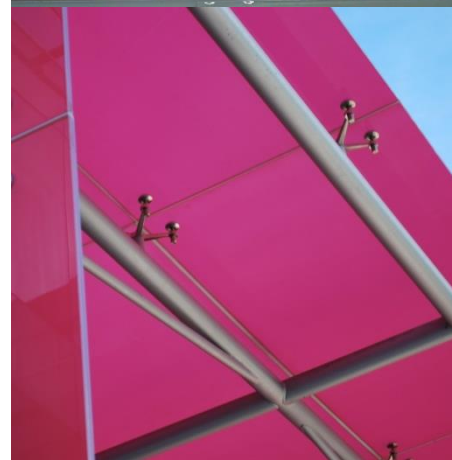
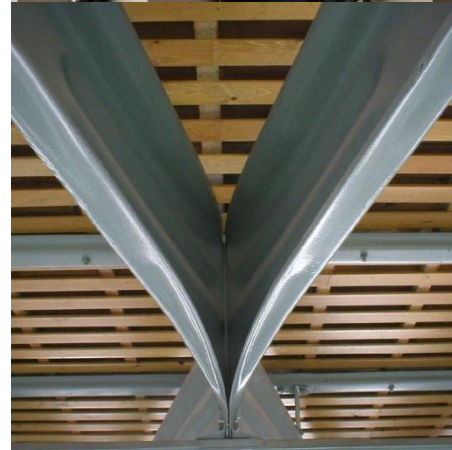


OVG Manchester

Stage 1 Road Safety Audit – Design Team Response

Curtins Ref: 074369-CUR-00-XX-RP-TP-003-V02
Revision: V02
Issue Date: 30 March 2020

Client Name: OVG Manchester Limited



Merchant Exchange
17 – 19 Whitworth Street West
Manchester. M1 5WG.
Tel: 0161 236 2394
www.curtins.com

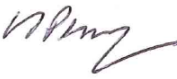
STRUCTURES • CIVILS • ENVIRONMENTAL • INFRASTRUCTURE • TRANSPORT PLANNING • SUSTAINABILITY • EXPERT ADVISORY SERVICES
Birmingham • Bristol • Cardiff • Douglas • Edinburgh • Kendal • Leeds • Liverpool • London • Manchester • Nottingham



Control Sheet

This report has been prepared for the sole benefit, use, and information for the client. The liability of Curtins with respect to the information contained in the report will not extend to any third party.

Author	Signature	Date
Carl Peers BA (Hons) MSc CMILT MCIHT Associate		30 March 2020

Reviewed	Signature	Date
Carl Peers BA (Hons) MSc CMILT MCIHT Associate		30 March 2020

Authorised	Signature	Date
Carl Peers BA (Hons) MSc CMILT MCIHT Associate		30 March 2020



Table of Contents

1.0 Introduction 3

 1.1 Background 3

 1.2 Structure of the Report..... 3

2.0 Design Team Response 4

Appendices

Appendix A – Stage 1 Road Safety Audit Report

1.0 Introduction

1.1 Background

- 1.1.1 A new multi-use arena is proposed by OVG Manchester Limited at the Etihad Campus in East Manchester. The proposals include the erection of digital video screens on the south and west elevations as part of an application for Advertisement Consent on the proposed arena. Additionally, the top tier only of the building will be illuminated on all sides.
- 1.1.2 Curtins has been appointed by Turner and Townsend on behalf of OVG Manchester Limited to provide traffic and transportation advice in relation to the exterior façade proposals at the arena. A Highway Safety Report (HSR) has been prepared and submitted as part of the planning application (document reference 074369-CUR-00-XX-RP-TP-001-V06).
- 1.1.3 In response to pre-application discussions, a Stage 1 Road Safety Audit has been requested by Manchester City Council as the local highway authority. The purpose of the audit is to verify the findings of the highway safety analysis set out in the HSR.
- 1.1.4 A Stage 1 Road Safety Audit of the exterior façade proposals has been undertaken by The Safety Forum. The report is included in **Appendix A** (document reference: LF-RW-20-3071-RSA1). The Design Team Response to the Audit is set out in this report.

1.2 Structure of the Report

- 1.2.1 Following this introduction, **Section 2** sets out the Design Team Response.

2.0 Design Team Response

Problem Ref.	Location	Summary	Recommendation	Design Team Response
3.1	Junction of A6010 Alan Turing Way and A662 Ashton New Road – northbound approach.	Risk of northbound drivers approaching and being unaware of state of signals with consequent shunt or overshoot types of collision. The northbound approach to this junction is the first point at which the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying on coloured lighting. The effect of this could be that motorists, either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building, may either stop unnecessarily or keep going when it is not their priority. Although the side of the proposed building with the video screens and lighting will be some 600m from the northbound stop line there may be some spill-over between the traffic signal lights and the building lighting, that is, some confusion between the two.	Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the traffic signals at this junction. It is further recommended that all signal aspects at this junction are converted to high intensity LED type, particularly those that are relevant to northbound traffic.	The recommendation for testing on site is accepted. The requirement to convert the signal aspects to high intensity LED type for northbound traffic will be determined based on the outcome of the testing in conjunction with Manchester City Council.
3.2	Junction of A6010 Alan Turing Way and A662 Ashton New Road – northbound approach.	Pedestrians attempting to cross may have a problem clearly seeing the signals against a background of digital video screens and building lighting with possible collisions with motor vehicles. The crossing facilities at this junction are such that the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying solely on coloured lights. The effect of this could be that pedestrians either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building will be unsure of crossing.	Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the pedestrian traffic signals at this junction. It is further recommended that pedestrian signal aspects at this junction are converted to high intensity LED type and must have appropriate audio or tactile backup. Larger backing boards are also recommended.	The recommendation for testing on site is accepted. The requirement to convert the signal aspects to high intensity LED type, with audio or tactile backup and larger backing boards, will be determined based on the outcome of the testing in conjunction with Manchester City Council.
3.3	Junction of A6010 Alan Turing Way with Gibbon Street	The northbound approach to this junction is the second point at which the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying on coloured lighting. The effect of this may be that motorists, either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building, may either stop unnecessarily or keep going when it is not their priority. Although the side of the proposed building with the video screens and lighting will be some 100-120m from the northbound stop line there may be some spill-over between the traffic signal lights and the building lighting, that is, some confusion between the two.	Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the traffic signals at this junction. It is further recommended that all signal aspects at this junction are converted to high intensity LED type, particularly those that are relevant to northbound traffic.	The recommendation for testing on site is accepted. The requirement to convert the signal aspects to high intensity LED type for northbound traffic will be determined based on the outcome of the testing in conjunction with Manchester City Council.



3.4	Junction of A6010 Alan Turing Way with Gibbon Street	Pedestrians attempting to cross from the southeast may have a problem seeing the signals against a background of digital video screens and building lighting with possible collisions with motor vehicles. The crossing facilities at this junction are such that the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying on coloured lighting. The effect of this could be that pedestrians either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building will be unsure of crossing.	Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the traffic signals at this junction. It is further recommended that pedestrian signal aspects at this junction are converted to high intensity LED type. Larger backing boards are also recommended.	The recommendation for testing on site is accepted. The requirement to convert the signal aspects to high intensity LED type, with audio or tactile backup and larger backing boards, will be determined based on the outcome of the testing in conjunction with Manchester City Council.
-----	--	---	--	--

Table 2.1 – Design Team Response

Appendix A – Stage 1 Road Safety Audit Report

DIGITAL VIDEO SCREENS, ETIHAD CAMPUS, EAST MANCHESTER

PROPOSED ERECTION OF DIGITAL VIDEO SCREENS AT ROOFTOP LOCATION ON MULTI-USE ARENA

**Stage 1 Road Safety Audit
on behalf of OVG Manchester**

March 2020

LF-RW-20-3071-RSA1

Report title:	Digital Video Screens, Etihad Campus, East Manchester – Stage 1
Date:	20/03/20
Document reference and revision:	LF-RW-20-3071-RSA1
Prepared by:	The Safety Forum
On behalf of:	OVG Manchester

Revision Status	Prepared by:	Checked by:	Approved by: (Signature)	Date Approved
Original	L T Fogg	R Westhead		20 March 2020
Designer's Response				
Authority's Response				
Audit Response				

Client:	
Curtins Consulting Ltd	The Safety Forum Ltd
Merchant Exchange 17-19 Whitworth Street West Manchester M1 5WG	PO Box 831 Godalming Surrey GU7 9HT
	Date: 20 March 2020

TABLE OF CONTENTS

1.0	INTRODUCTION.....	4
2.0	ITEMS CONSIDERED	7
3.0	MATTERS ARISING FROM THIS STAGE 1 AUDIT.	8
4.0	AUDIT TEAM STATEMENT	12

APPENDIX A Location Plan

1.0 INTRODUCTION

- 1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on the effect of the proposed digital video screens and other lighting effects on the proposed multi-use arena on the Etihad Campus (Sports City) East Manchester.
- 1.2 The proposals include the provision of 9m high digital video screens on the south and west elevations of the proposed multi-use arena proposed by OVG Manchester together with a permanently illuminated top tier of the building, also to a height of 9m on all sides of the building
- 1.3 The Stage 1 RSA was carried out at the request of Manchester City Council in order to verify the findings of the highway safety analysis set out in the Highway Safety Report prepared by Curtins Consulting Ltd, which is submitted as Appendix 9.2 to the OVG Manchester Environmental Statement.
- 1.4 The Road Safety Audit Brief was prepared by Carl Peers of Curtins Consulting Ltd. The overseeing organisation is Manchester City Council. The RSA Brief was accepted by the Audit Team as adequate to complete the RSA.
- 1.5 The Audit was carried out between 10th and 18th March 2020 by consultants working on behalf of The Safety Forum Limited. The Audit Team, which is established from The Safety Forum Ltd and independent of the project design team, has had no involvement with the project.

The Auditors were:

Team Leader: Lance T Fogg, BSc(Eng)(Hons), DMS, CEng, MICE, FCIHT, FSoRSA (CoC)

Team Member: Rob Westhead, MSoRSA, RSA Certificate of Competency

Both Road Safety Auditors are accredited with the Certificate of Competency in accordance with European Directive on Road Infrastructure and Safety Management EC Directive 2008/96/EC

- 1.6 The report has been prepared in accordance with General Principles and Scheme Governance General Information, GG 119 rev 1, Road Safety Audit (Formerly HD 19/15).
- 1.7 The Audit consisted of a desktop study and a site visit. The site visit was carried out on 12th March 2020, between 14:30 and 16:30 hours by all members of the Audit Team together. The weather was dry and cloudy but with sunny periods. The road surface was dry. Traffic conditions were observed during normal conditions.

Traffic conditions were initially moderate but increased during the time on site into the evening peak period. Pedestrians were present but were using the facilities to cross A6010 Alan Turing Way and at the junction with A662 Ashton New Road. Cyclist were not much in evidence during the period on site.

- 1.8 The Audit Team are unaware of any previous RSAs being completed for the proposed works
- 1.9 Issues relating to the health & safety of operatives constructing, operating or maintaining the highway are not covered by Road Safety Audit. Only issues relating to the design and construction of facilities for highway maintenance that may potentially contribute to a Road Safety Matter are considered by the Road Safety Audit process.

Road Safety Audit is not a technical check that the design conforms to Standards and/or best practice guidance. Design Organisations are responsible for ensuring that their designs have been subjected to the appropriate design reviews (including, where applicable, Walking, Cycling & Horse Riding Assessment & Review) prior to Road Safety Audit.

Road Safety Audit is not a check that the scheme has been constructed in accordance with the design.

Whilst reference is made to certain design standards, where safety may be compromised by a reduction in standard, this report is not intended to provide a design check. The Auditors have only reported on matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme or the appropriateness of the design. Consequently, the Auditors accept no responsibility for the design or construction of the scheme.

- 1.10 The recommendations in this report are aimed at addressing the road safety problems; however there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The recommendations contained herein do not absolve the Designer of his/her responsibilities.
- 1.11 The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit, and would encourage the Designer to consult them on this matter.
- 1.12 The Overseeing Organisation response to the RSA should be formally recorded and reported to the Designer and the RSA Team so that a record of the Audit process is contained in the *As Built* design pack to be provided and retained by the Overseeing Organisation on final completion.

-
- 1.13 All problems identified in this Road Safety Audit Report are indicated on a location plan in Appendix A

2.0 ITEMS CONSIDERED

- 2.1 The Road Safety Audit was undertaken on the scheme detailed in the following client name documentation.

Drawing/Document No.	Rev	Title
074369-CUR-00-XX-RP-TP-002	VO1	Road Safety Audit Brief
191010	-	Exterior LED Façade Study
074369-CUR-00-XX-RP-TP-001	VO6	OVG Manchester Highways Safety Report
2318-ID-002-01-App 11.4		Viewpoints and Photomontages

- 2.2 No departure from standards or other information was submitted to the Audit Team.

3.0 MATTERS ARISING FROM THIS STAGE 1 AUDIT.

3.1 PROBLEM

LOCATION: Junction of A6010 Alan Turing Way and A662 Ashton New Road – northbound approach.

SUMMARY: Risk of northbound drivers approaching and being unaware of state of signals with consequent shunt or overshoot types of collision.

The northbound approach to this junction is the first point at which the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying on coloured lighting.

The effect of this could be that motorists, either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building, may either stop unnecessarily or keep going when it is not their priority.

Although the side of the proposed building with the video screens and lighting will be some 600m from the northbound stop line there may be some spill-over between the traffic signal lights and the building lighting, that is, some confusion between the two.

RECOMMENDATION

Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the traffic signals at this junction. It is further recommended that all signal aspects at this junction are converted to high intensity LED type, particularly those that are relevant to northbound traffic.



Fig 1 – Northbound approach on A6010 showing existing signals

3.2 PROBLEM

LOCATION: Junction of A6010 Alan Turing Way and A662 Ashton New Road – northbound approach.

SUMMARY: Pedestrians attempting to cross may have a problem clearly seeing the signals against a background of digital video screens and building lighting with possible collisions with motor vehicles.

The crossing facilities at this junction are such that the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying solely on coloured lights.

The effect of this could be that pedestrians either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building will be unsure of crossing.

RECOMMENDATION

Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the pedestrian traffic signals at this junction. It is further recommended that pedestrian signal aspects at this junction are converted to high intensity LED type and must have appropriate audio or tactile backup. Larger backing boards are also recommended.



Fig 2 – A NW view of the existing pedestrian facilities at the junction of A6010 with A662

3.3 PROBLEM

LOCATION: Junction of A6010 Alan Turing Way with Gibbon Street

The northbound approach to this junction is the second point at which the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying on coloured lighting.

The effect of this may be that motorists, either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building, may either stop unnecessarily or keep going when it is not their priority.

Although the side of the proposed building with the video screens and lighting will be some 100-120m from the northbound stop line there may be some spill-over between the traffic signal lights and the building lighting, that is, some confusion between the two.

RECOMMENDATION

Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the traffic signals at this junction. It is further recommended that all signal aspects at this junction are converted to high intensity LED type, particularly those that are relevant to northbound traffic.

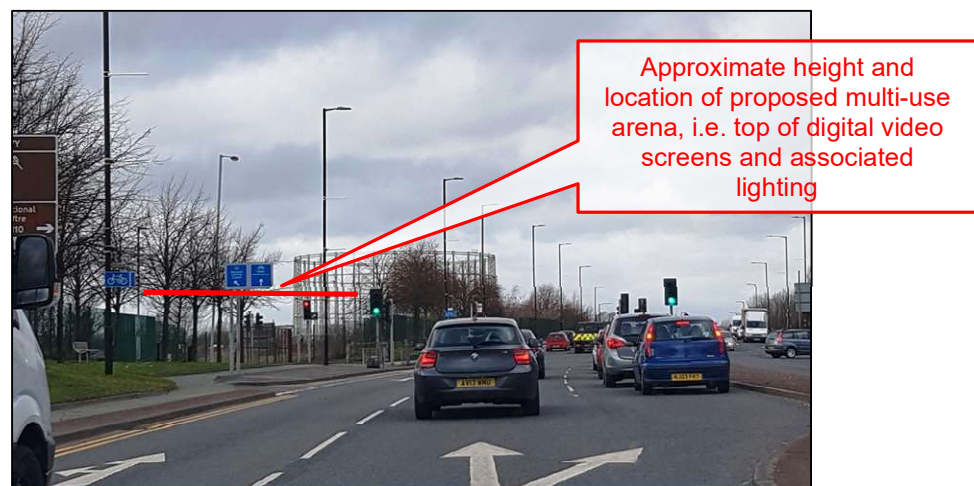


Fig 3 – Northbound approach to the signalised junction of A6010 with Gibbon Street

3.4 PROBLEM

LOCATION: Junction of A6010 Alan Turing Way with Gibbon Street

SUMMARY: Pedestrians attempting to cross from the southeast may have a problem seeing the signals against a background of digital video screens and building lighting with possible collisions with motor vehicles.

The crossing facilities at this junction are such that the video screens and lighting around the top of the proposed multi-use arena may conflict visually with traffic control devices relying on coloured lighting.

The effect of this could be that pedestrians either distracted or unable to differentiate between the state of the signals and the background of the lighting on the top of the proposed building will be unsure of crossing.

RECOMMENDATION

Although the precise level of illumination of the screens and attendant lighting is not known, the illumination level of digital screens can be adjusted. It is recommended that, following installation of the screens and building lighting, a series of tests are undertaken to determine the level at which they can operate without interfering visually with the operation of the traffic signals at this junction. It is further recommended that pedestrian signal aspects at this junction are converted to high intensity LED type. Larger backing boards are also recommended.



Fig 4 – A NW view of the pedestrian facilities at the junction of A6010 with Gibbon Street

4.0 AUDIT TEAM STATEMENT

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

AUDIT TEAM LEADER

Name: Lance T Fogg
Position: Road Safety Auditor
The Safety Forum Ltd
PO Box 831
Godalming
Surrey
GU7 9HT

Signed: 

Date: 18 March 2020

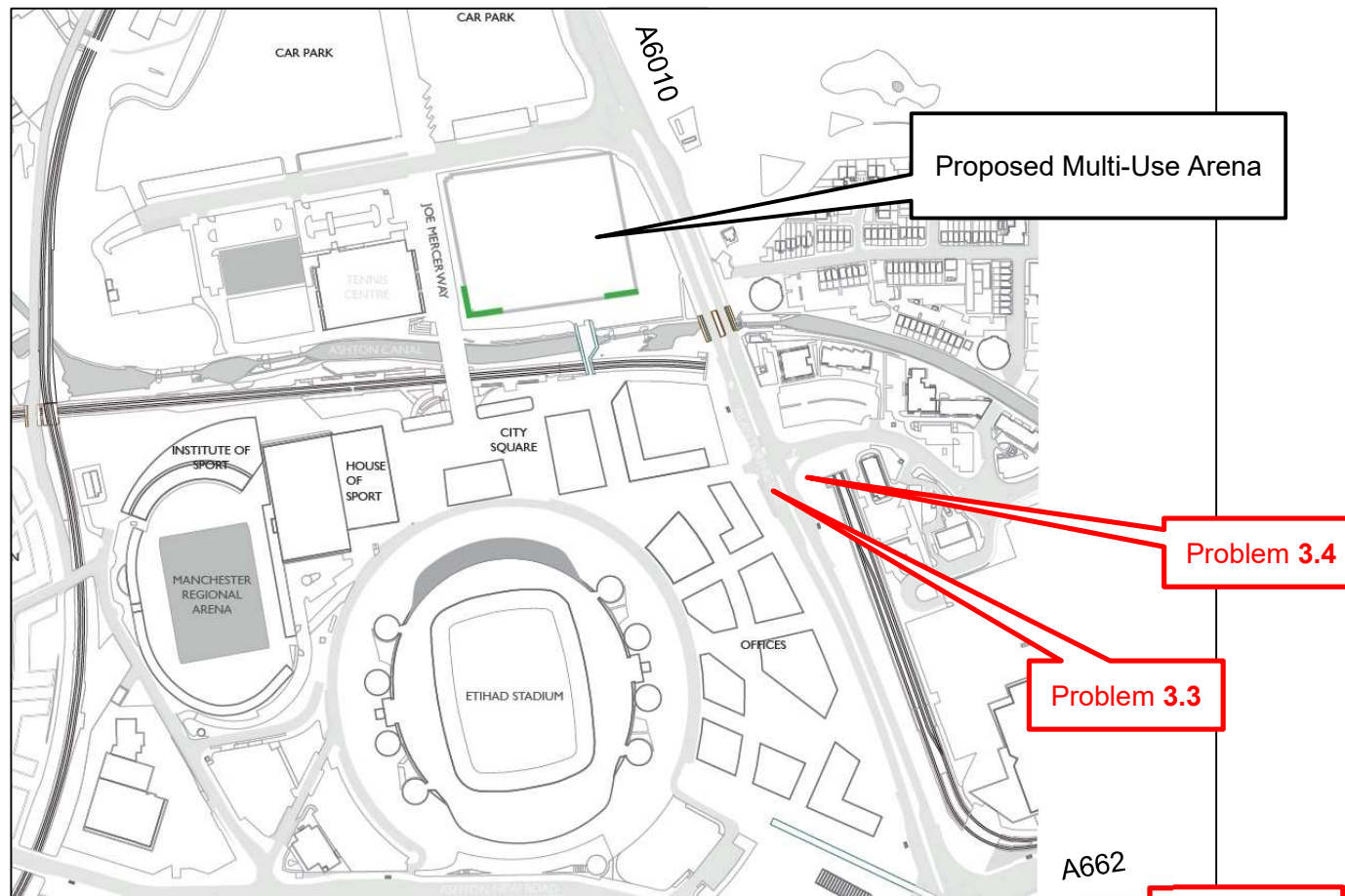
AUDIT TEAM MEMBER

Name: Rob Westhead
Position: Road Safety Auditor
The Safety Forum Ltd
PO Box 831
Godalming
Surrey
GU7 9HT

Signed: 

Date: 20 March 2020

APPENDIX A: LOCATION PLAN



Our Locations

Birmingham

2 The Wharf
Bridge Street
Birmingham
B1 2JS
T. 0121 643 4694
birmingham@curtins.com

Bristol

Quayside
40-58 Hotwell Road
Bristol
BS8 4UQ
T. 0117 302 7560
bristol@curtins.com

Cambridge

50 Cambridge Place
Cambridge
CB2 1NS
T. 01223 631 799
cambridge@curtins.com

Cardiff

3 Cwrt-y-Parc
Earlswood Road
Cardiff
CF14 5GH
T. 029 2068 0900
cardiff@curtins.com

Douglas

Varley House
29-31 Duke Street
Douglas
Isle of Man
IM1 2AZ
T. 01624 624 585
douglas@curtins.com

Dublin

11 Pembroke Lane
Dublin 2
D02 CX82
Ireland
T. +353 1 507 9447
dublin@curtins.com

Edinburgh

1a Belford Road
Edinburgh
EH4 3BL
T. 0131 225 2175
edinburgh@curtins.com

Glasgow

Queens House
29 St Vincent Place
Glasgow
G1 2DT
T. 0141 319 8777
glasgow@curtins.com

Kendal

Units 24 & 25 Riverside Place
K Village
Lound Road
Kendal
LA9 7FH
T. 01539 724 823
kendal@curtins.com

Leeds

Ground Floor
Rose Wharf
78-80 East Street
Leeds
LS9 8EE
T. 0113 274 8509
leeds@curtins.com

Liverpool

51-55 Tithebarn Street
Liverpool
L2 2SB
T. 0151 726 2000
liverpool@curtins.com

London

40 Compton Street
London
EC1V 0BD
T. 020 7324 2240
london@curtins.com

Manchester

Merchant Exchange
17-19 Whitworth Street West
Manchester
M1 5WG
T. 0161 236 2394
manchester@curtins.com

Nottingham

56 The Ropewalk
Nottingham
NG1 5DW
T. 0115 941 5551
nottingham@curtins.com