AFEC International

Proposed Primary School, Kishoge, Lucan, Co. Dublin

Stage 1 Road Safety Audit

P·M·C·E

July 2022

AFEC International

Proposed Primary School, Kishoge, Lucan, Co. Dublin

Stage 1 Road Safety Audit

Document Ref:	P22-066-PSW4-RP-001

Rev	Prepared By	Reviewed By	Approved By	Issue Date	Reason for Revision
3.0	MAH	PJM	PJM	29th July 2022	Final
2.0	MAH	PJM	PJM	29th July 2022	Revised Draft Report
1.0	MAH	PJM	PJM	28th July 2022	Draft Report

P·M·C·E

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Table of Contents

Index of Figures

1 Introduction

1.1 General

This report results from a Stage 1 Road Safety Audit on a proposed Primary School at Kishoge, Lucan, Co. Dublin carried out at the request of Mr Denis Lenihan of AFEC International.

The members of the Road Safety Audit Team are independent of the design team, and include: -

Mr. Peter Monahan
(BE MSc CEng FIEI RSACert)
Road Safety Audit Team Leader

Mr. Mazen Al Hosni
(BEng, MIEI)
Road Safety Audit Team Member

The Road Safety Audit took place during May and July 2022 and comprised an examination of the documents provided by the designers (see Appendix B). In addition to examining the documents supplied the Road Safety Audit Team visited the site of the proposed measures on the 17th May 2022. Weather conditions during the site visit were wet and the road surface was wet. Traffic volumes during the site visit were moderate, pedestrian and cyclist volumes were low and traffic speeds were considered to be generally within the posted speed limit.

Where problems are relevant to specific locations these are shown on drawing extracts within the main body of the report and their locations are shown in Appendix D. Where problems are general to the proposals sample drawing extracts are within the main body of the report where considered necessary.

This Stage 1 Road Safety Audit has been carried out in accordance with the requirements of GE-STY-01024 - Road Safety Audit (December 2017), contained on the Transport Infrastructure Ireland (TII) Publications website.

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 and considers the perspective of all road users. 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 and minimise collision occurrence.

If any of the recommendations within this road 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 Observations are intended to be for information only. Written responses to Observations are not required.

1.2 Items Not Submitted for Auditing

Details of the following items were not submitted for audit; therefore no specific problems have been identified at this stage relating to these design elements, however where the absence of this information has given rise to a safety concern it has been commented upon in Section 3: -

- Landscaping
- Vehicle swept paths
- Visibility splays

2 Project Description

2.1 General

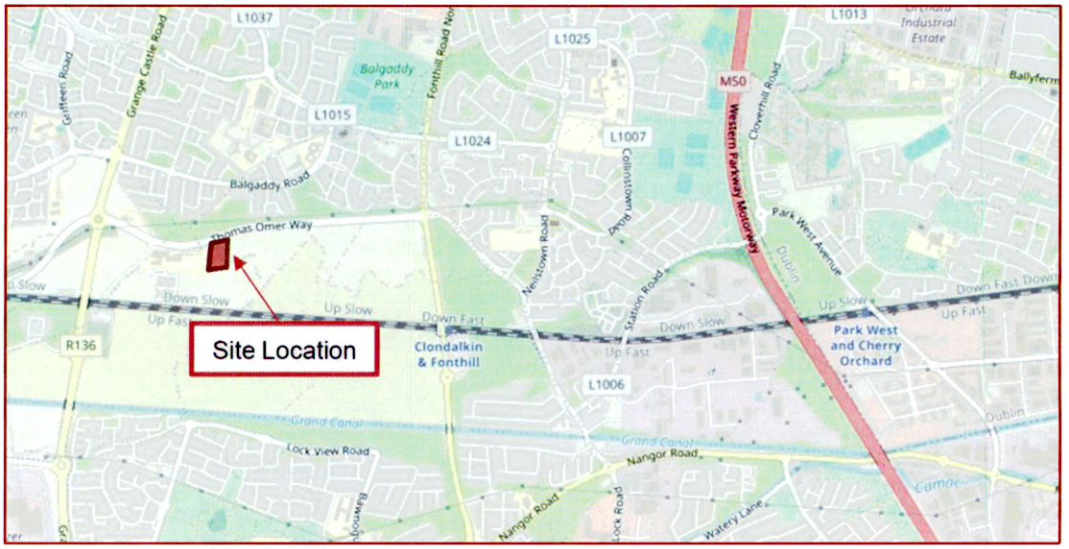


FIGURE 2.1: LOCATION PLAN (SOURCE: WWW.OPENSTREETMAP.ORG)

The proposed development is located on a greenfield site adjacent to Thomas Omer Way. The site is bounded to the north by Thomas Omer Way, to the east and south by greenfield sites and to the west by the Kishoge Community College and the Giffeen Community College. Thomas Omer Way is a dual carriageway road with a narrow central kerbed median, with an overall width of approximately 22m in the vicinity of the site. Both the eastbound and westbound carriageways have a footpath and cycle track adjacent to the carriageway, and a bus lane and general-traffic lane. The posted speed limit on Thomas Omer Way is 60 kph.

The proposed school would be constructed on a greenfield site to the south of Thomas Omer Way, and would consist of a main school building, playground areas, two ballcourts, bicycle parking spaces, staff car parking and other ancillary elements.

It is proposed to provide access to the school via two new short lengths of single carriageway road, consisting of two 3m wide traffic lanes and a new priority junction with the Thomas Omer Way westbound carriageway. The new roads would include footpaths & cycle lanes/tracks on either side, of 1.8m width each, and set down area along the northern side of the east/west road, for school pick-ups and drop offs. The proposed new roads would also facilitate access to lands east of, and immediately adjacent to, the proposed school site for future development.

The Audit Team have been advised that the parallel parking shown along the access road that runs in a north/south direction are to be omitted from the proposals.

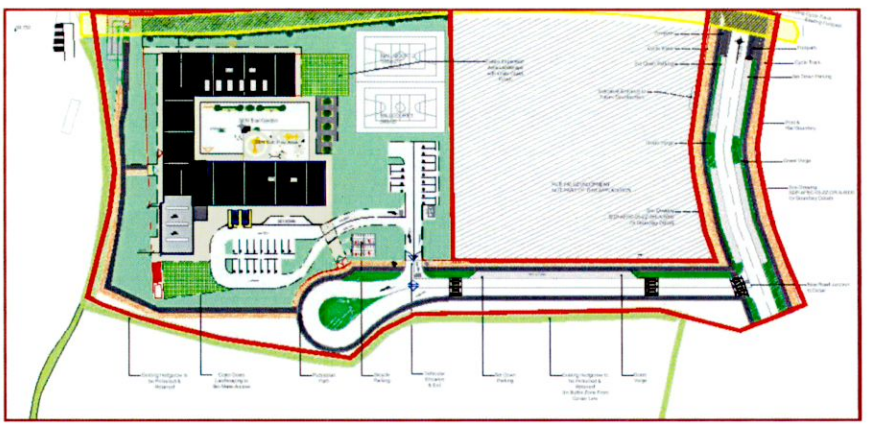


FIGURE 2.2: PROPOSED DEVELOPMENT

2.2 Collision History

The Road Safety Authority website (www.rsa.ie) was consulted to identify historical collisions in the vicinity of the proposed scheme. The website includes summary information on recorded collision occurrence for the period 2005 to 2016 (see Figure 2.3).

7 Minor Collisions were recorded during this period, their details are shown in Table 2-1 below. The majority of collisions involved a car.

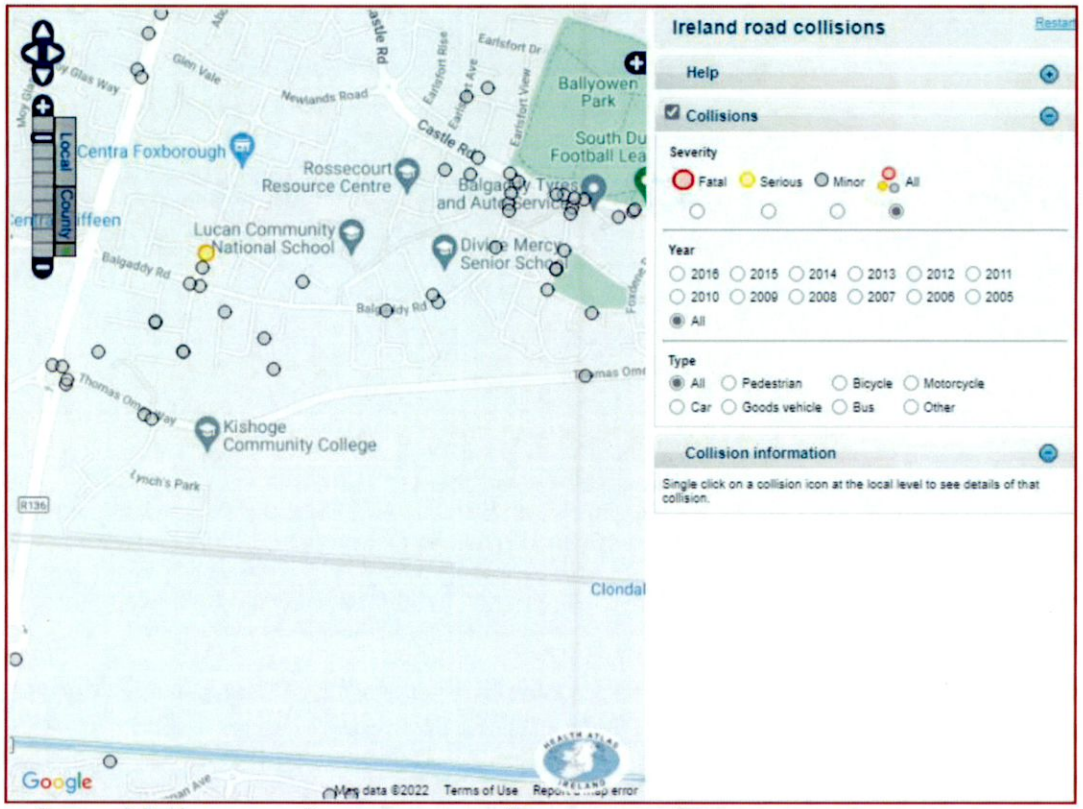


FIGURE 2.3: HISTORICAL COLLISIONS IN THE VICINITY OF THE DEVELOPMENT (SOURCE WWW.RSA.IE)

TABLE 2-1: DETAILS OF RECORDED COLLISIONS IN THE VICINITY OF THE SCHEME

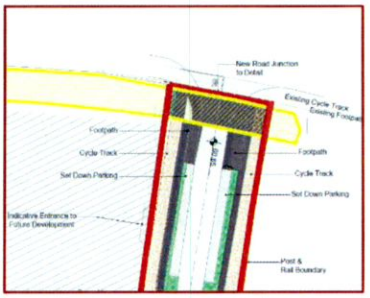
Year	Vehicle	Circumstances	Day	Time	Speed Limit	Location	Severity
2016	Car	Rear end, straight	Saturday	07:00-10:00	60 km/h	R136 Roundabout	Minor
2016	Bus	Single vehicle only	Saturday	19:00-23:00	50 km/h	Lynch Lane/Thomas Omer Way Junction	Minor
2016	Car	Rear end, straight	Thursday	16:00-19:00	60 km/h	Thomas Omer Way	Minor
2015	Car	Rear end, straight	Monday	19:00-23:00	50 km/h	R136 Roundabout	Minor
2014	Car	Angle, right turn	Friday	16:00-19:00	50 km/h	R136 Roundabout	Minor
2012	Car	Other	Tuesday	10:00-16:00	60 km/h	Lynch Lane/Thomas Omer Way Junction	Minor
2012	undefined	Single vehicle only	Wednesday	10:00-16:00	60 km/h	R136 Roundabout	Minor

3 Main Report

3.1 Problem

Location: *Thomas Omer Way*

Summary: *No amendments proposed to the existing road layout/lane configuration on Thomas Omer Way to reflect the proposed new priority junction with the westbound carriageway.*



It is proposed to construct a new priority-controlled junction onto the westbound carriageway of Thomas Omer Way to facilitate vehicular access to the school development. No amendments to the existing road layout or lane configuration are proposed on Thomas Omer Way, which currently consists of a single general-traffic lane on the offside, and a bus lane on the nearside, of the westbound carriageway.

In addition, there is an existing off-road cycle track and adjacent footpath running along the southern side of Thomas Omer Way.

In the absence of changes to the existing road layout/lane configuration, the introduction of a new junction could result in driver uncertainty/hesitation on the approach to, or departure from, the new junction leading to possible unsafe manoeuvres resulting in collisions. For example, should a driver turn into the new access from the general-traffic lane while another driver chooses to enter the bus lane in order to undertake the same manoeuvre, this could result in shunt or side-on collisions.

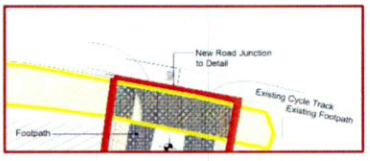
Recommendation

Appropriate amendments should be implemented on the Thomas Omer Way westbound carriageway to safely cater for the vehicle manoeuvres arising from the introduction of the proposed new junction.

3.2 Problem

Location: *Thomas Omer Way*

Summary: *No changes are proposed to the existing pedestrian and cyclist facilities along Thomas Omer Way to reflect the proposed new priority junction with the westbound carriageway.*



It is proposed to construct a new junction onto the westbound carriageway of Thomas Omer Way to facilitate vehicular access to the school development. It is unclear how it is intended to connect the new footpath & cycle tracks along the new school access road to the existing footpath & cycle track along the southern side of Thomas Omer Way. A failure to adequately consider how pedestrians & cyclists will interact at this location could result in conflicts between these road users resulting in pedestrian/ cyclist collisions.

In addition, no changes are indicated along the existing footpath and cycle track along Thomas Omer Way. It is therefore unclear how pedestrians & cyclists travelling along Thomas Omer Way will be able to cross the proposed junction.

Recommendation

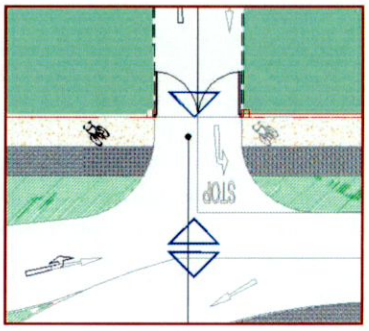
The layout at the intersection between the new and existing footpath & cycle tracks at the proposed new junction should safely accommodate non-motorised road users travelling through the new junction.

In addition, measures should be provided to cater for the existing pedestrian and cyclist movements along Thomas Omer Way.

3.3 Problem

Location: *School Access Road*

Summary: *Discontinuous footpath and cycle track at school car park entrance.*



The footpath and cycle track along the northern side of the road immediately south of the proposed school development is indicated as being discontinuous across the entrance to the school car park.

This arrangement prioritises vehicles entering/exiting the car park above non-motorised road users. In addition, inter-visibility between exiting drivers and pedestrians or cyclists approaching the access may be restricted by the boundary wall/fence, possibly resulting in exiting drivers failing to see an approaching pedestrian or cyclist leading to vehicular/NMU collisions.

Recommendation

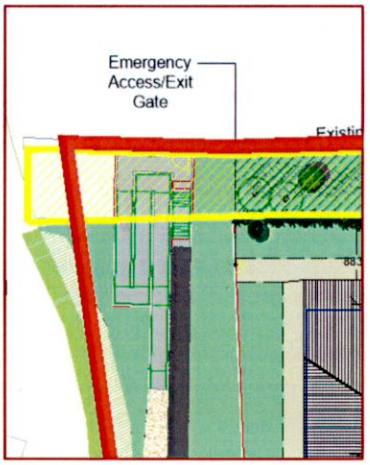
The footpath and the cycle track should be continuous across the entrance to the school.

The gate to the school, and boundary on either side of the gate, should be set back a sufficient distance to afford adequate inter-visibility between exiting drivers and pedestrians/cyclists approaching along the external footpath/cycle track (e.g. bell-mouth arrangement).

3.4 Problem

Location: *NMU Entrance from Thomas Omer Way (north-western corner of development site)*

Summary: *Unclear if gradients along proposed non-motorised road user ramps will be appropriate for mobility impaired pedestrians.*



At this early stage in the design development, it is unclear what gradients are proposed on the proposed non-motorised road user (NMU) ramp to/from the proposed school and Thomas Omer Way, in the north-western corner of the proposed development.

Steep gradients can create difficulties for wheelchair users and pedestrians, particularly the mobility impaired and the elderly, to safely and comfortably navigate the ramps, possibly resulting in slips, trips and falls.

In addition, it is unclear if cyclists travelling along the proposed ramp are intended to dismount and walk along the ramp, or if the ramp is of sufficient width to accommodate cyclists, pedestrians & wheelchair users without cyclists having to dismount.

Recommendation

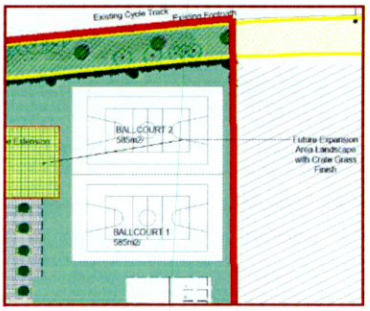
The gradients & width of the ramps, and the frequency & dimensions of landing areas, should cater for the needs of the mobility impaired (e.g. wheelchair users), as recommended by the National Disability Authority.

In addition, the width of the ramp should be adequate to cater for the expected volumes of pedestrians, cyclists & wheelchair users during peak times.

3.5 Problem

Location: *Thomas Omer Way*

Summary: *Floodlighting may create glare for drivers on Thomas Omer Way.*



Two "Ball Courts" have been indicated within the proposed development adjacent to Thomas Omer Way. It is unclear from the information provided if it is intended to provide lighting to these courts. If lighting is to be provided care will be required in order to ensure that the lighting does not shine towards, and dazzle, drivers on the adjacent road.

Poorly oriented lighting may create glare for drivers on Thomas Omer Way resulting in drivers being distracted, disoriented or momentarily blinded leading to a temporary inability to see a hazard in the upcoming road, resulting in a failure to stop.

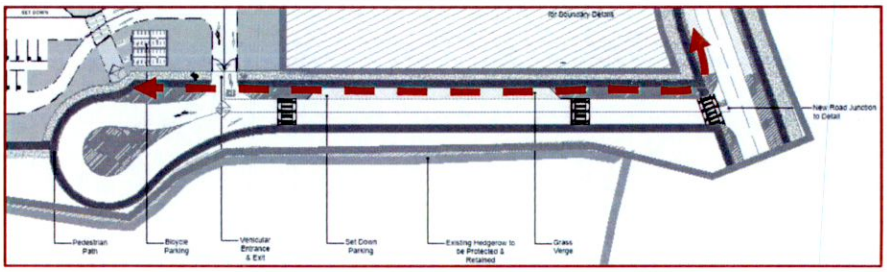
Recommendation

During the design development the proposed lighting provision for the "Ball Courts" should be designed such that it will not result in the dazzling of drivers on the adjacent roads.

3.6 Problem

Location: *School Access Road (to the south of the proposed development)*

Summary: *Unclear if proposed cycle facilities or sufficient width for two-way cycle traffic.*



A cycle track is proposed along the northern side of the school access roads, which will presumably cater for both inbound & outbound cyclists.

It is unclear if the proposed width of the cycle track is adequate to cater for the expected volumes of two-way cyclists, possibly resulting in some cyclists entering the adjacent footpath in order to pass oncoming cyclists resulting in increased risk of collisions with pedestrians on the footpath.

Recommendation

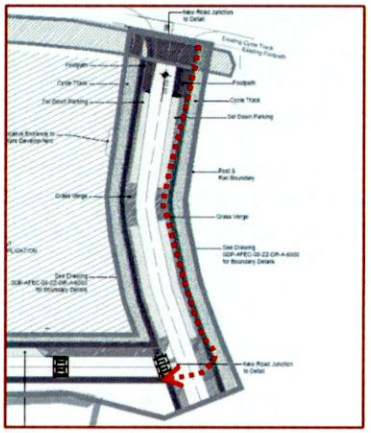
The width of the two-way cycle track should be adequate to cater for the expected volumes of cyclists in accordance with guidance provided in the National Cycle Manual.

3.7 Problem

Location: *School Access Road (to the east of the proposed development)*

Summary: *No crossing facilities for southbound cyclists or students dropped off on the eastern side of the north-south school access road wishing to travel to the proposed school.*

No crossing facilities have been indicated of the north-south running School Access Road to the east of the proposed development. The absence of a crossings may result students dropped off on the eastern side of the road within the proposed set-down areas and/or southbound cyclists crossing at unsafe locations. In the case of cyclists, some may choose to travel southbound within the northbound cycle lane, increasing the risk of collisions with other cyclists.



Recommendation

Crossings should be provided to cater for students travelling to/from the set-down & pick-up areas along the eastern side of the proposed new road to the east of the proposed development.

In addition, a two-way cycle track of appropriate width could be provided along the western side of the school access road to the east of the proposed development, and along the northern side of the school access road to the south of the proposed development, which could permit the omission of the cycle track on the eastern side of the access road to the east of the proposed development if it is not required for other reasons.

3.8 Problem

Location: *General problem*

Summary: *No level difference indicated between the cycle tracks and footpath*

It is unclear if there will be a level difference between the proposed adjacent footpaths and cycle tracks. A lack of level difference between the footpath and cycle track may result in visually impaired pedestrians inadvertently entering the cycle track resulting in conflicts with cyclists.

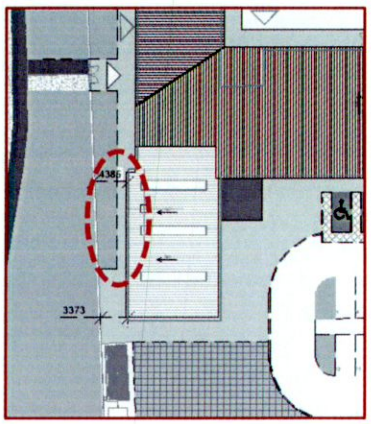
Recommendation

A level difference should be provided between the footpath and the cycle track in accordance with the guidance provided in the National Cycle Manual.

3.9 Problem

Location: *School campus*

Summary: *The footpath along the western side of the school building is narrow and may not sufficiently accommodate the expected volume of pedestrians & cyclists during peak times.*



The width of the footpath along the western side of the school building appears to be relatively narrow in places.

This route is the most likely route for cyclists who enter the campus from the north-west wishing to access the bicycle parking locations.

This could lead to pedestrians and cyclists travelling in opposite directions being unable to pass each other within the footpath, resulting in them stepping into the adjacent verge where there is an increased risk of slips and falls, in particular during wet or icy weather.

Recommendation

The footpath at this location, and throughout the proposed development, should be of adequate width to cater for the likely/expected volumes of pedestrians and cyclists during peak times.

3.10 Problem

Location: *General Problem*

Summary: *Potential for inappropriate, haphazard and/or unsafe parking during school drop-off & pick-up times.*

The Audit team have been advised that the set-down areas shown along both sides of the access road that runs in north/south direction are to be omitted from the proposals. The set down area along the northern side of the school access road that runs in an east to west direction remains, and this facility would accommodate c.10-12 vehicles at a time.

The Traffic and Transport Assessment report indicates that there will be approximately 75 pick-ups and 72 drop-offs by vehicle during the school opening and school closing peaks respectively. While the duration a vehicle will stop during pick-up and drop-off is short, there is a concern that the relatively low number of proposed spaces could be insufficient for the demand.

It is noted that there are existing pick-up & drop-off locations on Thomas Omer Way associated with the existing, adjacent, schools. However as the new and existing schools are likely to have similar peak times, it is unclear if there is sufficient capacity within the existing arrangements to accommodate the additional demand from the new school not catered for within the proposals.

Consequently, some drivers may choose to park along Thomas Omer Way and the new access roads in inappropriate locations or in a haphazard or unsafe manner. This may lead to students crossing at unsafe locations and/or drivers passing parked vehicles when it is unsafe to do so leading to conflicts between pedestrian and vehicles.

Recommendation

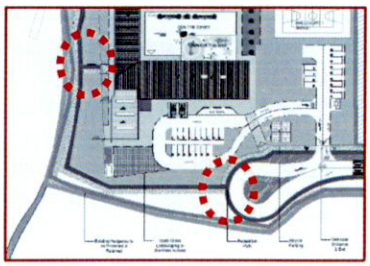
Either: -

- Implement mobility management measures which would reduce the numbers of students being driven to school, in concert with road layout or roadside treatments to deter unsafe pick-up/drop-offs; or

- Undertake an assessment of the demand for pick-up/drop-offs and provide facilities to cater for the expected volumes safely.

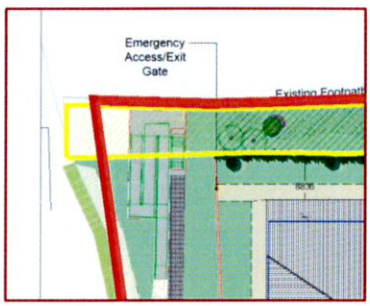
4 Observations

4.1 Potential conflict points have been indicated between the proposed footpaths & cycle tracks, in particular on the western side of the proposed development and at the southern entrance into the proposed development.



At these locations cyclists would be required to cross the path of pedestrians, with a resulting potential for conflicts. If possible, during the design development conflict points should be eliminated or reduced.

4.2 It is proposed to provide an "Emergency Access/Exit Gate" at the north western corner of the school campus, however, the footpath on the school side of the boundary fence at this location appears to terminate at the gate.



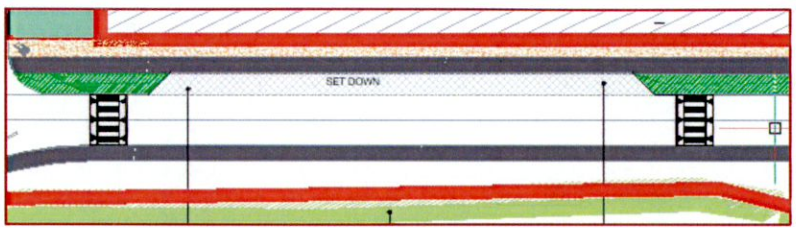
No path has been indicated extending from this emergency gate to the nearby footpath. This is assumed to be CAD error. The drawings should be updated to indicate a footpath linking the gate and the footpath to the west.

4.3 Raised tables have been indicated along the school access road to the south of the proposed development with zebra-crossing markings, however no Belisha beacons have been indicated at these locations and the raised-tables terminate on the northern side at a grass verge.

It is unclear if these raised-tables are intended to be crossings or if their purpose is purely for traffic. Regardless, the zebra-crossing markings should be omitted unless it is intended to provide Belisha beacons, and the other measures required at zebra crossings.

Should there be no crossing desire line at these locations the omission of the markings should be sufficient along with vertical separation between the footpath and the top of the raised-table.

However should a crossing desire exist at these locations the footpath on the northern side should be extended to meet the raised-tables, the top of the raised tables should be flush with the footpath levels on either side and tactile paving provided to warn visually impaired pedestrians of the carriageway risk.



5 Road Safety Audit Team Statement

We certify that we have examined the drawings referred to in 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 would recommend should be studied for implementation.

No one on the Road Safety Audit Team has been involved with the design of the scheme.

ROAD SAFETY AUDIT TEAM LEADER

Peter Monahan Signed: Peter J. Monahan

Dated: 29th July 2022

ROAD SAFETY AUDIT TEAM MEMBER

Mazen Al Hosni Signed: Mazen Al Hosni

Dated: 29th July 2022

Appendix A – Road Safety Audit Brief Checklist

Have the following been included in the audit brief?: (*if 'No', reasons should be given below)*

		Yes	No
1.	The Design Brief	☐	☑
2.	Departures from Standard	☐	☑
3.	Scheme Drawings	☑	☐
4.	Scheme Details such as signs schedules, traffic signal staging	☐	☑
5.	Collision data for existing roads affected by scheme	☐	☑
6.	Traffic surveys	☑	☐
7.	Previous Road Safety Audit Reports and Designer's Responses/Feedback Form	☐	☑
8.	Previous Exception Reports	☐	☑
9.	Start date for construction and expected opening date	☐	☑
10.	Any elements to be excluded from audit	☐	☑

Any other information?

(if 'Yes', describe below)

☐ ☑

Appendix B – Documents Submitted to the Road Safety Audit Team

DOCUMENT/DRAWING TITLE	DOCUMENT/DRAWING NO.	REVISION
AP-Rev H Site Plan 060722		H
Mobility Management Plan	P22-066-PSW2-RP-001	3.0
Traffic and Transport Assessment	P22-066-T-GEN-RP-001	3.0

Appendix C – Feedback Form

Road Safety Audit Feedback Form

Scheme: Primary School, Kishoge, Lucan, Co. Dublin

Route No.: Thomas Omer Way

Audit Stage: 1 **Date Audit Completed:** 27th May 2022

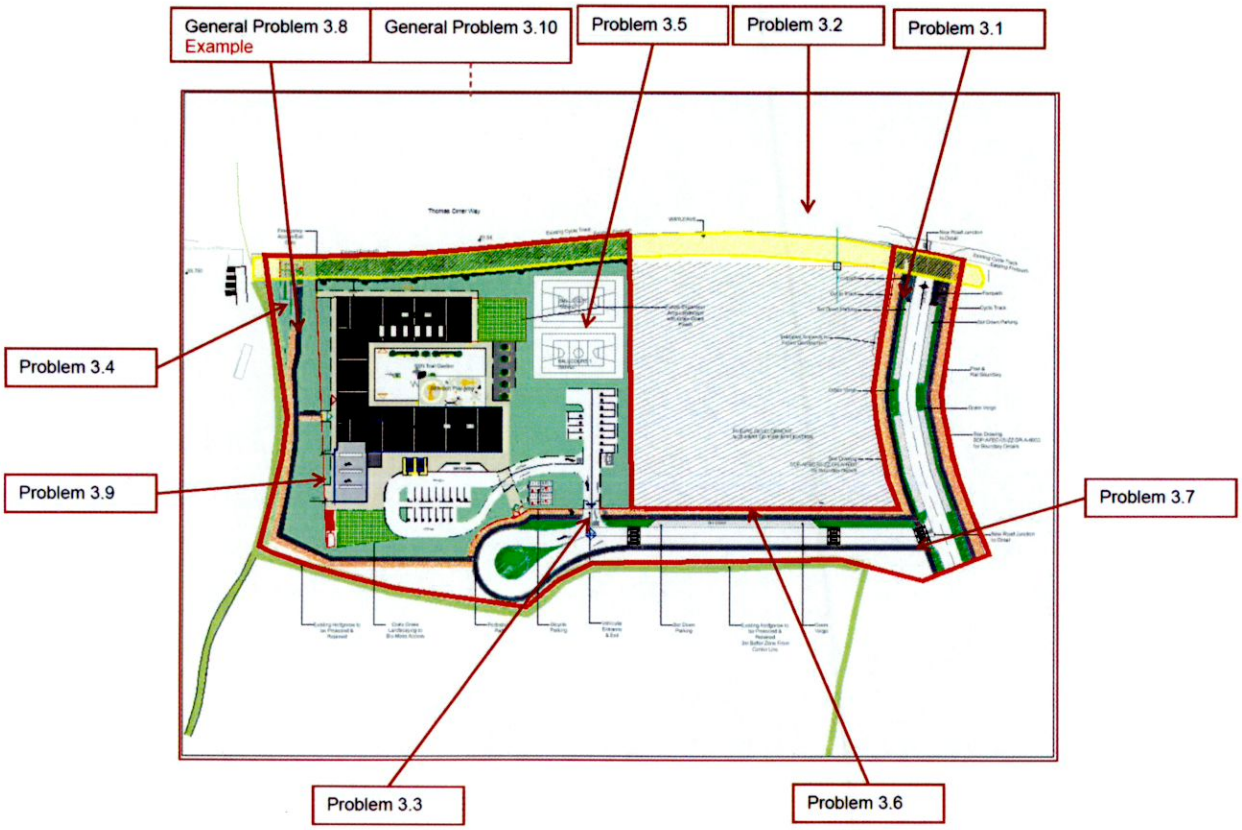
	5.1 To be Completed by Designer			To be Completed by Audit Team Leader
Paragraph No. in Safety Audit Report	**Problem Accepted (Yes/No)**	**Recommended Measure(s) Accepted (Yes/No)**	**Describe Alternative Measure(s). Give reasons for not accepting recommended measure**	**Alternative Measures or Reasons Accepted by Auditors (Yes/No)**
3.1	Yes	Yes		
3.2	Yes	Yes		
3.3	Yes	Yes		
3.4	Yes	Yes		
3.5	Yes	Yes		
3.6	Yes	Yes		
3.7	Yes	Yes		
3.8	Yes	Yes		
3.9	Yes	Yes		
3.10	Yes	Yes		

Signed: Denis Lawless Designer **Date** 29-07-22

Signed: Peter J. Monaghan Audit Team Leader **Date** 29th July 2022

Signed: Employer **Date** 29-07-22
On Behalf of the Department of Education

Appendix D – Problem Locations


General Problem 3.8
Example
General Problem 3.10
Problem 3.5
Problem 3.2
Problem 3.1
Problem 3.4
Problem 3.9
Problem 3.7
Problem 3.3
Problem 3.6