

Proposed Mixed Use Development



Road Safety Audit Stage 1/2

**SEPTEMBER 2021**



**MHL & Associates Ltd.**  
**Consulting Engineers**



**Document Control Sheet**

<b>Client</b>	Bellmount Developments
<b>Project Title</b>	Proposed Mixed Use Development
<b>Project Location</b>	Blackpool, Cork City
<b>Document Title</b>	Road Safety Audit Stage 1/2
<b>Document No.</b>	MHL-20068TT-RED-DOC03-RSA
<b>Job No.</b>	20068TT

Revision	Status	Author	Reviewed By	Approved By	Date
	Internal Draft	D. Murphy	D. Murphy	B. Murphy	19 <sup>th</sup> - Apr -'21
A	External Draft	D. Murphy	D. Murphy	B. Murphy	11 <sup>th</sup> - May -'21
B	Client Issue	D. Murphy	D. Murphy	B. Murphy	22 <sup>nd</sup> - June -'21
C	Final Issue	D. Murphy	D. Murphy	B. Murphy	08 <sup>th</sup> - Sept -'21

***M.H.L. & Associates Ltd.***

**Consulting Engineers**

Carraig Mór House,  
10 High Street,  
Douglas Road,  
Cork.

Tel 021-4840214 Fax: 021-4840215

E-Mail: [info@mhl.ie](mailto:info@mhl.ie)

## Table of Contents

1	Non Technical Summary .....	2
2	Audit Issues .....	5
2.1	PROBLEM 1: SIGNAGE & ROAD MARKINGS AT DEVELOPMENT ENTRANCE .....	5
2.2	PROBLEM 2: PUBLIC LIGHTING .....	5
2.3	PROBLEM 3: JUNCTION VISIBILITY SIGHTLINES .....	5
2.4	PROBLEM 4: LARGE VEHICLE ACCESS .....	5
2.5	PROBLEM 5: ROAD DRAINAGE .....	6
2.6	PROBLEM 6: REDFORGE ROAD MARKINGS .....	6
2.7	PROBLEM 7: SIGNAGE FOR RAISED SPEED TABLES .....	6
2.8	PROBLEM 8: BLACKPOOL RETAIL PARK LANE SIGHTLINES .....	6
2.9	PROBLEM 9: PEDESTRIAN/FOOTPATH PROTECTION .....	7
2.10	PROBLEM 10: PRECAST PAVERS ALONG REDFORGE ROAD .....	7
2.11	PROBLEM 11: BUS STOP PEDESTRIAN CROSSING .....	7
2.12	PROBLEM 12: BUS STOP KERBING .....	7
2.13	PROBLEM 13: DECORATIVE PAVING SLABS .....	8
2.14	PROBLEM 14: PEDESTRIAN CROSSINGS LINKING NORTH/SOUTH .....	8
2.15	PROBLEM 15: PEDESTRIAN CROSSING LINKING TO RETAIL PARK.....	<b>Error!</b>
	<b>Bookmark not defined.</b>	
3	Audit Team Statement .....	9
4	Appendix .....	10
5	Appendix A – Photographs .....	11
6	Appendix B – Drawings & Documents Submitted for Information .....	14
7	Appendix C – RSA Collision Statistics .....	15
8	Appendix D – RSA Feedback Form .....	16

## Table of Figures

Figure 1.1	Site Location .....	3
Figure 1.2	Proposed Development extents .....	4
Figure 5.1	Existing Vox Pro staff Entrance with Mahon Link Road .....	11
Figure 5.2	Existing site access with Redforge Road .....	11
Figure 5.3	Existing farside bus stop, looking south .....	12
Figure 5.4	Existing farside bus stop, looking north.....	12
Figure 5.5	Existing Retail Park Laneway .....	13
Figure 5.6	Existing side entrance to applicant’s site from the Retail Park Laneway .....	13
Figure 7.1	Road collision between 2005-2016 (RSA).....	15

## 1 NON TECHNICAL SUMMARY

M.H.L. & Associates Ltd. Consulting Engineers have been engaged by McCutcheon Halley Planning Consultants on behalf of Bellmount Developments to prepare a Road Safety Audit (RSA) to supplement a SHD housing planning application process for a proposed mixed use (residential and commercial) complex on an existing brown field site, located adjacent to Blackpool Retail Park. The site is currently operating as fuel station and is located to the north of the Commons Road. The location is well served by public transport, along with pedestrian facilities readily available in the vicinity.

This planning application follows a previous application on the site (Pl. Ref 06/30960), with ABP-308537-20 application for the construction a 114no. build to rent apartments (comprising a mix of 1 and 2 bed apartments) in 2no. blocks, ranging in height from 4 to 9 storey. Delivery and maintenance access to the proposed development was via modified entrances to the back of the site. The provision of public realm improvements on Redforge Road and the access road to Blackpool Retail Park includes widened footpaths and pavement improvements, pedestrian crossing, tree planting, raised tables/planters and seating areas.

The Audit Team consists of Brian Loughrey (team leader, TII Ref No. BL68284), Brian Murphy (team member) and David Murphy (observer) of MHL Consulting Engineers.

A site visit was undertaken by audit team on Wednesday 28/04/2021. The weather at the time of the audit was wet and overcast.

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 1/2 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.

Three minor traffic collisions were reported in the period 2005 – 2016 close to the proposed development entrance with the R852:

- One minor collision occurred in 2006 at the site entrance along the Redforge Road. The incident involved a rear end, left turn. Refer to figures in Appendix C for details.
- One minor collision occurred in 2008 at the site entrance along the Redforge Road. The incident involved a rear end, straight. Refer to figures in Appendix C for details.
- One minor collision occurred in 2009 at the site entrance along the Redforge Road. The incident involved a rear end, straight. Refer to figures in Appendix C for details.

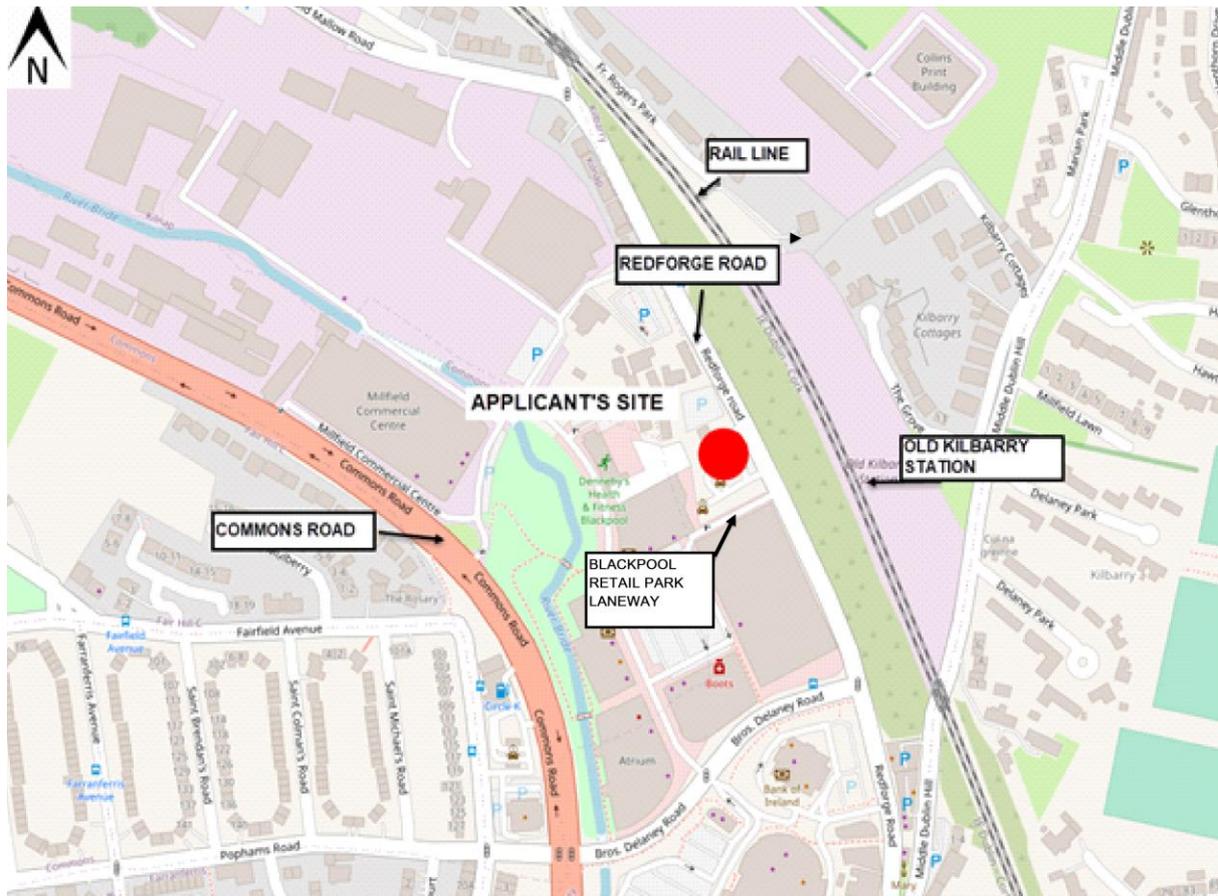
One fatal traffic collisions were reported in the period 2005 – 2016 in proximity to the proposed development entrance with the R852:

- One fatal collision occurred in 2007 at a location approximately 70m to the south of the site entrance along the Redforge Road, adjacent to the Blackpool shopping centre multi story carpark. The incident recorded resulted in one fatality and

involved a collision between a car and a cyclist. Refer to figures in Appendix C for details.

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". The scheme has not been examined or verified for compliance with any other standards or criteria. The team drove the local road network and walked the road along the site road boundaries and compiled a list of road safety problems and associated recommendations which are presented in this report. Appendix A contains some photographs of the site.

An Audit Team Statement is included at the end of the Report. Appendix D contains the Safety Audit Feedback Form.



**Figure 1.1 Site Location**



**Figure 1.2 Proposed Development site**

## 2 AUDIT ISSUES

### 2.1 PROBLEM 1: SIGNAGE & ROAD MARKINGS AT DEVELOPMENT ENTRANCE

No stop sign or road markings were noted at the lane exit from Blackpool Retail Park onto Redforge Road. Layout drawings do not show any proposal for their reinstatement. Inadequate signage markings could lead to collisions between vehicles egressing the development and traffic on the main road, due to vehicles not adequately stopping and checking for oncoming traffic.

#### Recommendation 1

Provide adequate warning signage and road markings at the laneway junction with the Redforge Road and at all internal junctions within the development, in accordance with the Traffic Signs Manual 2019.

### 2.2 PROBLEM 2: PUBLIC LIGHTING

The proposed public lighting design for the site access road and junction with the Redforge Road and Blackpool Retail Park laneway has not been provided to the audit team. Please ensure the lighting design is in accordance with the local authority Public Lighting Specification and with the required road lighting class / conflict zone lighting class. Poor lighting of the carriageway, surrounding footpaths and at junctions could result in collisions between vehicles, or vehicles and pedestrians, due to poor illuminance.

#### Recommendation 2

Ensure that the public lighting design proposals for the development access roads and in the vicinity of the development entrance onto the Redforge Road and Blackpool Retail Park laneway are designed and installed in accordance with recommended lighting standards.

### 2.3 PROBLEM 3: JUNCTION VISIBILITY SIGHTLINES

No junction sightline layouts at the proposed development junctions were provided to the audit team. Failure to provide adequate sightlines at these proposed locations could result in collisions between vehicles, or vehicles and pedestrians, due to poor forward visibility.

#### Recommendation 3

Ensure appropriate sightlines for the design speed of the Redforge Road are provided.

### 2.4 PROBLEM 4: LARGE VEHICLE ACCESS

The swept path analyses of service vehicles are shown to exit from the development onto the Redforge Road. It is unclear if the vehicle is to be prohibited from turning left on exit, as no swept paths of the vehicle turning left are shown. Failure to provide adequate turning junction widths could result in collisions between vehicles, or vehicles and pedestrians, due to inadequate carriageway space or entry radii at a junction. This exit location is also where an existing pedestrian footpath is located. Failure to adequately separate turning traffic from pedestrian movements could lead to collision.

#### Recommendation 4

Carry out appropriate swept path analysis for all expected vehicle types entering/exiting the site from Redforge Road. Appropriate signage is required at the exit location onto

the Redforge Road. Ensure appropriate separation is provided between the proposed pedestrian crossing and exiting traffic at this location.

### **2.5 PROBLEM 5: ROAD DRAINAGE**

The road drainage layouts which were provided to the audit team does not show sufficient detail on gully locations to capture surface water at the raised table crossing on Blackpool Retail Park Lane and to the south of raised table on Redforge Road. The drainage proposals for the maintenance and delivery access road were not evident. Failure to provide adequate drainage could result in aquaplaning and unsafe driving conditions, leading to collisions between vehicles, or vehicles and pedestrians, due to inadequate visibility, tyre grip, etc.

#### **Recommendation 5**

Ensure appropriate drainage measures along adjacent road carriageway, access laneways are provided, accounting for the raised table proposed.

### **2.6 PROBLEM 6: REDFORGE ROAD MARKINGS**

Failure to provide adequate road markings may lead to drivers misinterpreting priority of the Redforge Road and associated junctions and errantly entering the middle of the main road carriageway without noting street priority at the location, possibly leading to collisions.

#### **Recommendation 6**

Road marking in vicinity of the applicant's site to be reinstated as per the Traffic Signs Manual.

### **2.7 PROBLEM 7: SIGNAGE FOR RAISED SPEED TABLES**

No advanced warning of the raised table by way of appropriate street signage was noted on the design layouts provided to the audit team. Failure to provide adequate advanced warning of the raised tables may lead to drivers approaching the ramps without taking correct driving actions, possibly leading to collisions with oncoming cars, pedestrians, and cyclists.

#### **Recommendation 7**

Ensure appropriate signage measures on all approaches of the development at Redforge Road and Blackpool Retail Park Lane are provided, accounting for the raised table proposed locations.

### **2.8 PROBLEM 8: RETAIL PARK LANE/ REDFORE ROAD SIGHTLINES**

It is noted that tree planting, planter and other streetscape improvements are proposed in the layout provided to the audit team. Sightlines at the Redforge Road / Blackpool Retail Park Lane may be blocked by such proposals. Failure to provide adequate sightlines, unimpeded by proposed street infrastructure lead to drivers having reducing forward visibility from the junction and errantly entering the main road carriageway at the location, possibly leading to collisions with passing vehicles and cyclists.

#### **Recommendation 8**

Ensure that the required sightlines from Blackpool Retail Park Lane are unimpeded by landscaping and street improvement proposals and appropriate sightlines are maintained.

## **2.9 PROBLEM 9: PEDESTRIAN/FOOTPATH PROTECTION**

The layouts provided show an extended pedestrian concourse area to the front of the development site with Redforge Road. This proposal is to tie in at grade with the raised table at this location. Drivers may misinterpret the separation of the footpath and road carriage, leading to unsafe vehicle movements along the boundary interface of the footpath and roadway. No edge protection or pedestrian vehicle measure are shown, which to potential of collisions between pedestrian and passing vehicles due to this ambiguity of defined streetscape.

### **Recommendation 9**

Ensure that the sufficient pedestrian/ footpath protection measures are installed along the edge of the new public footpath with Redforge Road, the nearby junctions with the raised table and the raised table pedestrian crossing locations.

## **2.10 PROBLEM 10: PRECAST PAVERS ALONG REDFORGE ROAD**

The street landscape layout showed a section of decorative pavers projecting into the middle of the Redforge Road. This links up the applicant's internal walkway which could lead to pedestrian misinterpreting the paving as a pedestrian crossing location. This would be a safety concern as this may encourage unnecessary interaction between pedestrians and Redforge Road traffic.

### **Recommendation 10**

Please ensure the raised table is well defined so that vehicular traffic / pedestrians can easily distinguish by designing the raised table to be visually distinctive from the nearby pedestrian footpath. Hazard paving should also be provided along the kerbside of the adjoining footpath, where the footpath and carriageway are at the same level, to inform visually impaired users of the road edge.

## **2.11 PROBLEM 11: BUS STOP PEDESTRIAN CROSSING**

The proposed pedestrian connection with the farside bus stop to the north of the applicant's site is by a raised table crossing. The location of the crossing does not take account of the bus approach direction and bus idle position with respect to the crossing which could lead to unsafe pedestrian/bus/car interactions. The pedestrian crossing proposal at this location also has existing poor visibility of oncoming traffic along Redforge Road from the kerbside in both directions.

### **Recommendation 11**

Ensure that the bus stop and pedestrian crossing positioning are cognizant of each other, and appropriate pedestrian sightlines are provided on both side of the crossing.

## **2.12 PROBLEM 12: BUS STOP KERBING**

The existing bus stop kerbing at the farside bus stop to the north of the applicant's site has deteriorated over time due to improper kerbing installed at this location. This broken kerbing is a major trip hazard which could lead to pedestrian injury by loosing their footing or tripping into oncoming traffic.

### **Recommendation 12**

Ensure that the bus stop kerbing is replaced along the length of the bus stop with appropriate heavy duty Kassel Bus Stop kerbing.

**2.13 PROBLEM 13: DECORATIVE PAVING SLABS**

Decorative paving slabs are shown to be installed north of the far side bus stop location, in a strip across the Redforge Road. This could be misinterpreted as an uncontrolled pedestrian crossing, leading to unsafe pedestrian interaction with Redforge Road traffic and possible collisions.

**Recommendation 13**

Please ensure that the proposed street scape measures are in accordance with the relevant design standards and unnecessary ambiguity is removed.

**2.14 PROBLEM 14: PEDESTRIAN CROSSINGS LINKING NORTH/SOUTH**

The layouts provided show pedestrian crossings providing continuity along Redforge Road, in North/South direction past the applicant's site. It is unclear if these crossing locations are at appropriate gradients for mobility impaired access requirements.

**Recommendation 14**

Please ensure that the proposed pedestrian crossing facilities are in accordance with the 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 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: *Brian Loughrey*

Date: 22/06/2021

Mr Brian Murphy, BE CEng MIEI

Signed: *Brian Murphy*

Date: 22/06/2021

Mr David Murphy, B Eng (Hons) MA MIEI

Signed: *David Murphy*

Date: 22/06/2021

## 4 APPENDIX

## 5 APPENDIX A – PHOTOGRAPHS

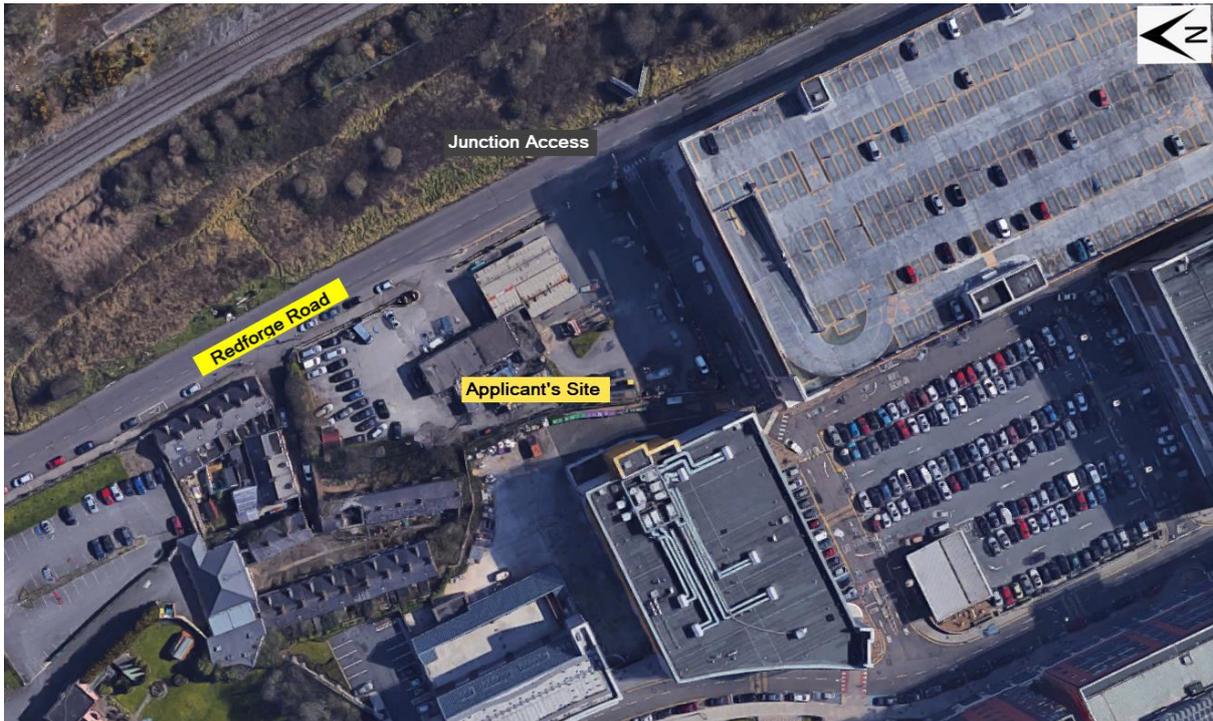


Figure 5.1 Existing Applicant's site on Redforge Road



Figure 5.2 Existing site access with Redforge Road



Figure 5.3 Existing farside bus stop, looking south



Figure 5.4 Existing farside bus stop, looking north



**Figure 5.5 Existing Retail Park Laneway**

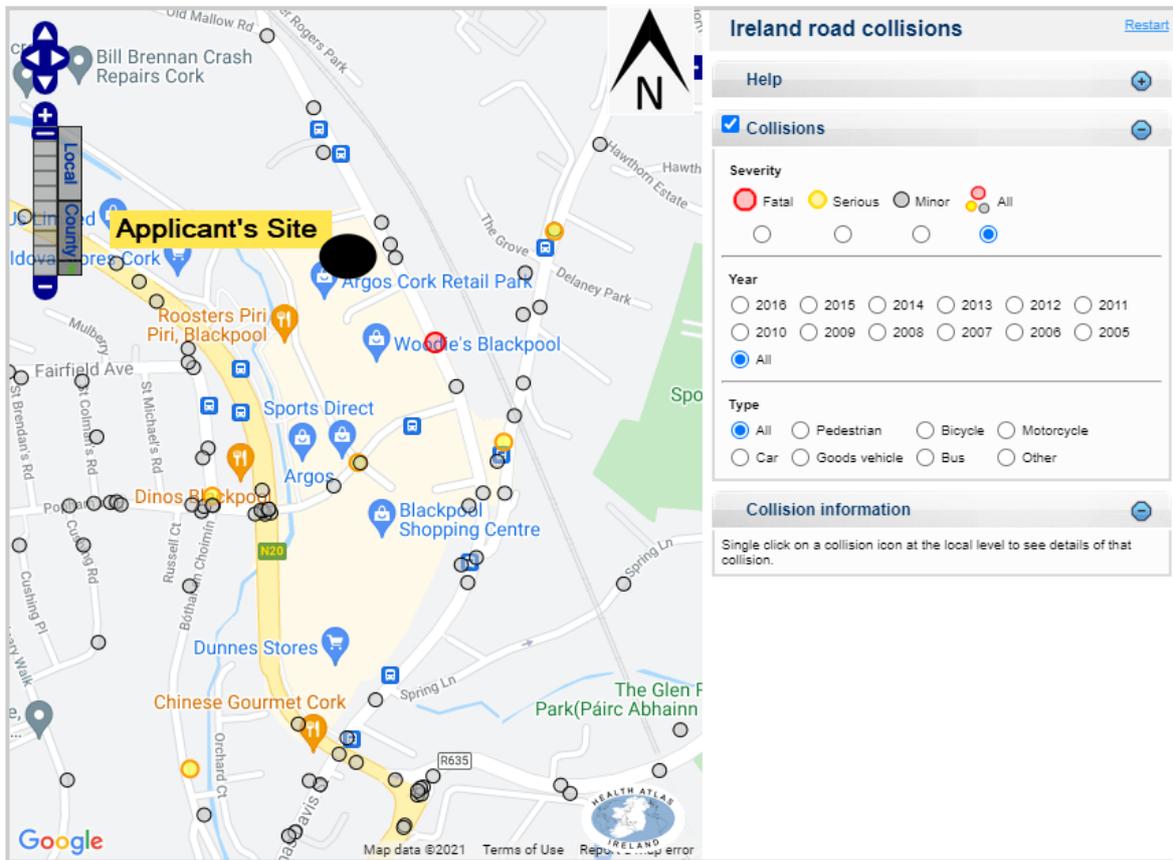


**Figure 5.6 Existing side entrance to applicant's site from the Retail Park Laneway**

## 6 APPENDIX B – DRAWINGS & DOCUMENTS SUBMITTED FOR INFORMATION

DRAWINGS BY: Butler/ Cammoranesi Architects Cathal O'Meara Landscape Architects JODA			
Ref.	Rev.	Drawing Title	Scale
Layout Drawings			
A01-01	-	Proposed Site Plan	1:500
2014-LA-P001	-	Street/Ground Floor Landscape Layout	As shown
4507-P10	-	Apartment and Road Levels Layout	1:250
4507-P6	-	Autotrack	1:250
4507-P2	-	Proposed Storm Sewer Layout	1:250

**7 APPENDIX C – RSA COLLISION STATISTICS**



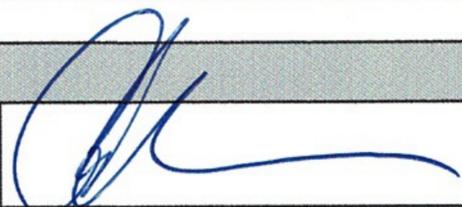
**Figure 7.1 Road collision between 2005-2016 (RSA)**

**8 APPENDIX D – RSA FEEDBACK FORM**

Scheme: Proposed Residential Development, Blackpool  
 Audit Stage: 1/2  
 Date Audit Completed: 11/05/2021

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	Yes	Y		
2.2	Yes	Y		
2.3	Yes	Y		
2.4	Yes	Y		
2.5	Yes	Y		
2.6	Yes	Y		
2.7	Yes	Y		
2.8	Yes	Y		
2.9	Yes	Y		
2.10	Yes	Y		
2.11	Yes	Y		
2.12	Yes	Y		
2.13	Yes	Y		
2.14	Yes	Y		

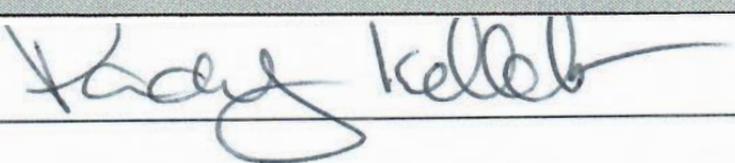
**DESIGNER**

Signed:  Date: 14. Sept. 2021

**AUDIT TEAM LEADER**

Signed: Brian Loughrey Date: 15/09/2021

**EMPLOYER**

Signed:  Date: 15/09/2021



OFFICES:

**CORK**

Carraig Mór House,  
10 High Street,  
Douglas Road,  
Cork.

**KERRY**

HQ Tralee,  
Abbey Street,  
Tralee,  
Kerry

Tel: +353 (0) 214840214

E: [info@mhl.ie](mailto:info@mhl.ie)

MHL & Associates Consulting Engineers  
Registration Number  
311279

Visit us at:  
[www.mhl.ie](http://www.mhl.ie)

---