

Carrigaline UDF and Public Realm

Stage 1 - Road Safety Audit

Cork County Council

February 2024



Notice

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This document has 19 pages including the cover.

Document history

Revision	Purpose description	Origin-ated	Checked	Reviewed	Author-ised	Date
Rev 0	Issued for Information	DOB	EON	EON	RAN	18/07/23

Client signoff

Client	Cork County Council
Project	Carrigaline UDF and Public Realm
Job number	5199585

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1. Introduction

1.1. Background

This report describes the findings of a Stage 1 Road Safety Audit of the proposed Carrigaline UDF and Public Realm Scheme. The scheme proposes to reclaim an existing carpark on the north bank of the Owenabue River and develop a new waterfront public plaza.

The site is located in Carrigaline town centre. The Owenabue River forms the southern boundary of the site with Main Street immediately to the west and the R612 to the east, see Figure 1.1



Figure 1-1 - Site Location

The Audit has been completed by Atkins on behalf of Cork County Council.

1.2. Site Inspection

A site visit was undertaken by the RSA team on Monday the 10th July 2023. The weather during the site visit was dry and warm.

1.3. The Team

The Road Safety Audit Team members were as follows:

- **Team Leader:** Eileen PCert(RSA) CEng MIEI
- **Team Member:** Diarmuid O’ Brien BEng (Hons) MIEI
- **Observer:** Rajesh Pathi MTech MIEI

The auditor approvals for the RSA team are contained within Appendix A.

1.4. The Design

The following drawings were examined as part of the Stage 1 Road Safety Audit process:

Table 1-1 - Design Team Drawings List

Drawing No	Title	Revision
101	EXISTING SITE LOCATION PLAN	
102	PROPOSED SITE LOCATION PLAN	A
103	PROPOSED SITE LOCATION PLAN	A
104	PROPOSED RIVERPARK AREA 01	A
105	CAR PARKING PROPOSED PLAN	A
106	PROPOSED TOWN SQUARE PLAN	A
201	USE AND DETAIL - SMALLER EVENTS	A
203	USE AND DETAIL - PROPOSED SEATING	A
204	PROPOSED TOWN SQUARE GROUND FINISHES	A
205	PROPOSED LIGHTING PLAN OPTION 01	A
301	EXISTING & PROPOSED SECTION AA	A
302	EXISTING & PROPOSED SECTION CC	A
303	EXISTING & PROPOSED SECTION DD	A

1.5. Road Safety Audit Compliance

Procedure and Scope

This Road Safety Audit has been carried out in accordance with the procedures and scope set out in TII publication number **GE-STY-01024 - Road Safety Audit**.

As part of the road safety audit process, the Audit Team have examined only those issues within the design which relate directly to road safety.

Compliance with Design Standards

The road safety audit process is not a design check, therefore verification or compliance with design standards has not formed part of the audit process.

Minimizing Risk of Collision Occurrence

All 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 the risk of collision occurrence.

2. Road Safety Issues Identified

2.1. Problem: Delineation of the Service/Delivery Vehicle Access Route

The proposed service/delivery vehicle access route to the courtyard at the rear of the cluster of commercial buildings is not clearly defined, as the surfacing of the public plaza appears to be the same throughout. This could lead to a pedestrian or cyclist being unaware that the area is also shared with service/delivery vehicles, which could cause collisions between unsuspecting pedestrians/cyclists and service/delivery vehicles. Typically, service/delivery vehicles are large in nature which would exacerbate any potential collision.

Further to the above, the surfacing of remainder of the service/delivery vehicle access route, just north of the public plaza is not defined. It appears from the design drawings to be regular tarmac which would indicate vehicle priority. However, there are shop entrances accessed from this side of the building which would expose pedestrians to potential collisions with vehicles.



Figure 2-1 - Details of Service Access and Inter-Action with Other Users

Recommendation

Pedestrian and cyclist safety should be prioritised in public/commercial areas such as this. If the service/delivery vehicles must use this route, then consideration should be given to the route being identifiable so as to inform both vehicle drivers and pedestrians and cyclists of the potential presence of vehicles in the area with the finishings being continued along the full length of the service access route.

2.2. Problem: VRU Movement and Interaction

The proposal for VRU movement shows what looks like a scooter park which is a circular route passing through the pavilion with no route shown for scooters accessing this area. In addition, the northbound cyclists on Main Street are not provided with an option to turn right to join the new facility. This could result in scooters and cyclists coming into conflict with pedestrians within the plaza and vehicles on Main Street.

Recommendation

Consideration should be given to providing a continuous route in and out of the plaza area for all users and the means of separating the individual users as shown on the drawing.

2.3. Problem: Existing Pedestrian Crossing

Currently the existing pedestrian crossing on Main Street is located at the same location of the proposed access point for the services vehicles. The existing Main Street is heavily trafficked, and removal of the controlled crossing could result in vehicle/pedestrian collisions.

Recommendation

Consideration should be given to retaining a crossing point on Main Street.

2.4. Problem: Potential Obstacles to the Service/Delivery Vehicle Access Route

The proposed layout includes some features such as large trees and low walls/benches adjacent to the service/delivery vehicle access route which may cause an obstacle for the large service/delivery vehicles that will likely be using the route. The proposed layout also indicates that the service/delivery vehicles will be forced to turn and travel in very close proximity to the south-eastern corner of the cluster of commercial buildings with exits/entrances along this eastern side of the building block. These potential obstacles may lead to collisions causing material damage or injury.

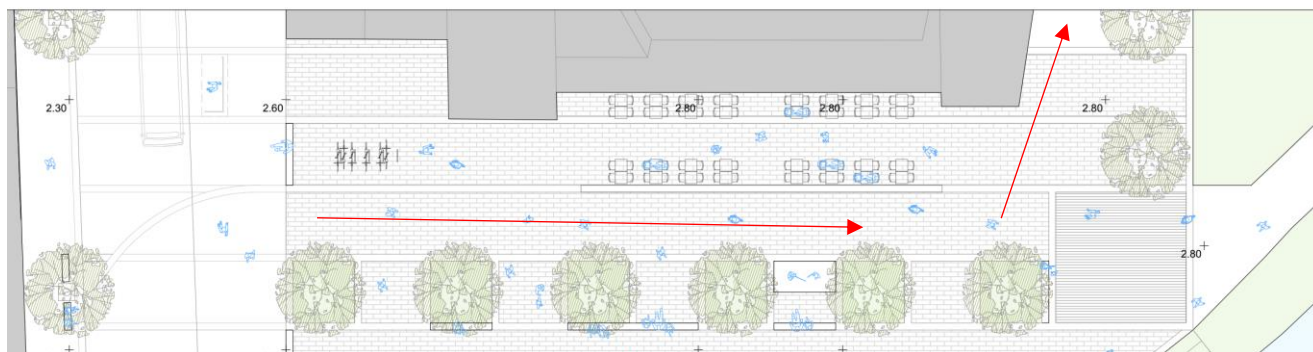


Figure 2-2 - Service Access and Adjacent Features

Recommendation

The separation to entrances/exits and the selection and siting of trees and other physical features should be considerate of the likely traffic using the service/delivery route.

2.5. Problem: Visibility Splays

It is not clear from the design drawings that adequate sightlines are being provided on egress from the service/delivery vehicle access route onto Main Street and also from the carpark onto the R612 on the eastern side of the site. Insufficient visibility splays could lead to side swipe type collisions.



Figure 2-3 - View to the Right at Approximate Location of Proposed Service Vehicle Egress Point

Recommendation

Appropriate visibility splays should be provided on egress from both entrances.

2.6. Problem: Potential Falls into the River

It is unclear from the drawings whether the stepped embankment is above the maximum tidal water level, if not the steps could become slippery from deposits of mud and algae resulting in slips trips and falls. In addition, it is unclear from the drawing whether the existing railing along the south side of the existing footpath from beyond the proposed embankment area is to be removed or replaced. If no railing is provided this could lead to pedestrians or cyclist falling into the river. The Owenabue River is a significant width and depth, which would increase the severity of an incident such as this.

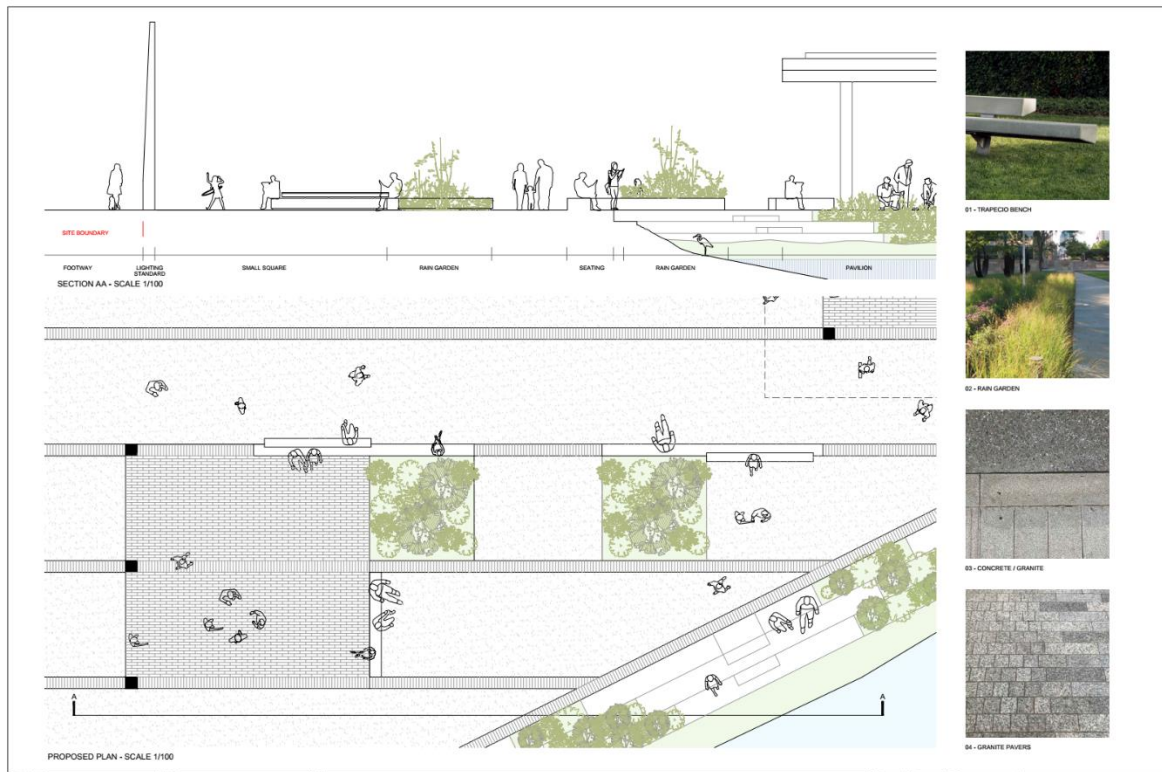


Figure 2-4 - Proposed Details of the Stepped Embankment



Figure 2-5 - Existing Railing and River Embankment

Recommendation

Ensure that adequate protection measures are in place to prevent falls into the river along the entire length of the scheme.

2.7. Problem: Access to Utility Service Chamber

There are a number of utility services and chambers within the site, in particular one cabinet at the northern boundary of the western carpark. The scheme proposes to replace the existing road and carpark in this area with landscaping and a footpath/shared path. If the service is not being relocated as part of the development this may force maintenance personnel to use the footpath/shared path to access the service. This may lead to the footpath being obstructed which could cause passing pedestrians to slip, trip or fall.



Figure 2-6 - Existing ESB Cabinet in Line of Proposed Parking

Recommendation

Maintenance and access requirements of the existing service should be considered, and appropriate facilities should be provided to facilitate.

2.8. Problem: Access to Irish Water Pumping Station and Denis Forde & Sons Funeral Homes

There is an existing access to an Irish Water Pumping Station and Denis Forde & Sons Funeral Homes in the eastern carpark which is to be removed as part of the proposed scheme. The funeral home does have a second access point, from the Old Waterpark Road but it does not appear to be suitable as main access. However, the Irish Water Pumping Station has no alternative access route and would require access to be maintained. If adequate accesses are not provided to the existing facilities individuals may be forced to access the facilities in an unsafe manner.



Figure 2-7 - Existing Access Point to Funeral Home and Pumping Station

Recommendation

Consideration should be given to retaining the existing access or providing an adequate alternative solution.

2.9. Problem: Connectivity of Southbound cyclists from the R612 to the proposed facility

There is an existing segregated pedestrian/cyclist facility running along the eastern side of the R612 which crosses to the western side via a controlled crossing to access the carpark. This pedestrian/cycle facility terminates at a setback uncontrolled crossing at the car park entrance road, at the eastern side of the site. The scheme will remove this uncontrolled crossing to facilitate a relocated entrance to the proposed carpark with a new layout of parking spaces.

The current cycle provision for northbound cyclists is on road with no delineation and southbound on an existing off road facility. The drawings indicate a proposed zebra crossing at the existing controlled toucan crossing and a proposed zebra crossing at the bridge.

The concern is that southbound cyclists may cross at the first crossing possibly resulting in them travelling through the carpark area and interacting with vehicles.



Figure 2-8 - Existing Cycle/Pedestrian Facility at the Car Park Entrance

Recommendation

Consideration should be given to the routing and crossing facilities for southbound cyclists.

3. Audit Team Statement

3.1. Certification

We certify that we have examined the drawings listed in Chapter 1 of this Report.

3.2. Sole Purpose

The Road Safety Audit has been carried out with the sole purpose of identifying any features of the design which could be removed or modified in order to improve the road safety aspects of the scheme.

3.3. Implementation of RSA Recommendations

The problems identified herein have been noted in the Report together with their associated recommendations for road safety improvements. We (the Audit Team) propose that these recommendations should be studied with a view to implementation.

3.4. Audit Team's Independence to the Design Process

No member of the Audit Team has been otherwise involved with the design of the measures audited.

3.5. Road Safety Audit Team

Eileen O'Neill

Audit Team Leader
Road Safety Engineering Team
ATKINS

Signed:



Date: 16 July 2023

Diarmuid O' Brien

Audit Team Member
Road Safety Engineering Team
ATKINS

Signed:



Date: 17 July 2023

4. Designer's Response

4.1. Preparing a Response to the Road Safety Audit

The Designer should prepare an Audit Response for each of the recommendations using the Road Safety Audit Feedback Form attached in **Error! Reference source not found.**

When completed, this form should be signed by the Designer and returned to the Audit Team.

4.2. Returning the Feedback Form

Please return the completed Road Safety Audit Feedback Form attached in **Error! Reference source not found.** of this report to the following email or postal address:

Email address: Eileen.ONeill@atkinsglobal.com

Postal address: Road Safety Engineering Team
Atkins
Unit 2B 2200,
Cork Airport Business Park,
Co. Cork
T12 R279
Telephone: +353 21 429 0317

The Audit Team will consider the Designers response and reply indicating acceptance or otherwise of the Designers response to each recommendation.

4.3. Triggering the Need for an Exception Report

Where the Designer and the Audit Team cannot agree on an appropriate means of addressing an underlying safety issue identified as part of the audit process, an Exception Report must be prepared by the Designer on each disputed item listed in the audit report.

Appendices



Appendix A. Auditor Approval

A.1. Team Leader

Eileen O Neill
Atkins House
150 Lakeside Drive
Airside Business Park
Swords, Co.Dublin

Date: 25/11/2022

Ref: EO109345

re: APPROVAL AS ROAD SAFETY AUDITOR

Dear Eileen O Neill,

You meet the qualification and experience requirements for Road Safety Audit as follows:

Scheme Category	Audit Team Status	Team Leader Expiry Date
Road Scheme	Team Leader	31/05/2025
Development Scheme	Team Leader	31/05/2025

The above assessment is based on information supplied and the qualification and experience requirements of National Roads Authority in accordance with HD 19 “Road Safety Audit”. Further approval through RSAAS must be sought for the proposed road safety audit team for each audit undertaken on a National Road.

Yours sincerely,

Lucy Curtis

Regional Road Safety Engineer
roadsafetyaudits@tii.ie

A.2. Team Member

Diarmuid O'Brien
3A Eastgate Road
Eastgate
Little Island
Co. Cork

Date: 09/12/2021

Ref: DO7439162

re: APPROVAL AS ROAD SAFETY AUDITOR

Dear Diarmuid O'Brien,

You meet the qualification and experience requirements for Road Safety Audit as follows:

Scheme Category	Audit Team Status	Team Leader Expiry Date
Road Scheme	Team Member	
Development Scheme	Team Member	

The above assessment is based on information supplied and the qualification and experience requirements of National Roads Authority in accordance with HD 19 "Road Safety Audit". Further approval through RSAAS must be sought for the pr Road.

Yours sincerely,

Lucy Curtis

Regional Road Safety Engineer
roadsafetyaudits@tii.ie

Appendix B. Road Safety Audit Feedback Form

Scheme: Carrigaline UDF and Public Realm

Audit Stage: Stage 1

Date Audit Completed: 18/07/2023

Paragraph No. in Safety Audit Report	To be completed by the Designer			To be completed by the Audit Team
	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative Measures accepted by Auditors (yes/no)
2.1	Yes			
2.2	Yes			
2.3	Yes			
2.4	Yes			
2.5	Yes			
2.6	Yes			
2.7	Yes			
2.8	Yes			
2.9	Yes			

Signed by the Designer:



Date: 24/07/2023

Signed by the Audit Team Leader:

Date:

Signed by the Client:

Date:

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