: Risk of loss of control collisions due to the northern kerblines protruding into the desire line of eastbound vehicles.

The northern kerblines of the carriageway widening mirrors that of existing kerblines, protruding south slightly, where opposing cars cannot pass without one pulling into the bellmouth of the private drive on the southern side. Once the widening scheme has been constructed, opposing cars will be able to pass one another without having to stop, increasing the risk of the eastbound vehicle clipping the northern kerblines on each side of the western access serving the development.

RECOMMENDATION

The northern kerblines of the carriageway widening should be straightened between the western end of the scheme and the eastern access serving the development.

Design Team Response:

Highway Authority Response:

2.3 PROBLEM

Location: C – Exit from the public footpath at the eastern end of proposed carriageway widening, on the northern side of Ragged Hall Lane (Drg. 2022-6314-001 Rev. A).

Summary: Risk of pedestrian collisions with eastbound vehicles if the visibility splay from the footpath is obstructed.

The widening scheme appears to formalise the exit from the public footpath on the northern side of Ragged Hall Lane, removing the current vegetation on both sides of the exit. The drawing, however, does not specify whether new planting will take place within the development site. Such planting, extended up to back of the visibility splay eastwards from the eastern access, will compromise visibility westwards, from the public footpath, increasing the risk of pedestrian collisions with eastbound vehicles if the visibility splay from the footpath is obstructed.

RECOMMENDATION

Suitable visibility splays from the public footpath (joining Ragged Hall Lane on the northern side) should be safeguarded.

Design Team Response:

Highway Authority Response:

2.4 PROBLEM

Location: D – Exit from the public footpath at the eastern end of proposed carriageway widening, on the northern side of Ragged Hall Lane (Drg. 2022-6314-001 Rev. A).

Summary: Risk of collisions between vehicles and pedestrians with a vision impairment.

The drawing implies that several metres of the public footpath, nearest Ragged Hall Lane, will be surfaced, connecting the development access road to the existing footway to the east. Vision impaired pedestrians may enter the carriageway of Ragged Hall Lane without realising they have done so if the tarmac surfacing joins that of the carriageway at a shallow angle, increasing their risk of a collision with a passing vehicle.

RECOMMENDATION

Warning paving should be installed where the surfaced public footpath joins the carriageway of Ragged Hall Lane. If this takes the forms of tactile blister paving, tactile blister paving should also be installed on the south side of the road so that blind and vision impaired pedestrians know when they have finished crossing the carriageway.

Design Team Response:

Highway Authority Response:

2.5 PROBLEM

Location: E – Exit from the public footpath at the eastern end of proposed carriageway widening, on the northern side of Ragged Hall Lane (Drg. 2022-6314-001 Rev. A).

Summary: Risk of pedestrian slips and falls on the high stats cover.

A stats cover (photo 1) coincides with the point where the newly surfaced public footpath will join the carriageway of Ragged Hall Lane. If this is not lowered there will be a steep gradient from the cover down to the carriageway, increasing the risk of pedestrian slips and falls.



Photo 1: High stats cover in the public footpath

RECOMMENDATION

The stats cover should be lowered to an appropriate height to match that of the surrounding footpath as it joins Ragged Hall Lane.

Design Team Response:

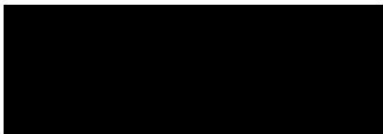
Highway Authority Response:

3. Audit Team Statement

We certify that this road safety audit has been carried out in accordance with GG 119 (revision 2), with the exception that Designer and Highway Authority response sections have been added to each problem, and a signing off chapter added for the convenience of both parties.

Audit Team Leader

Paul Martin - BSc (Hons), CEng, FCIHT, FSoRSA, IEng, MICE
HE Approved RSA Certificate of Competency
Director, Road Safety Answers Ltd

Signed 

Date 23/05/2022

Audit Team Member

David Dodd – BSc(Hons), DipNEBOSH, FIHE, IEng. MCIHT, MSoRSA
Independent Highway and Road Safety Consultant

Signed 

Date 23/05/2022

Road Safety Answers Ltd
17, McDermott Road
Borough Green
Sevenoaks
Kent, TN15 8SA



4. Design Team and Overseeing Organisation Statements

Design Team Leader

I certify that I have reviewed the items raised in this Stage 1 Safety Audit report. I have given due consideration to each issue raised and have stated my proposed course of action for each in this report. I seek the Overseeing Organisation's endorsement of my proposals.

Name:

Organisation:

Signed:

Date:

Overseeing Organisation (Highway Authority) Project Manager

I certify that I have reviewed the comments and actions proposed by the Design Team Leader and, in this report, I have stated my agreement, or alternative proposal, or acceptance of the risk associated with the problem.

Name:

Organisation:

Signed:

Date:



Scheme: Access to Ragged Hall Lane, Sty. Albans

Client: Bright Plan (Highway Authority: Hertfordshire County Council)

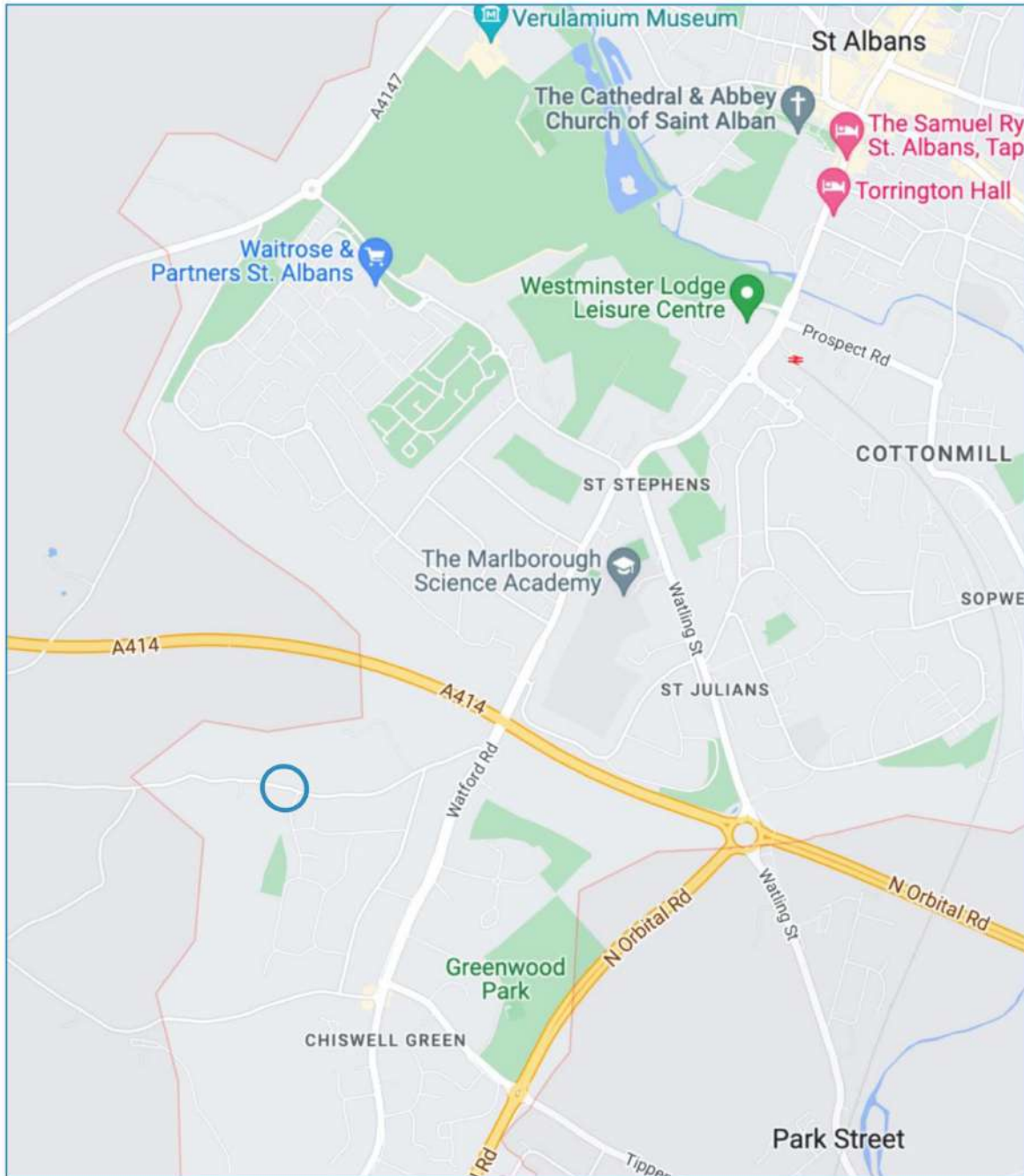
Appendix A

Drawings and Documents Examined:

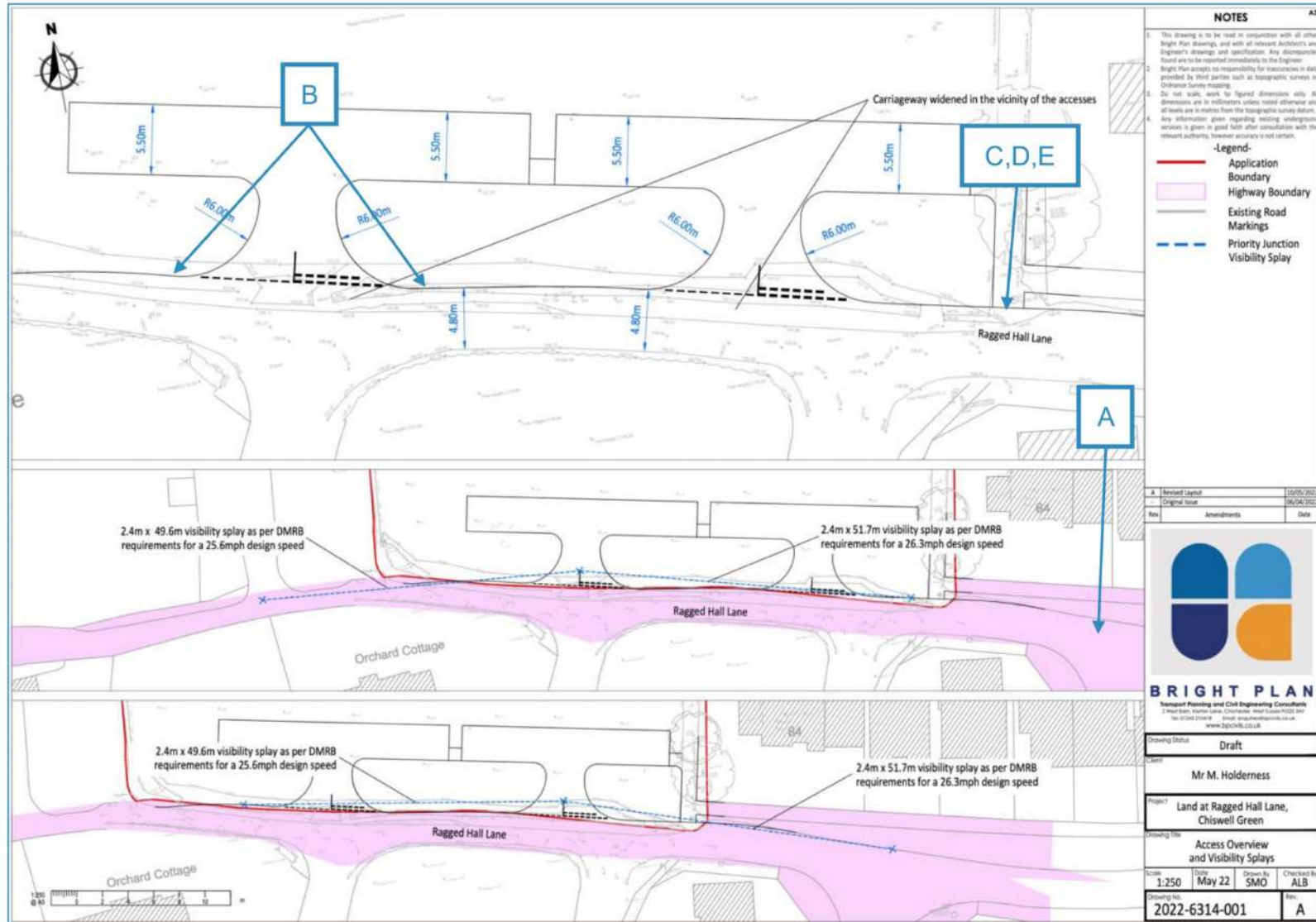
- 2022-6314-001 Rev. A Access Overview and Visibility Splays

Appendix B

The following plan shows the location of the scheme



Problems Location Plan



ROAD SAFETY AUDIT RESPONSE REPORT



RAGGED HALL LANE, ST ALBANS RESIDENTIAL DEVELOPMENT

Client: Mr M. Holderness
Reference: 6314/RSARR01

This response is to a Stage 1 Road Safety Audit prepared in accordance with General Principles and Scheme Governance General Information, GG 119, Road Safety Audit.

PROJECT DETAILS

Project	Ragged Hall Lane, St Albans		
RSA Stage	Stage 1		
RSA Report Title	Access to Ragged Hall Lane, St. Albans		
RSA Report Reference	RSA561		
RSA Date	23/05/2022		
Document Reference	6314/RSARR01	Revision	-
Prepared By	Bright Plan		
On Behalf Of	Hertfordshire County Council		

AUTHORISATION SHEET

Prepared By	
Name	Ed Dodd
Position	Senior Consultant
Signed	[Redacted Signature]
Organisation	Bright Plan
Date	25/05/2022

Approved By	
Name	Alex Budd
Position	Director
Signed	[Redacted Signature]
Organisation	Bright Plan
Date	25/05/2022

KEY PERSONNEL

Overseeing Organisation	Hertfordshire County Council
Design Organisation	Bright Plan
RSA Team	
Team Leader	Paul Martin
Team Member	David Dodd



ROAD SAFETY AUDIT DECISION LOG

RSA Problem	<p>2.1 – Summary: Increased risk of side impact collisions due to eastbound vehicles travelling faster along Ragged Hall Lane.</p> <p>The current visibility splay westwards from Hawthorn Way, at the eastern end of the carriageway widening scheme, is limited (circa 2.4m x 1.5m). The proposal to widen Ragged Hall Lane for 80m to the west of this junction is likely to encourage higher eastbound speeds through this junction: the national speed limit terminates at this junction and drivers often take higher speeds into a lower speed limit. Although the measured 85th percentile speed eastbound are only circa 26mph at present, it is likely to increase slightly once the widening is built, increasing the risk of side impact collisions at the Hawthorn Way junction where the visibility westwards is currently poor for drivers at the give way. Relocating the termination point of the national speed limit further west would be likely to mitigate this problem.</p>
RSA Recommendation	<p>The start of the 30mph speed limit on Ragged Hall Lane should be relocated to the western end of the road widening i.e. to a location near the driveway of no. 110 Ragged Hall Lane.</p>
Design Organisation Response	<p>The proposed carriageway widening would be provided for a 70m length. The carriageway would also remain narrower (4.8m) than the 30mph carriageway to the east (c.6.0m) and would remain rural in character. There would be no changes to extant forward visibility in either approach direction.</p> <p>A review of collisions found no record of incidents at the junction or on Ragged Hall Lane in the vicinity of the site.</p> <p>Whilst quantification of the effects of the proposal is not possible, it is clear that the limited extent of widening, the proposed 4.8m width, the carriageways character and achievable forward visibility is such that speeds would not materially change in the vicinity of the site frontage.</p> <p>Evidence from Manual for Streets guidance can be drawn upon to demonstrate this. Figure 7.16 of MfS identifies that even with good visibility, road widths of 5m (larger than the 4.8m width proposed), would be expected to experience average speeds of just over 20mph, and 85th percentile design speeds of c.27mph. These speeds are comparable to those recorded within the ATC survey.</p> <p>In the unlikely event that there are substantive changes to driver behaviour, the Stage 3 Road Safety Audit would present an opportunity to identify appropriate mitigation. In instances where speeding is present at speed transitions, relocation of transition points often has limited impact when there are compliance issues. In the event of speeding, traffic calming / alterations to road geometry would have a greater impact.</p>
Overseeing Organisation response	
Agreed RSA Action	
RSA Problem	<p>2.2 – Risk of loss of control collisions due to the northern kerbline protruding into the desire line of eastbound vehicles.</p>
RSA Recommendation	<p>The northern kerbline of the carriageway widening should be straightened between the western end of the scheme and the eastern access serving the development.</p>
Design Organisation Response	<p>Accepted – the northern kerbline of the carriageway widening has been straightened on an updated design</p>



Overseeing Organisation response	
Agreed RSA Action	

RSA Problem	2.3 – Risk of pedestrian collisions with eastbound vehicles if the visibility splay from the footpath is obstructed.
RSA Recommendation	Suitable visibility splays from the public footpath (joining Ragged Hall Lane on the northern side) should be safeguarded.
Design Organisation Response	Accepted – planting within the site would be set back behind sight lines for vehicles and pedestrians.
Overseeing Organisation response	
Agreed RSA Action	

RSA Problem	2.4 – Risk of collisions between vehicles and pedestrians with a vision impairment.
RSA Recommendation	Warning paving should be installed where the surfaced public footpath joins the carriageway of Ragged Hall Lane. If this takes the forms of tactile blister paving, tactile blister paving should also be installed on the south side of the road so that blind and vision impaired pedestrians know when they have finished crossing the carriageway.
Design Organisation Response	Accepted – corduroy paving will be provided on approach to the carriageway.
Overseeing Organisation response	
Agreed RSA Action	

RSA Problem	2.5 – Risk of pedestrian slips and falls on the high stats cover.
RSA Recommendation	The stats cover should be lowered to an appropriate height to match that of the surrounding footpath as it joins Ragged Hall Lane.
Design Organisation Response	Accepted – the finished levels of the footpath and stats cover will be matched. This will be designed at the detailed design stage.
Overseeing Organisation response	
Agreed RSA Action	



DESIGN ORGANISATION AND OVERSEEING ORGANISATION STATEMENTS

On behalf of the design organisation I certify that:

1. the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.

Name	Ed Dodd
Signed	[REDACTED]
Position	Senior Consultant
Organisation	Bright Plan
Date	25/05/2022

On behalf of the Overseeing Organisation I certify that:

1. the RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the design organisation; and
2. the agreed RSA actions will be progressed.

Name	
Signed	
Position	
Organisation	Hertfordshire County Council
Date	



Appendix C TRICS - Residential

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

TOTAL VEHICLESSelected regions and areas:

02 SOUTH EAST	
HC HAMPSHIRE	2 days
05 EAST MIDLANDS	
NT NOTTINGHAMSHIRE	1 days
08 NORTH WEST	
CH CHESHIRE	2 days
LC LANCASHIRE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 8 to 40 (units:)
 Range Selected by User: 6 to 40 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/14 to 18/10/21

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
Friday	1 days

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

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

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

Selected Locations:

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	6
------------------	---

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

Secondary Filtering selection:Use Class:

C3 6 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 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000 1 days

10,001 to 15,000 3 days

15,001 to 20,000 2 days

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

Population within 5 miles:

50,001 to 75,000 1 days

75,001 to 100,000 1 days

125,001 to 250,000 4 days

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

Car ownership within 5 miles:

0.6 to 1.0 2 days

1.1 to 1.5 4 days

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

Travel Plan:

Yes 3 days

No 3 days

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

PTAL Rating:

No PTAL Present 6 days

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

LIST OF SITES relevant to selection parameters

1	CH-03-A-09	TERRACED HOUSES	CHESHIRE
	GREYSTOKE ROAD MACCLESFIELD HURDSFIELD Edge of Town Residential Zone Total No of Dwellings: 24 Survey date: MONDAY 24/11/14		Survey Type: MANUAL
2	CH-03-A-10	SEMI-DETACHED & TERRACED	CHESHIRE
	MEADOW DRIVE NORTHWICH BARNTON Edge of Town Residential Zone Total No of Dwellings: 40 Survey date: TUESDAY 04/06/19		Survey Type: MANUAL
3	HC-03-A-21	TERRACED & SEMI-DETACHED	HAMPSHIRE
	PRIESTLEY ROAD BASINGSTOKE HOUNDMILLS Edge of Town Residential Zone Total No of Dwellings: 39 Survey date: TUESDAY 13/11/18		Survey Type: MANUAL
4	HC-03-A-22	MIXED HOUSES	HAMPSHIRE
	BOW LAKE GARDENS NEAR EASTLEIGH BISHOPSTOKE Edge of Town Residential Zone Total No of Dwellings: 40 Survey date: WEDNESDAY 31/10/18		Survey Type: MANUAL
5	LC-03-A-31	DETACHED HOUSES	LANCASHIRE
	GREENSIDE PRESTON COTTAM Edge of Town Residential Zone Total No of Dwellings: 32 Survey date: FRIDAY 17/11/17		Survey Type: MANUAL
6	NT-03-A-08	DETACHED HOUSES	NOTTINGHAMSHIRE
	WIGHAY ROAD HUCKNALL Edge of Town Residential Zone Total No of Dwellings: 36 Survey date: MONDAY 18/10/21		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 SURVEYS

Site Ref	Survey Date	Reason for Deselection
BD-03-A-03	15/10/20	Covid
CH-03-A-12	30/04/21	Covid
GS-03-A-02	23/04/21	Covid
KC-03-A-05	22/09/17	Trip rate too low
SF-03-A-05	09/09/15	Trip rate too low
SF-03-A-08	16/09/20	Covid
SH-03-A-06	22/05/14	Trip rate too low
SY-03-A-03	09/09/20	Covid

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

TOTAL 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	6	35	0.071	6	35	0.360	6	35	0.431
08:00 - 09:00	6	35	0.152	6	35	0.360	6	35	0.512
09:00 - 10:00	6	35	0.156	6	35	0.213	6	35	0.369
10:00 - 11:00	6	35	0.137	6	35	0.147	6	35	0.284
11:00 - 12:00	6	35	0.128	6	35	0.194	6	35	0.322
12:00 - 13:00	6	35	0.095	6	35	0.137	6	35	0.232
13:00 - 14:00	6	35	0.204	6	35	0.161	6	35	0.365
14:00 - 15:00	6	35	0.152	6	35	0.204	6	35	0.356
15:00 - 16:00	6	35	0.265	6	35	0.204	6	35	0.469
16:00 - 17:00	6	35	0.242	6	35	0.118	6	35	0.360
17:00 - 18:00	6	35	0.336	6	35	0.147	6	35	0.483
18:00 - 19:00	6	35	0.284	6	35	0.090	6	35	0.374
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.222			2.335			4.557

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

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

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Parameter summary

Trip rate parameter range selected: 8 - 40 (units:)
 Survey date range: 01/01/14 - 18/10/21
 Number of weekdays (Monday-Friday): 14
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 8
 Surveys manually removed from selection: 0

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