




Parks & Landscape Services Section, Municipal Services Department

**Proposed Development of Fernhill Park &
Gardens, Stepside, Co. Dublin with Works
within the Curtilage of the Protected
Structure (Fernhill House)
PC/PKS/01/17**

Appendix 10 – Road Safety Audit

Fernhill Park & Gardens,
Rosemont Entrance,
Enniskerry Road, Co. Dublin

Road Safety Audit Stage 1

Prepared by: 
Elaine Carroll
Senior Engineer

Checked by: 
Brian McMahon
Principal Engineer

Rev No	Comments	Checked by	Approved by	Date
0	Draft Issue for internal review	BMcM	BMcM	27.06.17
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4th Floor, Adelphi Plaza, George's Street, Dun Laoghaire, Co. Dublin, Republic of Ireland
Telephone: +353 (0) 1 238 3100 Website: <http://www.AECOM.com>

Job No: Reference Rosemont Entrance RSA S1

Date Created June 2017

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1 Introduction

1.1 Overview

AECOM has been commissioned by Dún Laoghaire Rathdown County Council to undertake a Stage 1 Road Safety Audit of a proposed signalised junction to the Fernhill Park and Gardens at the existing access to the Rosemont Secondary School along the Enniskerry Road in Dublin.

The Safety Audit Report indicates each of the problems identified, provides outline recommendations for solving the problems, presents the Audit Team Statement, and describes a schedule of documents reviewed. The members of the Audit Team were:

Audit Team Leader:

Brian McMahon, BE MSc CEng MIEI

Principal Engineer, AECOM

Audit Team Member:

Elaine Carroll, BEng CEng MIEI

Senior Engineer, AECOM

The audit comprises of an examination of the proposed scheme drawings. The audit was carried out in June 2017 and included a site visit of the location on the 22nd June 2017. On the day of the visit the weather was dry and sunny. During the time of the site visit, there did not appear to be any circumstances that would suggest a deviation from normal traffic conditions. The site visit was undertaken between 11.00hrs and 12.00hrs (daylight).

1.2 Road Safety Audit

This Safety Audit represents the response of an independent Audit Team on various aspects of the scheme. The recommendations contained therein are therefore the opinions of the Audit Team, and are intended as a guide to the designers on how the scheme as currently designed can be improved to address issues of road safety.

The following documents were provided by the Design Team, with the full list of documents outlined in Appendix A:

2315-01 – Location Map

2315-02 - Masterplan

2315-03 – Detailed Plan 1

2315-04 – Detailed Plan 2

2315-05 – Detailed Plan 3

2315-06 – Rosemont Entrance

2315-07 – Pedestrian Entrances

2315-08 – Drainage Plan

2315-09 – Services Plan

2315-15 – Cross Sections

2315-16 – Supporting Images

Fernhill Park & Gardens – Part 8 Report

The terms of reference of the Audit are as described in GE-STY-01024-07 (HD 19/15). The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

The Safety Audit guidelines do not provide a facility for the Audit Team to classify individual problems according to their severity, and hence the level of priority to be attached to each. It is instead the task of the design team and/or their representative to take a view on the validity of each of the recommendations, and decide on an appropriate course of action. The response of the Design Team to the Safety Audit should be prepared in the form of a Safety Audit Feedback Form, accepting the changes proposed by the Audit Team or providing an alternative solution to the problem. The Feedback Form is then returned to the Audit Team for review and verification. A template for a Safety Audit Feedback Form is included as Appendix B.

2 Site Location

2.1 Overview

The scheme is located along the Enniskerry Road in Sandyford, Dublin 18. The existing junction is a three arm priority junction with the Enniskerry Road and the entrance to the Rosemont Secondary School.

The proposed scheme will comprise of a new signalised junction with toucan crossings on two of the three arms. A new right turn lane is proposed on the Enniskerry Road southbound for motorists turning into the Rosemont School and proposed park. A new vehicular and pedestrian park access road will be located directly west of the signalised junction and will form a priority junction with the existing access into the Rosemont School entrance. A priority raised crossing is to be located on this new access road to accommodate pupils travelling to the school.

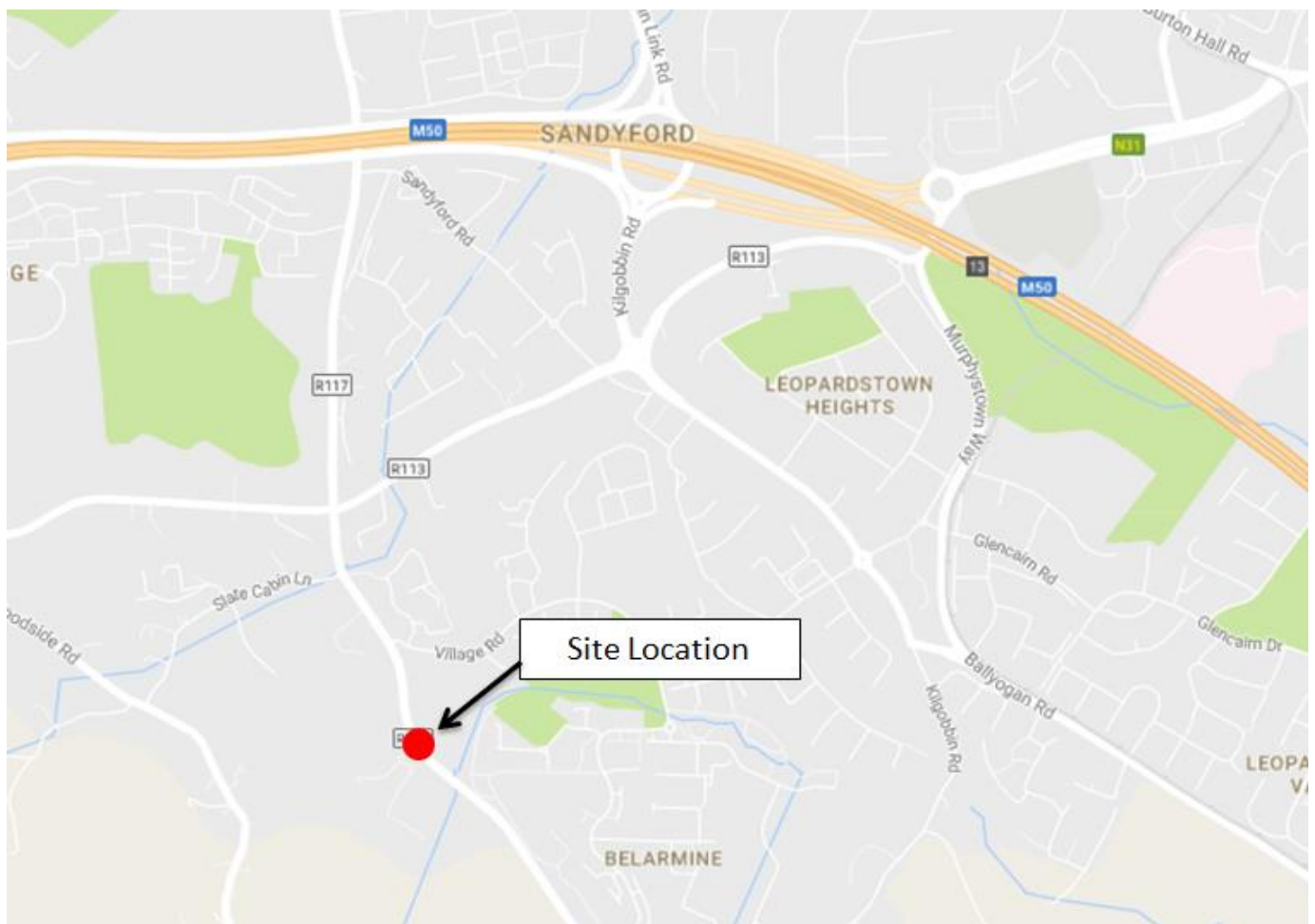


Figure 1: Site Location

2.2 Site Observations

The site visit was undertaken on 22nd June 2017, the weather was dry and sunny. A number of site observations were noted. These observations are discussed below under a number of key headings.

Road Geometry

- Enniskerry Road forms part of the R117 Regional Road. The road has a wide single carriageway approximately 11m wide with two-way vehicle lanes, a northbound bus lane and a southbound cycle lane.
- The Rosemont School entrance is a single carriageway road.

Vehicular Traffic

- Traffic flows during the site visit appeared to be normal for the area at that time of the day.
- The speed limit on the road within the Audit Area is 50km/h. From the observations during the site visit the majority of motorists appeared to obey the speed limit.

Pedestrians and Cyclists

- The Enniskerry Road has footpaths on both sides of the carriageway. There is a two-way cycle facility on the west side of the road. There is a cycle lane on the east side of the road travelling southbound.
- The school access has a footpath on the south side of the road. There is also a two-way off road cycle track on the south side of the road leading to the school entrance.

Street Lighting

- Public street lighting is provided on the east side of the Enniskerry Road, at approximately 35 – 40m spacing.
- There are two public lighting columns at the entrance to the school on the south side of the entrance.
- As the site visit was carried out during daylight hours; lighting levels at the site during darkness hours were not observed.

Collisions

- The RSA database of road collisions was examined to establish if there are any existing safety issues in the vicinity of the site that were not evident from the site visit. The database provides collision records for the period 2005 to 2013, with Figure 2 below outlining the recorded collision locations over the nine year period.
- One minor collision was recorded at the junction of the Enniskerry Road/Rosemont School entrance. This accident occurred in 2010 and involved a single motorcycle collision.

Ireland Road Collisions

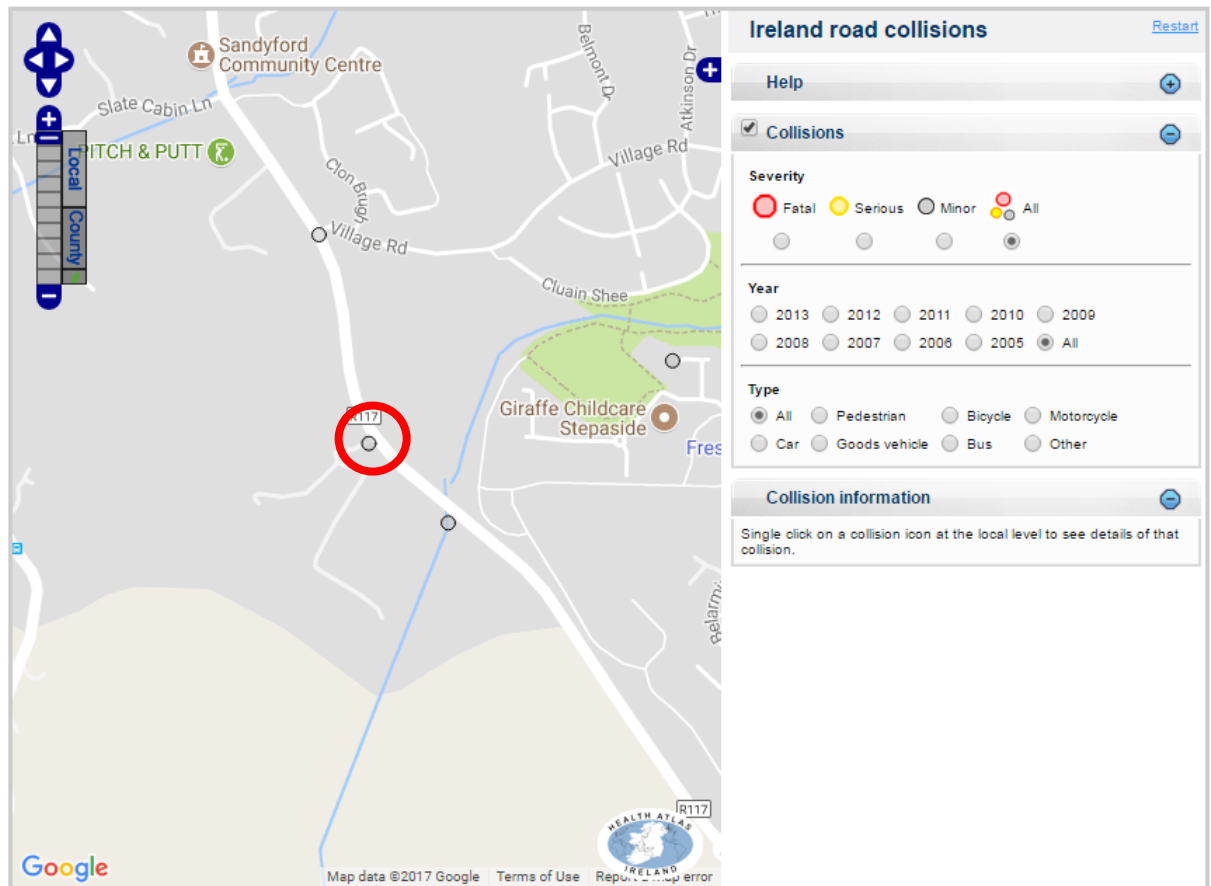


Figure 2 RSA Collision Records (2005-2013) in vicinity of the study area (www.RSA.ie)

3 Departures from Standards

3.1 General

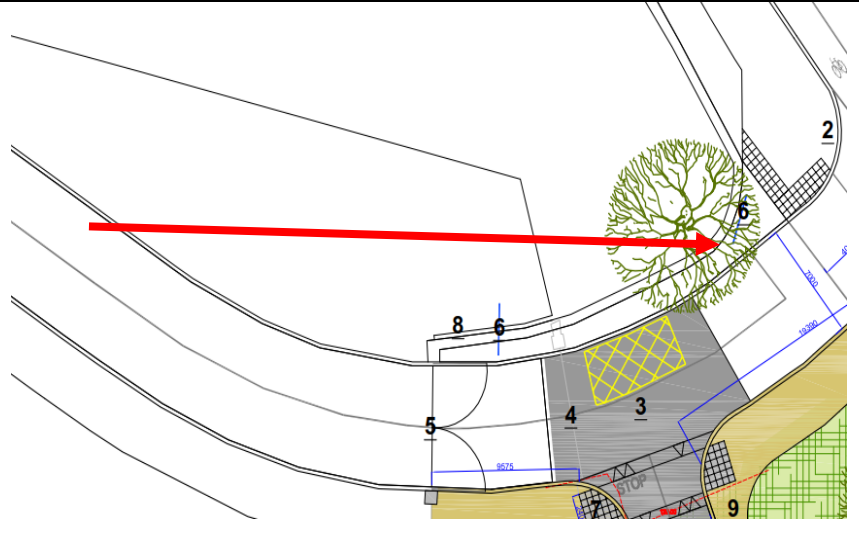
The proposed staging plan for the signalised junction has not been provided.

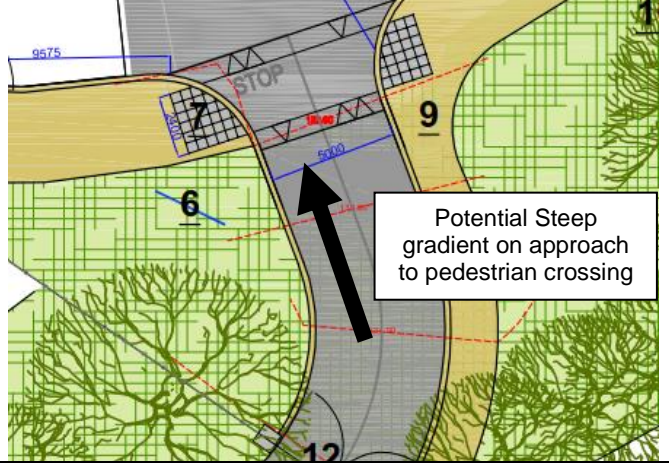
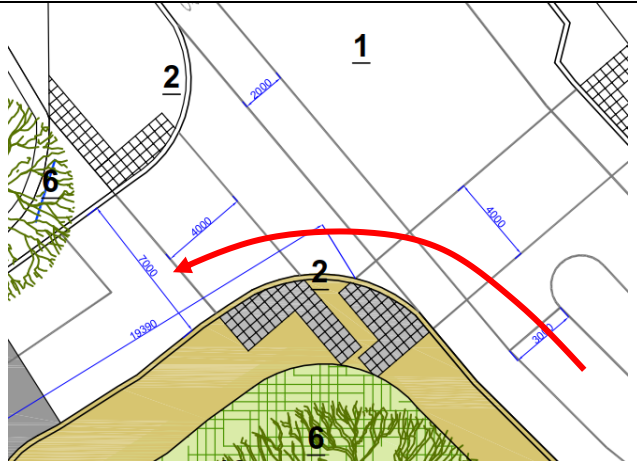
4 Items Resulting from this Stage 1 Road Safety Audit

4.1 Overview

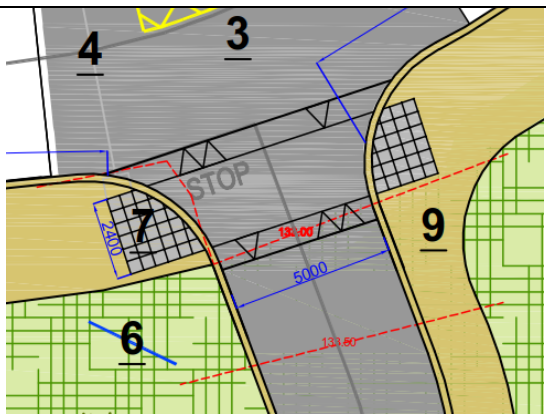
This Safety Audit has reported on issues relating to a proposed signalised junction at the Enniskerry Road and the Rosemont School entrance and a priority junction between the Rosemont School entrance and the Fernhill Park and Garden entrance. The audit encompasses the signalised junction and the priority junction for the scheme. This is classified as a Stage 1 Road Safety Audit, as defined within the TII Road Safety Audit Standard and Guidelines.

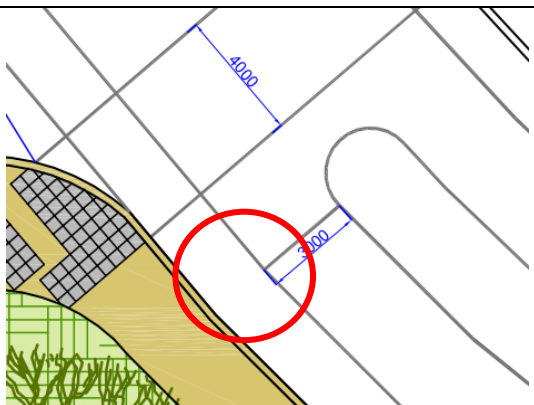
4.2 Road Geometry

Problem 4.2.1:		
Location	Rosemont School Access Road	
Drawing	DRP-2315-06	
Summary	Limited visibility for motorists exiting the school on approach to the signalised junction	
Description		<p>There is a bend on the existing school road and forward visibility to the Enniskerry Road junction is reduced due to the boundary wall. No signage has been provided on the school access road to indicate to motorists exiting the school that a new signalised junction is ahead. The reduced forward visibility to the junction and lack of signage may result in some motorists approaching this junction at excessive speed resulting in collisions with pedestrians or rear end collisions.</p>
Recommendation:		
		<p>To improve awareness of the new junction, appropriate signage should be provided on the access road for vehicles exiting the school to indicate a signalised junction is ahead.</p>

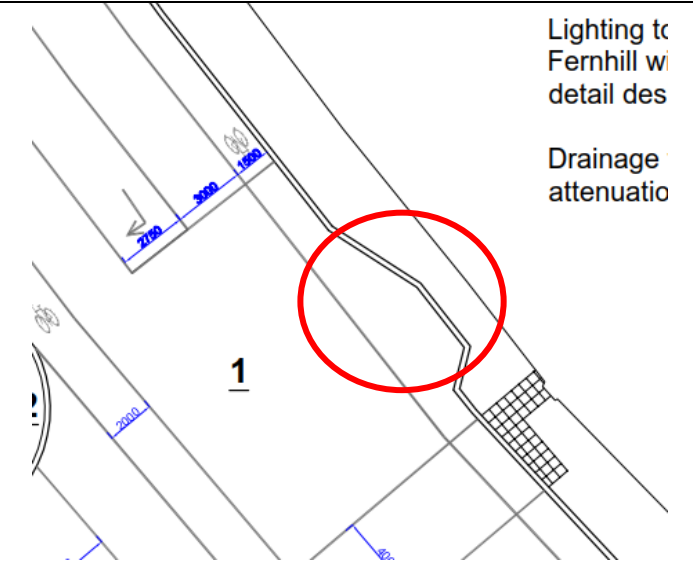
Problem 4.2.2:		
Location	Access road to park entrance	
Drawing	DRP-2315-06	
Summary	Steep gradient on access road to priority junction	
Description		
<p>From the site visit, the existing gradient of the park access road on approach to the priority junction appears to be steep. There is a risk of vehicles approaching the priority junction at speed; which may result in a collision with pedestrians crossing the priority raised crossing.</p>		
Recommendation:		
<p>Clarification should be provided on the gradient of this road on approach to the junction. The gradient on the immediate approach to the junction should be gentle. Anti-skid surfacing should be provided on the approach to the junction to improve motorist's control of their vehicles in all weather conditions.</p>		
Problem 4.2.3:		
Location	Signalised Junction	
Drawing	DRP-2315-06	
Summary	No tracking provided for large vehicles through the junction	
Description		
<p>No auto-tracking is provided for large vehicles turning left from the Enniskerry Road NB into the access road for the school and park. If a coach/bus entering the school grounds does not have sufficient room to manoeuvre the left turn, the vehicle may overrun the stop line at the access road, which could result in a collision with motorists in the opposing lanes.</p>		
Recommendation:		
<p>Tracking of the largest anticipated vehicle should be provided in order to make sure it does not overrun the stop line at the access road.</p>		

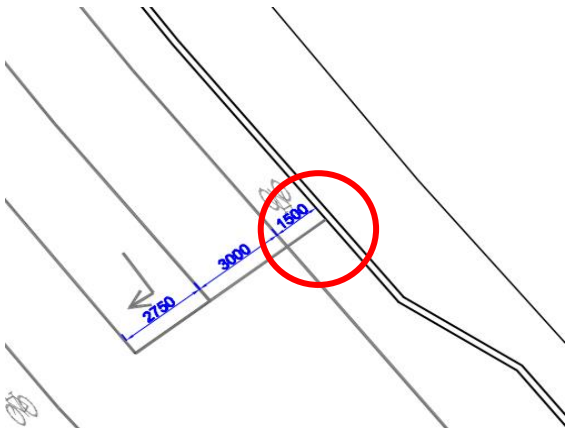
4.3 Signing & Lining

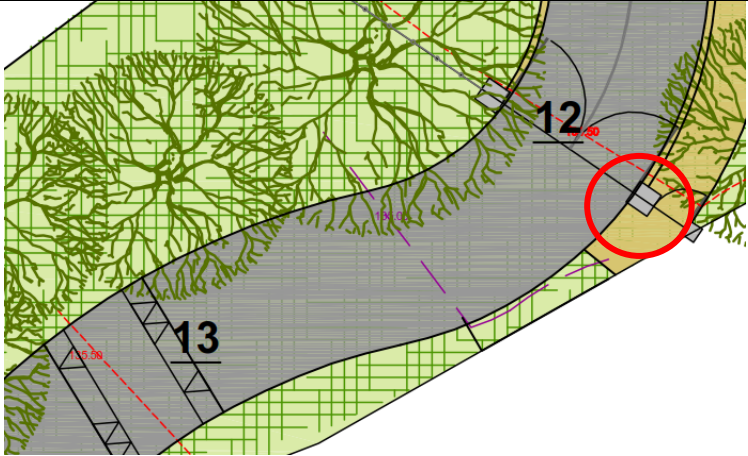
Problem 4.3.1:		
Location	School Access/Park Access Junction	
Drawing	DRP-2315-06	
Summary	STOP line located on pedestrian crossing	
Description		
<p>The STOP line for the side road is located on the pedestrian crossing. The STOP line is not provided at the first point of conflict with pedestrians. The location of this stop line could lead motorists to mount the crossing at speed, unaware of pedestrians, potentially causing a collision.</p>		
Recommendation:		
<p>The proposed crossing is as per Design Manual for Urban Roads and Streets (DMURS) guidance; however, the National Cycle Manual recommends a two stage approach for vehicles. For the 1st stage, motorists stop at a setback stop line location before the raised crossing to allow pedestrians to cross. In the 2nd stage, motorists proceed on to the crossing to the junction at a slow speed, giving time to see pedestrians and cyclists approaching the junction. This two stage approach should be incorporated at this crossing location with the stop set back before the raised crossing.</p>		

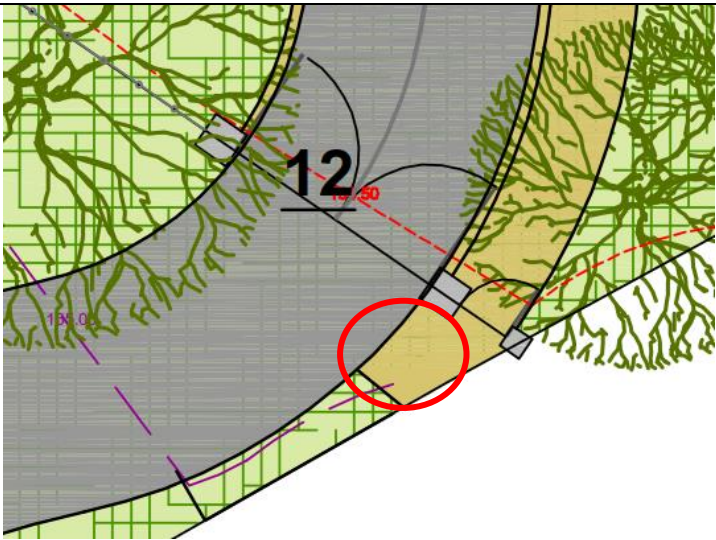
Problem 4.3.2:		
Location	Enniskerry Road Northbound	
Drawing	DRP-2315-06	
Summary	No stop line provided for cyclists	
Description		
<p>No stop line is provided at the signalised junction for cyclists travelling northbound in the cycle lane. Cyclists may fail to stop at the junction resulting in collisions with pedestrians or vehicles.</p>		
Recommendation:		
<p>A cycle stop line should be provided at this location.</p>		

4.4 Pedestrians & Cyclists

Problem 4.4.1:		
<i>Location</i>	Enniskerry Road Southbound Cycle Lane	
<i>Drawing</i>	DRP-2315-06	
<i>Summary</i>	Clarification of Box turn for Cyclists	
Description It would appear that a box turn has been provided in order for southbound cyclists to turn right, however, there are no road markings to determine this. Clarification is needed from the designer. If this is a box turn, cyclists will need to be provided with a stage with no other conflicting/opposing turning movements.		
Recommendation:		
Clarification should be provided as to whether this is a box turn for cyclist right turn movement. A staging diagram should be provided to demonstrate safe stages for cyclists to turn right.		

Problem 4.4.2:		
Location	Enniskerry Road Southbound	
Drawing	DRP-2315-06	
Summary	Inadequate width of cycle lane	
Description		
The southbound cycle lane is narrow with a width of 1.5m and does not meet the National Cycle Manual Standard along a 50km/hr main road. Sub-standard cycle facilities could cause cyclists to veer out of the cycle lane which could result in a collision with vehicles.		
Recommendation:		
The width of the cycle lane should be increased to a minimum of 1.75m to meet the standards in the National Cycle Manual.		

Problem 4.4.3:		
Location	Park access road at shared surface area	
Drawing	DRP-2315-06	
Summary	Impaired visibility of pedestrians entering the shared surface	
Description		
<p>The proposed gates and pillars are located along the road at the point where the pedestrian footpath terminates and where pedestrians move into the shared space area on to the road. The location of the pillar may impair the visibility of drivers approaching the area to pedestrians making the change from footpath to shared surface. This reduced visibility may result in drivers failing to see pedestrians on time as they step onto the shared space resulting in a collision.</p>		
Recommendation:		
<p>Speed reducing measures should be provided close to the location of the shared surface. Signage should be implemented to alert drivers to the presence of pedestrians.</p>		

Problem 4.4.4:	
<i>Location</i>	Access Road at Shared Surface Area
<i>Drawing</i>	DRP-2315-06
<i>Summary</i>	No dropped kerb indicated for pedestrians
<div> <div>  </div> </div>	
Description	
No dropped kerb has been provided for pedestrians from the footpath to the shared road surface. This hinders pedestrian accessibility, in particular, for vulnerable road users and disabled users.	
Recommendation:	
A dropped kerb should be provided on the footpath.	

4.5 Drainage & Maintenance

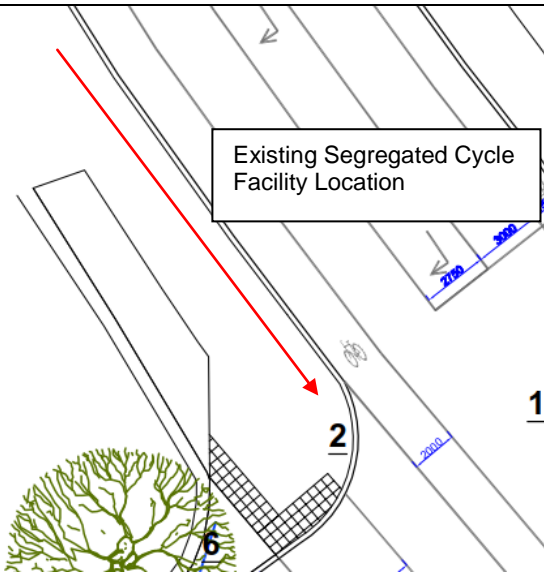
Insufficient drainage drawing was supplied for the junction being audited and therefore could not be commented on.

4.6 Public Lighting

No public lighting drawing was provided to the audit team and could therefore not be commented on.

4.7 Observation

Observation 4.7.1:		
<i>Location</i>	Throughout scheme	
<i>Drawing</i>		
<i>Summary</i>	No signage provided throughout scheme	
Description		
No signage has been shown on the drawings throughout the scheme.		
Recommendation:		
Adequate signage should be provided throughout the scheme.		

Observation 4.7.2:		
<i>Location</i>	Enniskerry Road	
<i>Drawing</i>	DRP-2315-06	
<i>Summary</i>	Clarification of retention of two-way cycle facility	
Description		
At present, there is a two-way cycle facility in place on the west side of the road. Cyclists travelling southbound are accommodated on a segregated facility beside the footpath. The drawing does not show this facility being retained.		
Recommendation:		
Clarification is needed on the retention of this segregated facility.		

5 Audit Team Statement

I certify that the site was visited and that this audit has been carried out in accordance with the Transport Infrastructure Ireland Road Safety Audit Guidelines GE-STY-01027-01 (HA 19/15) and Standard GE-STY-01024-07 (HD 19/15).

The Road Safety Audit 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.

No one on the audit team has been involved with the scheme design.

AUDIT TEAM LEADER: SENIOR ROAD SAFETY AUDITOR

Name: Brian Mc Mahon BE MSc CEng MIEI

Position: Principal Engineer
Organisation: AECOM
Address: Adelphi Plaza
George's Street Upper
Dun Laoghaire

Signed
Date 27/06/2017



AUDIT TEAM MEMBER: ROAD SAFETY AUDITOR

Name: Elaine Carroll BEng CEng MIEI
Position: Senior Engineer
Organisation: AECOM
Address: Adelphi Plaza
George's Street Upper
Dun Laoghaire

Signed
Date 27/06/2017



AUDIT TEAM OBSERVER: ROAD SAFETY AUDITOR

Name: Jane Hennaghan BEng (Hons) MIEI

Position: Consultant Engineer
Organisation: AECOM
Address: Adelphi Plaza
George's Street Upper
Dun Laoghaire

Signed
Date 27/06/2017



OTHERS INVOLVED:

There were no other persons involved in this Audit than previously stated above.

Appendices

Appendix A - Documents Submitted to the Audit Team

The following documents were submitted as part of the Road Safety Audit:

Document No.	Rev.	Description	Date
2315-01		Location Map	19/06/2017
2315-02		Masterplan	19/06/2017
2315-03		Detailed Plan 1	19/06/2017
2315-04		Detailed Plan 2	19/06/2017
2315-05		Detailed Plan 3	19/06/2017
2315-06		Rosemont Entrance	19/06/2017
2315-07		Pedestrian Entrances	19/06/2017
2315-08		Drainage Plan	19/06/2017
2315-09		Services Plan	19/06/2017
2315-15		Cross Sections	19/06/2017
2315-16		Supporting Images	19/06/2017
		Fernhill Park & Gardens – Part 8 Report	19/06/2017

Appendix B - Safety Audit Feedback Form

Scheme Name: Fernhill Park & Gardens, Rosemont Entrance, Enniskerry Road, Co. Dublin

Stage: 1

Date Completed: 28/06/2017

Paragraph No. in Safety Audit Report	Problem Accepted (yes/no)	Recommendation accepted (yes/no)	Alternative measures (describe)
4.2.1	Yes	Yes	
4.2.2	Yes	Yes	
4.2.3	Yes	Yes	
4.3.1	Yes	Yes	
4.3.2	Yes	Yes	
4.4.1	Yes	Yes	
4.4.2	Yes	Yes	
4.4.3	Yes	Yes	
4.4.4	Yes	Yes	
4.7.1	Yes	Yes	
4.7.2	Yes	Yes	Two way cycle track maintained.

Designer's Signature:



Date:

28/6/2017

Auditor's Signatur



Date:

28/06/2017