

For: Haven Falls Limited

Proposed Residential Development,
Water Rock, Midleton

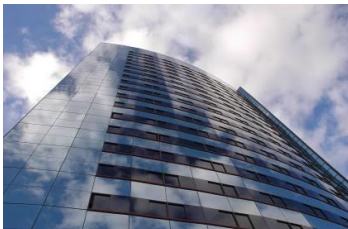


Road Safety Audit Stage 1

MAY 2022



MHL & Associates Ltd.
Consulting Engineers





Document Control Sheet

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Project Title	Residential Development
Project Location	Water Rock, Midleton, Co. Cork
Document Title	Road Safety Audit Stage 1
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	Internal Draft	J. Daly	-	-	-
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B	Client Issue	J. Daly	B. Loughrey	B. Loughrey	26 th -Jan-2022
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1 NON TECHNICAL SUMMARY

M.H.L. & Associates Ltd. Consulting Engineers have been appointed by McCutcheon Halley Planning Ltd. on behalf of Haven Falls Ltd. to prepare a Stage 1 Road Safety Audit (RSA) Audit. This Audit is being prepared as part of a planning application. The planning application is for a residential development at Water Rock, Midleton, Co. Cork. Access to the proposed development is provided to the south of the site, onto the existing and Midleton Northern Relief Road. The scheme is to accommodate a minimal quantum of vehicle parking with restricted road widths provided, reflective of DMURS design principles.

Vehicular and pedestrian/cycle access is to be accommodated at the proposed entrance. The site location and proposed site layout is shown in following Figures 1.1 and 1.2. See the Site Layout Plan drawing accompanying the application, produced by Gittens Murray Architects Ltd.

This audit considers the vulnerable road users within the development.

The Audit Team consists of Brian Loughrey (Team Leader) and Brian Murphy (Team Member) of MHL Consulting Engineers.

Information provided to assist the Audit consists of the drawings and documents listed in Appendix B. The information provided was considered adequate in terms of detail for the purpose of carrying out a Stage 1 road safety audit.

No previous Road Safety Audit reports were provided in relation to the development.

No specific Road Collision data was provided to the audit team. The auditors reviewed the RSA Road Collision Statistics, in the vicinity of the applicant site.

- No collisions ever noted in the records of occurring at the connection location with the Enterprise Park.

The Audit has been carried out in accordance with the relevant sections of TII Publication GE-STY-01024 (formerly NRA HD 19/15), "Road Safety Audit", Section 5.4.1 of the Design Manual for Urban Roads and Streets (DMURS) and with reference to Circular Letter PL 6/2014. The scheme has not been examined or verified for compliance with any other standards or criteria.

An Audit Team Statement is included at the end of the Report.



Figure 1.1 Site Location (Google)

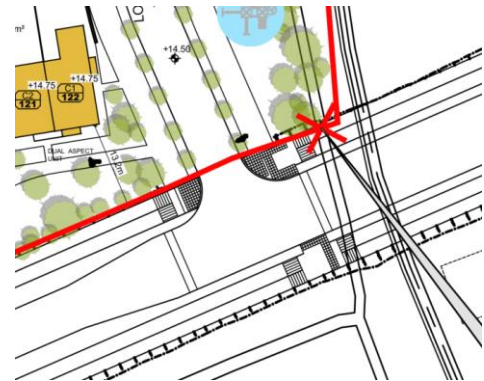


Figure 1.2 Proposed Development site (GMA)

2 AUDIT ISSUES

2.1 PROBLEM 1: JUNCTION VISIBILITY SPLAYS

No visibility splays layouts were provided for this audit. Also forward visibility to the proposed traffic signal heads at the proposed entrance junction should be provided, clear of high-level trees. Failure to provide appropriate visibility at the entrance junctions/internal junctions/onto and from pedestrian crossings may lead to collisions between vehicles travelling in opposing directions or between vehicles and pedestrians.



Recommendation 1

Ensure appropriate junction visibility splays and forward visibility are provided at all junctions within of the proposed site development. Also ensure that appropriate visibility is provide to all junctions and from all pedestrian crossings. Particular care should be taken in the placement of landscaping in this regard.

2.2 PROBLEM 2: LACK OF ROAD MARKINGS

No road markings are shown within the development. Failure to provide appropriate road markings may cause confusion with regard to priority at the entrance junction, leading to collisions between passing vehicles and vehicles exiting the development.

Recommendation 2

Provide adequate road lining at all junctions, in accordance with the relevant standards. A combined 30km/h speed limit and warning signage in accordance with Circular letter PL/6 2014 should be provided within the development.

2.3 PROBLEM 3: LACK OF ROAD SIGNAGE

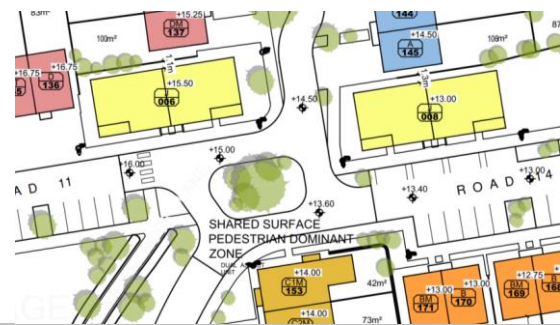
No junction stops signs are shown junction within the development. Failure to provide appropriate road signage may cause confusion with regard to priority at the entrance junction, leading to collisions between passing vehicles and vehicles exiting the development.

Recommendation 3

Provide adequate signing at all junctions, in accordance with the relevant standards. A combined 30km/h speed limit and warning signage in accordance with circular letter PL/6 2014 should be provided within the development.

2.4 PROBLEM 4: ONE WAY STREETS

The proposed layouts appear to indicate a one-way street circulatory configuration at shared surface locations. No appropriate lining or signing is shown in the design layouts. Unclear designation of one-way streets internal roadways may cause conflicting traffic movements, potentially leading to collisions between passing vehicles.



Recommendation 4

Provide one way traffic signing and road markings in accordance with relevant design standards to designate traffic flow direction and priority and one way flow designation.

2.5 PROBLEM 5: SHARED SURFACE AREAS

As referenced in the previous point, the proposed design layouts show proposed shared surface areas. Unclear designation of internal roads may lead priority confusion between pedestrians and drivers, potentially leading to collisions between vulnerable road users with passing vehicles.

Recommendation 5

Provide appropriate traffic calming measures within shared surface areas and changed surface material to better define shared space areas and control traffic speeds.

2.6 PROBLEM 6: TACTILE PAVING/ DROPPED KERBS

No tactile paving/ dropped kerbs are shown in the audited site layouts. Failure to provide appropriate tactile paving and dropped kerbs may lead to pedestrians and visually impaired users misinterpreting priority at conflict location resulting in collisions with passing vehicles.

Recommendation 6

Provide the appropriate tactile paving and drop kerbs or raised entry treatment at all pedestrian crossings in accordance with the relevant guidelines and standards.

2.7 PROBLEM 7: PUBLIC LIGHTING ASSESSMENT

Failure to adequately illuminate the proposed junctions may lead to collisions involving vehicles egressing the development entrances.

Recommendation 7

Ensure the public lighting design in the vicinity of the proposed entrance junction is compliant with relevant design standards. Provide appropriate public lighting for the scheme. Provide adequate lighting at pedestrian crossings.

2.8 PROBLEM 8: VEHICLE TURNING AREAS

It is unclear if the proposed turning head provide sufficient space for vehicle to turn around at these locations. Failure to adequate turning head geometry may lead to collisions involving vehicles reversing into oncoming residential traffic.

Recommendation 8

Ensure that all proposed cul de sac locations within the development have appropriate turning head location dimension compliant with relevant design standards. Conduct an auto track assessment of appropriate turning movements for relevant vehicle types.

2.9 PROBLEM 9: TIGHT CHEVRONS ALIGNMENT

The internal road layout incorporates a number of chicane arrangements. These horizontal traffic calming devices are intended to control vehicle speeds. A number of the chicanes appear to incorporate landscaping features, which may affect forward visibility, to oncoming traffic and pedestrians. Also, the tight angles and separation space appear to be very restrictive, for larger vehicle types. Failure to provide appropriate geometry may restrict access for emergency vehicles.

Recommendation 9

Ensure that all chevrons are design in accordance with relevant design standards. Conduct an auto track assessment of all chevrons and traffic calming devices.

2.10 PROBLEM 10: PROPOSED DRAINAGE

It is unclear if the proposed drainage layouts that sufficient gullies are provided, especially at shared surface/pedestrian dominant zones. Failure to adequate drainage may lead to collisions involving vehicles aqua planning into oncoming residential traffic/ vulnerable road users.

Recommendation 10

Provide appropriate drainage design throughout the development to prevent ponding at hardstanding areas/ raised tables areas.

2.11 PROBLEM 11: PROPOSED ENTRANCE

No design details of the proposed signalised entrance were provided for this audit. Failure to provide appropriate junction design can lead to collisions between passing vehicles and vehicles exiting the development.


Recommendation 11

Ensure that the signalised junction is designed in accordance with relevant design standards.

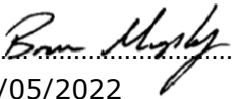
3 AUDIT TEAM STATEMENT

We certify that we have examined the drawings and documents listed in the Appendix to this Report. The examination has been conducted with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems identified have been noted in this report, together with associated safety improvement suggestions, which we recommend should be studied for implementation. The Auditors have not been involved with the scheme design.

Mr Brian Loughrey, BE CEng MIEI

Signed: 
Date: 04/05/2022

Mr Brian Murphy, BE CEng MIEI

Signed: 
Date: 04/05/2022

4 APPENDIX

5 APPENDIX A – DRAWINGS & DOCUMENTS SUBMITTED FOR INFORMATION

DRAWINGS BY: Gittens Murray Architects Ltd.			
Ref.	Rev.	Drawing Title	Scale
Layout Drawings			
20/033-LRD-S001-B		Proposed Site Layout Plan All Phases	1:1000 @A1
20-033		Proposed Context Plan	1:1250 @A1

DRAWINGS BY: O'Shea Leader Ltd.			
Ref.	Rev.	Drawing Title	Scale
Layout Drawings			
21059-P-101(01)		Site Layout	1:500 @A1
21059-P-102(02)		Surface Water Layout	1:500 @A1

DRAWINGS BY: MHL & Associates Ltd.			
Ref.	Rev.	Drawing Title	Scale
Layout Drawings			
MHL_WTR-LD-P01		Proposed Services- Public Lighting. Sheet 01 of 03	1:500 @A1
MHL_WTR-LD-P02		Proposed Services- Public Lighting. Sheet 02 of 03	1:500 @A1
MHL_WTR-LD-P03		Proposed Services- Public Lighting. Sheet 03 of 03	1:500 @A1

6 APPENDIX B – RSA COLLISION STATISTICS

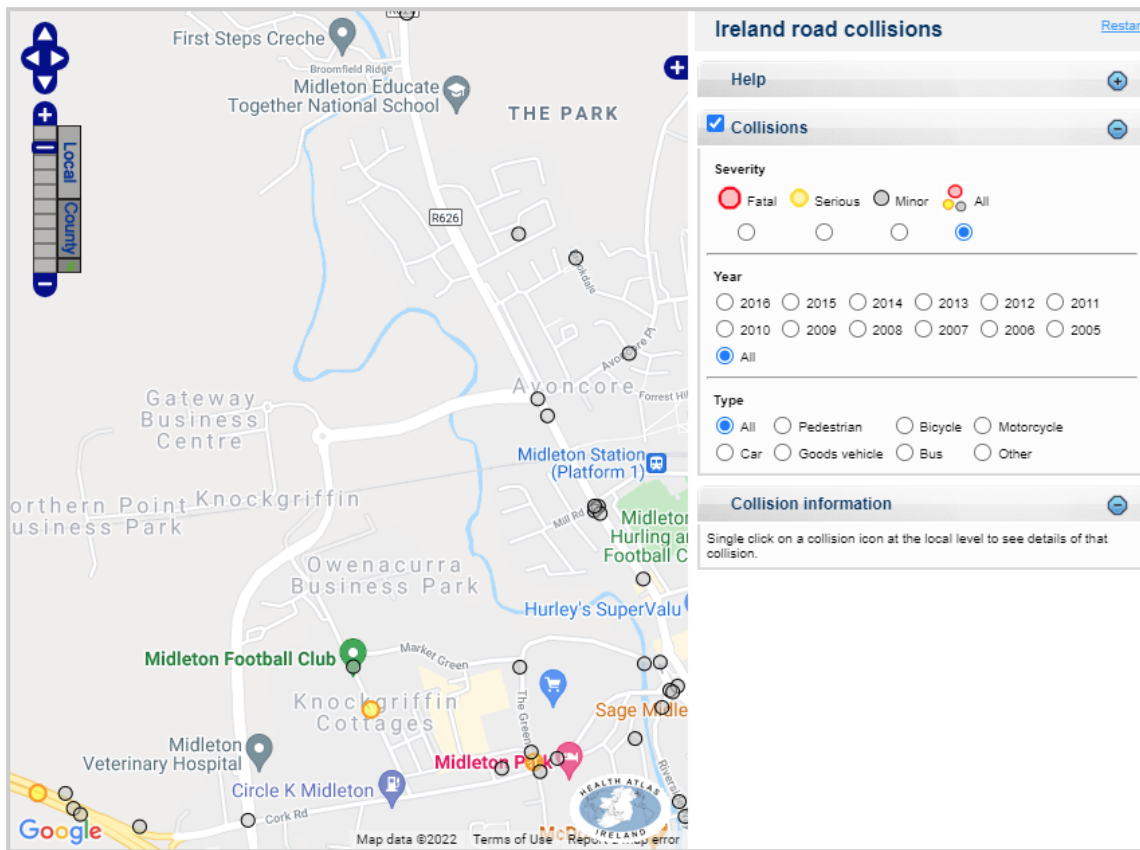


Figure C1. Road collision between 2005-2016 (RSA)


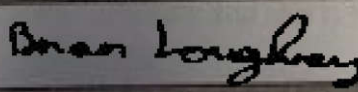
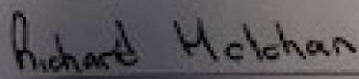
7 APPENDIX C – RSA FEEDBACK FORM

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Road Safety Audit Feedback Form

Scheme: **Proposed Residential, Water Rock, Middleton, Co. Cork**
 Audit Stage: **1/2**
 Date Audit Completed: **04/05/2022**

Paragraph No. in Safety Audit Report	To be completed by the Designer			To be Completed by Audit Team Leader
	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted	Alternative measures or reasons accepted by auditors (yes/no)
2.1	Y	Y		
2.2	Y	Y		
2.3	Y	Y		
2.4	Y	Y		
2.5	Y	Y		
2.6	Y	Y		
2.7	Y	Y		
2.8	Y	Y		
2.9	Y	Y		
2.10	Y	Y		
2.11	Y	Y		

DESIGNER			
Signed:		Date:	30/5/22
AUDIT TEAM LEADER			
Signed:		Date:	30/05/2022
EMPLOYER			
Signed:		Date:	9-06-2022

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