i-Transport LLP
The Square, Basing View, Basingstoke, RG21 4EB

Tel: 01256 637940

Technical Note

Project No: ITB11347
Project Title: Land at Mill Lane and High Pastures
Title: Updated Information to ECC – Application: UTT/22/1261/FUL
Ref: ITB11347-010A TN
Date: 1 June 2023

SECTION 1 Introduction

1.1 Pelham Structures Limited have submitted an application for residential dwellings and holiday cottages on land off Mill Lane in Hatfield Heath (application ref: UTT/22/1261/FUL). A response to comments raised by Essex County Council (ECC) was produced by i-Transport in November 2022. Following these comments a meeting was held on site (on Mill Lane and on Home Pastures) during the hours 0830 – 0930 between Essex County Council and i-Transport on Monday 6th March 2023. It was agreed during the meeting that the following information would be provided as part of the application:

- Further detail on the pedestrian / cycle connection between Mill Lane and Home Pastures;
- Minor updates to the scheme along Mill Lane with a focus on the potential to improve the transition between Stortford Road and Mill Lane for pedestrians;
- An updated Road Safety Audit for the latest scheme; and
- Updated traffic analysis using the previous 2017 trip rates.

1.2 These aspects are all addressed within this technical note.

SECTION 2 Updated Scheme

2.1 Mill Lane Improvements

2.1.1 ECC outlined during the onsite meeting that the following amendments are required to the proposed scheme:

- Detail of the extent of widening along Hatfield Haven considering down pipes.
- Tightening of the south eastern radius at the Mill Lane / Stortford Road junction to bring effective footway into the first section of Mill Lane.

- Removal of different colour surfacing.

2.1.2 Drawing ITB11347-GA-012 Rev D enclosed at the end of this note provides an update to the improvements along Mill Lane incorporating the above points raised by ECC.

2.1.3 In regard to the extent of widening along Hatfield Haven this has been widened to an extent which retains part of the verge between the carriageway and the building which incorporates the down pipes. The retained verge ranges between 0.2m at the southern end of the building and 0.6m at the northern end of the building and therefore will not impact the current building.

2.1.4 The applicant is content for the delivery of the Mill Lane improvement scheme to be secured by Grampian style planning condition.

2.2 Pedestrian Connection

2.2.1 ECC requested further detail on the pedestrian and cycle connection between Mill Lane and Home Pastures. A Public Right of Way (PRoW) footpath is currently provided between Mill Lane and Home Pastures, which measures c.1.4m in width which is suitable for pedestrians and is shown in Drawing ITB11347-GA-014 Rev A provided in the drawing section at the end of this note. The drawing illustrates the current PRoW provision and associated visibility. Images 2.1 and 2.2 show the existing provision as recorded on site in May 2023.

Image 2.1: Connection from Mill Lane	Image 2.2: PRoW
	

2.2.2 This existing PRoW provides a suitable walking connection between Mill Lane and Home Pastures and the applicant is willing to maintain the footpath in its current state (May 2023) so that residents can use the connection all year round.

2.2.3 The applicant controls all rights and interest of Mill Lane and its associated verges and is responsible for the maintenance of the lane and has been undertaking maintenance since purchasing the land.

2.2.4 The improvements to Mill Lane as detailed below will also provide a suitable route and surface for cyclists providing a direct connection from the site to the wider highway network and into the village.

2.2.5 An updated layout for the scheme and the pedestrian connection to Home Pastures using the existing PRoW is provided in **Appendix A**.

2.3 Stage 1 Road Safety Audit (RSA)

2.3.1 A Stage 1 Road Safety Audit has been undertaken on the latest scheme. The Road Safety Audit was undertaken by Grange Transport Consulting in March 2023 and the RSA report is provided in **Appendix B**.

2.3.2 The RSA identified four minor 'problems,' which are as follows:

1. Level difference between Mill Lane and Home Pastures.
2. The bollard arrangement on the Mill Lane and Home Pastures connection.
3. Give-way markings at the site access encroach into existing Mill Lane carriageway.
4. The clearance between the bollards provided as part of The Hollies and the carriageway.

2.3.3 The Design Team Response to these 'problems' is provided in **Appendix C** with the updated proposals included in Drawing ITB11347-GA-012 Rev D in the drawing section at the end of this note to reflect the change to the give-way markings at the site access.

2.3.4 The bollards on Mill Lane at The Hollies were permitted as part of the redevelopment of The Hollies, which informally widened the carriageway, the proposals along Mill Lane are to resurface the existing carriageway rather than widen in this section.

2.3.5 The Road Safety Auditor has confirmed that the Design Team Response to these 'problems 'adequately deals with the issues raised and that confirmation is in **Appendix C**.

2.3.6 As outlined above, the existing connection between Mill Lane and Home Pastures is considered suitable for pedestrians and the improvements to Mill Lane provide a suitable route for cyclists therefore the 'problems' related to the connection between Mill Lane and Home Pastures are no longer relevant as documented in the Design Team Response and agreed by the Auditor in **Appendix C**.

SECTION 3 Updated Traffic Analysis

3.1 Introduction

3.1.1 ECC have requested that the traffic analysis be updated with the trip rates presented in the 2017 Transport Assessment. Therefore, for context and ease of reference, the baseline, completed developments along Mill Lane and the proposed traffic flows have been presented. Growth assumptions have also been updated by a year to provide an up-to-date robust assessment.

3.2 Baseline Traffic Flows

Flows along Mill Lane

3.2.1 The baseline traffic flows as presented in the Transport Statement for this application have been replicated and are shown in Table 3.1 below. As stated in the Transport Statement, due to the nature of Mill Lane it is unlikely that traffic levels have increased significantly, however, traffic growth has been applied to the 2016 survey data to represent the current year as a robust assessment.

Table 3.1: Existing peak period traffic flows

Location	Time Period	Southbound	Northbound	Two-Way
Mill Lane	Morning Peak (0800-0900)	10	16	26
	Evening Peak (1700-1800)	3	5	8

Source: MCC Survey

Traffic growth

3.2.2 As outlined above, traffic growth has been applied to produce a robust assessment. The surveyed traffic in the submitted Transport Statement was factored to the current year, therefore as we are now in 2023 the TEMPro growth factors for the Uttlesford MSOA 009 have been expanded from 2016 to 2023 and the resultant growth factors are presented in **Table 3.2**.

Table 3.2: 2016 – 2023 Traffic Growth

	AM	PM
2016 - 2023	1.066613	1.065565

3.2.3 The above growth factors have been applied to all movements at the Mill Lane / Stortford Road junction.

Completed Developments along Mill Lane

3.2.4 Completed development traffic flows were identified in the Transport Statement which supports the application, which used recent TRICS trip rates. The traffic associated with the completed developments along Mill Lane have been updated with the 2017 trip rates and are presented in **Table 3.3**.

Table 3.3: Additional Traffic along Mill Lane

	AM			PM		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
2017 Trip Rates	0.181	0.427	0.608	0.414	0.168	0.582
Trip Generation – 3 dwellings	1	1	2	1	1	2

3.2.5 The table demonstrates that the provision of the 3 dwellings along Mill Lane will result in negligible increase in traffic flows. These flows have been applied to the flows at the Stortford Road junction based on existing turning movements and the updated flows are shown in **Table 3.4**.

Table 3.4: Updated peak period traffic flows on Mill Lane

Location	Time Period	Southbound	Northbound	Two-Way
Mill Lane	Morning Peak (0800-0900)	11	17	28
	Evening Peak (1700-1800)	4	6	10

3.3 Traffic Impact Methodology and Traffic Impact

Traffic growth

As per the submitted Transport Statement a two year future year has been applied to the existing year and therefore the revised future year is 2025, the resultant TEMPro / NTM growth factors are presented in **Table 3.5** below.

Table 3.5: 2016 – 2025 Traffic Growth

	AM	PM
2016 - 2025	1.0785	1.0784

Trip Generation

3.3.2 The trip generation for the proposals has been updated with the 2017 trip rates as set out in the Transport Assessment from 2017. The holiday cottage traffic remains consistent with the Transport Statement submitted for this application.

3.3.3 The updated residential trip generation is presented in **Table 3.6**.

Table 3.6: Trip rates – Houses Privately Owned

Trip Rate	Morning Peak (08:00-09:00)			Evening Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
2017 Houses Privately Owned (per dwelling) Trip Rate	0.181	0.427	0.608	0.414	0.168	0.582
Trip Generation – 4 Dwellings	1	2	2	2	1	2

3.3.4 The trip generation associated with the holiday cottages are replicated in **Tables 3.7** and **3.8** for changeover and non-changeover days, respectively.

Table 3.7: Changeover Day Trip Generation

Time	Arrival Proportion (%)	Arrival Trip Generation	Departure Proportion (%)	Departure Trip Generation
Morning Period				
0800 – 0900	0%	0	5%	0
0900 – 1000	0%	0	10%	1
1000 - 1100	0%	0	85%	7
Evening Period				
1500 – 1600	60%	5	0%	0
1600 – 1700	20%	2	0%	0
1700 – 1800	10%	1	0%	0

In the evening period the remaining 10% has been assumed to arrive outside the hours shown

Table 3.8: Non-Changeover Day Trip Generation

Time	Arrival Proportion (%)	Arrival Trip Generation	Departure Proportion (%)	Departure Trip Generation
Morning Period				
0800 – 0900	0%	0	5%	0
0900 – 1000	0%	0	40%	3
1000 - 1100	0%	0	40%	3
Evening Period				
1500 – 1600	30%	2	0%	0
1600 – 1700	40%	3	0%	0
1700 – 1800	20%	2	0%	0

In the morning period the remaining 15% has been assumed to depart outside the hours shown and in the evening period the remaining 10% has been assumed to arrive outside the hours shown.

3.3.5 The table shows that on a non-changeover day the trip generation associated with the holiday cottages is low with no trips occurring in the morning peak and 2 two-way trips in the evening peak.

Total Trip Generation

3.3.6 The updated total trip generation for the site is presented in **Table 3.9** below and presents the residential and holiday cottage (non-changeover) trip generation for the AM and PM peak hours.

Table 3.9: Total Trip Generation

Trip Rate	Morning Peak (08:00-09:00)			Evening Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Residential dwellings – 4 dwellings	1	2	2	2	1	2
Holiday Cottage – Non-changeover day	0	0	0	2	0	2
Total Trip Generation	**1**	**2**	**2**	**4**	**1**	**4**

Future Year Assessment

3.3.7 The updated total development traffic for the residential dwellings and the holiday cottage traffic have been added to the 2025 'without development' scenarios to achieve 'with development' scenarios for the revised opening year in the morning and evening peak.

3.3.8 Therefore, the following assessment have been considered at the Mill Lane / Stortford Road junction:

- 2025 Future Year +Mill Lane Completed Development
- 2025 Future Year + Mill Lane Completed Development + Development.

3.3.9 The above scenarios allow the impact of the development to be assessed.

3.4 Mill Lane / Stortford Road Junction Capacity Assessment

3.4.1 The updated 2025 scenarios as presented above have been assessed at the Mill Lane / Stortford Road junction **Table 3.10** presents the summary results with the full JUNCTIONS10 output provided in **Appendix D**.

Table 3.10: Mill Lane / Stortford Road Junction – Modelling results

Arm	2025 + Mill Lane Completed Developments				2025 + Mill Lane Completed Developments + Development			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Q	RFC	Q	RFC	Q	RFC	Q
Mill Lane	0.03	0	0.00	0	0.03	0	0.01	0
Stortford Road (east) - RT	0.05	0	0.01	0	0.05	0	0.02	0

RFC = Ratio to Flow Capacity Q = Maximum Average Queue

3.4.2 The results show that the junction of Mill Lane and Stortford Road will easily accommodate the proposed development traffic in the morning and evening peak hours without queuing and minimal delay.

3.5 Impact on Mill Lane and proposed mitigation

3.5.1 As detailed in **Table 3.9** the proposals will result in an increase of 2 two-way trips in the AM peak hour and 4 two-way trips in PM peak hour between the site access and Stortford Road, which results in maximum of an additional trip once every 15 minutes, therefore having a negligible impact on the operation of Mill Lane.

3.5.2 The proposed improvements to Mill Lane (as shown on drawing ITB11347-GA-012 Rev D) will deliver a very significant enhancement to conditions for all users of Mill Lane which will substantially outweigh the very limited increase in vehicle traffic arising from the development.

3.5.3 The proposed improvements will include:

- Resurfacing the full length of Mill Lane from Stortford Road to the site access – replacing what is a very poor road surface (sunken areas, broken up areas, loose material, poor re-instatement) with a level and consistent surface which on its own will dramatically improve the experience of all road users but in particular for pedestrians and cyclists;
- A longer section of footway into Mill Lane from Stortford Road – providing better facilities for pedestrians; and
- Maintain the existing PRoW connection between Mill Lane and Home Pastures.

SECTION 4 Summary and Conclusion

4.1 Summary

4.1.1 Pelham Structures Limited submitted an application for residential dwellings and holiday cottages on land off Mill Lane in Hatfield Heath (application ref: UTT/22/1261/FUL). A response to comments raised by Essex County Council (ECC) was produced by i-Transport in November 2022 and a meeting was held on site between Essex County Council and i-Transport on Monday 6th March 2023. It was agreed during the meeting that the following information would be provided as part of the application:

- Further detail on the pedestrian connection between Mill Lane and Home Pastures;
- Minor updates to the scheme along Mill Lane with a focus on the potential to improve the transition between Stortford Road and Mill Lane for pedestrians;
- An updated Road Safety Audit for the latest scheme; and
- Updated traffic analysis using the previous 2017 trip rates.

4.1.2 These aspects have all been addressed within this technical note.

4.2 Conclusion

4.2.1 The applicant has worked hard to address all matters raised in respect of this planning application and is determined to ensure a new use for the camp is found to restore some of the buildings and protect its long-term future.

4.2.2 The site is in an accessible location and complies with local and national transport policies to promote development in sustainable locations. The proposed access arrangements meet design standards and detailed work has been completed to establish the suitability of Mill Lane and its improvement for all road users. In summary, the site can be accessed safely by both car and non-car modes and the very small increase in vehicular trips generated by the development is clearly not severe and the impact is overwhelmingly outweighed by the scheme delivering a very significant enhancement to conditions for all users of Mill Lane.

4.2.3 The proposal is acceptable in transport and highways terms and the proposed development is in line the NPPF, ECC Policies and the UDC Local Plan in respect of transport. Highway safety and efficiency are very important matters and do need to be taken seriously. However, it is clear from the unambiguous NPPF transport test that development should only be prevented from coming forward if there would be a demonstrable, unacceptable and "severe" worsening of highway conditions and this is plainly not the case here as:

- The recent recorded personal injury accident data shows an unblemished accident record on Mill Lane and its junction with the A1060 Stortford Road;
- The development proposal will not materially impact upon the operation of Mill Lane or its junction with the Stortford Road - modelling in the Transport Statement shows the impact will be de minimis and site visits with ECC show that the lane is quiet, slow speed and an entirely safe place to walk, cycle or indeed hold a meeting;
- There are no deficiencies in geometric layout or visibility at the site access or in Mill Lane which could give rise to conflict between vehicles, or between vehicles and pedestrians and vehicles and other non-motorised users – it is a slow speed and safe environment where people and vehicles interact in complete safety;
- A scheme of significant physical improvements for Mill Lane has been designed and tested and has been the subject of a Stage 1 Road Safety Audit with no unresolved issues; and
- Overall, there will not be any negative, noticeable, let alone severe, residual highway impacts (other than positive ones) and thus there is no highways or transport reason to prevent the development coming forward.

DRAWINGS

SCALE BAR @ 1:500

0 5 10 25 50

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

2.0m PEDESTRIAN LINK (NO VEHICULAR ACCESS)

PROW TO BE RETAINED AS EXISTING

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

EXISTING VEGETATION TO BE RETAINED

6.21m

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

MILL LANE TO BE WIDENED & RESURFACED

5.02m

MILL LANE

DRIVEWAY

INDICATIVE DRIVEWAY TO THE HOLLIES

DRIVEWAY

5.05m

DRIVEWAY

0.58m

MILL LANE TO BE WIDENED & RESURFACED

0.44m

DRIVEWAY VERGE TO BE RETAINED TO PROVIDE SEPARATION BETWEEN CARRIAGEWAY AND BUILDING INCLUDED DOWN PIPES

0.23m

4.27m

DRIVEWAY

4.43m

FOOTWAY TO BE WIDENED AROUND RADIUS

DRIVEWAY

DROPPED KERB

Pond

Chapmans

Pond

Heath Cottage

The Old Forge Cottage

Mill View

Lilac Cottage

Fourshaws

KEY:

HIGHWAY BOUNDARY

ADDITIONAL CARRIAGEWAY PROVIDED BY THE HOLLIES DEVELOPMENT

REV	DATE	BY	DESCRIPTION	CHK	APD
D	26.05.23	MM	AMENDMENTS TO PEDESTRIAN/CYCLE CONNECTION	JO	SJ
C	24.05.23	JB	PUBLIC RIGHT OF WAY UPDATED	JO	SJ
B	03.04.23	JB	MINOR EDITS FOLLOWING ROAD SAFETY AUDIT	JO	SJ

STATUS: FOR PLANNING

i-Transport

Grove House, Lutyens Close, Chineham
Basingstoke, Hampshire, RG24 8AG

Tel: 01256 338640
Fax: 01256 338644

[redacted]

TITLE:

CONCEPTUAL TREATMENT OF MILL LANE WIDENING SCHEME

PROJECT:

LAND WEST OF MILL LANE, HATFIELD HEATH

CLIENT:

PELHAM STRUCTURES

SCALE @ A3:	CHECKED:	APPROVED:
1:500	JO	SJ
FILE REF:	**DRAWN:**	**DATE:**
ITB11347	JB	19.10.22

DRAWING No: ITB11347-GA-012

PROJECT No:	REV:
ITB11347	D

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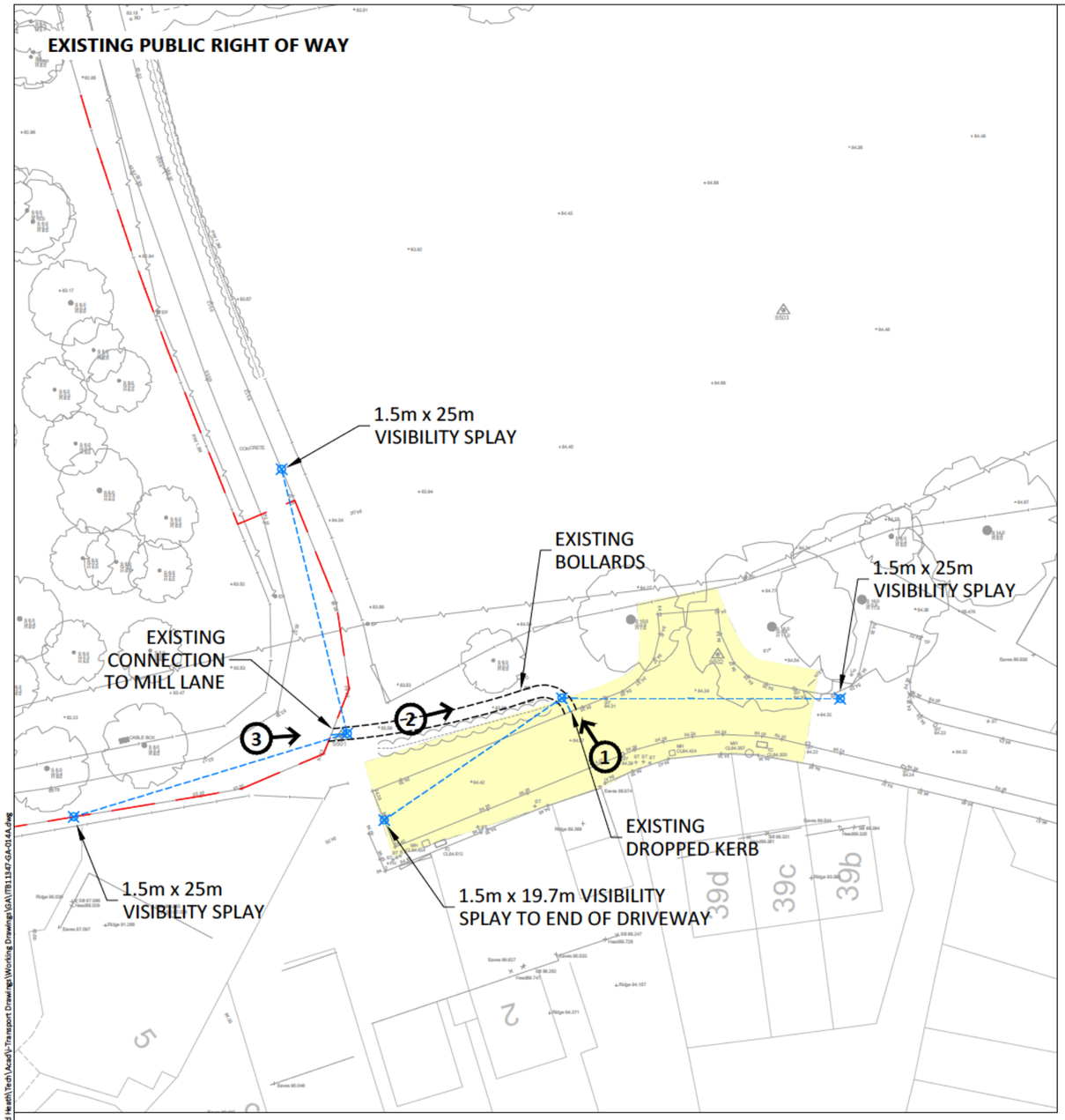
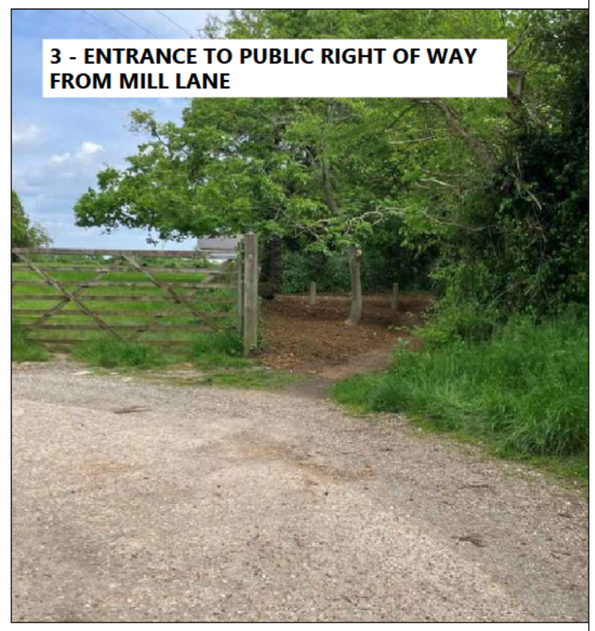
T:\Projects\11000 Series Project Numbers\11347\TB Land at Mill Lane and High Pastures, Hatfield Heath\Tech\Acad\i-Transport Drawings\Working Drawings\GA\ITB11347-GA-012D.dwg





KEY:

HIGHWAY BOUNDARY
BASED ON OS MAPPING

INDICATIVE SITE BOUNDARY

SCALE BAR @ 1:500

0 5 10 25 50

i-Transport
The Square, Basing View,
Basingstoke, Hampshire, RG21 4EB
Tel: 01256 637940

REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR INFORMATION

TITLE: EXISTING PUBLIC RIGHT OF WAY CONNECTION

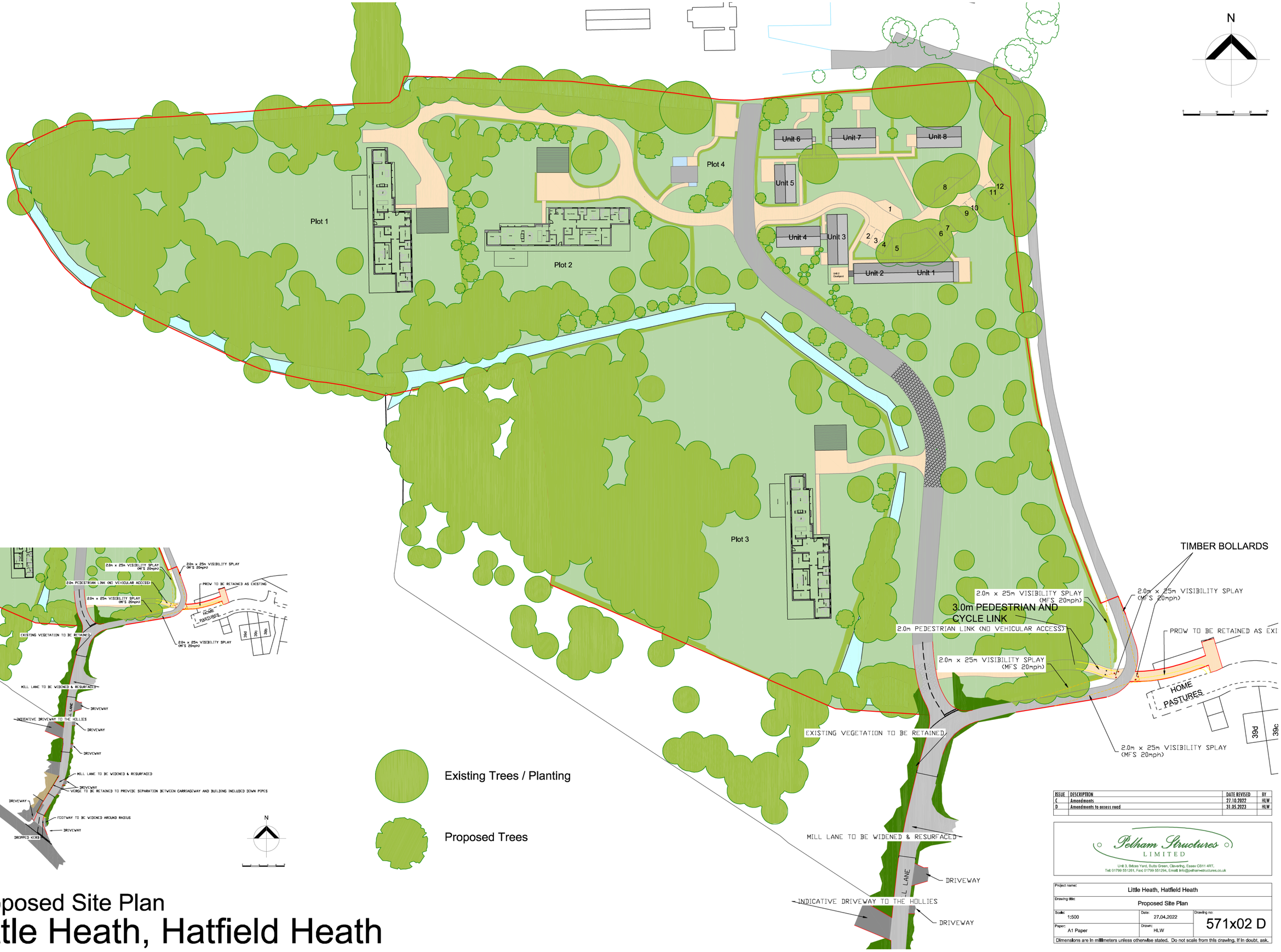
PROJECT: LAND WEST OF MILL LANE, HATFIELD HEATH

CLIENT: PELHAM STRUCTURES

DRAWN:	CHECKED:	APPROVED:
JB	JO	SJ
PROJECT No:	SCALE @ A3:	DATE:
ITB11347	1:500	23.03.23
DRAWING No:		REV:
ITB11347-GA-014		-

T:\Projects\11000 Series Project Numbers\11347\TB Land at Mill Lane and High Pastures, Hatfield Heath\Acad\i-Transport Drawings\Working Drawings\GA\ITB11347-GA-014A.dwg

APPENDIX A. SITE LAYOUT



Existing Trees / Planting

Proposed Trees

ISSUE	DESCRIPTION	DATE REVISED	BY
C	Amendments	27.10.2022	HLW
D	Amendments to access road	31.05.2023	HLW

Pelham Structures LIMITED

Unit 3, Bilces Yard, Butts Green, Clavering, Essex CB11 4RT.
Tel: 01799 551281, Fax: 01799 551294, Email: info@pelhamstructures.co.uk

Project name: Little Heath, Hatfield Heath		
Drawing title: Proposed Site Plan		
Scale: 1:500	Date: 27.04.2022	Drawing no: 571x02 D
Paper: A1 Paper	Drawn: HLW	

Dimensions are in millimeters unless otherwise stated. Do not scale from this drawing. If in doubt, ask.

Proposed Site Plan
Little Heath, Hatfield Heath

APPENDIX B. STAGE 1 ROAD SAFETY AUDIT

MILL LANE, HATFIELD HEATH, ESSEX

Stage 1 Road Safety Audit

J190259

i-Transport

30th March 2023

Grange Transport Consulting

Mill Lane, Hatfield Heath, Essex

Stage 1 Road Safety Audit

J190259

March 2023

Client: i-Transport

Rev	Report Reference	Date	Issue Status	Prepared	Checked
v1.0	230330_J190259_Mill Lane_RSA1.docx	30.03.23	Final	IM	WL

CONTENTS

1. Introduction

1.1 General

1.1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on Thursday 30 March 2023. The audit was undertaken on behalf of i-Transport.

1.1.2 The audit has been carried out in response to an Audit Brief supplied by Jonathan Orton of i-Transport and agreed with the audit team.

1.1.3 The Road Safety Audit team comprised of the following individuals:

Wing Lee BEng(Hons), PGCert, HE CoC, MCIHT, MIHE
Audit Team Leader

Ian Medd MCIHT, FSoRSA
Audit Team Member

1.1.4 A site visit was undertaken by the Audit Team on Tuesday 28 March 2023, between the hours of 13:30 and 14:30. The weather was raining and cold, and the road surface was wet. Traffic was minimal and the level of pedestrians passing the site was minimal. No cyclists were observed during the visit.

1.2 Site Location

1.2.1 The site comprises of wooded land, including disused prefabicated buildings. It is situated to the north and west of Mill Lane, Hatfield Heath.

1.2.2 The site is bounded to the southwest and southeast by residential dwellings, whilst commercial properties are located at the northeast of the site.

1.3 Highway description

1.3.1 Mill Lane is a cul-de-sac of varying width and is subject to a 30mph speed limit. It has a meandering alignment, but runs generally in a north–south direction. No footways or street lighting is provided on Mill Lane.

1.3.2 The northern section (to the east of the site access) is a private road and hedges and trees are present along both sides of the lane. This serves commercial businesses.

1.3.3 The southern extent of Mill Lane has no kerbing, verges of varying widths, and serves residential properties.

1.3.4 The horizontal alignment in the vicinity of the site access has a sharp right-hand bend in the northbound direction. The vertical alignment is generally level.

1.3.5 To the south Mill Lane connects with the A1060 Stortford Road to form a priority controlled T-junciton. To the north, Stortford Road routes under the M1 motorway and continues to Bishops Storford. To the east, Stortford Road passes the centre of Hatfield Heath and continues towards Chelmsford.

1.3.6 In the vicinity of Mill Lane, Stortford Road is subject to a 30mph speed limit. This increases to 40mph approximately 80 metres west of the Mill Lane junction. Stortford Road has a footway of varying widths along its northern side. It serves as a two-way bus route.

1.3.7 Home Pastures is a cul-de-sac to the southeast of Mill Lane. It connects with Broomfields to link with the A1060 Stortford Road. A footway is provided on the southern side of Home Pastures.

1.3.8 Collison history data has been provided to the audit team, which indicates that a total of eight collisions were recorded along Stortford Road in the past 5-year period between 2016 and 2021. These include one fatal, one serious and six slight severity collisions.

1.3.9 Of these only one slight severity collision occurred in the vicinity of Mill Lane, at the Storford Road / Sawbridgeworth Road junction. This collision occurred in October 2019 and involved 2 cars. The cars were approaching the junction and the following car collided with the car in front.

1.4 Scheme proposals

1.4.1 The proposals submitted for this Stage 1 Road Safety Audit relate only to the improvement scheme, including localised carriageway widening, resurfacing and road markings on Mill Lane, and pedestrian/cycle connection to Home Pastures in association with the residential and self-catering development.

1.5 Departures from Standards

1.5.1 The Audit Team has not been informed of any departures from standards relating to the designs submitted for audit.

1.6 Road Safety Audit

1.6.1 The Road Safety Audit has been carried out in accordance with the principals of the National Highways document, as described in the Design Manuals for Roads and Bridges (DMRB) standard - GG119 Road Safety Audit.

1.6.2 The Audit Team has examined and reported only on the road safety implications of the scheme as presented by i-Transport, and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to design standards without touching on technical audit.

1.6.3 The Road Safety Audit includes a desktop study where all documents provided by the Design Team are reviewed. A list of the documents and drawings submitted for this Stage 1 Road Safety Audit can be found at Appendix B.

1.6.4 The submitted design drawings have been annotated to show the location of problems identified during this Stage 1 Road Safety Audit. These plans are shown at Appendix C.

1.6.5 The recommendations offered within this report should not be regarded as prescriptive. Whilst recommendations have been made with this report, there may be equally satisfactory or superior alternative solutions to the identified problems. The Audit Team will be pleased to consider any alternatives if required.

2. Problems identified from this audit

2.1 Home Pastures

2.1.1 The following provides details of the problems identified during this Stage 1 Road Safety Audit.

Problem 1	
Location	Home Pastures – cycle link
Summary	Level difference between Home Pastures and Mill Lane

Site observations reveal a significant difference in the levels between Mill Lane and Home Pastures, which may result in a steep gradient on the pedestrian/cycle connection. This may result in users tripping or falling whilst negotiating the path.

Recommendation	Amend the alignment of the path to reduce the gradient necessary.

Problem 2	
Location	Home Pastures – cycle link
Summary	Severe bend and bollards
The arrangement of the cycle connection includes a tight turn and closely spaced bollards. It is likely that cyclists using the path will be unable to negotiate the bend and collide with the bollard arrangement, especially in dark conditions.	
Recommendation	Amend bollard arrangement.

2.2 Mill Lane

2.2.1 The following provides details of the problems identified during this Stage 1 Road Safety Audit.

Problem 3	
Location	Site access
Summary	Narrowing of existing bend

A give-way marking is proposed to delineate the extent of the site access, at a bend in Mill Lane. It appears that this give-way line is south of the existing carriageway edge and may reduce the width at the bend. Any large vehicle associated with the businesses to the north of the site may not be able to negotiate the new bend alignment and may overrun the give-way line, causing a collision with waiting vehicles.

Recommendation	Produce swept path analysis to confirm vehicles can safely negotiate the bend and amend site access design if necessary.

Problem 4	
Location	South of The Hollies
Summary	Lack of clearance to bollards

It is proposed to widen the carriageway in the vicinity of The Hollies. There are existing bollards in this location, which are positioned close to the kerbing. There will be insufficient clearance between the new kerb and the bollards. This may result in vehicles colliding with the bollards.

Recommendation	Remove or relocate bollards a sufficient distance from the kerb.

3. Audit Team Statement

3.1.1 We certify that the drawings listed at **Appendix B** have been examined, and that this Audit has been carried out in accordance with the principles and requirements of GG119, with the sole purpose of identifying road safety matters to be addressed in order to improve the safety of the scheme.

Road Safety Audit Team Leader

Signed: [redacted]

Name: Wing Lee

Date: 30.03.23

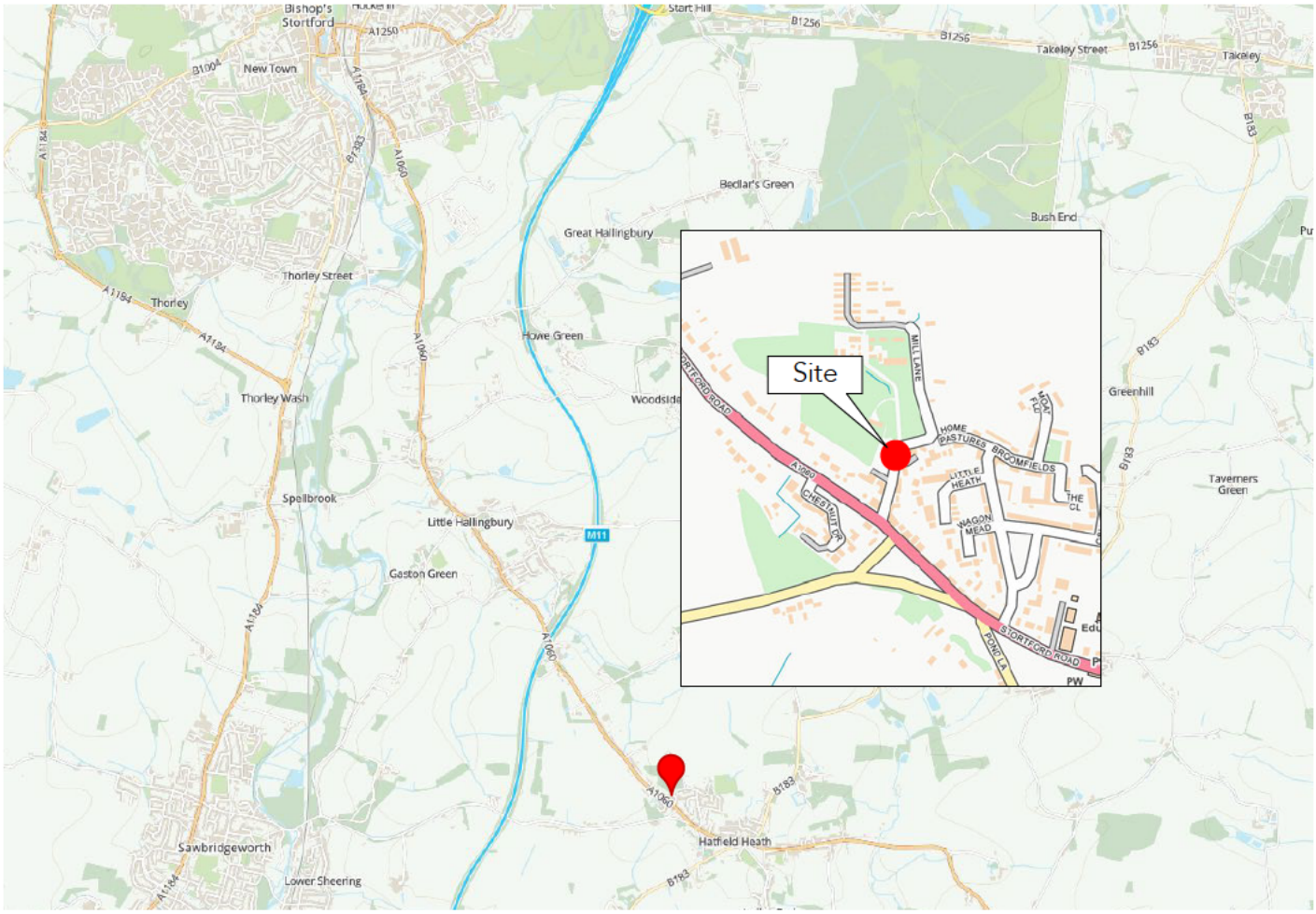
Road Safety Audit Team Member

Signed: [redacted]

Name: Ian Medd

Date: 30.03.23

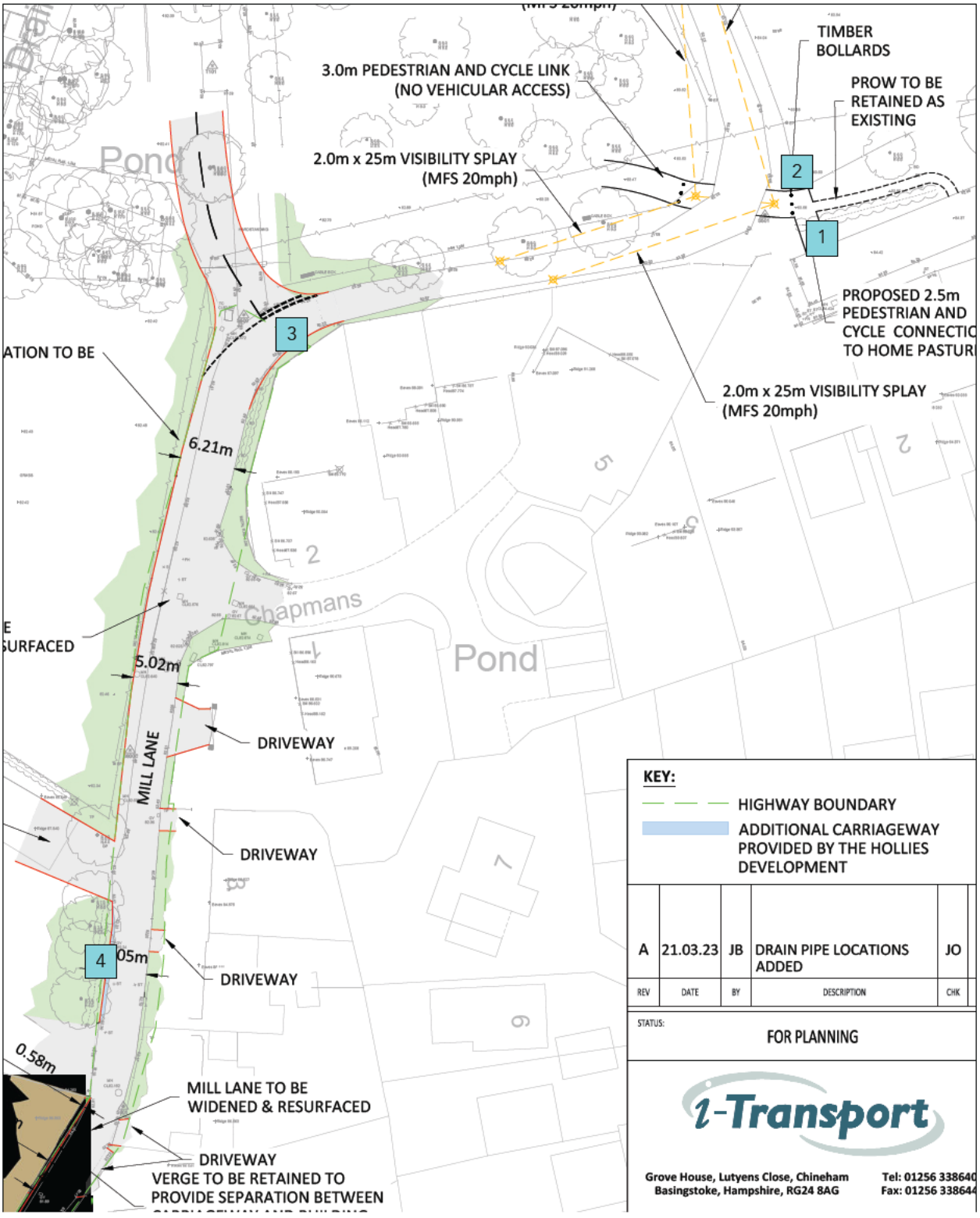
Appendix A Site Location Plan



Appendix B Documents provided for Audit

- Site location plan
- ITB11347-GA-012-A Conceptual Treatment of Mill Lane Widening Scheme
- ITB11347-GA-014 Proposed Pedestrian and Cycle Connection
- ITB11347-GA-003-G Mill Lane Forward Visibility Curve
- Highway Boundary
- PRoWs
- Traffic speeds (2017)
- Collision data
- Traffic Flows (2016)
- Traffic Forecasts
- Capacity Assessment
- Previous RSA1 (March 2017)
- ITB11347-009 TN Road Safety Audit Brief (23/03/23)

Appendix C Problem Location Plan



APPENDIX C. STAGE 1 ROAD SAFETY AUDIT DESIGN TEAM RESPONSE & AUDITOR CONFIRMATION

i-Transport LLP
The Square, Basing View, Basingstoke, RG21 4EB

Tel: 01256 637940

Design Team Response to Stage 1 Road Safety Audit

Project No: ITB11347
Project Title: Land at Mill Lane and High Pastures
Date: 25 May 2023

Mill Lane Improvement

Problem Ref	Location	Problem	Recommendation	Design Team Response
1	Home Pastures – Cycle Link	Site observations reveal a significant difference in the levels between Mill Lane and Home Pastures, which may result in a steep gradient on the pedestrian/cycle connection. This may result in users tripping or falling whilst negotiating the path.	Amend the alignment of the path to reduce the gradient necessary.	The proposed pedestrian / cycle link between Mill Lane and Home Pastures has been removed from the proposals and therefore this 'problem' is no longer relevant.
2		The arrangement of the cycle connection includes a tight turn and closely spaced bollards. It is likely that cyclists using the path will be unable to negotiate the bend and collide with the bollard arrangement, especially in dark conditions.	Amend bollard arrangement	

Problem Ref	Location	Problem	Recommendation	Design Team Response
3	Site Access	A give-way marking is proposed to delineate the extent of the site access, at a bend in Mill Lane. It appears that this give-way line is south of the existing carriageway edge and may reduce the width at the bend. Any large vehicle associated with the businesses to the north of the site may not be able to negotiate the new bend alignment and may overrun the give-way line, causing a collision with waiting vehicles.	Produce swept path analysis to confirm vehicles can safely negotiate the bend and amend site access design if necessary.	Recommendation accepted. The site access design has been amended to ensure the give-way marking do not encroach into the existing carriageway and that the existing width for access to the north is retained as existing. Drawing ITB11347-GA-012 Rev D provided in **Appendix A** illustrates the revised give-way markings which are set back from the current road edge.
4	South of The Hollies	It is proposed to widen the carriageway in the vicinity of The Hollies. There are existing bollards in this location, which are positioned close to the kerbing. There will be insufficient clearance between the new kerb and the bollards. This may result in vehicles colliding with the bollards.	Remove or relocate bollards a sufficient distance from the kerb.	Recommended accepted. Bollards are located within the adopted highway and were sited there as part of The Hollies development. The proposals under this application are to just resurface this area rather than widen the carriageway.

Appendix A Drawing ITB11347-GA-012 Rev D

SCALE BAR @ 1:500

0 5 10 25 50

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

2.0m PEDESTRIAN LINK (NO VEHICULAR ACCESS)

PROW TO BE RETAINED AS EXISTING

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

EXISTING VEGETATION TO BE RETAINED

6.21m

2.0m x 25m VISIBILITY SPLAY (MFS 20mph)

MILL LANE TO BE WIDENED & RESURFACED

5.02m

MILL LANE

DRIVEWAY

INDICATIVE DRIVEWAY TO THE HOLLIES

DRIVEWAY

5.05m

DRIVEWAY

0.58m

MILL LANE TO BE WIDENED & RESURFACED

0.44m

DRIVEWAY VERGE TO BE RETAINED TO PROVIDE SEPARATION BETWEEN CARRIAGEWAY AND BUILDING INCLUDED DOWN PIPES

0.23m

4.27m

DRIVEWAY

4.43m

FOOTWAY TO BE WIDENED AROUND RADIUS

DRIVEWAY

DROPPED KERB

Pond

Chapmans

Pond

Heath Cottage

The Old Forge Cottage

Mill View

Lilac Cottage

Fourshaws

KEY:

HIGHWAY BOUNDARY

ADDITIONAL CARRIAGEWAY PROVIDED BY THE HOLLIES DEVELOPMENT

REV	DATE	BY	DESCRIPTION	CHK	APD
D	26.05.23	MM	AMENDMENTS TO PEDESTRIAN/CYCLE CONNECTION	JO	SJ
C	24.05.23	JB	PUBLIC RIGHT OF WAY UPDATED	JO	SJ
B	03.04.23	JB	MINOR EDITS FOLLOWING ROAD SAFETY AUDIT	JO	SJ

STATUS: FOR PLANNING

i-Transport

Grove House, Lutyens Close, Chineham
Basingstoke, Hampshire, RG24 8AG

Tel: 01256 338640
Fax: 01256 338644

[redacted]

TITLE:

CONCEPTUAL TREATMENT OF MILL LANE WIDENING SCHEME

PROJECT:

LAND WEST OF MILL LANE, HATFIELD HEATH

CLIENT:

PELHAM STRUCTURES

SCALE @ A3:	CHECKED:	APPROVED:
1:500	JO	SJ
FILE REF:	**DRAWN:**	**DATE:**
ITB11347	JB	19.10.22

DRAWING No: ITB11347-GA-012

PROJECT No:	REV:
ITB11347	D

DRAWING ISSUED FOR FEASIBILITY CONSIDERATION AND PLANNING PURPOSES ONLY. DRAWING NOT TO BE USED FOR CONSTRUCTION. I-TRANSPORT LLP ACCEPT NO RESPONSIBILITY FOR ERRORS MADE BY OTHERS IN SCALING FROM THIS DRAWING. MEASUREMENTS SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY. CDM REQUIREMENTS CONSIDERED AT FEASIBILITY STAGE ONLY. FURTHER CONSIDERATION REQUIRED BY DETAILED DESIGN TEAM.

T:\Projects\11000 Series Project Numbers\11347\TB Land at Mill Lane and High Pastures, Hatfield Heath\Tech\Acad\i-Transport Drawings\Working Drawings\GA\ITB11347-GA-012D.dwg

Jonathan Orton

From: Wing Lee [redacted]
Sent: 25 May 2023 15:00
To: Jonathan Orton
Cc: Steve Jenkins
Subject: Re: Stage 1 RSA - Hatfield Heath, Essex

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Jon,

Thank you for sending over your latest widening scheme layout plan (**ITB11347-GA-012C**) and the amended Designer's Response (**ITB11347-011A – Stage 1 RSA DTR**), in response to our RSA1 report (**230330_J190259_Mill Lane_RSA1**).
We are satisfied that the content of your response is acceptable to overcome the problems raised in our report.

Kind regards

Wing Lee BEng (hons), PGCert, HE CoC, MCIHT, MIHE
Director

Grange Transport Consulting
[redacted]

From: Jonathan Orton [redacted]
Date: Thursday, 25 May 2023 at 09:30
To: Wing Lee [redacted]
Subject: RE: Stage 1 RSA - Hatfield Heath, Essex

Hello Wing,

You may recall the Stage 1 RSA you undertook for us earlier this year at Mill Lane, Hatfield Heath.

The proposals have been amended slightly to remove the new connection between Mill Lane and Home Pastures but to continue to retain the existing PRoW. Please see attached drawing.

As your RSA outlined a couple of 'problems' with this connection we have updated the design team response (see attached) to reflect the change of scheme in order to be consistent with the documents being submitted with the application.

Please could you confirm that the design team response is suitable to deal with the 'problems' outlined with the RSA with the revised scheme.

Regards

Jon

Jonathan Orton
Associate
for i-Transport LLP

[redacted]

Manchester Office: Centurion House, 129 Deansgate, Manchester M3 3WR

[redacted]

From: Wing Lee [redacted]
Sent: Wednesday, April 12, 2023 5:02 PM
To: Jonathan Orton [redacted]
Cc: [redacted]
Subject: Re: Stage 1 RSA - Hatfield Heath, Essex

Hi Jon,

No worries.
Speak to you soon

Grange Transport Consulting
[redacted]

From: Jonathan Orton [redacted]
Sent: Wednesday, April 12, 2023 16:42
To: Wing Lee [redacted]
Subject: RE: Stage 1 RSA - Hatfield Heath, Essex

Hello Wing,

Thank you for the confirmation, much appreciated.

Kind Regard

Jon

Jonathan Orton
Associate
for i-Transport LLP

[redacted]

Manchester Office: Centurion House, 129 Deansgate,
Manchester
M3 3WR

[redacted]

To mark International Women's Day 2023, we are proud to become a Corporate Partner of **Women for Women International** and will be sponsoring a woman survivor of war throughout the coming year. For more information please visit their website.

From: Wing Lee [redacted]
Sent: Wednesday, April 12, 2023 10:45 AM
To: Jonathan Orton [redacted]
Subject: Re: Stage 1 RSA - Hatfield Heath, Essex

Morning Jon,

I hope you had a good Easter break.

Thank you for sending over the Designer's Response (**ITB11347-011-Stage 1 RSA DTR**) and latest plan (**ITB11347-GA-012B**). We are satisfied that the content of the DTR and latest plan are acceptable to overcome the problems raised in the RSA1 report (**230330_J190259_Mill Lane_RSA1**).

I trust that this is satisfactory for your purposes.

Kind regards

Wing Lee BEng (hons), PGCert, HE CoC, MCIHT, MIHE
Director

Grange Transport Consulting

[redacted]

From: Jonathan Orton [redacted]
Date: Tuesday, 11 April 2023 at 15:49
To: Wing Lee <[redacted]
Subject: Stage 1 RSA - Hatfield Heath, Essex

Hello Wing,

Thank you for the Stage 1 RSA, we have reviewed the comments raised and produced a design team response (attached) and updated the scheme drawing (Drawing ITB11347-GA-012 Rev B - attached) where appropriate.

Please could you confirm that the Design Team Response and updated drawing are sufficient to address the comments raised within the RSA at this stage?

Kind Regards

Jon

Jonathan Orton
Associate
for i-Transport LLP

[redacted]

i-Transport

CLIMATE POSITIVE BUSINESS EARTHLY

To mark International Women's Day 2023, we are proud to become a Corporate Partne
survivor of war throughout the coming year. For more information please visit their we

APPENDIX D. MILL LANE / STORTFORD ROAD JUNCTIONS10 OUTPUT

Junctions 10

PICADY 10 - Priority Intersection Module

Filename: Mill Lane_Stortford Road.j10
Path: B:\Projects\11000 Series Project Numbers\11347ITB Land at Mill Lane and High Pastures, Hatfield Heath\Tech\Assessments\Picady\2022
Report generation date: 05/04/2023 00:05:39

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2025 + Completed Developments									
Stream B-AC	D3	0.0	10.81	0.03	B	D4	0.0	0.00	0.00	A
Stream C-AB		0.1	5.01	0.05	A		0.0	4.61	0.01	A
	2025 + Completed Developments + Development									
Stream B-AC	D5	0.0	10.73	0.03	B	D6	0.0	9.89	0.01	A
Stream C-AB		0.1	5.01	0.05	A		0.0	4.63	0.02	A

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

File summary

File Description

Title	
Location	Mill Lane / Stortford Road
Site number	
Date	23/08/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ITB11347
Enumerator	I-TRANSPORT\jonathanorton
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75						0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 + Completed Developments	AM	ONE HOUR	07:45	09:15	15	
D2	2023 + Completed Developments	PM	ONE HOUR	16:45	18:15	15	
D3	2025 + Completed Developments	AM	ONE HOUR	07:45	09:15	15	✓
D4	2025 + Completed Developments	PM	ONE HOUR	16:45	18:15	15	✓
D5	2025 + Completed Developments + Development	AM	ONE HOUR	07:45	09:15	15	✓
D6	2025 + Completed Developments + Development	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2025 + Completed Developments, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	MIll Lane / Stortford Road	T-Junction	Two-way	Two-way	Two-way		0.31	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.31	A

Arms

Arms

Arm	Name	Description	Arm type
A	Stortford Road (west)		Major
B	Mill Lane		Minor
C	Stortford Road (east)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.65			200.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.04	59	13

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	505	0.089	0.226	0.142	0.323
B-C	635	0.095	0.239	-	-
C-B	690	0.260	0.260	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 + Completed Developments	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	509	100.000
B		ONE HOUR	✓	10	100.000
C		ONE HOUR	✓	492	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	3	506
	B	4	0	6
	C	477	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	33	1
	B	0	0	29
	C	2	23	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.03	10.81	0.0	B	9	14
C-AB	0.05	5.01	0.1	A	32	48
C-A					419	629
A-B					3	4
A-C					464	696

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	2	395	0.019	7	0.0	0.0	9.295	A
C-AB	22	5	741	0.030	22	0.0	0.0	5.008	A
C-A	348	87			348				
A-B	2	0.56			2				
A-C	381	95			381				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	9	2	374	0.024	9	0.0	0.0	9.869	A
C-AB	30	8	780	0.039	30	0.0	0.1	4.829	A
C-A	412	103			412				
A-B	3	0.67			3				
A-C	455	114			455				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	11	3	344	0.032	11	0.0	0.0	10.804	B
C-AB	45	11	835	0.053	45	0.1	0.1	4.582	A
C-A	497	124			497				
A-B	3	1			3				
A-C	557	139			557				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	11	3	344	0.032	11	0.0	0.0	10.806	B
C-AB	45	11	835	0.054	45	0.1	0.1	4.555	A
C-A	497	124			497				
A-B	3	1			3				
A-C	557	139			557				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	9	2	374	0.024	9	0.0	0.0	9.873	A
C-AB	30	8	780	0.039	30	0.1	0.1	4.759	A
C-A	412	103			412				
A-B	3	0.67			3				
A-C	455	114			455				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	2	395	0.019	8	0.0	0.0	9.301	A
C-AB	22	6	741	0.030	22	0.1	0.0	4.973	A
C-A	348	87			348				
A-B	2	0.56			2				
A-C	381	95			381				

2025 + Completed Developments, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	MIll Lane / Stortford Road	T-Junction	Two-way	Two-way	Two-way		0.05	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.05	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 + Completed Developments	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	497	100.000
B		ONE HOUR	✓	4	100.000
C		ONE HOUR	✓	396	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	1	496
	B	3	0	1
	C	391	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.01	4.61	0.0	A	8	13
C-A					355	532
A-B					0.92	1
A-C					455	683

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	444	0.000	0	0.0	0.0	0.000	A
C-AB	6	2	787	0.008	6	0.0	0.0	4.606	A
C-A	292	73			292				
A-B	0.75	0.19			0.75				
A-C	373	93			373				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	420	0.000	0	0.0	0.0	0.000	A
C-AB	8	2	810	0.010	8	0.0	0.0	4.485	A
C-A	348	87			348				
A-B	0.90	0.22			0.90				
A-C	446	111			446				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	387	0.000	0	0.0	0.0	0.000	A
C-AB	11	3	844	0.013	11	0.0	0.0	4.322	A
C-A	425	106			425				
A-B	1	0.28			1				
A-C	546	137			546				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	387	0.000	0	0.0	0.0	0.000	A
C-AB	11	3	844	0.013	11	0.0	0.0	4.325	A
C-A	425	106			425				
A-B	1	0.28			1				
A-C	546	137			546				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	420	0.000	0	0.0	0.0	0.000	A
C-AB	8	2	810	0.010	8	0.0	0.0	4.490	A
C-A	348	87			348				
A-B	0.90	0.22			0.90				
A-C	446	111			446				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	0	0	444	0.000	0	0.0	0.0	0.000	A
C-AB	6	2	787	0.008	6	0.0	0.0	4.608	A
C-A	292	73			292				
A-B	0.75	0.19			0.75				
A-C	373	93			373				

2025 + Completed Developments + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	MIll Lane / Stortford Road	T-Junction	Two-way	Two-way	Two-way		0.32	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.32	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 + Completed Developments + Development	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	509	100.000
B		ONE HOUR	✓	11	100.000
C		ONE HOUR	✓	492	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	3	506
	B	4	0	7
	C	477	15	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	33	1
	B	0	0	29
	C	2	23	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.03	10.73	0.0	B	10	15
C-AB	0.05	5.01	0.1	A	32	48
C-A					419	629
A-B					3	4
A-C					464	696

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	2	397	0.021	8	0.0	0.0	9.261	A
C-AB	22	5	741	0.030	22	0.0	0.0	5.008	A
C-A	348	87			348				
A-B	2	0.56			2				
A-C	381	95			381				

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	10	2	377	0.026	10	0.0	0.0	9.819	A
C-AB	30	8	780	0.039	30	0.0	0.1	4.829	A
C-A	412	103			412				
A-B	3	0.67			3				
A-C	455	114			455				

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	12	3	348	0.035	12	0.0	0.0	10.725	B
C-AB	45	11	835	0.053	45	0.1	0.1	4.582	A
C-A	497	124			497				
A-B	3	1			3				
A-C	557	139			557				

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	12	3	348	0.035	12	0.0	0.0	10.728	B
C-AB	45	11	835	0.054	45	0.1	0.1	4.555	A
C-A	497	124			497				
A-B	3	1			3				
A-C	557	139			557				

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	10	2	376	0.026	10	0.0	0.0	9.821	A
C-AB	30	8	780	0.039	30	0.1	0.1	4.759	A
C-A	412	103			412				
A-B	3	0.67			3				
A-C	455	114			455				

09:00 - 09:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	2	397	0.021	8	0.0	0.0	9.266	A
C-AB	22	6	741	0.030	22	0.1	0.0	4.973	A
C-A	348	87			348				
A-B	2	0.56			2				
A-C	381	95			381				

2025 + Completed Developments + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	MIll Lane / Stortford Road	T-Junction	Two-way	Two-way	Two-way		0.13	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.13	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 + Completed Developments + Development	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A		ONE HOUR	✓	498	100.000
B		ONE HOUR	✓	5	100.000
C		ONE HOUR	✓	399	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A	B	C
From	A	0	2	496
	B	3	0	2
	C	391	8	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
B-AC	0.01	9.89	0.0	A	5	7
C-AB	0.02	4.63	0.0	A	13	20
C-A					353	529
A-B					2	3
A-C					455	683

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	0.94	428	0.009	4	0.0	0.0	8.490	A
C-AB	10	2	787	0.012	10	0.0	0.0	4.628	A
C-A	291	73			291				
A-B	2	0.38			2				
A-C	373	93			373				

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	403	0.011	4	0.0	0.0	9.023	A
C-AB	13	3	810	0.016	13	0.0	0.0	4.513	A
C-A	346	86			346				
A-B	2	0.45			2				
A-C	446	111			446				

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	6	1	369	0.015	5	0.0	0.0	9.891	A
C-AB	18	5	844	0.021	18	0.0	0.0	4.359	A
C-A	421	105			421				
A-B	2	0.55			2				
A-C	546	137			546				

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	6	1	369	0.015	6	0.0	0.0	9.892	A
C-AB	18	5	844	0.021	18	0.0	0.0	4.360	A
C-A	421	105			421				
A-B	2	0.55			2				
A-C	546	137			546				

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	1	403	0.011	5	0.0	0.0	9.025	A
C-AB	13	3	810	0.016	13	0.0	0.0	4.518	A
C-A	346	86			346				
A-B	2	0.45			2				
A-C	446	111			446				

18:00 - 18:15

Stream	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	4	0.94	428	0.009	4	0.0	0.0	8.490	A
C-AB	10	2	787	0.012	10	0.0	0.0	4.630	A
C-A	291	73			291				
A-B	2	0.38			2				
A-C	373	93			373				