

Blackrock, Co. Cork

Bessborough Housing Development
Blackrock, Co. Cork



Stage 1 Road Safety Audit

March 2022



MHL & Associates Ltd.
Consulting Engineers



DOCUMENT CONTROL SHEET

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1. INTRODUCTION

M.H.L. & Associates Ltd. Consulting Engineers have been engaged by Estuary View Enterprises Ltd. to prepare a Stage 1 Road Safety Audit (RSA) for phases 1 and 2 of the proposed Bessborough residential development. This Stage 1 Road Safety Audit will be submitted as part of an SHD planning application to An Bord Pleanala for each phase. Based on discussions with the local authority regarding the Traffic and Transport Assessment, both phases are included in this audit to ensure a consistent reporting approach comprising both phases. This audit identifies general problems regarding both phases as well as problems within each phase independently.

Phases 1 and 2, named “The Meadows” and “The Farm” respectively, will be served by independent single vehicular access junctions onto the existing Bessborough house access road. Figure 1.1 below shows the Site Location Map with Figure 1.2 displaying the site extents on aerial photography. Images of each phase are shown in figures 1.3 and 1.4 below. This audit considers the access point of each phase onto the public road, the internal layout of each phase, and the facilities on the public road and footway.

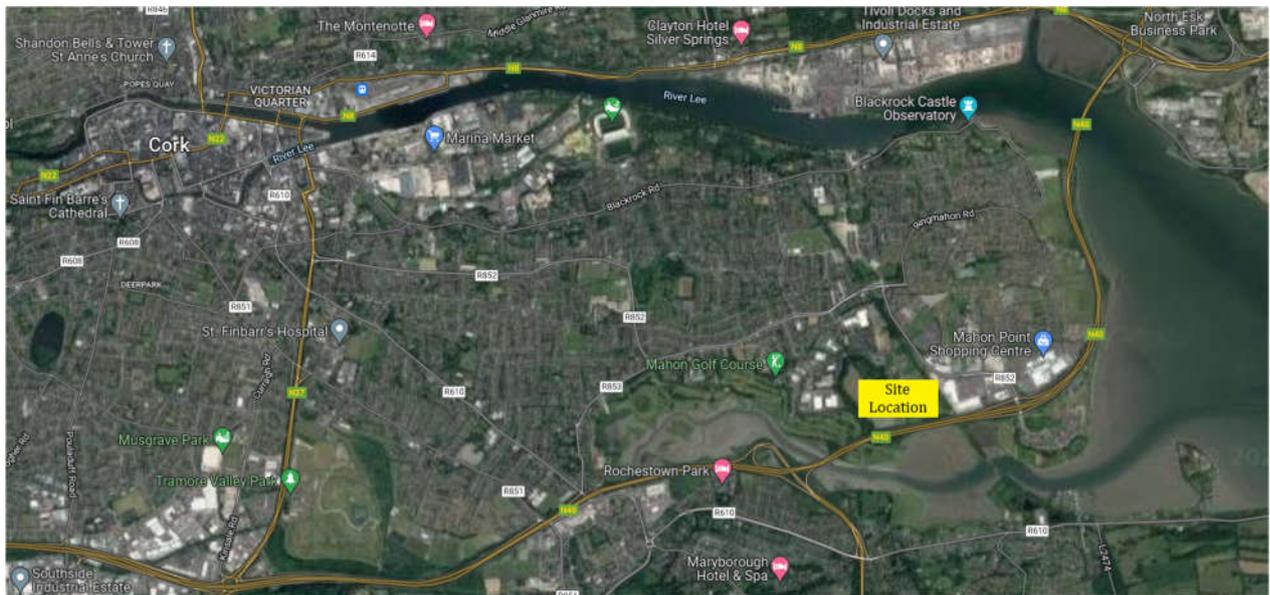


Figure 1.1 – Site Location Map

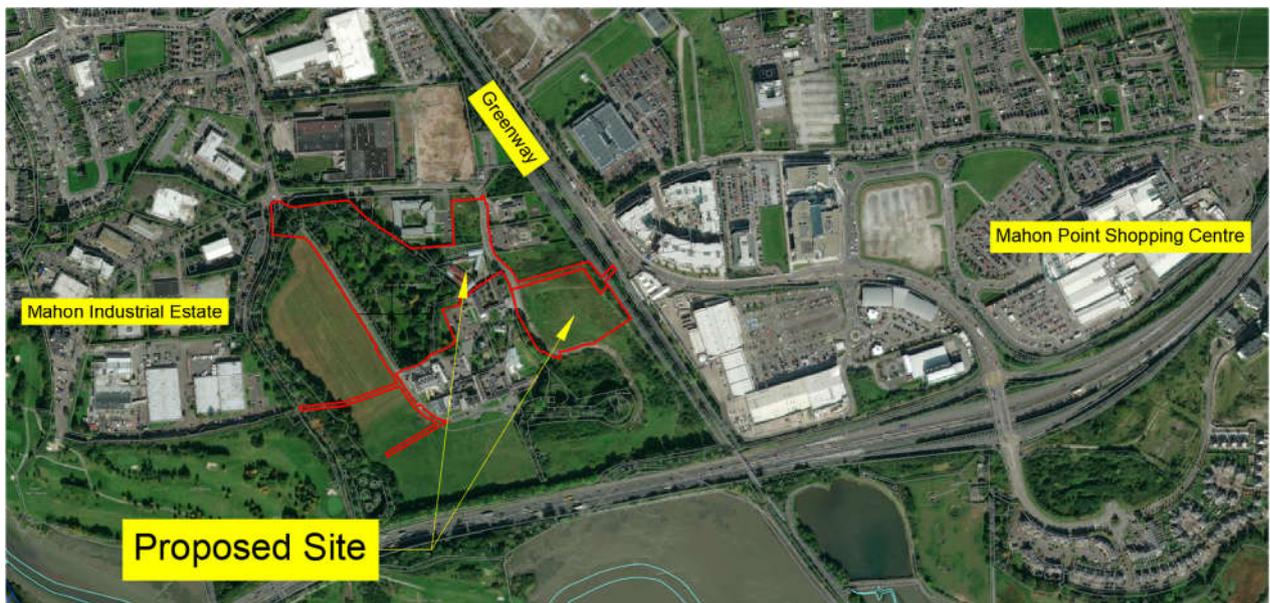


Figure 1.2 – Site Extents



Figure 1.4 –Proposed Phase 2 “The Farm”

2. AUDIT ISSUES

The problems identified in Section 2.1 below relate to both Phase 1 “The Meadows” and Phase 2 “The Farm”. Sections 2.2 & 2.3 independently refer to phases 1 & 2 respectively.

2.1. GENERAL PROBLEMS

2.1.1. PROBLEM: UNCONTROLLED CROSSINGS NOT IDENTIFIED

Specific details of proposed tactile paving and dropped kerbs at a number of locations have not been shown on the drawings provided to the audit team. Failure to provide an appropriate crossing points with tactile paving may lead to collisions between pedestrians, visually impaired users and vehicles entering and exiting the development.

Recommendation 1:

Provide the appropriate tactile paving at all locations in accordance with the relevant guidelines.

2.1.2. PROBLEM: NO PUBLIC LIGHTING SHOWN.

No details have been provided of the proposed lighting scheme within each development. Failure to provide adequate public lighting presents security issues for visitors as well as being a road safety hazard for pedestrians and cyclists at night.

Recommendation 2:

Ensure an adequately designed lighting scheme is provided for the development junction and is designed to the appropriate standards

2.1.3. PROBLEM: NO ROAD MARKINGS OR SIGNAGE INDICATED

No road markings or signage are depicted within the development on the drawings submitted to the audit team for review specifically at junctions. Insufficient signage and road markings may lead to drivers being confused when entering and exiting the development and when maneuvering around the development.

Recommendation 3:

Road markings and signage should be incorporated into the proposed development in line with the relevant standards.

2.1.4. PROBLEM: NO DRAINAGE PROPOSALS INDICATED

No surface water drainage details have been provided on the drawings submitted to the audit team. Lack of adequate surface drainage could lead to surface ponding which can lead to the build-up of ice during cold weather conditions. This can result in slips and falls for vulnerable road users as well as collisions involving vehicles.

Recommendation 4:

Provide surface water drainage for all hardstanding areas within the development.

2.1.5. PROBLEM: TIGHTENING OF JUNCTION RADII AT EXISTING ENTRANCES NORTH OF THE DEVELOPMENT

It is unclear to the audit team if any works are proposed at the entry/exit from the Bessborough Day Care Centre and the Hostel (SHB) premises to the north of the development. Excessively wide junction splays can lead to collisions between pedestrians using the footpath and vehicles exiting and entering the facilities.

Recommendation 5:

The design team should ensure any proposed junction radii are in accordance with the relevant standards.

2.2. PHASE 1 “THE MEADOWS”

2.2.1. PROBLEM: NO PEDESTRIAN CROSSING ON PUBLIC ROAD AT DEVELOPMENT ENTRANCE

The drawings provided to the audit team do not include the provision of pedestrian crossings on the public road along desire lines. This could lead to collisions between pedestrians and vehicles along the public road.

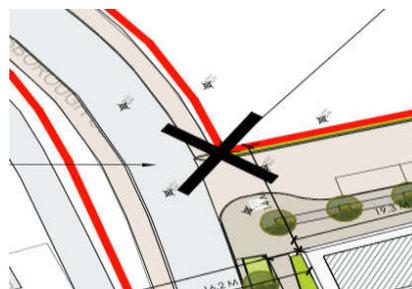


Figure 2.2.1.1

Recommendation 6:

Provide a safe means for pedestrians to cross the public road.

2.2.2. PROBLEM: JUNCTION RADIUS UNCLEAR FROM SITE LAYOUT PLAN

The radius of the junction tie-in shown is not tangential with the roadside kerb, see Figure 2.2.1.1 above. This could lead to the mis-direction of vehicles entering the minor road resulting in side swiping pedestrians.

Recommendation 7:

Provide a suitable radius at the tie-in between the main road and the minor road.

2.2.3. PROBLEM: MINI-ROUNDBABOUT LAYOUT AMBIGUOUS

The layout of the proposed mini-roundabout within the development is not clearly defined. It is envisaged that the roundabout will be primarily utilised by creche users as a means of turning around to access the set-down area proposed. The function of the roundabout is not clear and obvious for vehicles approaching from the east. This could lead to collisions between vehicles utilising the roundabout at the same time and being unsure of priority.

Recommendation 8:

The layout of the mini roundabout should be more clearly defined to better indicate its function.

2.2.4. PROBLEM: NO PROPOSED CROSSING WITHIN DEVELOPMENT TO NEW PEDESTRIAN BRIDGE FOR PEDESTRIANS/CYCLISTS

The drawings submitted to the audit team do not depict any proposed crossing for pedestrians and cyclists to the new pedestrian bridge. It is unclear from the drawings

would also be the desire line for pedestrian looking to access the existing Greenway via the new bridge.

2.3.PHASE 2 “THE FARM”

2.3.1. PROBLEM: NO PEDESTRIAN CROSSING ON PUBLIC ROAD

The drawings provided to the audit team do not include the provision of any pedestrian crossing on the public road for pedestrians wishing to access the proposed footbridge. This could lead to collisions between pedestrians and vehicles along the public road.

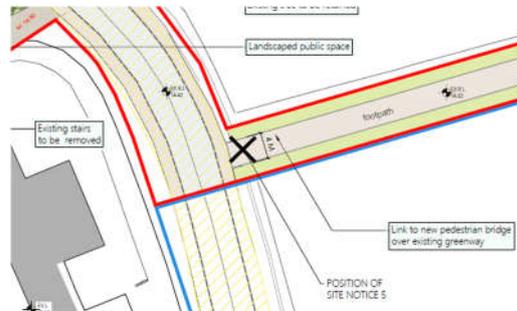


Figure 2.3.1.1

Recommendation 12:

Provide a safe crossing point for pedestrians to access the proposed pedestrian footbridge.

2.3.2. PROBLEM: INSUFFICIENT SIGHTLINES TO THE COMMUNIAL AREA ACCESS GATE

Vehicles approaching the communal amenity area gate from the east do not have clear forward visibility to the gate. This could lead to collisions between vehicles and vulnerable road users, in particular with pedestrians crossing the road to access the bike spaces directly across from the gate.

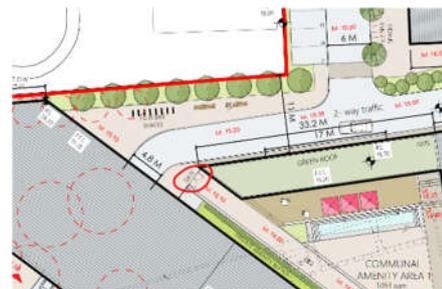


Figure 2.3.2.1

Recommendation 13:

Design proposals, such as a pedestrian railing, should be considered to block the pedestrian desire line to the bike spaces across the road. Pedestrians crossing at a location further west of this point will have better sightlines to/from vehicles travelling within the development.

2.3.3. PROBLEM: NO CLEAR TURNING LOCATION FOR CRECHE USERS

It is not certain where vehicles accessing the creche are to turn around following drop off. This could lead to unsafe turning manoeuvres being taken by vehicles during peak creche traffic times.



Figure 2.3.3.1

Recommendation 14:

Ensure creche users are aware of the designated turning location within the development.

2.3.4. PROBLEM: NO TURNING HEAD FOR CUL DE SAC ROAD

The internal road to the south of Communal Amenity Area 2 appears to end abruptly. It is not certain what is the purpose of this road and where vehicles coming to the end of this road are to turn around. This could lead to unsafe turning manoeuvres being undertaken by vehicles.

Recommendation 15:

Provide clarity to the Audit team on the purpose of this road and to provide an appropriate turning area for road users.



Figure 2.3.4.1

3. AUDIT TEAM STATEMENT

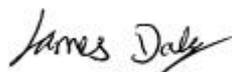
We certify that we have examined the drawings and documents listed in the Appendix to this Report. The examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme. The problems identified 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: 28/03/2022

Mr James Daly, BEng MIEI

Signed: 

Date: 28/03/2022

Appendix A – RSA Collision Statistics

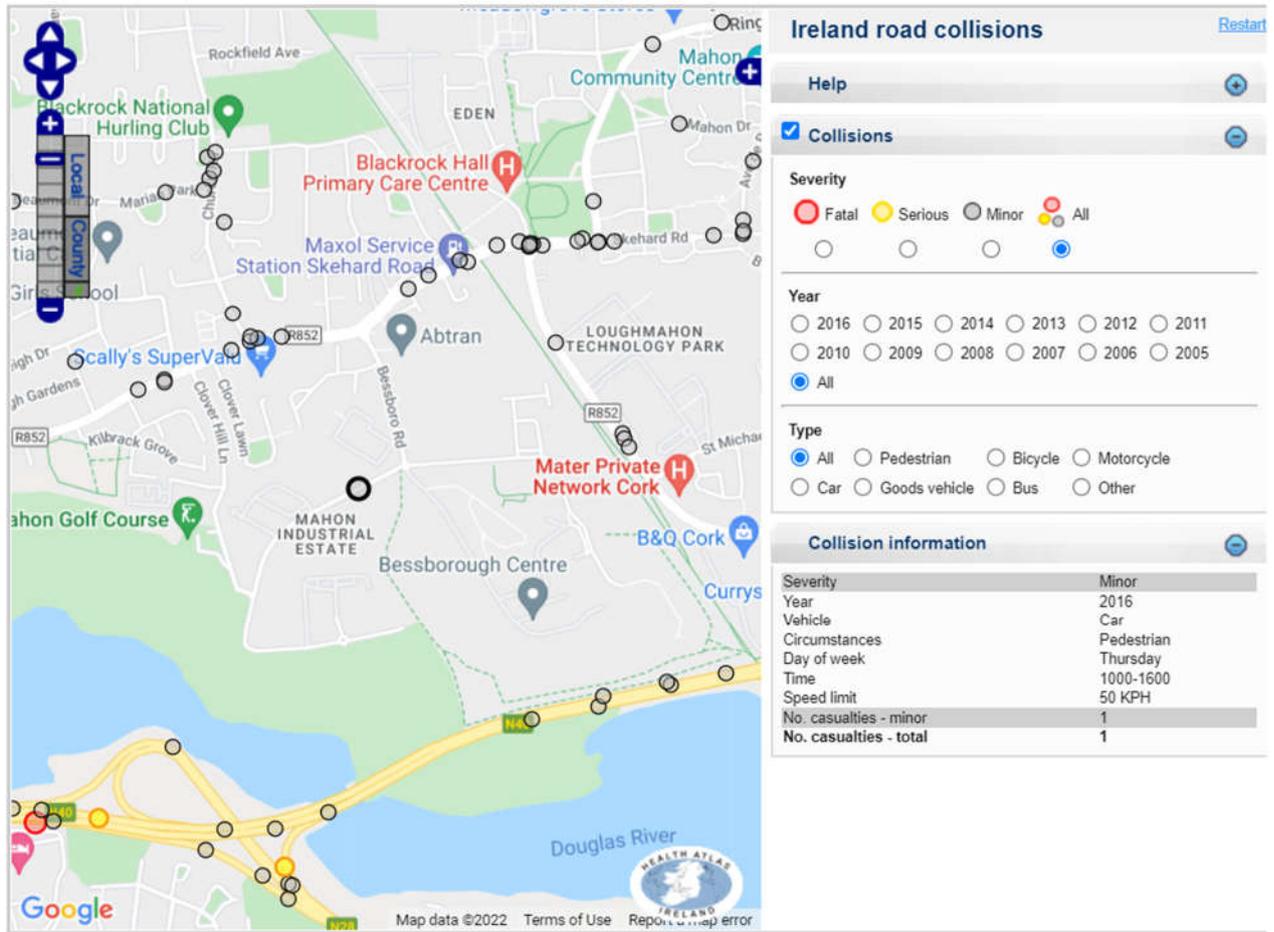


Fig 1 RSA Collision Statistics for Site Location

Appendix B – Drawings & Documents Submitted for Information

Drawings AND DOCUMENTS submitted for information

DRAWINGS BY: SHIPSEY BARRY Ltd.			
Ref.	Date	Drawing Title	Scale
Layout Drawings			
SB-2020-107-200	03.2021	The Meadows - Bessborough, Site Plan	1/500 @ A0
SB-2020-107-200	04.2021	Phase 2 – The Farm Bessborough, Site Layout Plan	1/500 @ A0

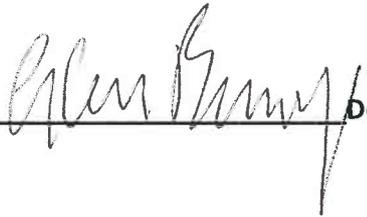
Appendix C– RSA Feedback Form

	To be completed by the Designer			To be Completed by Audit Team Leader
Paragraph No. in Safety Audit Report	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)
2.1.1	Yes	Yes	To be completed to all areas in accordance with current standards and regulations applicable at detail design phase prior to implementation	
2.1.2	No	Yes	Detailed public lighting plan designed by DKP per documentation issued -please refer to : PHASE 1 - THE MEADOWS <i>DKP-M88-6600 ; 2P# Bessborough - Phase 1 - External lighting report</i> <i>DKP-M88-6601 ; 2P# Bessborough - Phase 1 - Appendix A - Illumination calculation report</i> <i>DKP-M88-6602 ; 2P# Bessborough - Phase 1 - Appendix B - Illumination calculation report</i> PHASE 2 - THE FARM <i>DKP-M88-6600 ; 1P# Bessborough - Phase 2 - External lighting report</i> <i>DKP-M88-6601 ; 1P# Bessborough - Phase 2 - Appendix A - Illumination calculation report</i> <i>DKP-M88-6602 ; 1P# Bessborough - Phase 2 - Appendix B - Illumination calculation report</i>	
2.1.3	Yes	Yes	To be completed to all areas in accordance with current standards and regulations applicable at detail design phase prior to implementation	
2.1.4	No	Yes	Full drainage proposals submitted as part of application per documentation submitted JB Barry Consulting Engineers -ref: THE MEADOWS - PHASE 1 <i>21207-JBB-PH1-XX-DR-C-04001_Proposed_Drainage_Layout</i> THE FARM PHASE – PHASE 2 <i>21207-JBB-PH2-XX-DR-C-04002_Proposed_Drainage_Layout</i>	
2.1.5	Yes	No	The locations mentioned for improvement are in third party private ownership and beyond the control of the applicant	Yes
The Meadows - Phase 1				
Paragraph No. in Safety Audit Report	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)
2.2.1	Yes	Yes	This recommendation has been and implemented as requested – please refer drawing number . <i>SB-2020-106-200-MEADOWS SITE LAYOUT PLAN</i>	

2.2.2	Yes	Yes	The turning radius has been adjusted per recommendation. please refer drawing number: <i>SB-2020-106-200-MEADOWS SITE LAYOUT PLAN</i>	
2.2.3	Yes	Yes	The arrangement has been revised to allow for clearer through traffic from the East with provision of safe turning for creche drop off please refer drawing number: <i>SB-2020-106-200-MEADOWS SITE LAYOUT PLAN</i>	
2.2.4	Yes	Yes	A raised table Crossing area is provided for pedestrian priority. Paving demarcation will be provided at detailed design phase for the area please refer drawing number: <i>SB-2020-106-200-MEADOWS SITE LAYOUT PLAN</i>	
2.2.5	Yes	Yes	rail length to bridge has been shorten to provide safer sightlines before approaching crossing from East . limited low limb tree trimming and scrub vegetation removals are proposed in this area please refer drawing number: <i>SB-2020-106-200-MEADOWS SITE LAYOUT PLAN</i>	
2.2.6	No	No	Crossing provision revised to meet a hard standing path on East side . The primary Desire line is to the North with new pedestrian crossing proposed at this location. please refer drawing number: <i>SB-2020-106-200-MEADOWS SITE LAYOUT PLAN</i>	Yes
The Farm - Phase 2				
Paragraph No. in Safety Audit Report	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)
2.3.1	Yes	Yes	Crossing provision added per recommendation . please refer drawing number: <i>SB-2020-107-200-FARM SITE LAYOUT PLAN</i>	
2.3.2	Yes	Yes	Guard rail provided to push desire line further west - please refer drawing number: <i>SB-2020-107-200-FARM SITE LAYOUT PLAN</i>	
2.3.3	Yes	Yes	Clear turning area provided to at cul de sac T junction further to south away from creche drop off for safety	

			<p>please refer drawing number:</p> <p><i>SB-2020-107-200-FARM SITE LAYOUT PLAN</i></p>	
2.3.4	Yes	Yes	<p>This is a low trafficked area for service collection and emergency vehicle access where turning is facilitated at the T junction.</p> <p>please refer drawing number:</p> <p><i>SB-2020-107-200-FARM SITE LAYOUT PLAN</i></p>	

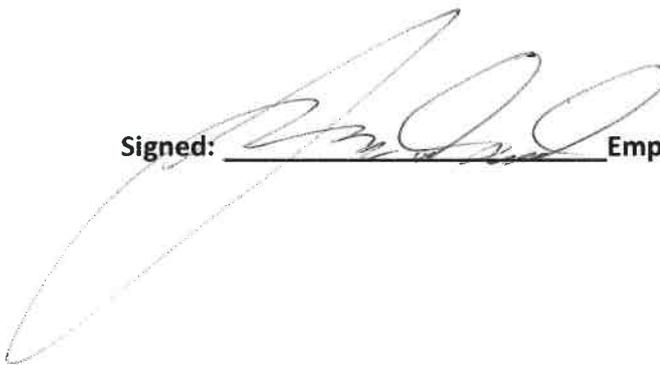
Signatures:

Signed:  Designer

Date 25/03/2022

Signed: Brian Loughrey Audit Team Leader

Date 28/03/2022

Signed:  Employer

Date 25/03/22