Transport Statement

Land at Church Lane, Lydden

20-045-002 Rev B

August 2023

Charles & Associates

Document Control Sheet

Project Name:	Land at Church Lane, Lydden
Project Number:	20-045
Report Title:	Transport Statement
Report Number:	002

Rev	Issue Purpose	Author	Checked	Reviewed	Approved	Date
-	Draft	CG	JW	CG	JW	16/06/23
A	Planning	CG	JW	CG	JW	03/08/23
B	Planning	CG	JW	CG	JW	21/08/23

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Contents

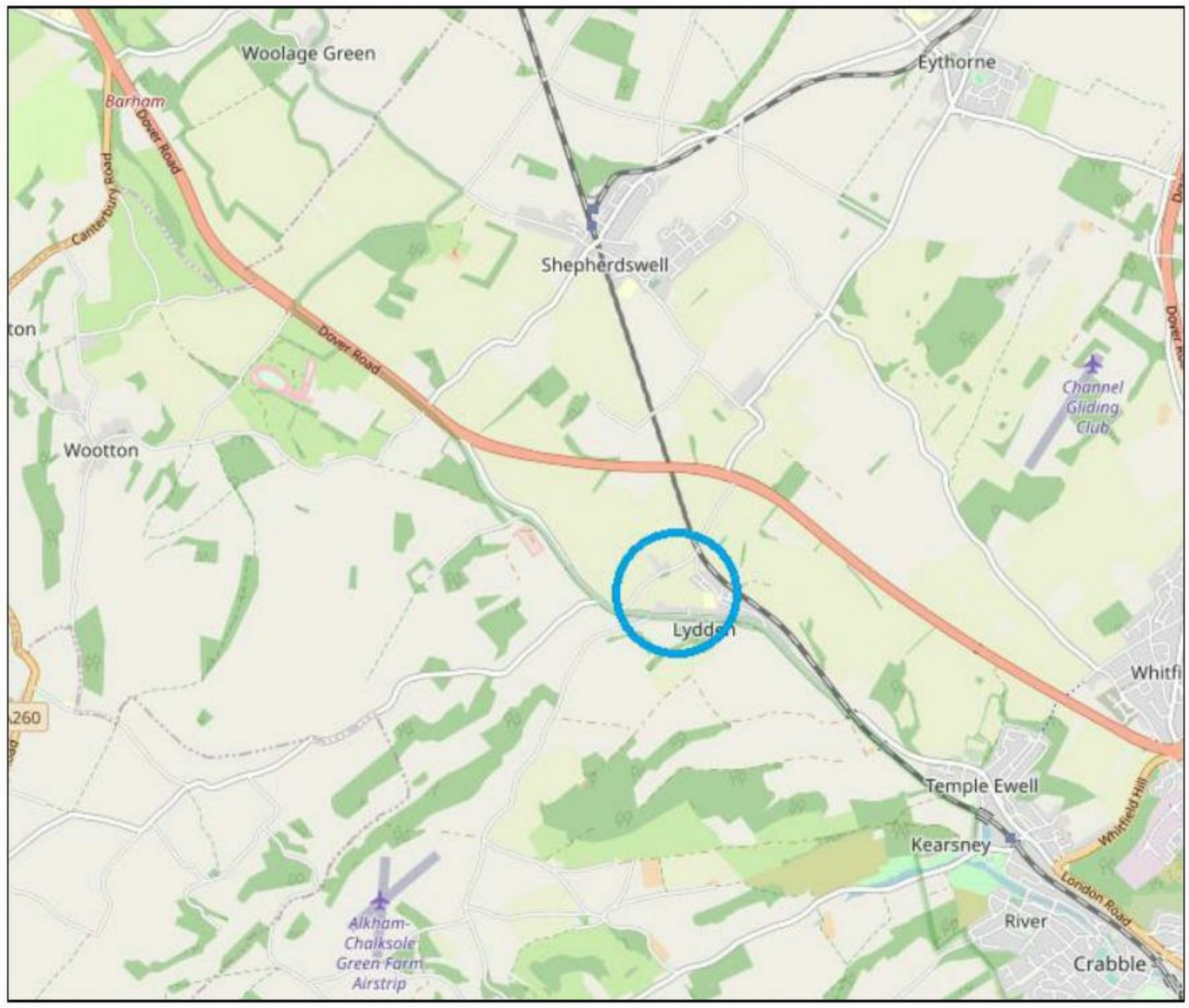
1 Introduction

1.1 Overview

1.1.1 C&A have prepared this Transport Statement for an outline planning application at Church Lane, Lydden. The Local Planning Authority for this development is Dover District Council (DDC) and the local Highway Authority is Kent County Council (KCC).

1.1.2 The site is currently open land within the village of Lydden, to the east of Church Lane as shown in **Figure 1.1**.

Figure 1.1: Site Location (OpenStreetMap)



1.1.3 In the Regulation 19 Dover Local Plan the site has been allocated for around 30 dwellings. This application is for 23 dwellings with associated access, parking and landscaping.

1.1.4 Quinn Estates have consulted Lydden Parish Council during the development of the proposals and carried out a public consultation in August 2023. This has identified opportunities to make changes to the local transport network which would improve road safety and amenity for residents.

1.2 Report Structure

1.2.1 This report provides further information in the following chapters:

- Policy Review
- Site Context and Accessibility
- Development Proposals
- Transport Implications
- Summary and Conclusions

2 Policy Review

2.1 National Policy

2.1.1 The National Planning Policy Framework (NPPF), updated in July 2021, focuses on sustainability and encouraging sustainable transport solutions.

2.1.2 Paragraph 110 of the NPPF states:

In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users;

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and

c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.1.3 With respect to the acceptability of proposals paragraph 111 states:

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

2.1.4 The NPPF is supported by Planning Practice Guidance including guidance on the preparation of Transport Statements. This TS has been prepared in accordance with that guidance.

2.2 Kent Policy

2.2.1 KCC's Local Transport Plan 4 sets out the current priorities for local transport investment for the period 2016-31. The ambition of the LTP is:

To deliver safe and effective transport, ensuring that all Kent's communities and businesses benefit, the environment is enhanced, and economic growth is supported.

2.3 Dover District Policy

2.3.1 The Dover Core Strategy was adopted in 2010 and includes the following policies in relation to transport.

Policy DM11 Location of Development and Managing Travel Demand

Planning applications for development that would increase travel demand should be supported by a systematic assessment to quantify the amount and type of travel likely to be generated and include measures that satisfy demand to maximise walking, cycling and the use of public transport. Development that would generate travel will not be permitted outside the urban boundaries and rural settlement confines unless justified by development plan policies. Development that would generate high levels of travel will only be permitted within the urban areas in locations that are, or can be made to be, well served by a range of means of transport.

2.3.2 In addition, policy DM13 sets out parking standards for new developments.

2.3.3 DDC are currently developing a new Local Plan. This site has been allocated in the emerging Local Plan for around 30 dwellings.

2.3.4 The emerging policy for the site includes the following requirements for transport and highways:

e - Primary vehicular, pedestrian and cycle access to the site shall be provided from Church Lane. Site access is to be designed to physically prevent access/egress to/from Church Lane to the north;

f - Alterations are required at the two Canterbury Road junctions to manage vehicle movements;

g - An uncontrolled pedestrian crossing where PROW ER116 joins Canterbury Road is required to provide access to the eastbound bus stop.

3 Site Context and Accessibility

3.1 Local Highway Network

3.1.1 Lydden village historically formed around a rough triangle of Lydden Hill / Canterbury Road, Church Lane and Stonehall. Of these Lydden Hill and Canterbury Road form part of the historic A2 route between Canterbury and Dover, which remains as the main road through the village. Their former function is reflected in the wide carriageway as shown in **Figure 3.1**, although through traffic now uses the A2 bypass to the north which was completed in the 1970s.

Figure 3.1: Lydden Hill approach to village (Google Maps)

3.1.2 Church Lane forms two priority junctions with Canterbury Road to either side of the village pond. The junction to the east of the pond is shown in **Figure 3.2**.

Figure 3.2: Junction of Canterbury Road and Church Lane (Google Maps)

3.1.3 There is a 30mph zone and street lighting throughout the village.

3.1.4 Church Lane is an unclassified rural road which runs north to a priority junction with the A2. Stonehall forms the third side of the 'triangle' and provides access Lydden Primary School. Both Church Lane and Stonehall are narrower roads with some informal on-street parking.

3.1.5 At the north end of the village, Church Lane and Stonehall form a priority junction with Coldred Hill, which leads to a priority junction with the A2.

3.2 Active Travel

3.2.1 "Active travel" broadly refers to human-powered modes of transport including walking, cycling, scooting and wheelchair travel - these modes combine the health benefits of movement with a minimal per-journey cost to the user. With appropriate and attractive provision these modes of transport will become the natural choice for shorter journeys.

3.2.2 Walking is the most important mode for local trips, particularly up to 2km. According to CIHT's 'Planning for Walking' guidance (2015), the preferred maximum walking distances are 1 mile (1.6km) for amenities, 400m for bus stops and 800m for rail stations.

3.2.3 There are several local amenities in the village within the 1.6km catchment as shown in **Appendix A**. These include a primary school, GP surgery, pub and village hall.

3.2.4 Footpath ER116 runs along the east side of the site. To the south this footpath crosses Canterbury Road, providing access to the westbound and eastbound bus stops.

3.2.5 Cycling can provide a realistic alternative for local car journeys, particularly for trips up to 5km. The 5km catchment from Lydden extends to the northwestern suburbs of Dover and the villages of Alkham and Swingfield.

3.3 Public Transport

3.3.1 Public transport allows people to travel further afield than active modes, in a way that makes efficient use of energy and network capacity.

3.3.2 There are buses through Lydden which call at the bus stops along Canterbury Road.

3.3.3 Route 15 runs daily providing a useful connection to the employment, schools, retail and leisure facilities in Canterbury city centre and Dover town centre. There are additional dedicated services to local secondary schools.

3.3.4 The local bus routes are summarised in **Table 3.1**.

Table 3.1: Bus Services

No	Route	Typical frequency		
		Mon-Fri	Saturday	Sunday
15	Dover town centre – Temple Ewell – Lydden – Canterbury city centre	20 mins	20 mins	Hourly
88/88A	Dover – Lydden – Sandwich Technology School	School days	N/A	N/A
88A/96A	Eastry – Lydden – Dover Christ Church Academy	School days	N/A	N/A
89B	Canterbury – Lydden – Dover Grammar School for Boys	School days	N/A	N/A

3.3.5 Kearsney and Shepherdswell are the nearest railway stations to the site, and are served by trains between Dover, Canterbury, the Medway Towns and London. Both stations are around 3km by the shortest route from the site and this is beyond typical walking distance, but residents could cycle from the site to either station or use bus route 15 to connect at Kearsney station. The rail service from Kearsney is summarised in **Table 3.2**.

Table 3.2: Rail services from Kearsney station

Destination	Journey time	Typical frequency		
		Mon-Fri	Saturday	Sunday
Dover Priory	5 minutes	Hourly	Hourly	Hourly
Canterbury East	24 minutes	Hourly	Hourly	Hourly

Destination	Journey time	Typical frequency		
Chatham	1 hour 12 minutes	Hourly	Hourly	Hourly
London Victoria	1 hour 59 minutes	Hourly	Hourly	Hourly

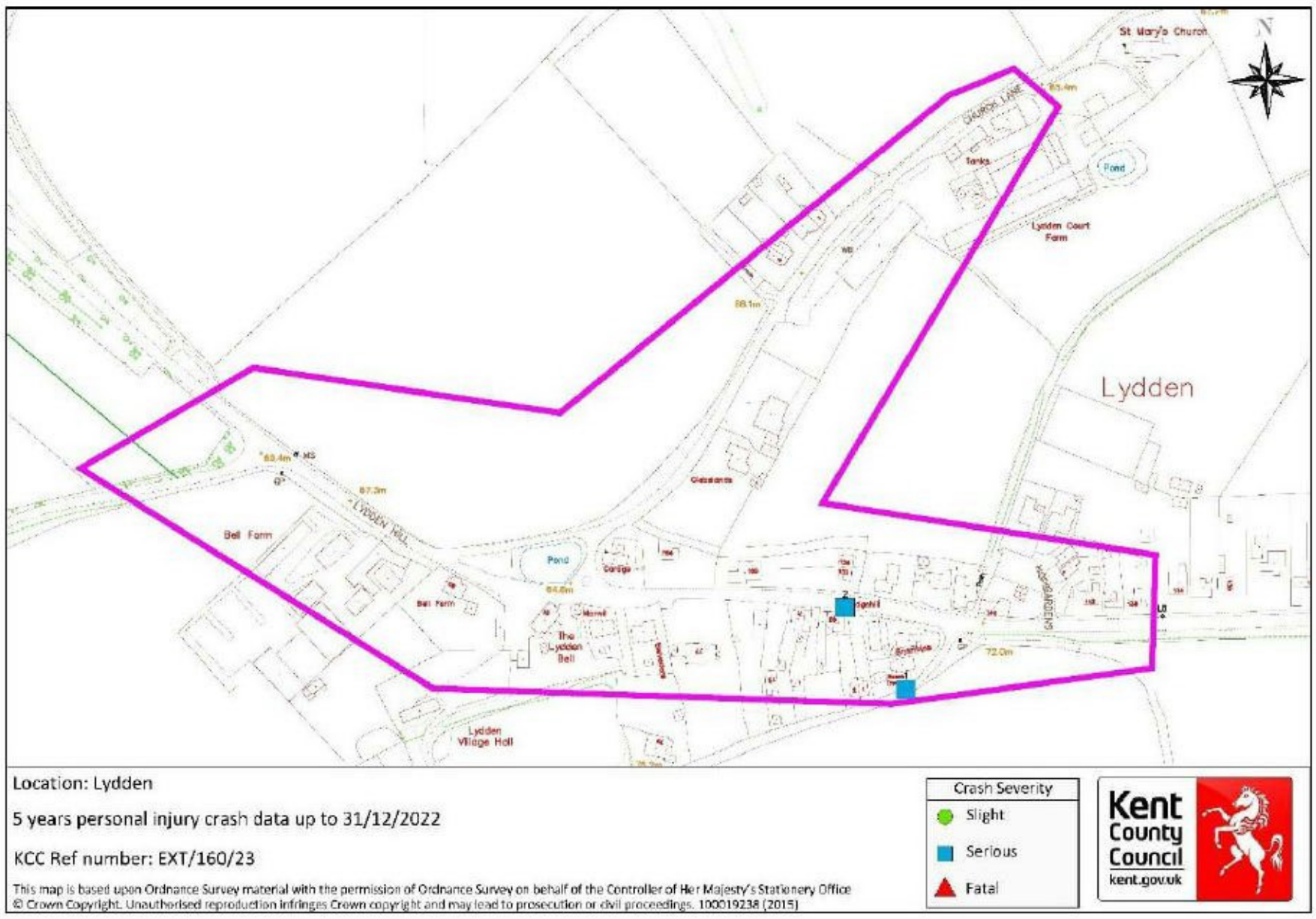
3.3.6 Bus route 15 also connects with rail services at Dover Priory station, providing access to further rail connections.

3.3.7 The site therefore benefits from good connectivity by non-car modes of transport.

3.4 Road Safety

3.4.1 Collision data has been obtained from KCC on 8th of June 2023 for the most recent five year period available from January 2018 to December 2022. The area of interest is shown below in **Figure 3.3**.

Figure 3.3: Collision Locations



3.4.2 Altogether, there were two recorded collisions in the past five years, both were classified as serious. The summary of the collisions is presented in **Table 3.** and the full reports are contained in **Appendix B**.

Table 3.3: Collision Summary

Year	Severity	Location (Grid Ref.)	Road Surface	Weather	Lighting	Description
C228 Warren Lane						
2018	Serious	626301 145371	Dry	Fine	Daylight	Head on collision between two cars. Warren Lane between Alkham and Lydden is a narrow single track, car 2 braked to a halt to await car1 but car 1 could not stop in time and collided even though car 1 tried to manoeuvre into hedge.
C587 Canterbury Road						
2019	Serious	626269 145414	Wet	Rain	Daylight	Motorcycle braked harshly for vehicles stopping ahead but lost traction on the wet road surface and skidded into parked car, which was parked to the offside.

3.4.3 The above collision analysis does not suggest any specific trends or wider safety concerns.

4 Development Proposals

4.1 Overview

4.1.1 The proposed layout is shown in **Appendix C** and would include 23 dwellings with associated access, parking and landscaping.

4.2 Site Access

4.2.1 The access arrangements have been designed in accordance with the emerging Local Plan policy requirements for the site. As well as achieving safe and suitable access to the site itself, there is an opportunity to reconfigure the highway around the village pond for wider amenity benefits.

4.2.2 From the eastern side of the application site, footpath ER116 runs south to Canterbury Road and the site layout includes a link into the footpath. As per the emerging Local Plan policy, a dropped kerb crossing will be provided on Canterbury Road to enable pedestrians to access both of the bus stops. The design here incorporates a buildout to reduce vehicle speeds and ensure sufficient visibility.

4.2.3 Vehicles would access the development via a simple priority access on Church Lane. As per the Local Plan policy, the design would prevent vehicle movements between the development and Church Lane to the north. Church Lane would be realigned slightly to the north within the adopted highway boundary, to provide suitable visibility at the access junction.

4.2.4 The junction between Church Lane and Canterbury Road would be rationalised so that all vehicles enter and exit Church Lane on the east side of the pond. Some minor changes to the existing road markings would reinforce this.

4.2.5 In turn, this would allow the under-utilised carriageway behind the pond (**Figure 4.1**) to be closed to vehicles and repurposed as an amenity space for the community.

Figure 4.1: Adopted highway behind village pond (Google Maps)

4.2.6 The realignment of Church Lane provides the opportunity to introduce traffic calming on the right-hand bend towards the site access and a tactile crossing for pedestrians to access the amenity area north of the pond.

4.2.7 C&A have obtained an independent Stage 1 Road Safety Audit for the above proposals and provided a Designer's Response. These are included in **Appendix D**.

4.2.8 The overall site access proposals following the RSA are shown in **Appendix E (Drawing 20-045-002 Rev C)**.

4.3 Parking and Servicing

4.3.1 Car parking will be provided in accordance with the Dover Core Strategy – Policy DM13 for developments in village locations:

- 1-2 bedroom flats – 1 space per unit
- 1-2 bedroom houses – 1.5 spaces per unit
- Larger houses – 2 independently accessible spaces per unit
- Visitor parking – 0.2 spaces per unit overall

4.3.2 Each dwelling will have a cycle store and an EV charging point to enable residents to choose more sustainable transport modes.

4.3.3 **Appendix E** also shows that the site access layout can accommodate the standard KCC refuse collection vehicle.

5 Transport Implications

5.1.1 The site is currently open land and generates no vehicle trips.

5.1.2 The TRICS database has been used to estimate of the weekday peak hour vehicle trips generated by the proposals.

5.1.3 The assessment uses sites in the 'Houses Privately Owned' category in village locations. One site contained bungalows, so this was removed as would be unrepresentative for the proposed development.

5.1.4 The TRICS trip rates are summarised in **Table 5.1** below and the full report is provided in **Appendix F**.

Table 5.1: Vehicle Trip Generation

	AM Peak Hour (0800 – 0900)			PM Peak Hour (1700 – 1800)		
	Arr	Dep	Total	Arr	Dep	Total
Vehicle trip rate per dwelling	0.173	0.276	0.449	0.327	0.154	0.481
Vehicle trips for 23 dwellings	4	6	10	8	4	11

5.1.5 This data shows that the site would generate around 10 vehicle trips in each peak hour. These trips would disperse over several routes out of Lydden, including Lydden Hill for trips towards Canterbury and the M2 motorway, and Canterbury Road into Dover.

5.1.6 This level of additional road traffic would not represent a severe impact on the local highway network.

6 Summary and Conclusions

6.1.1 This Transport Statement has been prepared to support a planning application for residential development at Church Lane, Lydden.

6.1.2 The site benefits from a sustainable location with good access to local amenities and public transport services.

6.1.3 Safe and suitable access for all users can be achieved to the site. The access arrangements have been designed in accordance with the emerging Local Plan policy requirements, and would repurpose an under-utilised section of the highway for the amenity of the wider community.

6.1.4 The development would not result in a significant impact on the local highway network.

6.1.5 The proposed development would therefore be acceptable in relation to adopted transport and highways policy.

Appendix A Local Amenities

Church Lane, Lydden

Isochrones

5km Cycling

1.6km Walking

Site

Site

Site Access

The Lydden Bell

Warren Lane

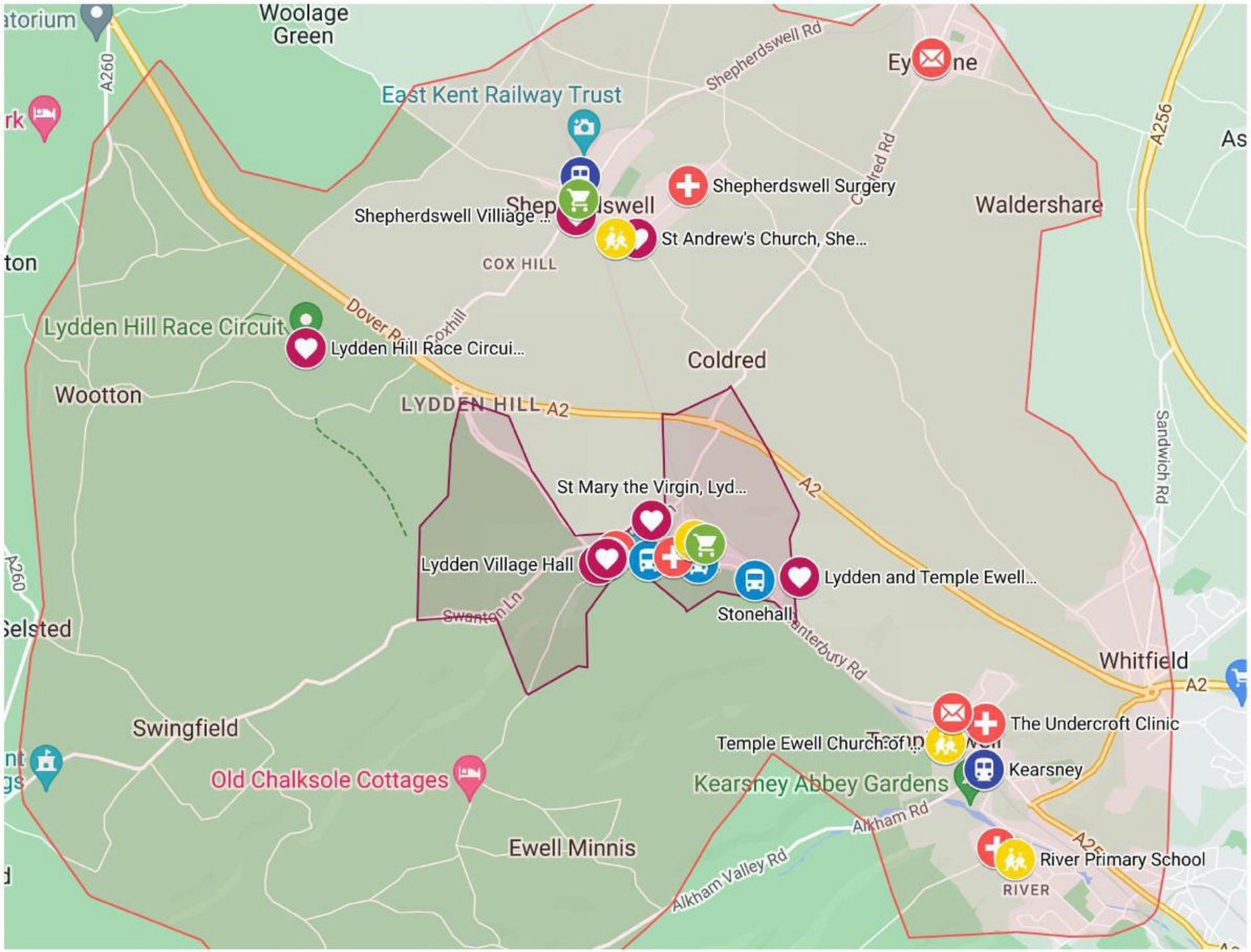
Old Police Houses

Stonehall

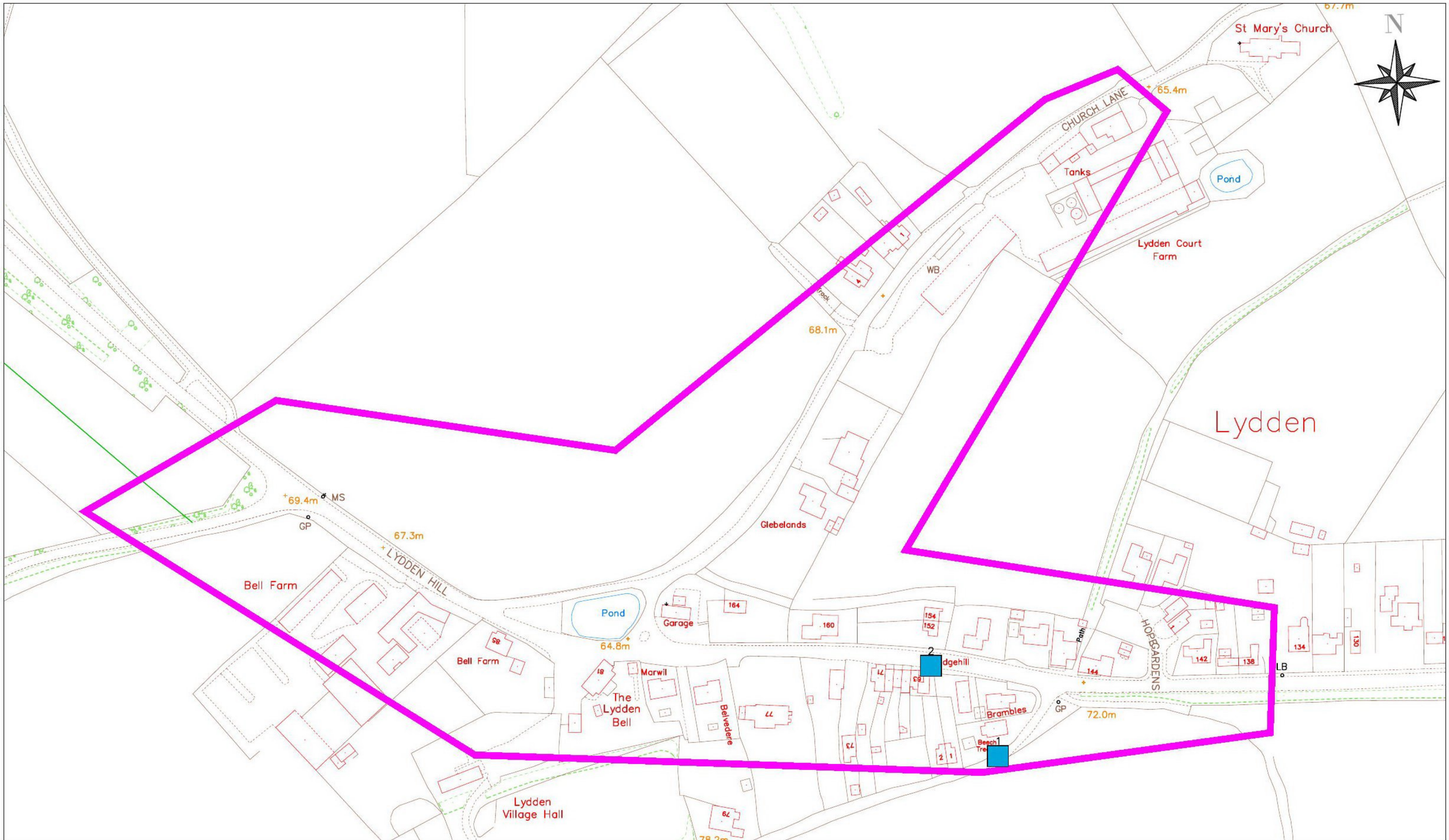
Shepherds Well

Kearsney

Lydden Surgery



Appendix B Collision Data



Location: Lydden

5 years personal injury crash data up to 31/12/2022

KCC Ref number: EXT/160/23

Crash Severity

- Slight
- Serious
- Fatal

Kent County Council
kent.gov.uk

Date: 08-June-2023
Time: 10:52:25

Title: **Lydden**

Requested output: **D - Print Crash Report**

Date: 08-June-2023

Accident Date BETWEEN '01-Jan-2018' AND '31-Dec-2022'

There were 2 reported crashes resulting in injury

D-PRINT CRASH REPORT

8-Jun-2023
10:52:25

Lydden
Accident Date BETWEEN '01-Jan-2018' AND '31-Dec-2022'

No	Location	Severity	Date	Day	Time	Street Lighting	Road Surface	Weather	Pedestrian Direction	Factors	Involved
1	**Road No C228 Grid 626301E** **Section 172 Ref 145371N**	SERIOUS	22/02/2018	5	08:30	L	Dry	Fine			
	C228, WARREN LANE, LYDDEN, (MAPPED TO COORDS).								Dover		
	REPORTED BY D2, WARREN LANE IS A NARROW SINGLE TRACK ROAD BETWEEN ALKHAM AND LYDDEN, INFT SAW V1 APPROACHING, BRAKED TO A HALT TO AWAIT V1 STOPPING, V1 FAILED TO STOP IN TIME, HEAD ON COLLISION AT APPROX 30 MPH WITH STATIONARY VEHICLE. V1 ATTEMPTED TO MANEOUVER INTO HEDGE BUT STILL HAD AN IMPACT, D1 HIT THEIR HEAD, APPEARED CONCUSSED, D2 CHECKED DRIVER WAS OK, ANOTHER VEHICLE OFFERED TO CALL SECAMB WHICH WAS DECLINED. DRIVER LEFT THE VEHICLE IN SITU AND WAS COLLECTED BY FAMILY- INFT ABLE TO DRIVE HOME.						Veh1, car, NE -> SW Veh2, car, SW -> NE				Casualties 1 Vehicles 2
2	**Road No C587 Grid 626269E** **Section 172 Ref 145414N**	SERIOUS	12/06/2019	4	12:00	L	Wet/Damp	Rain			M/C
	C587 CANTERBURY RD, LYDDEN (MAPPED TO COORDS)								Dover		
	V1 braked harshly for vehicles stopping ahead but lost traction on the wet road surface and skidded into V2, which was parked to the offside.						Veh1, m/cycle 125 - 500cc, W -> E Veh2, car, P -> P				Casualties 1 Vehicles 2

Key

Involved	
PED	Pedestrian
HGV	Heavy Goods Vehicle
GV	Goods Vehicle
MC	Motor Cycle
PC	Pedal Cycle
PSV	Bus/Coach

Street Lighting	
L	Daylight
STL	Street Lights
USL	Street Lights Unlit
NSL	No Street Lights
STU	Street Lights Unknown

FACTORS	
+VE	Positive Breath Test
R.TURN	Right Turn Manoeuvre
O/TAKE	Overtaking Manoeuvre
S.VEH	Single Vehicle

Special Conditions	
ATS OUT	Traffic Lights Not Working
ATS DEF	Traffic Lights Defective
SIGNS	Road Signs Defective or Obscured
RD WRKS	Road Works
Surface	Road Surface Defective

Appendix C Proposed Development

Quinn Estates

Proposed Residential Development, Land at Church Lane, Lydden

NOTES:

Do Not Scale.

Report all discrepancies, errors and omissions.

Verify all dimensions on site before commencing any work on site or preparing shop drawings.

All materials, components and workmanship are to comply with the relevant British Standards, Codes of Practice, and appropriate manufacturers recommendations that from time to time shall apply.

For all specialist work, see relevant drawings.

Rev	Date	Description
R	07.07.2023	Water constraints added
S	11.07.2023	Highways access amended
T	24.07.2023	Parking amended
U	26.07.2023	Highways Comments
V	31.07.2023	Highways additional data
W	01.08.2023	Landscape Updated

Key

- Site Boundary
- Flood Extent Line
- Proposed Trees
- Existing Trees
- Private Housing
- Affordable Housing

Project Title

Proposed Residential Development
Land at Church Lane
Lydden
CT15 7JP

Drawing Description

Sketch Scheme
Colored

Scale	Drawn by
1:500@A1	AS
Date	Checked by
August 2023	CSS

CLAGUE ARCHITECTS

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CANTERBURY LONDON HARPENDEN

Drawing Number	Revision
23371A / 105	W

Appendix D Road Safety Audit and Designer's Response

Charles & Associates

CHURCH LANE, LYDDEN

Designer's Response to the Stage 1 Safety Audit

Project No. 20-045

August 2023

CHURCH LANE, LYDDEN

Designer's Response to the Stage 1 Safety Audit

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Project No. 20-045
August 2023

DOCUMENT CONTROL SHEET

REV	ISSUE PURPOSE	AUTHOR	CHECKED	REVIEWED	APPROVED	DATE
-	Planning	DH	CG	CG	JW	Aug 2023

DESIGNER'S STATEMENT

C & A Consulting Engineers have prepared an access proposal for a development on land at Church Lane, Lydden, Kent. The Stage 1 Road Safety Audit was carried out on the design shown on drawing 20-045-002_Rev A.

The audit was undertaken by M&S Traffic and the Auditor Team identified a few issues. I have considered the issues and problems raised in the Safety Audit and have appended my comments, which set out:

- the changes to the design which I propose to make, or
- the reasons why I do not propose to make any changes.

Signed: Daniel Hughes

Date: August 2023

Audit Team No.	Audit Team Observation	Audit Team Recommendation	C&A Designers Response	Client Comment
3.1 - General				
3.1.1	**Location:** Proposed raised table crossing at the access. **Summary:** Insufficient construction detail on raised table could lead to loss of control collisions. No details of the ramp profiles or height of humps have been provided for assessment. There is concern that if the height is outside normal ranges, this could lead loss of control collisions, though is recognised that vehicle speeds are likely to be very low.	**Recommendation:** It is recommended that ramp profiles should be within normal accepted ranges.	**Agree:** Ramp gradients and height to be within suitable range for vehicles expected along Church Lane. Details to be provided at stage 2.	
3.1.2	**Location:** Proposed raised table crossing at the access. **Summary:** Ponding could lead to loss of control collisions. A raised table crossing is proposed; however, the ramps may be a barrier to surface water drainage and could lead to the creation of a low spot. A low spot could lead to ponding and possible loss of control of collisions, particularly in wet or icy conditions, though is recognised that vehicle speeds are likely to be very low.	**Recommendation:** It is recommended that suitable drainage should be provided.	**Agree:** Suitable drainage to be provided. Details to be provided at Stage 2.	

3.2 – <u>Local Alignment</u>				
3.2.1	**Location:** Proposed access with Church Lane. **Summary:** Reduced visibility could lead to side impact collisions. The proposed access joins Church Lane where the surrounding land to the southeast drops away. No details have been provided as to how this change in levels is to be accommodated. A slope could impact on visibility distances and additionally give rise to hill starting issues which could lead to hesitation and require longer gaps in traffic to exit safely. Insufficient visibility and a slope could lead to side impact collisions.	**Recommendation:** It is recommended that the access should be raised to meet Church Lane with a minimal slope, or that a dwell area should be provided, further, that vertical profile details should be provided at Safety Audit Stage 2.	**Agree:** Access road to be designed in accordance with Kent Design Guide gradient parameters to avoid a sharp slope. Levels to be provided at Stage 2.	
3.2.2	**Location:** Bend on Church Lane. **Summary:** Vehicles entering the opposing carriageway at bend may lead to side swipe collisions or vehicle to pedestrian collisions. Swept paths have been provided assessment for the access and the bend. There is concern that a refuse vehicle enters and occupies the opposing carriageway, where two-way vehicle movement would not be possible. Insufficient carriageway space could cause conflict with vehicles travelling in the opposing direction leading to sideswipe collisions, or footway overrun, which could lead to vehicle to pedestrian collisions.	**Recommendation:** It is recommended that measures including but not restricted to should be taken forward: • That a priority working system should be employed. • That the western spur of Church Lane should not be closed, in part, reducing the number of vehicles entering the main junction.	**Agree/Disagree:** • Agree - Priority system to be introduced, see drawing 20-045-002_rev B for details. • Disagree – Western spur of Church Lane to remain closed to avoid through traffic, priority system to provide suitable two-way working arrangement.	

3.3 - <u>Junctions</u>				
3.3.1	**Location:** Proposed access with Church Lane. **Summary:** Restricted visibility could lead to side impact collisions or rear end shunts. There is potential for the northeastern visibility splays to be obstructed by hedgerow, see figure 1 overleaf. Restricted visibility could lead to side impact collisions or rear end shunts. Figure 1: Hedgerow in northeastern visibility splay. 	**Recommendation:** It is recommended that there should be no physical obstruction of the visibility splays and additionally, that the splays should be periodically maintained to retain visibility.	**Agree:** No obstructions within the visibility splays and all hedgerows to be regularly maintained.	

3.4 - <u>Non-Motorised User (NMU) Provision</u>				
3.4.1	**Location:** Canterbury Road, proposed pedestrian crossing. **Summary:** Restricted visibility could lead to vehicle to pedestrian collisions. The pedestrian / traffic intervisibility splays on the northern side of the carriageway of Canterbury Road are obstructed by on street parking, see figure 2 below. Parked vehicles could mask a child pedestrian at the crossing, where restricted intervisibility could lead to vehicle to pedestrian collisions. Figure 2: On verge parking at proposed crossing point.  	**Recommendation:** It is recommended that measures should be introduced to control parking at the crossing point.	**Agree:** Pedestrian crossing point built out to improve visibility and redce vehicle speeds on Canterbury Road. See drawing 20-045/002_Rev B for details.	

3.5 – <u>Road Signs, Carriageway, Markings and Lighting</u>				
3.5.1	**Location:** Proposed raised table crossing at the Church Lane spur. **Summary:** Insufficient warning of raised table may lead to loss of control collisions or rear end shunts. No warning signs have been proposed in advance of the raised table, additionally, this section of Church Lane is only partially lit. Insufficient warning of the raised table, particularly during the hours of darkness could lead to possible loss of control collisions or sudden braking and rear end shunts and be a particular problem for powered two-wheel riders, as the table is located on a bend.	**Recommendation:** It is recommended that measures including but not restricted to should be taken forward: • The raised table should be removed and replaced with a conventional pedestrian crossing point. • 'Road hump' signs, to diagram 557.1 should be installed on the approaches to the raised table and that the table should be sufficiently lit.	**Agree/Disagree:** • **Disagree – Raised table to remain as it would provide pedestrian continuity.** • Agree – Diag 557.1 to be installed on approaches to raised table	
4	**<u>ISSUES IDENTIFIED DURING THE ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE.</u>** Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned. The Audit Team had no issues to raise within this section.			

M & S Traffic

Road Safety Audit Stage 1

Proposed Site Access Arrangements

Church Lane

Lydden

Kent

Date: 31st July 2023

Report produced for: Charles & Associates

Report produced by: M & S Traffic

Registered Office: 32 Hamelin Road, Gillingham, Kent ME7 3EX Company Reg. No. 06730905

DOCUMENT CONTROL SHEET

M&S Traffic has prepared this report in accordance with the instructions from Charles & Associates. M&S Traffic shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Report Title:	Church Lane, Lydden Road Safety Audit Stage 1
Document reference:	CA/23/20-045/1/BS
Prepared by:	M & S Traffic
On behalf of:	Kent County Council

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by (Signature)	Date Approved
Original	Bryan Shawyer	Martin Morris	[redacted]	31st July 2023

Distribution

Organisation	Contact	Copies
Charles & Associates	Daniel Hughes	-
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CONTENTS

1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit carried on proposed access arrangements associated with a 27-unit residential development off Church Lane, Lydden, as detailed below:

- A right in and left out priority access on the southeastern side of the carriageway.
- A 2.0m footway on the southeastern side of the carriageway leading to a potential raised table crossing to the west of the access that will also incorporate a pedestrian crossing point.
- The western spur of Church Lane is proposed to be closed to reduce traffic speeds and discourage through traffic with kerbline and planters at the junction with Canterbury Road.
- At the Church Lane junction with Canterbury Road, hatching and a Keep Left bollard are proposed to separate junction movements.
- To the immediate of the Warren Lane junction with Canterbury Road, upgrade existing pedestrian crossing point to include tactile paving.

The Audit was requested by the design organisation, Charles & Associates, Park House, Park Farm, East Malling Trust Estate, Bradbourne Lane, Aylesford, Kent ME20 6SN on behalf of Kent County Council as the Overseeing Organisation.

1.2 The Audit Team membership was as follows:

Bryan Shawyer BEng (Hons), MSc, MCIHT, MSoRSA – Audit Team Leader
Highways England Approved RSA Certificate of Competency

Martin Morris, PGD, MCIHT, MSoRSA – Audit Team Member
Highways England Approved RSA Certificate of Competency

1.3 The audit was carried out following the principles of GG119, The Design Manual for Roads and Bridges. The documents available at the time of the report are detailed in Appendix A.

1.4 The Audit took place at the Gillingham offices of M&S Traffic during July 2023 and comprised an examination of the documents provided as listed in Appendix A. A joint site visit and inspection was undertaken on the 28th July 2023 between 16:30 and 17:00 hours. Weather conditions at the time were fine and the road surfaces were dry. Traffic flows were low and free flow speeds were moderate. There were low-level pedestrian flows and no cycle movements observed.

1.5 The report has been compiled, only with regards to the safety implications for road users of the layout presented in the supplied drawings. It has not been examined or verified for compliance with any other standards or criteria. This safety audit does not perform any "Technical Check" function on these proposals. It is assumed that the Project Sponsor is satisfied that such a "Technical Check" has been successfully completed prior to requesting this safety audit.

1.6 The auditors have not been informed of any Departures from Standards in this scheme construction.

1.7 All comments and recommendations are referenced to the detailed drawings and the locations have been detailed relating to the plans supplied with the audit brief, Appendix B.

2 SAFETY ISSUES RAISED AT PREVIOUS AUDITS

2.1 No previous safety audits were submitted for assessment.

3 ITEMS RAISED AT THE STAGE 1 AUDIT

3.1 General

3.1.1 PROBLEM

Location: Proposed raised table crossing at the access.

Summary: Insufficient construction detail on raised table could lead to loss of control collisions.

No details of the ramp profiles or height of humps have been provided for assessment. There is concern that if the height is outside normal ranges, this could lead loss of control collisions, though is recognised that vehicle speeds are likely to be very low.

RECOMMENDATION

It is recommended that ramp profiles should be within normal accepted ranges.

3.1.2 PROBLEM

Location: Proposed raised table crossing at the access.

Summary: Ponding could lead to loss of control collisions.

A raised table crossing is proposed; however, the ramps may be a barrier to surface water drainage and could lead to the creation of a low spot. A low spot could lead to ponding and possible loss of control of collisions, particularly in wet or icy conditions, though is recognised that vehicle speeds are likely to be very low.

RECOMMENDATION

It is recommended that suitable drainage should be provided.

3.2 Local Alignment

3.2.1 PROBLEM

Location: Proposed access with Church Lane.

Summary: Reduced visibility could lead to side impact collisions.

The proposed access joins Church Lane where the surrounding land to the southeast drops away. No details have been provided as to how this change in levels is to be accommodated. A slope could impact on visibility distances and additionally give rise to hill starting issues which could lead to hesitation and require longer gaps in traffic to exit safely. Insufficient visibility and a slope could lead to side impact collisions.

RECOMMENDATION

It is recommended that the access should be raised to meet Church Lane with a minimal slope, or that a dwell area should be provided, further, that vertical profile details should be provided at Safety Audit Stage 2.

3.2.2 **PROBLEM**

Location: Bend on Church Lane.

Summary: Vehicles entering the opposing carriageway at bend may lead to side swipe collisions or vehicle to pedestrian collisions.

Swept paths have been provided assessment for the access and the bend. There is concern that a refuse vehicle enters and occupies the opposing carriageway, where two-way vehicle movement would not be possible. Insufficient carriageway space could cause conflict with vehicles travelling in the opposing direction leading to sideswipe collisions, or footway overrun, which could lead to vehicle to pedestrian collisions.

RECOMMENDATION

It is recommended that measures including but not restricted to should be taken forward:

- That a priority working system should be employed.
- That the western spur of Church Lane should not be closed, in part, reducing the number of vehicles entering the main junction.

3.3 Junctions

3.3.1 **PROBLEM**

Location. Proposed access with Church Lane.

Summary: Restricted visibility could lead to side impact collisions or rear end shunts.

There is potential for the northeastern visibility splays to be obstructed by hedgerow, see figure 1 overleaf. Restricted visibility could lead to side impact collisions or rear end shunts.

Figure 1: Hedgerow in northeastern visibility splay.

RECOMMENDATION

It is recommended that there should be no physical obstruction of the visibility splays and additionally, that the splays should be periodically maintained to retain visibility.

3.4 Non-Motorised User (NMU) Provision

3.4.1 PROBLEM

Location. Canterbury Road, proposed pedestrian crossing.

Summary: Restricted visibility could lead to vehicle to pedestrian collisions.

The pedestrian / traffic intervisibility splays on the northern side of the carriageway of Canterbury Road are obstructed by on street parking, see figure 2 below. Parked vehicles could mask a child pedestrian at the crossing, where restricted intervisibility could lead to vehicle to pedestrian collisions.

Figure 2: On verge parking at proposed crossing point.

RECOMMENDATION

It is recommended that measures should be introduced to control parking at the crossing point.

3.5 Road Signs, Carriageway Markings and Lighting

3.5.1 PROBLEM

Location: Proposed raised table crossing at the Church lane spur.

Summary: Insufficient warning of raised table may lead to loss of control collisions or rear end shunts.

No warning signs have been proposed in advance of the raised table, additionally, this section of Church Lane is only partially lit. Insufficient warning of the raised table, particularly during the hours of darkness could lead to possible loss of control collisions or sudden braking and rear end shunts and be a particular problem for powered two-wheel riders, as the table is located on a bend.

RECOMMENDATION

It is recommended that measures including but not restricted to should be taken forward:

- The raised table should be removed and replaced with a conventional pedestrian crossing point.
- 'Road hump' signs, to diagram 557.1 should be installed on the approaches to the raised table and that the table should be sufficiently lit.

4 ISSUES IDENTIFIED DURING THE ROAD SAFETY AUDIT THAT ARE OUTSIDE THE TERMS OF REFERENCE

4.1 Safety issues identified during the audit and site inspection that are outside the Terms of Reference, but which the Audit Team wishes to draw to the attention of the Client Organisation, are set out in this section. It is to be understood that, in raising these issues, the Audit Team in no way warrant that a full review of the highway environment has been undertaken beyond that necessary to undertake the Audit as commissioned.

4.2 The Audit Team had no issues to raise within this section.

5 AUDITOR TEAM STATEMENT

5.1 We certify that this audit has been carried out following the principles of GG 119.

Audit Team Member

Bryan Shawyer
BEng (Hons), MSc, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency

Signed [redacted] Date: 31/07/2023

Audit Team Leader

Martin Morris
PGD, MCIHT, MSoRSA
Highways England Approved RSA Certificate of Competency

Signed: [redacted] Date: 31/07/2023

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APPENDIX A

List of drawings and documentation submitted for auditing:

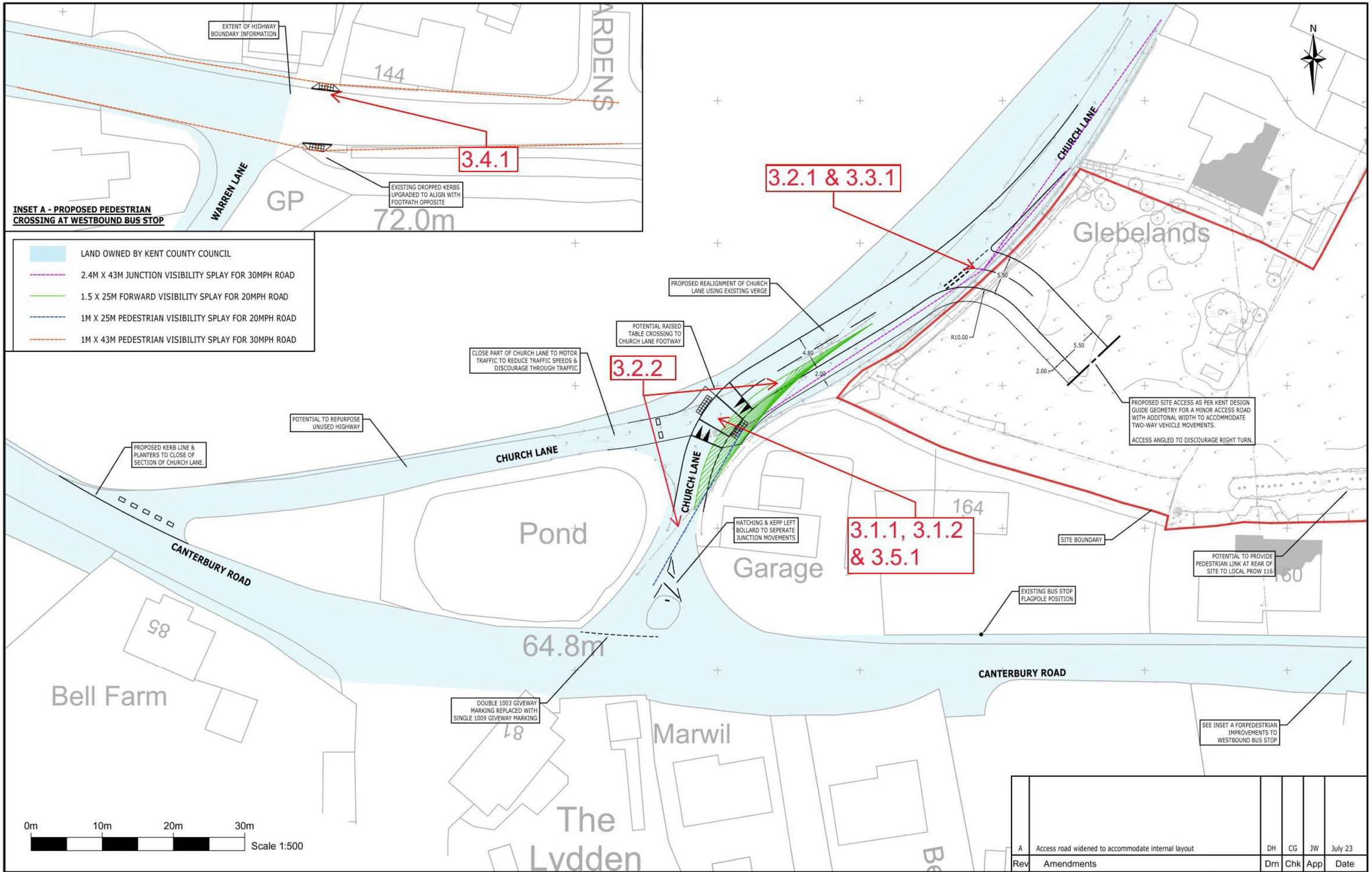
Drawing Number	Title
20-045-002 A	Proposed Site Access
20-045-002 A	Refuse Vehicle Swept Path Inbound
20-045-002 A	Refuse Vehicle Swept Path Outbound

Supporting documentation:

- Covering emails Charles & Associates

APPENDIX B

Plan attached showing the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).



Rev	Amendments	Drn	Chk	App	Date
A	Access road widened to accommodate internal layout	DH	CG	JW	July 23

Issued by

Charles & Associates

Landmark House
Station Road
Hook
Hampshire
RG27 9HA
01256 630420

Park House, Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford Kent ME20 6SN
01732 448120

Job Title: Church Lane, Lydden

Drawing Title: Proposed Site Access

Client: Quinn Estates

Scale	Date	Designed
1:500 @ A3	June 23	DH

Drawn	Checked	Approved
DH	JW	JW

Job No	Drawing No	Rev
20-045	20-045-002	A

Appendix E Access Arrangements

N

11.48

AUTOTURN

1.67 4.98

KCC Pantechnicon 32T

	meters
Width	: 2.55
Track	: 2.15
Lock to Lock Time	: 6.0
Steering Angle	: 31.8

4.80

0.90 2.90

Standard Car

	meters
Width	: 1.80
Track	: 1.80
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

5.50

4.80

2.00

R10.00

Give way to oncoming vehicles

Priority over oncoming vehicles

43M VISIBILITY SPLAY FROM GIVE WAY MARKINGS TO PROVIDE TWO-WAY WORKING SYSTEM

CHURCH LANE

I LANE

Pond

Garage

164

64.8m

INSET B - 11.48M REFUSE GIVING WAY TO CAR AT PRIORITY SYSTEM

N

DIAG 612 NO RIGHT TURN FOR VEHICULAR TRAFFIC.

PROPOSED REALIGNMENT OF CHURCH LANE USING EXISTING VERGE

CLOSE PART OF CHURCH LANE TO MOTOR TRAFFIC TO REDUCE TRAFFIC SPEEDS & DISCOURAGE THROUGH TRAFFIC

REPURPOSE HIGHWAY AS AMENITY SPACE

PROPOSED KERB LINE & PLANTERS TO CLOSE SECTION OF CHURCH LANE

CANTERBURY ROAD

CHURCH LANE

Glebelands

5.50

R10.00

5.50

2.00

4.80

2.00

PROPOSED GIVE WAY MARKINGS TO AID SHUTTLE WORKING TRAFFIC MANAGEMENT.

PROPOSED SITE ACCESS AS PER KENT DESIGN GUIDE GEOMETRY FOR A MINOR ACCESS ROAD WITH ADDITONAL WIDTH TO ACCOMMODATE TWO-WAY VEHICLE MOVEMENTS.

ACCESS ANGLED TO DISCOURAGE RIGHT TURN.

Give way to oncoming vehicles

Priority over oncoming vehicles

SITE BOUNDARY

HATCHING & KEEP LEFT BOLLARD TO SEPARATE JUNCTION MOVEMENTS

Pond

Garage

164

EXISTING BUS STOP FLAGPOLE POSITION

SEE INSET A FOR PEDESTRIAN IMPROVEMENTS TO WESTBOUND BUS STOP

64.8m

DOUBLE 1003 GIVEWAY MARKING REPLACED WITH SINGLE 1009 GIVEWAY MARKING

CANTERBURY ROAD

Bell Farm

85

81

N

BUILD OUT POSITIONED TO AVOID DRIVEWAY AT NO 146

3.00

7.86

EXISTING DROPPED KERBS UPGRADED & BUILT OUT TO PROVIDE INCREASED VISIBILITY & ALIGN WITH FOOTPATH OPPOSITE. LUMINATED KEEP LEFT/RIGHT BOLLARDS INCULDED.

144

5.50

EXTENT OF HIGHWAY BOUNDARY INFORMATION

INSET A - PROPOSED PEDESTRIAN CROSSING AT WESTBOUND BUS STOP

0m 5m 10m 15m

Scale 1:250

0m 5m 10m 15m

Scale 1:250

NOTES

- LAND OWNED BY KENT COUNTY COUNCIL
- 2.4M X 43M JUNCTION VISIBILITY SPLAY FOR 30MPH ROAD
- 1.5 X 25M FORWARD VISIBILITY SPLAY FOR 20MPH ROAD
- 1M X 25M PEDESTRIAN VISIBILITY SPLAY FOR 20MPH ROAD
- 1M X 43M PEDESTRIAN VISIBILITY SPLAY FOR 30MPH ROAD

Rev	Amendments	Drn	Chk	App	Date
C	Signs added at site access, raised table removed	DH	CG	JW	Aug 23
B	Shuttle working system & additional signage added in response to St 1 RSA	DH	CG	JW	Aug 23
A	Access road widened to accommodate internal layout	DH	CG	JW	July 23

Charles & Associates

Issued by

Landmark House
Station Road
Hook
Hampshire
RG27 9HA
01256 630420

Park House
Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford
Kent
ME20 6SN
01732 448120

enquiries@c-a.uk.com
www.c-a.uk.com

Job Title

Church Lane, Lydden

Drawing Title

Proposed Site Access

Client

Quinn Estates

Scale	Date	Designed
1:250 @ A1	Aug 23	DH
Drawn	**Checked**	**Approved**
DH	CG	JW
Job No	**Drawing No**	**Rev**
20-045	20-045/002	C

Appendix F TRICS Assessment

Calculation Reference: AUDIT-657801-220408-0440

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

03	SOUTH WEST		
	GS	GLOUCESTERSHIRE	1 days
	SM	SOMERSET	2 days
05	EAST MIDLANDS		
	NR	NORTHAMPTONSHIRE	2 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: 40 to 47 (units:)
Range Selected by User: 40 to 60 (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: Included in all surveys

Date Range: 01/01/14 to 19/11/21

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:

Tuesday	4 days
Friday	1 days

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Neighbourhood Centre (PPS6 Local Centre)	5

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:

Village	5

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

Secondary Filtering selection:

Use Class:
C3 5 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:
1,000 or Less 1 days
1,001 to 5,000 4 days

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

Population within 5 miles:
75,001 to 100,000 2 days
125,001 to 250,000 3 days

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

Car ownership within 5 miles:
0.6 to 1.0 1 days
1.1 to 1.5 3 days
1.6 to 2.0 1 days

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

Travel Plan:
No 5 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 5 days

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

Covid-19 Restrictions Yes At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 GS-03-A-02 DETACHED HOUSES GLOUCESTERSHIRE
OAKRIDGE
NEAR GLOUCESTER
HIGHWAY
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 40
Survey date: FRIDAY 26/04/21 Survey Type: MANUAL

2 NR-03-A-02 DETACHED & SEMI-DETACHED NORTHAMPTONSHIRE
HARLESTONE ROAD
NEAR NORTHAMPTON
CHAPEL BRAMPTON
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 47
Survey date: TUESDAY 20/10/20 Survey Type: MANUAL

3 NR-03-A-03 MIXED HOUSES & FLATS NORTHAMPTONSHIRE
MAIN STREET
NEAR WELLINGBOROUGH
LITTLE HARROWDEN
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 44
Survey date: TUESDAY 20/10/20 Survey Type: MANUAL

4 SM-03-A-02 MIXED HOUSES SOMERSET
HYDE LANE
NEAR TAUNTON
CREECH SAINT MICHAEL
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 42
Survey date: TUESDAY 25/09/12 Survey Type: MANUAL

5 SM-03-A-03 MIXED HOUSES SOMERSET
HYDE LANE
NEAR TAUNTON
CREECH ST MICHAEL
Neighbourhood Centre (PPS6 Local Centre)
Village
Total No of Dwellings: 41
Survey date: TUESDAY 25/09/12 Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
WS-03-A-07	Bungalows

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	5	43	0.084	5	43	0.229	5	43	0.313
08:00 - 09:00	5	43	0.173	**5**	**43**	**0.276**	5	43	0.449
09:00 - 10:00	5	43	0.178	5	43	0.252	5	43	0.430
10:00 - 11:00	5	43	0.150	5	43	0.150	5	43	0.300
11:00 - 12:00	5	43	0.187	5	43	0.220	5	43	0.407
12:00 - 13:00	5	43	0.159	5	43	0.159	5	43	0.318
13:00 - 14:00	5	43	0.187	5	43	0.178	5	43	0.365
14:00 - 15:00	5	43	0.187	5	43	0.178	5	43	0.365
15:00 - 16:00	5	43	0.178	5	43	0.187	5	43	0.365
16:00 - 17:00	5	43	0.229	5	43	0.173	5	43	0.402
17:00 - 18:00	**5**	**43**	**0.327**	5	43	0.154	**5**	**43**	**0.481**
18:00 - 19:00	5	43	0.173	5	43	0.103	5	43	0.276
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.212			2.259			4.471

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

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

Parameter summary

Trip rate parameter range selected:	40 - 47 (units:)
Survey date date range:	01/01/14 - 19/11/21
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

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.