

Abbey Road Improvements – RSA Stage 3 Designer Responses

For Coventry City Council



June 2024

ABR-HWY-RSA3-DOC-SM-0001-Rev-01

This document and its contents have been prepared and are intended solely as information for Coventry City Council and use in relation to Coventry South Infrastructure Improvements Scheme

Document Status

Revision	Status	Originated	Checked	Authorized	Date
1.0	Prelim Issue for Comment	SM	SS	SS	07/06/24
2.0	Final	SM	SS	SS	07/06/24

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1.0 Introduction/Site Context

The design of the new junction at London Road and Abbey had been reviewed following a Stage 2 road safety audit. The construction works of the junction have been completed and to that end a Stage 3 Road Safety Audit has been undertaken. This response will only respond to the points that the safety audit considers that haven't been addressed or are seen as issues following the construction.


The Design Team comprises the following:

Scott Mills – Highway Lead, SJM Solutions (Contractor working for Coventry CC)

Robert Foy – Signals Manager, Coventry City Council, supervising work carried out by Yunex.

Balfour Beatty - Street lighting design.

2.0 Responses to RSA 3 Audit

3.1 Problem Dedicated right turn lane.	
Summary The dedicated right-turn lane (from London Road into Abbey Road) layout is not sufficient as it is not long or wide enough to accommodate an average sized car. Subsequently, vehicles will have to wait half on/half off. Vehicles will over hang the inside running lane and this significantly increases the likelihood of vehicle to vehicle swipe type injury collisions.	
Plan 	
Recommendation Reconfigure the lining so that the dedicated right-turn lane is sufficient to accommodate right-turners. This will reduce the likelihood of side swipe personal injury collisions.	Recommendation Accepted Y/N
	Y
Designer Response The lining has been increased as much as the site constraints allow. See the attached plan within Appendix A.	

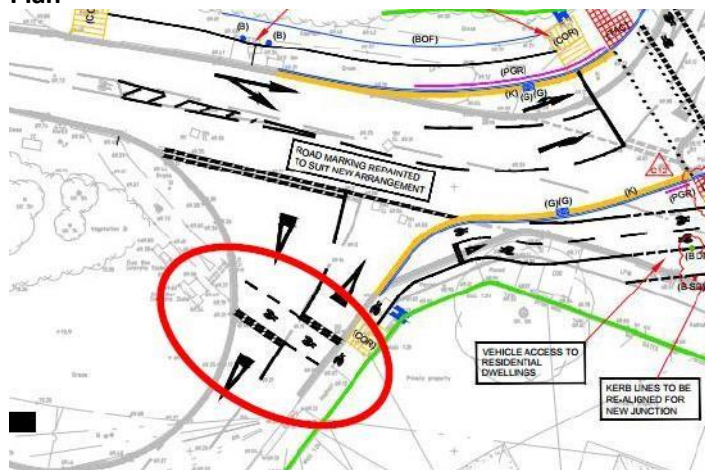
3.2 Problem

Cycleway crossing.

Summary

The conspicuity of the cycleway crossing is significantly reduced as this section of highway has a minor sunken trench and this reduces drivers forward visibility on the approach to the cycleway give way. Subsequently, drivers on the approach may not be aware of the give way configuration and this significantly increases the likelihood of vehicle to cycle personal injury collisions.

Plan



Recommendation

Reconfigure the cycleway crossing so that drivers are aware that they are required to give way to cyclists. This will reduce the likelihood of vehicle to cyclist personal injury collisions.

Recommendation Accepted Y/N

Y

Designer Response

A site visit has been undertaken and the white linings are visible on the approach to the crossing. See photo below. Visibility to the approach is very good and pedestrians/cyclists waiting at the edges of the crossing can be seen. There are also advance triangle warning lines to warn in advance. The design was based upon the figure below, taken from LTN 1/20.

Figure 10.14: Full set back, marked priority (bent-out) crossing, Enfield



As noted in 3.3 pedestrians do utilise this crossing as well, but this is a dedicated cycleway and there is no proposal to adjust to shared surface.



It is proposed that this junction is monitored and if required then additional measures such as signing can be explored.

3.3 Problem

Ashington Grove/Abbey Road junction.

Summary

There is a lack of pedestrian facilities on the western corner of the junction of Ashington Grove and Abbey Road. Subsequently, pedestrians are using the cycleway to manoeuvre through this location, and this significantly increases the likelihood of cyclist to pedestrian type personal injury collisions.

Plan



Recommendation

Review pedestrian facilities in the area and install additional facilities to accommodate all vulnerable road users. This will significantly reduce the likelihood of pedestrian and cyclist personal injury collisions.

Recommendation Accepted Y/N

N

Designer Response

The scope of the design was limited to the improvement of Abbey Road/London Road junction and provide signalisation of it. Road markings were provided as noted in 3.2. The review of pedestrian facilities in the area does fall outside the scope of this scheme.

3.4 Problem

Tactile paving throughout scheme

Summary

The tactile paving (tac-grid) was slippery during the road safety audit visit. This significantly increases the likelihood of pedestrians slip/trip type personal injury collisions.

Plan



Recommendation

Review the tactile paving and re-install

Recommendation Accepted Y/N

Y

Designer Response

The comment has been passed to Tac-Grid for review. It will be replaced if it is found to be defective.

3.5 Problem

London Road (northern arm) and Abbey Road

Summary

Separate cycle crossing facilities have been provided across Abbey Road and London Road (northern arm). However, signals are only provided on the adjacent pedestrian crossings and these are either not visible or not in the direct line of sight of cyclists waiting at the stop lines. Therefore, cyclists using these facilities are unable to see/observe instructions on whether it is safe to cross or not. This significantly increases the likelihood of vehicle to cyclist type personal injury collisions.

Plan



Recommendation

Separate cycle signals should be provided on both cycle crossing facilities to ensure that cyclists can see/observe whether it is safe to cross or not. This will significantly reduce the likelihood of vehicle to cyclist type personal injury collisions.

Recommendation Accepted Y/N

Y

Designer Response

This has been passed to Yunex (signal designers) for review and rectifications.

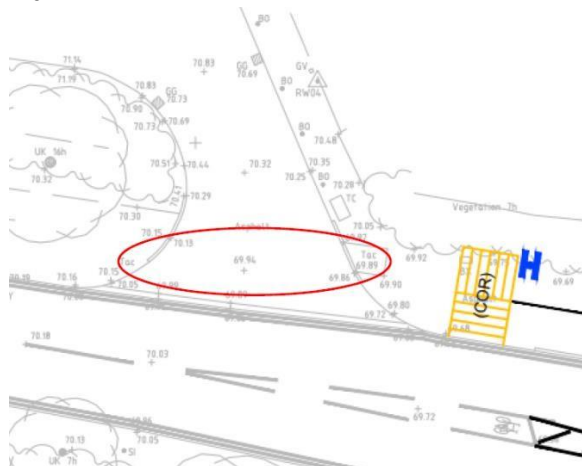
3.6 Problem

Abbey Road, Junction with Abbey Court

Summary

The footway on the eastern side of Abbey Road/Abbey Court junction has been reconstructed. However, no tactile paving has been provided at the pedestrian dropped kerb. As a result, visually impaired pedestrians may not detect the crossing point and/or may cross at an unsafe location. This increases the likelihood of vehicle to visually impaired pedestrian type personal injury collisions.

Plan



Recommendation

Tactile paving should be provided at the eastern side of the junction

Recommendation Accepted Y/N

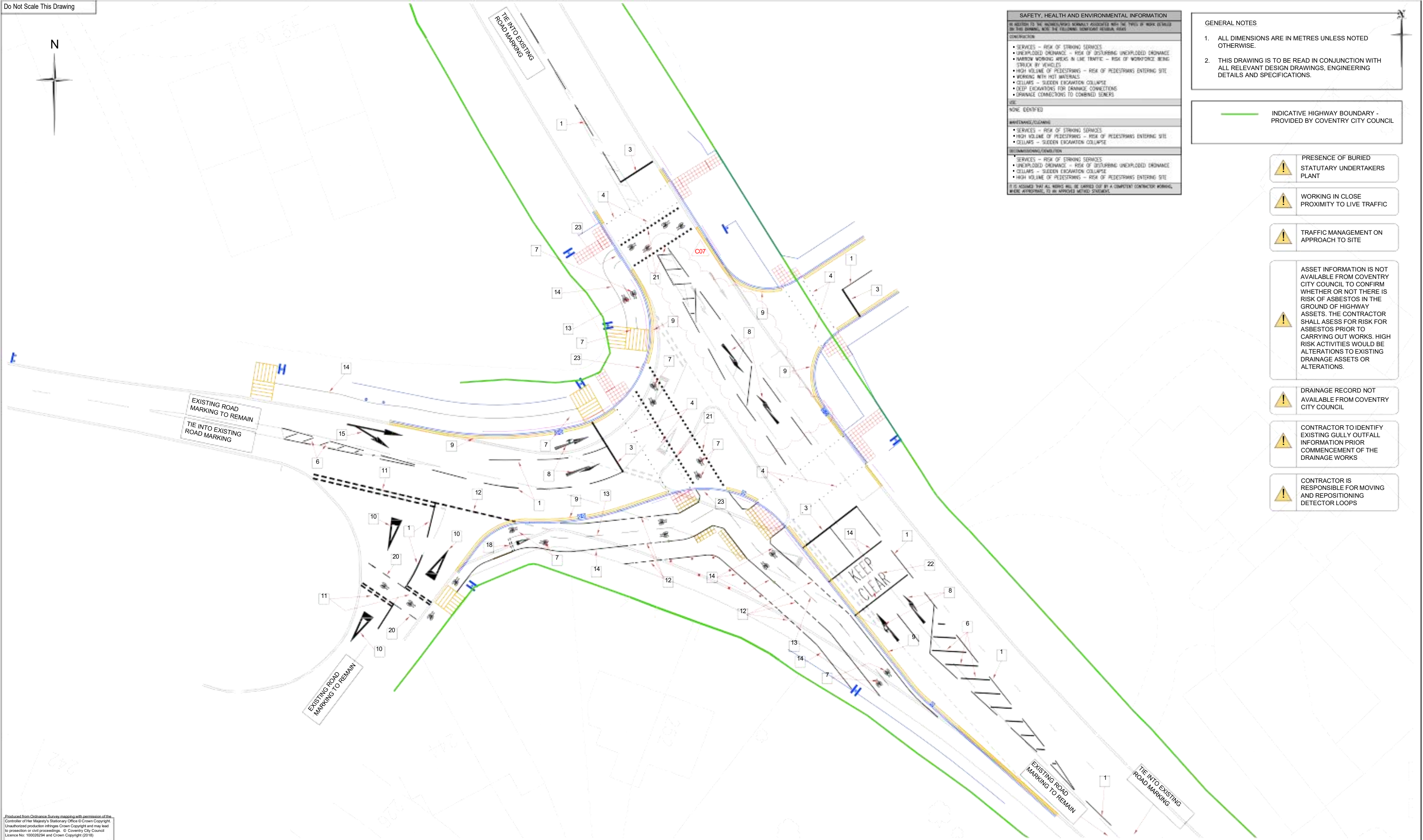
Y

Designer Response

The contractor should install the appropriate tactile/tac-grid that was previously provided and not re-installed at the time of the reconstruction.

Appendix A - RSA 3 – revised road markings drawing

Do Not Scale This Drawing



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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION	
IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORKS DETAILLED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS	
CONSTRUCTION	
• SERVICES – RISK OF STRIKING SERVICES • UNEXPLODED ORDNANCE – RISK OF DISTURBING UNEXPLODED ORDNANCE • NARROW WORKING AREAS IN LIVE TRAFFIC – RISK OF WORKFORCE BEING STRUCK BY VEHICLES • HIGH VOLUME OF PEDESTRIANS – RISK OF PEDESTRIANS ENTERING SITE • WORKING WITH HOT MATERIALS • COLLAPSE – SUDDEN ENCAUTION COLLAPSE • DEEP EXCAVATIONS FOR DRAINAGE CONNECTIONS • DRAINAGE CONNECTIONS TO COMBINED SEWERS	
USE	
NONE IDENTIFIED	
MAINTENANCE/DEMOLITION	
• SERVICES – RISK OF STRIKING SERVICES • HIGH VOLUME OF PEDESTRIANS – RISK OF PEDESTRIANS ENTERING SITE • COLLAPSE – SUDDEN ENCAUTION COLLAPSE	
DECOMMISSIONING/DEMOLITION	
• SERVICES – RISK OF STRIKING SERVICES • UNEXPLODED ORDNANCE – RISK OF DISTURBING UNEXPLODED ORDNANCE • COLLAPSE – SUDDEN ENCAUTION COLLAPSE • HIGH VOLUME OF PEDESTRIANS – RISK OF PEDESTRIANS ENTERING SITE	
IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT.	

- GENERAL NOTES
- ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
 - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGN DRAWINGS, ENGINEERING DETAILS AND SPECIFICATIONS.

INDICATIVE HIGHWAY BOUNDARY - PROVIDED BY COVENTRY CITY COUNCIL

- PRESENCE OF BURIED STATUTORY UNDERTAKERS PLANT
- WORKING IN CLOSE PROXIMITY TO LIVE TRAFFIC
- TRAFFIC MANAGEMENT ON APPROACH TO SITE
- ASSET INFORMATION IS NOT AVAILABLE FROM COVENTRY CITY COUNCIL TO CONFIRM WHETHER OR NOT THERE IS RISK OF ASBESTOS IN THE GROUND OF HIGHWAY ASSETS. THE CONTRACTOR SHALL ASSESS FOR RISK FOR ASBESTOS PRIOR TO CARRYING OUT WORKS. HIGH RISK ACTIVITIES WOULD BE ALTERATIONS TO EXISTING DRAINAGE ASSETS OR ALTERATIONS.
- DRAINAGE RECORD NOT AVAILABLE FROM COVENTRY CITY COUNCIL
- CONTRACTOR TO IDENTIFY EXISTING GULLY OUTFALL INFORMATION PRIOR COMMENCEMENT OF THE DRAINAGE WORKS
- CONTRACTOR IS RESPONSIBLE FOR MOVING AND REPOSITIONING DETECTOR LOOPS

C07	07/06/24	RIGHT TURN ROAD MARKING REVISED TO SUIT ROAD SAFETY AUDIT COMMENTS	PM	SM	SS
C06	10/04/24	CONSTRUCTION	PM	SM	SS
C05	09/04/24	CONSTRUCTION	PM	SM	SS
C04	03/04/24	CONSTRUCTION	PM	SM	SS
C03	08/03/24	CONSTRUCTION	PM	SM	SS
C02	09/02/24	CONSTRUCTION	PM	SM	SS
C01	26/09/23	CONSTRUCTION	PM	SM	SS
Rev	Date	Description	Drawn	Checked	Approved

KEY:-		FOOTWAY CROSSING		CYCLE SYMBOL TO DIAG 1057 (1000 x 590mm)		GIVE WAY LINES		CONTINUOUS LINES		DEFLECTION ARROW		EDGING LINE		STOP LINE	
1	WL 1004 100 4000,2000	4	WL 1055.1 100 100,500	7		11	WL 1003 200 600,300	14	WL 1049B 150 -	17	WL 1014 - -	20	WL 1010 100 1000,1000	23	WL 1001 100 -
2	LANE LINES WL 1005 100 1000,5000	5	ZIG ZAG LINES WL 1001 100 2000,150	8	ARROW TO DIAG 1038 4m LONG	12	EDGE OF CARRIAGEWAY WL 1009A 150 600,300	15	BIFURCATION ARROW TO DIAG 1039	18	GIVE WAY LINES WL 1003B 100 300,150	21	CYCLEWAY CROSSING WL 1055.3 250 250,250		
3	STOP LINE WL 1001 200 -	6	HATCHED MARKINGS WL 1040 100 4000,2000	9	DOUBLE YELLOW LINES YL 1018.1 100	13	CYCLEWAY CENTRE LINE WL 1008 50 1000,2000	16	ARROW TO DIAG 1038 2m LONG	19	BUS STOP LINE YL 1025.1 100 2.5m x 15m	22	KEEP CLEAR TO DIAG 1027.1 1.6m HIGH		
				10	TRIANGULAR MARKING TO DIAG 1023B										

Project Title:
COVENTRY CITY COUNCIL
TRAFFIC MANAGEMENT
ABBAY ROAD LONDON ROAD
(ARLR)

Drawing Title:
ROAD MARKING



PLACE DIRECTORATE, TRANSPORT AND INFRASTRUCTURE, TRAFFIC MANAGEMENT,
FLOOR 10, ONE FRARSGATE, COVENTRY, CV1 2GN
TEL: 024 7663 4333 FAX: 024 7663 1324

Scale at A1: 1:200 Status: CONSTRUCTION

Drawn: PM 03/03/23 Checked: SJM 03/03/23 Approved: SS 03/03/23

Drawing Number:
CS-HWY-ARLR-1200-01

Rev:
C07

Appendix B - RSA 3

STAGE 3 ROAD SAFETY AUDIT
LONDON ROAD / ABBEY ROAD SIGNALISED JUNCTION

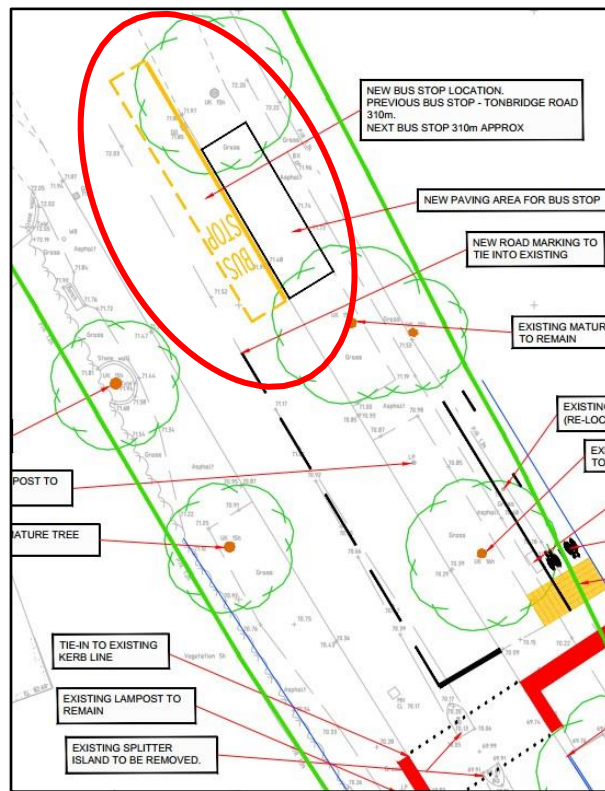
1. INTRODUCTION

- 1.1** This report describes a Stage 3 Road Safety Audit carried out on London Road, at the junction with Abbey Road, Coventry. The scheme drawings were produced and submitted by Coventry City Council, Transport and Infrastructure Design Team.
- 1.2** The audit team members were Joel Logue (Highways, Traffic and Road Safety Engineer) and Martin Wilkinson (Senior Officer – Traffic Management).
- 1.3** The audit comprised an examination of drawings relating to the scheme (listed in Appendix B) and a daytime site visit between 11:15 and 12:45 on 23rd May 2024. The weather was damp and overcast. Traffic flows were medium to high as expected for this type of road, and pedestrian movements were low during the site visit. A site visit to assess this location during the hours of darkness was undertaken between 21:45 and 22:15 on 25th May 2024. No road safety problems related to luminance were recorded.
- 1.4** The terms of reference of the audit are as described in GG119. The scheme has been examined and this report compiled only with regard to the safety implications for road users of the scheme as presented. It has not been examined or verified for compliance with any other Standards or criteria. However, in order to explain clearly a safety problem or the recommendation to resolve a problem, the Audit Team may have referred to a design standard for information only. Any audit comments should not be construed to imply that a technical audit has been undertaken.
- 1.5** All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise collision occurrence. Any recommendations included within this report should not be regarded as being prescriptive design solutions to the problems raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem in accordance with GG119 and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.
- 1.6** It is assumed that the scheme designer has advised of any departures from standard when the audit was requested. None were specified.
- 1.7** The scheme is detailed in the drawings listed in Appendix B and comprises a signalised junction upgrade, and a new access onto London Road, including the relocation of a bus stop.
- 1.8** **EXISTING PERSONAL INJURY COLLISION SITUATION**
The recorded personal injury collision history of the highway affected by the scheme has shown that there were 2 recorded personal injury collisions in the last three years (21/11/20 – 20/11/23).

2. ITEMS OUTSTANDING FROM STAGE 2 ROAD SAFETY AUDIT LONDON ROAD / ABBEY ROAD SIGNALISED JUNCTION

2.1 Problem: Bus stop Location

Location: London Road - see screen-print



Summary

The bus stop relocation is on the approach to the proposed signalised junction, and in particular the signal heads. Buses waiting within the bus stop will significantly reduce the conspicuity of the signal heads (for vehicles on the approach from north to south)-west to south-east) and this significantly increases the risk of vehicle to vehicle and vehicle to pedestrian type personal injury collisions.

RECOMMENDATION

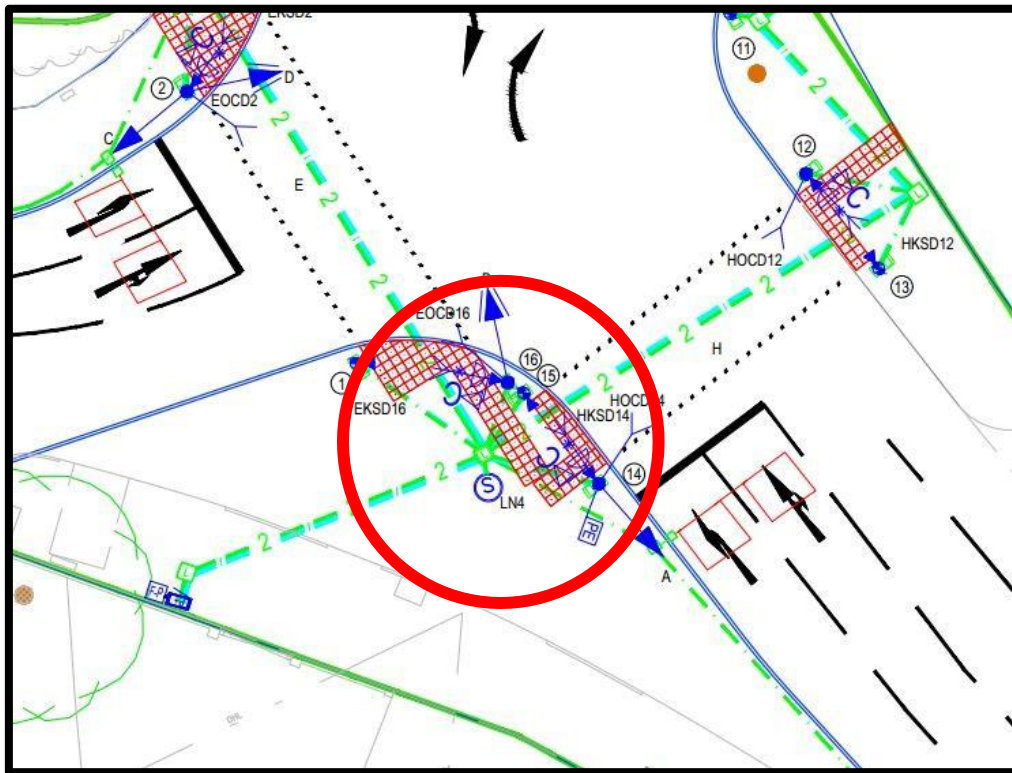
The designer's response in regards to stopping distances is noted, however, the audit team still regard the location of the bus stop may result in conspicuity problems. Relocating the bus stop may significantly reduce the likelihood of vehicle-to-vehicle and vehicle to pedestrian type collisions.

RSA TEAM RESPONSE:

The Audit Team are satisfied that this item has been resolved.

2.2 Problem: Confusing Tactile Paving

Location – See screen-print below



Summary

The submitted drawings are confusing as different drawings highlight different tactile paving layouts for the same locations. As highlighted in the above drawing abstract, the tactile paving has been designed immediately adjacent to tactile paving that is advising pedestrians to travel in different directions. This may result in visually impaired pedestrians becoming confused and entering the highway at the wrong location; and this may result in pedestrian to vehicle type personal injury collisions.

RECOMMENDATION

If the above extract shows the proposed tactile layout, redesign the tactile paving so that the tactile paving is separated. This will significantly reduce pedestrian confusion and this will significantly reduce the likelihood of vehicle to pedestrian type personal injury collisions.

RSA TEAM RESPONSE:

The Audit Team are satisfied that this item has been resolved.

2.3 Problem: Cycleway Connectivity

Location – throughout

Summary

Although the updated drawings have demonstrated the typical footway/ cycleway design, with pedestrians furthest away from the road; there are still gaps in the cycleway connectivity throughout the scheme. This includes providing Toucans with no associated cycle routes on the footway. This may result in cyclist confusion and this may increase the likelihood of cyclist to pedestrian personal injury collisions.

RECOMMENDATION

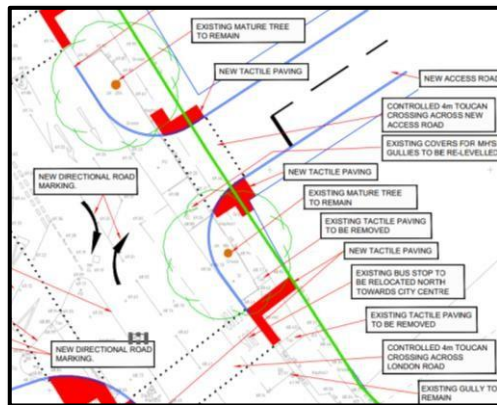
Ensure the proposed cycleway infrastructure is fully connected to the existing cycleway infrastructure. This will significantly reduce the likelihood of cyclist to pedestrian type personal injury collisions.

RSA TEAM RESPONSE:

The Audit Team are not satisfied that this item has been resolved. Therefore, this item remains outstanding.

2.4 Problem: Service covers - throughout scheme

Location – London Road junction with new access



Summary

The existing covers are to be re-levelled but will remain in situ. This location is where a high proportion of vehicles will be turning out of the new access into London Road. Having service covers at/on a corner increases the risk of vehicles skidding and also increases the likelihood of the service cover failing and becoming a maintenance issue. This increases the likelihood of vehicle to vehicle type personal injury collisions.

There are service covers on the proposed cycleway and the designs do not indicate that they will be made cycle friendly. Service covers can make cycling unsafe, particularly in adverse weather conditions; and significantly increases the likelihood of cyclist personal injury.

RECOMMENDATION

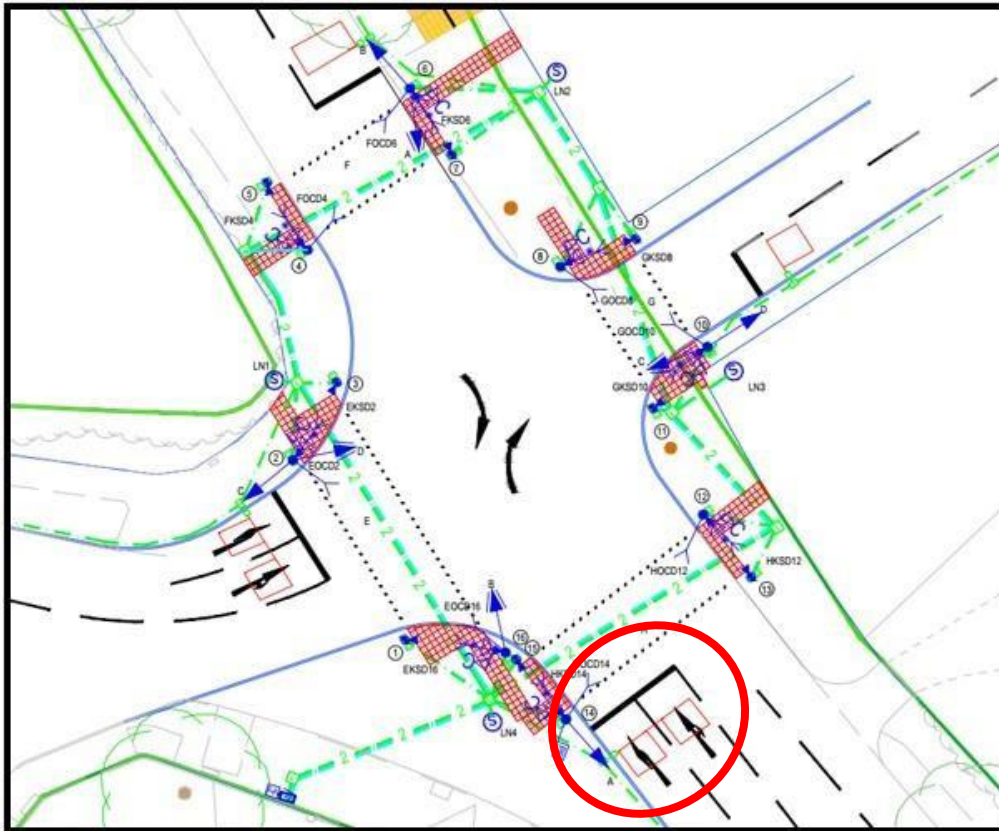
Examine existing service covers and make the service covers cycle friendly so they do not cause any road safety hazards.

RSA TEAM RESPONSE:

The Audit Team are satisfied that this item has been resolved.

2.5 Problem: Driver Frustration

Location – London Road inbound approach to new junction



Summary

The proposed layout comprises a dedicated left-turn and straight on/ right turn configuration on the London Road inbound approach to the new junction. London Road is a high traffic volume route into the city centre, and the proposed lane configuration can result in driver frustration due to traffic queueing behind right turners into the new access. This may result in drivers using the dedicated left-turn lane to manoeuvre through the junction, or try to bypass waiting right turn traffic and this may result in drivers colliding with left-turners and the footway on the north-western side of the junction. This significantly increases the likelihood of personal injury collisions related to side-swipe collisions and vehicle to pedestrian type collisions.

RECOMMENDATION

Redesign the junction layout to consider the impact of driver frustration related to the lane layout and signal phasing. This will significantly reduce the likelihood of personal injury collisions related to the junction layout.

RSA TEAM RESPONSE:

The Audit Team are satisfied that this item has been resolved.

3. **ITEMS RESULTING FROM THIS STAGE 3 SAFETY AUDIT**
LONDON ROAD / ABBEY ROAD SIGNALISED JUNCTION

3.1 **Problem:** Dedicated right-turn lane

Location – London Road/ Abbey Road Junction



Summary:

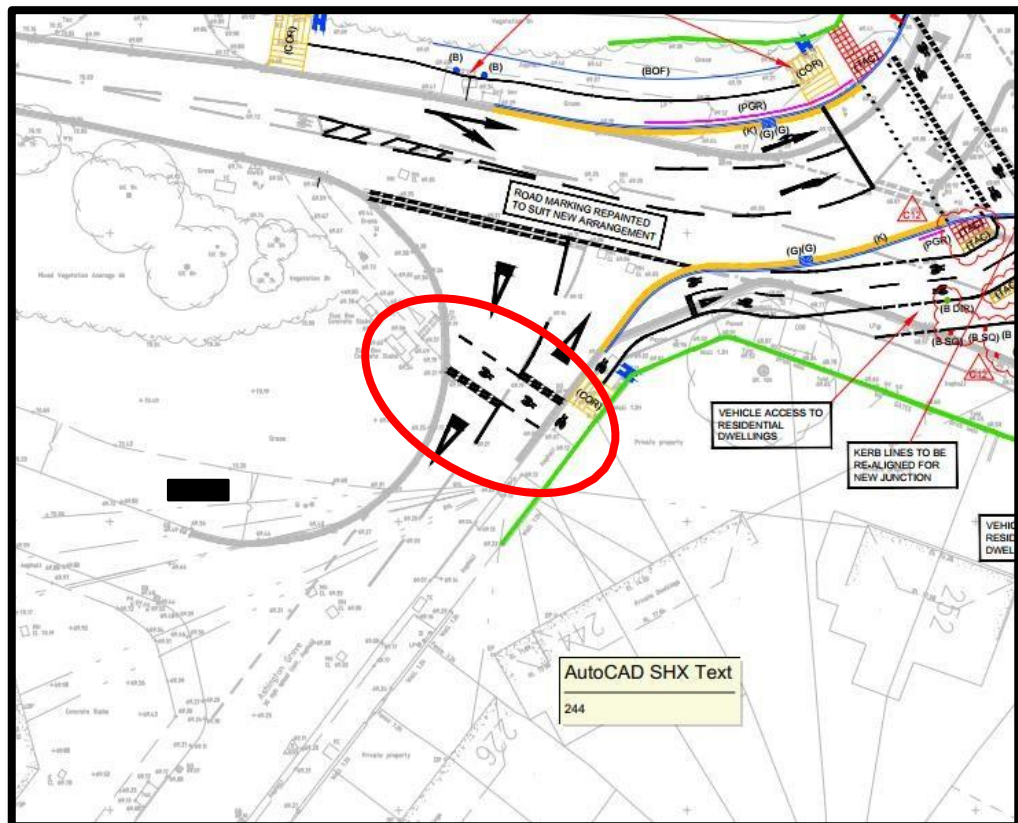
*The dedicated right-turn lane *from London Road into Abbey Road) layout is not sufficient as it is not long or wide enough to accommodate an average sized car. Subsequently, vehicles will have to wait half on / half off. Vehicles will overhang the inside running lane and this significantly increases the likelihood of vehicle-to-vehicle side swipe type personal injury collisions.*

RECOMMENDATION

Reconfigure the lining so that the dedicated right-turn lane is sufficient to accommodate right-turners. This will reduce the likelihood of side swipe personal injury collisions.

3.2 Problem: Cycleway Crossing

Location – Ashington Grove/ Abbey Road Junction



Summary:

The conspicuity of the cycleway crossing is significantly reduced as this section of highway has a minor sunken trench and this reduces drivers forward visibility on the approach to the cycleway give way. Subsequently, drivers on the approach may not be aware of the give way configuration and this significantly increases the likelihood of vehicle to cycle personal injury collisions.

RECOMMENDATION

Reconfigure the cycleway crossing so that drivers are aware that they are required to give way to cyclists. This will reduce the likelihood of vehicle to cyclist personal injury collisions.

3.3 Problem: Cycleway

Location – Ashington Grove/ Abbey Road Junction



Summary:

There is a lack of pedestrian facilities on the western corner of the junction of Ashington Grove and Abbey Road. Subsequently, pedestrians are using the cycleway to manoeuvre through this location, and this significantly increases the likelihood of cyclist to pedestrian type personal injury collisions.

RECOMMENDATION

Review pedestrian facilities in the area and install additional facilities to accommodate all vulnerable road users. This will significantly reduce the likelihood of pedestrian and cyclist type personal injury collisions.

3.4 Problem: Tactile Paving

Location – Throughout



Summary:

The tactile paving (tac-grid) was slippery during the road safety audit site visit. This significantly increases the likelihood of pedestrians slip/trip type personal injury collisions.

RECOMMENDATION

Review the tactile paving and reinstall. This will significantly reduce the likelihood of pedestrian trip/fall type personal injury collisions.

3.5 Problem: Signals cannot be seen by cyclists

Location – London Road (northern arm) and Abbey Road



Summary:

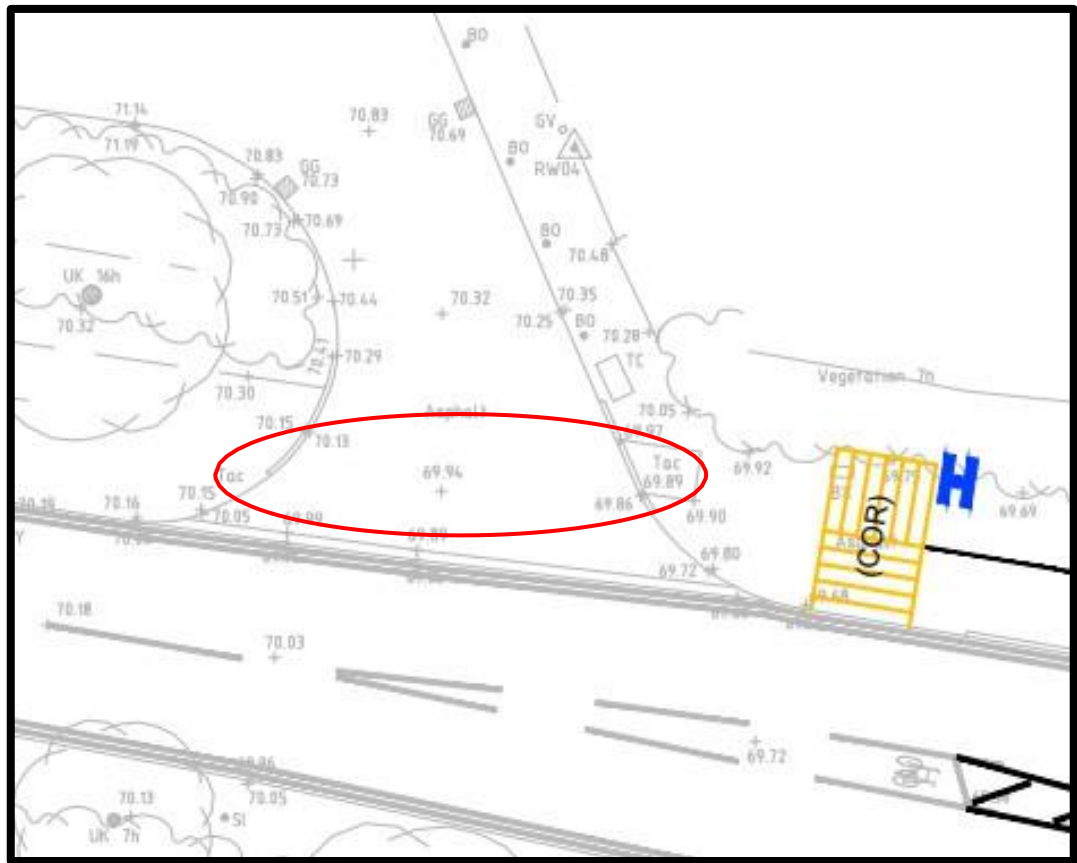
Separate cycle crossing facilities have been provided across Abbey Road and London Road (northern arm). However, signals are only provided on the adjacent pedestrian crossings and these are either not visible or not in the direct line of sight of cyclists waiting at the stop lines. Therefore, cyclists using these facilities are unable to see/observe instructions on whether it is safe to cross or not. This significantly increases the likelihood of vehicle to cyclist type personal injury collisions.

RECOMMENDATION

Separate cycle signals should be provided on both cycle crossing facilities to ensure that cyclists can see / observe whether it is safe to cross or not. This will significantly reduce the likelihood of cyclist to vehicle type personal injury collisions. The signals on the pedestrian crossings across Abbey Road and London Road (northern arm) should show pedestrians only.

3.6 Problem: Missing tactile paving

Location – Abbey Road, junction with Abbey Court



Summary:

The footway on the eastern side of the Abbey Road / Abbey Court junction has been reconstructed. However, no tactile paving has been provided at the pedestrian dropped kerb. As a result, visually impaired pedestrians may not detect the crossing point and / or may cross at an unsafe location. This increases the likelihood of vehicle to visually impaired pedestrian type personal injury collisions.

RECOMMENDATION

Tactile paving should be provided on the eastern side of the junction.

4 AUDIT TEAM STATEMENT

We certify that this audit has been carried out in accordance with GG 119.

AUDIT TEAM LEADER

Joel Logue

Signed: 

Date: 3rd June 2024

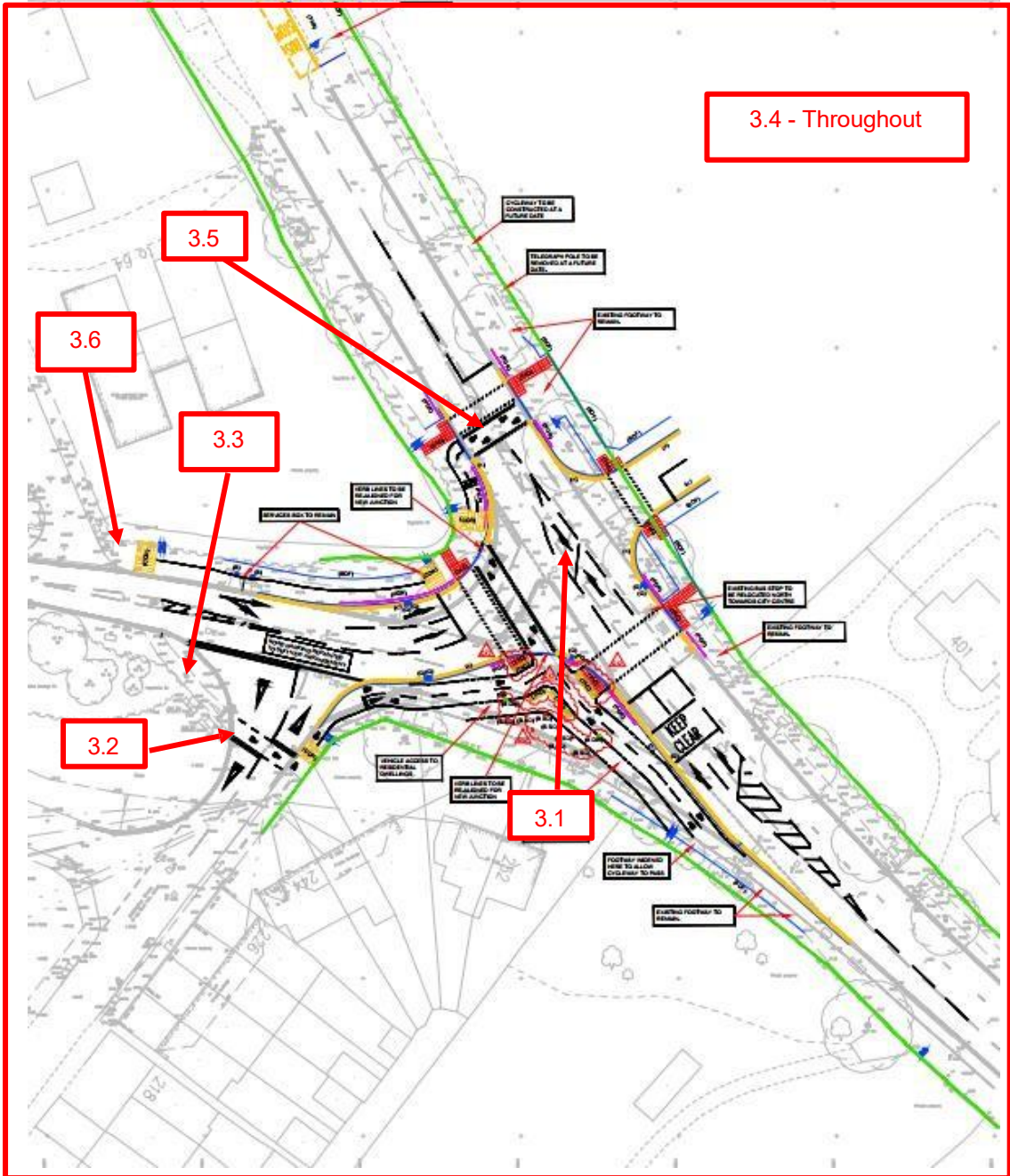
AUDIT TEAM MEMBER

Martin Wilkinson


Signed:

Date: 31 May 2024

APPENDIX A - PROBLEM LOCATION PLANS



APPENDIX B

LIST OF DRAWINGS AND DOCUMENTS PROVIDED TO THE AUDIT TEAM

CS-HWY-ARLR-100-01 C12 GA 24-04-24