

**Title: Combined Stage 1&2 Road Safety Audit**

**For;**

**Proposed Residential Development at Ardclough Road,  
Celbridge Co. Kildare.**

**Client: Kildare County Council**

**Date: February 2022**

**Report reference: 1394R01**

**VERSION: FINAL (March 2022)**

**Prepared By:**

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## 1.0 Introduction

This report was prepared in response to a request from Mr. Patrick Fanning, Tobin Consulting Engineers, for a Combined Stage 1&2 Road Safety Audit of the proposed residential development and associated works at Ardclough Road, Celbridge, Co. Kildare.

The Road Safety Team comprised of;

Team Leader: **Norman Bruton**, BE CEng FIEI, Cert Comp RSA

TII Auditor Approval no. NB 168446

Team Member: **Owen O'Reilly**, B.SC. Eng Dip Struct. Eng NCEA Civil Dip Civil. Eng CEng MIEI

TII Auditor Approval no. OO1291756

The Road Safety Audit comprised of an examination of drawings and other material provided. A site visit was carried out by the Audit Team on the 17<sup>th</sup> of February 2022. The weather at the time of the site visit was dry and the road surface was also dry.

This Stage 1&2 Road Safety Audit has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024, dated December 2017.

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety. It has not been examined or verified for compliance with any other standards or criteria.

The problems identified in this report are considered to require action in order to improve the safety of the scheme for road users.

If any of the recommendations within this safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observation are intended to be for information only. Written responses to Observations are not required.

The information supplied to the Audit Team is listed in **Appendix A**.

A feedback form for the Designer to complete is contained in **Appendix B**.

A plan drawing showing the problem locations is contained in **Appendix C**.

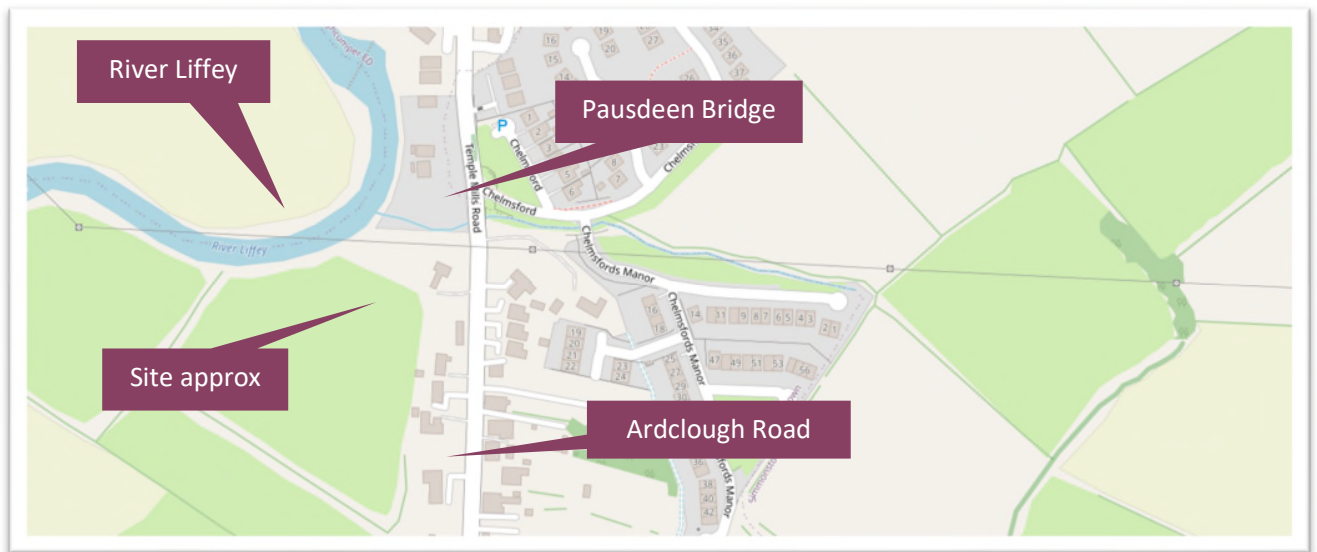
## 2.0 Background

It is proposed to construct a residential development on Ardclough Road (L1016), Celbridge and to provide an extension to the existing Pausdeen Bridge to the north of the site. (Widening of circa 2m).

Vehicular, pedestrian and cyclist access to the site will be via a priority junction on the Ardclough Road.

The speed limit is 50km/hr.

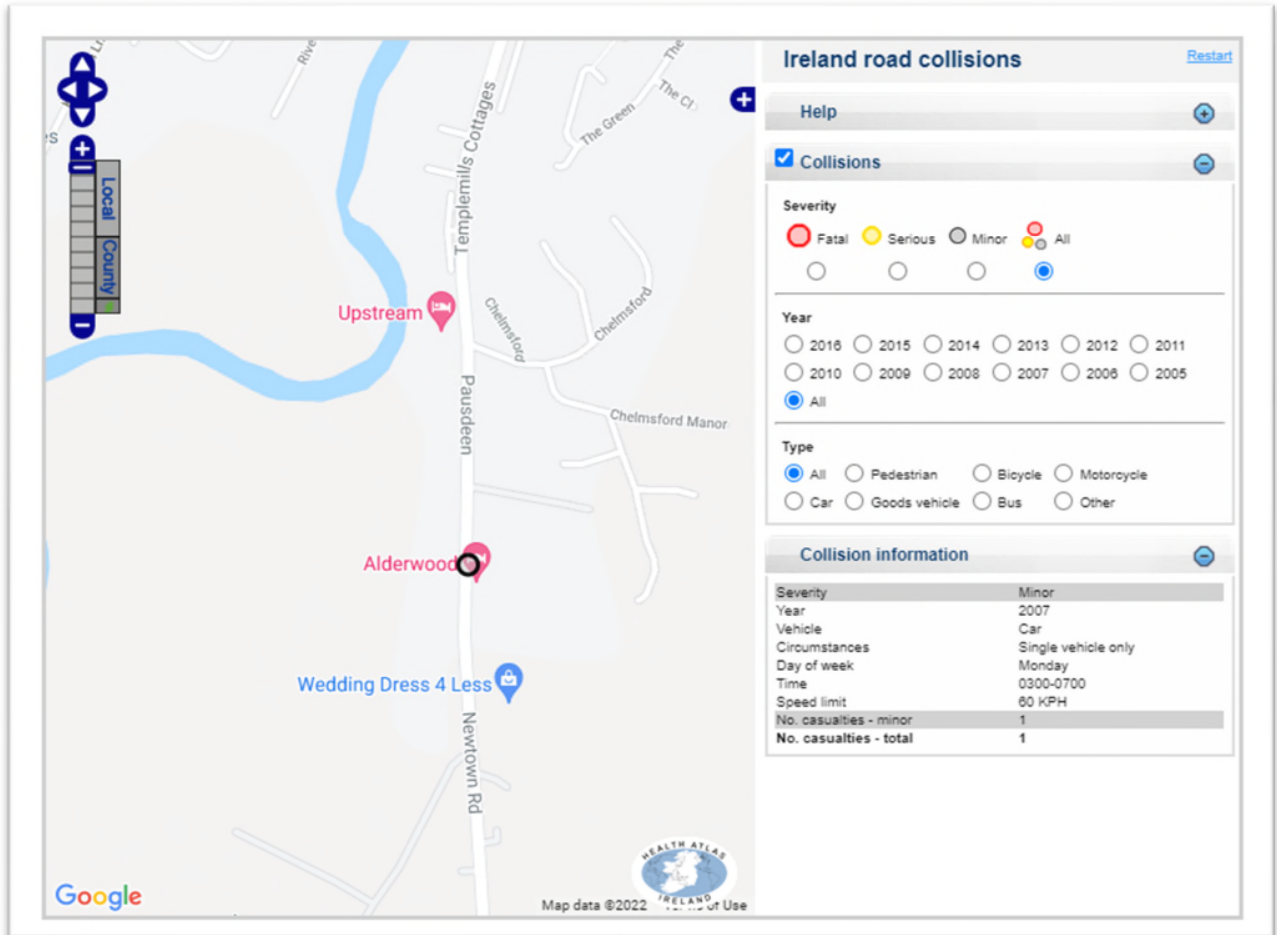
The location of the site is shown below.



[www.maps.openstreetmap.ie](http://www.maps.openstreetmap.ie)

## 2. 1 Collision History

The Road Safety Authority’s website shows that there was one minor injury collision recorded on the Ardclough Road, South of the proposed junction in the 12-year period 2005 to 2016.



### 3.0 Issues Raised in this Road Safety Audit.

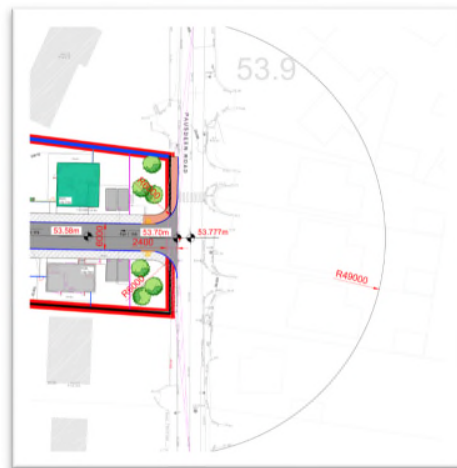
#### 3.1 Problem

*LOCATION*

Drawing 11162-2030 P02, Sightlines at proposed junction.

*PROBLEM*

The sightlines are shown to the centre of the carriageway. This is a section of carriageway with a broken line. Drivers may overtake slow moving vehicles and not be seen by drivers exiting the development leading to side-impact collisions.



*RECOMMENDATION*

It is recommended that the appropriate sightlines should be provide to the nearside edge of the carriageway.

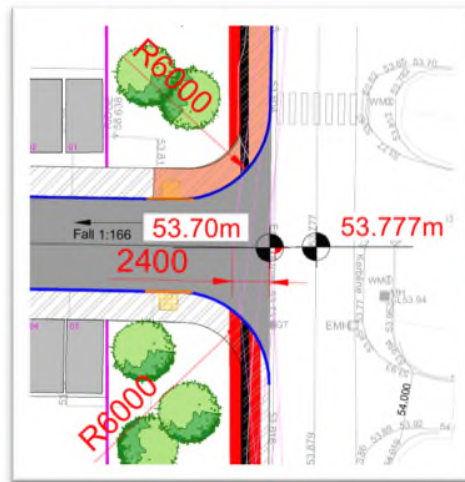
#### 3.2 Problem

*LOCATION*

Drawing 11162-2030 P02, Corner radii.

*PROBLEM*

It is proposed to provide corner radii of 6m at the priority junction with Ardclough Road. This could lead to high turning speeds resulting in high severity injuries if a crossing pedestrian is struck. It may also lead to drivers not seeing cyclists in their 'blind spots' as they turn left into the development.



*RECOMMENDATION*

It is recommended that the corner radii be reduced.

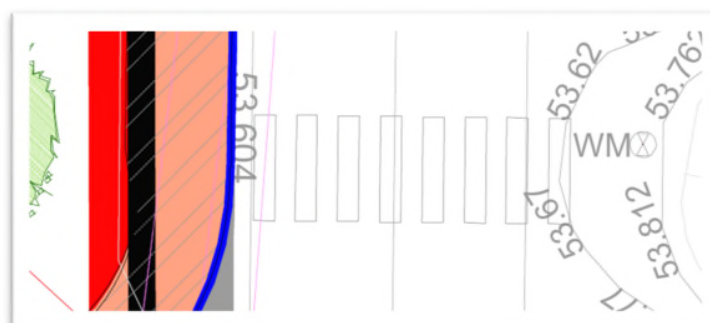
3.3 Problem

*LOCATION*

Drawing 11162-2030 P02, Pedestrian crossing of Ardclough Road.

*PROBLEM*

It is unclear what type of pedestrian crossing is proposed across Ardclough Road. The proposed marking suggest a zebra type crossing however there is no proposal for beacons. The use of striped marking could lead to confusion over priority between pedestrians and drivers leading to collisions.



*RECOMMENDATION*

It is recommended that either a controlled pedestrian crossing or uncontrolled crossing be provided with dropped kerb and suitable tactile paving.

### 3.4 Problem

#### LOCATION

Drawing 11162-2030 P02, perpendicular parking within the development.

#### PROBLEM

There are 150mm high kerbs (blue kerb lines) proposed at the perpendicular parking spaces. Vehicle occupants that want to get from the parked vehicles to their houses who may be mobility impaired such as pushing a buggy or somewhat infirm may not be able to mount high kerbs and could fall.



#### RECOMMENDATION

It is recommended that regular spaces be provided for vehicle occupant to access the footpath where perpendicular parking occurs. These access points should be flush so as not to be a trip hazard.

### 3.5 Problem

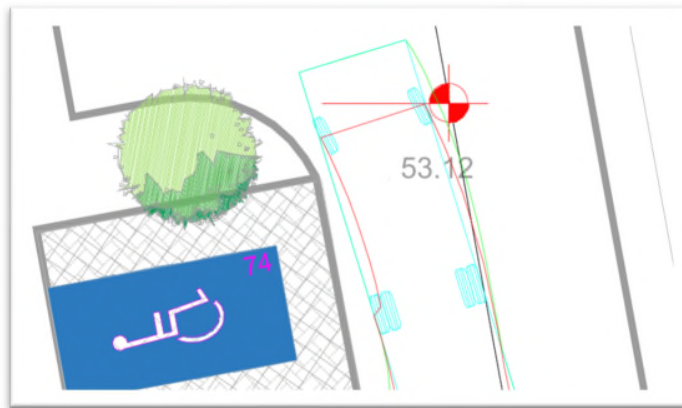
#### LOCATION

Drawing 11162-2101 P02, Refuse Truck Swept Path.

#### PROBLEM

The swept path analysis for the refuse truck uses a two axel vehicle and does not show the turning manoeuvre at the turning heads. There is a risk that the commonly use three axel vehicles may not be able to turn in the space provided especially with the turning heads being partially occupied by car parking spaces.





*RECOMMENDATION*

It is recommended that the full manoeuvres be carried out for the three axle vehicles.

3.6 Problem

*LOCATION*

Drawing 21042-E-604 Rev P, Delap & Waller, Public Lighting.

*PROBLEM*

Public lighting columns within the development could be located in the middle of the footpaths thereby making them hazards for pedestrians.



*RECOMMENDATION*

It is recommended that the columns be placed in grassed/landscaped areas or to the rear of the footpath.

### 3.7 Problem

#### LOCATION

Drawing 21042-E-604 Rev P, Delap & Waller, Public Lighting.

#### PROBLEM

The public lighting design only includes the proposed development. There is a risk that the new junction and proposed pedestrian crossing may not be lit to a sufficient standard and drivers may not see pedestrians leading to collisions.



#### RECOMMENDATION

It is recommended that the lighting design includes the junction and crossing to ensure that they are sufficiently lit.

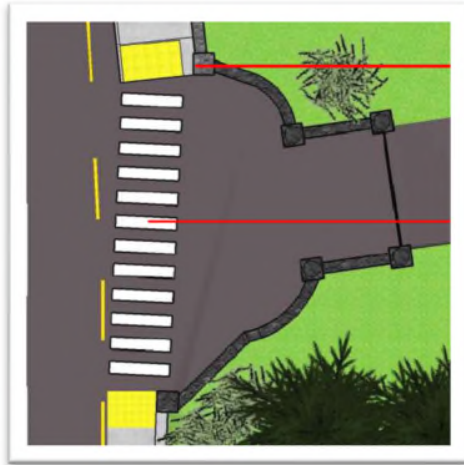
### 3.8 Problem

#### LOCATION

Drawing 210303-2-007 Rev – VHA, Pedestrian Bridge.

#### PROBLEM

It is proposed to have a pedestrian crossing across the Bruach an Pháistín entrance. The zebra crossing type marking may lead to confusion over priority resulting in collisions.



*RECOMMENDATION*

It is recommended that an uncontrolled crossing be provided. As it is a very lightly used entrance the footpath could be made continuous to give better priority to pedestrians.

3.9 Problem

*LOCATION*

Drawing 210303-2-007 Rev – VHA, Pedestrian Bridge.

*PROBLEM*

It is proposed to provide a pedestrian crossing across the Chelmsford entrance. The zebra crossing type markings and the red coloured type tactile paving may lead to confusion over priority leading to collisions. It may also lead to blind or partially sighted pedestrians assuming priority given the layout of the tactile paving. In addition, the pier may block a drivers visibility to crossing pedestrians.



*RECOMMENDATION*

It is recommended that if controlled crossing is proposed that beacons be provided. Suitable inter-visibility should also be provided for drivers and crossing pedestrians.

## 4.0 Observations

### 4.1 Observation.

Signage and drainage details have not been provided to the Audit Team.

### 4.2 Observation.

It is noted that tactile paving has not been provided at the crossing point on the new footpath along Ardclough Road.



## 5.0 Audit Statement

We certify that we have examined the material provided. The examination has been carried out with the sole purpose of identifying any aspects of the design which could be added, 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 would recommend should be studied for implementation. The audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

**Norman Bruton**                      Signed:   
**(Audit Team Leader)**              Dated: 23-3-2022

**Owen O'Reilly**                      Signed:   
**(Audit Team Member)**              Dated: 23-3-2022

## Appendix A

### List of Material Supplied for this Audit;

- Drawing 11162-2004\_P02 Proposed Site Layout
- Drawing 11162-2030\_P02 Proposed Roads & Hardstanding Layout
- Drawing 11162-2100\_P02 Proposed Road Autotrack
- Drawing 11162-2101\_P02 Proposed Road Autotrack
- Drawing 21042-E-604-Street Lighting
- Drawing 07 Pedestrian Bridge 3D-210303-02-007 3D Images
- Drawing 11162-2000\_P01 Site Location
- Drawing 11162-2001\_P01 Existing Site Topography

## Appendix B

### Feedback Form



**ROAD SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT**

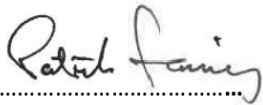
Scheme: Residential Development, Ardclough Road, Celbridge

Stage: Stage 1&2 Road Safety Audit


Date Audit (Site Visit) Completed: 17-2-2022

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	yes	yes	Please see Drawing attached with sightlines revised, 11162-2030.	
3.2	no	no	6m radius is necessary for large vehicles, Please see attached drawing showing road markings and signage, 11162-2031.	Yes
3.3	yes	yes	Please see updated drawing showing an uncontrolled crossing with drop kerbs each side, and appropriate buff tactile paving, 11162-2030.	
3.4	yes	yes	Drop kerbs have been added to back of all the perpendicular car parking spaces, please see updated drawing 11162-2030.	
3.5	yes	yes	West turning bay has been updated so 3 Axle bin lorries can maneuver. See updated drawing 11162-2101	
3.6	yes	yes	Lights to be located in green areas, Not in footpaths, please see updated lighting drawing.	
3.7	yes	yes	The junction and crossing will be lit.	
3.8	Yes	yes	Crossing shall be marked as an uncontrolled crossing not as zebra crossing markings.	
3.9	yes	yes	the crossing will not be a zebra crossing and will be an uncontrolled crossing.	

			The pier is outside the scope of our works, and we cannot remove this	
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Signed   
Design Team Leader

Date 08/03/2022

Signed   
Audit Team Leader

Date 23-3-2022

Signed .....  
Employer/Developer

Date .....

## Appendix C

### Problem Location Plan.

