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Client	Revision	Date	Compiled	Checked	Approved
Department of Education & Skills	A	05/12/16	ND	SG	DMC
Marlborough Street, Dublin 1 D01 RC96					

Stage 1/2 Road Safety Audit
Proposed school's development at Clondalkin, Co. Dublin
December 5th 2016

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1 Introduction

This report documents the findings of a stage 1/2 Road Safety Audit carried out with respect to the proposal by The Department of Education and Skills to construct a shared educational campus consisting of 2 number 500 pupil capacity schools which are to be accommodated on the same site as an existing post primary school on the Old Nangor Road, Clondalkin, Co. Dublin.

The audit was carried out in the offices of ORS on the 06th December 2016. The audit team visited the site on 12th December 2016.

The audit team comprised of the following people:

Team Leader:

David McCormack BEng (Hons), Dip Eng, CEng, MIEI

Team Member:

Shane Gill BEng (Hons), CEng, MIEI

Team Member:

Adam Price BEng (Hons), MIEI

During the site visit the weather was overcast but dry. The road surface was damp and traffic levels were observed to be moderate but consistent with typical daily flows.

The audit team reviewed the following drawing which was provided by Tobin Consulting Engineers.

- Site layout plan

Documents/information not supplied:

- A. Collision Data,
- B. Speed Count Data

The terms of reference / procedure for the Audit were as per the relevant sections of the **National Roads Authority (NRA) Design Manual for Road and Bridges (DMRB) HD 19/15**. The audit examined only those issues within the design relating to the road safety implications of the scheme, and has therefore not examined or verified the compliance of the designs to any other criteria. The Road Safety Audit should not be treated as a design check.

The problems identified and described in this report are considered by the Audit Team to require action to improve the safety of the scheme and minimise accident occurrence.

All comments, references and recommendations in this safety audit are in respect of the site visit and review of information supplied by Tobin Consulting Engineers. Please refer to attached photographs in Appendix B for descriptions and illustrations of the problems and recommendations outlined in this Road Safety Audit.

2 Description of Proposed Scheme

The proposal put forward by the Department of Education and Skills is to construct a shared educational campus consisting of 2 number 500 pupil capacity schools which are to be accommodated on the same site as an existing post primary school on the Old Nangor Road, Clondalkin, Co. Dublin.

Figure 2.1 below details the existing school site in the context of the surrounding area.



Figure 2.1: Location of the proposed site (Source Google maps)

3 Issues Raised from the Road Safety Audit

The following are problems and recommendations to address the safety issues associated with the proposals. The recommendations are proposed to the designers of the scheme to reduce any safety risks associated with it.

3.1 Potential Problems Identified

Problem No.1

Location: Internal Layout of proposed school campus

The audit team have noted that the proposed plans provided do not have any directional, information signage or road markings included to provide the necessary information to road and vulnerable road users as how to use the internal road network. There are obvious safety risks associated with a lack of internal information associated with the infrastructural network resulting in possible collisions, risks to pedestrians and confusion for all during peak times.

Recommendation No.1

It is recommended that the design team review their plans and provide details relating to the internal road network. It is recommended that the design team review the DMURS (Design Manual for Urban Roads and Streets) and the Traffic Signs Manual for guidance and details.

Problem No.2

Location: Internal Layout of proposed school campus

The audit team note that it is not clear from the plans provided as to the extent of set down and parking areas along the internal road network. There are potential safety risks if motorists do not understand the set down areas provided resulting in possible collisions with pedestrians and other vehicles.

Recommendation No.2

It is recommended that the design team review and update their plans to fully detail the extent of set down and parking areas provided along the internal link road within the campus.

Problem No.3

Location: Internal Layout of proposed school campus

The audit team have concerns regarding the proposed tight 90-degree internal bends within the campus. It is unclear from the plans provided if buses, emergency vehicles etc. will be able to safely navigate the layout, especially if vehicles are parked either side of the one way road.

Recommendation No.3

It is recommended that the design team carry out an Autotrack analysis of the internal road network to ensure that all intended vehicles can safely access the internal road layout.

Problem No.4

Location: Internal Layout of proposed school campus

It is noted that there are 3 areas designated for parking. It is unclear as to how these spaces are distributed for staff, parents and visitors. There is a potential safety risk of excess vehicular movements on site if insufficient information is provided for motorists entering the site who are unaware that there are additional car parking areas beyond the set down areas.

Recommendation No.4

It is recommended that clear concise information signage is provided for motorists entering the site to ensure that they are aware of the parking area distributed throughout the school campus.

Problem No.5

Location: External Road Frontage to school

The audit team have observed from the site visit that there is wide set down areas along the school frontage adjacent to the public road for vehicles. From the plans provided there is no detail shown as to the treatment of this area. There is a potential serious safety risk if these areas are continued to be used and the designed internal campus is not utilised resulting in continuing peak time congestion and increased safety risk for pedestrians in the area.

Recommendation No.5

It is recommended that the design team consider the proposed treatment for the existing set down area in front of the existing school.

Problem No.6

Location: Dimensions of internal school roadway

The audit team have noted from the plans provided that there are no details relating to the geometry of the internal road way and its width to accommodate traffic. There is a potential safety risk if the roadway is too wide or has no road markings for one-way traffic which could lead to unauthorised parking resulting in an increased safety risk.

Recommendation No.6

It is recommended that the design team provide more information for the internal road network to include all geometry, road signage and markings to ensure that road users use the proposed one-way system as safely intended.

Problem No.7

Location: Entrances to School entrance and exit

The audit team are unsure as to the proposed treatment of the main school entrance and exit. It is unclear if gates will be provided and if so, how they will operate. There is a significant safety risk if gates are not designed to safely be held open and if they will block the entrance for vehicles trying to enter the site if they are shut. This could lead to vehicles stopping halfway onto the public carriageway awaiting the gates to open which could result in potential collisions.

Recommendation No.7

It is recommended that the design team confirm the main entrance and exit treatments for the school sites.

Problem No.8

Location: Internal Trafficked Route

The audit team are unsure as to the extent of public lighting to be provided within the site. It is likely that the school's amenities could be used in the evenings and after dark and there is a potential safety risk if public lighting throughout the pedestrian and trafficked routes are not provided.

Recommendation No.8

It is recommended that the design team confirm if public lighting will be provided throughout the proposed campus.

Problem No.9

Location: Pedestrian Routes to access school campus

The audit team note the proposed pedestrian routes to serve the school. There is a potential safety risk for users of these routes if they do not contain the normal design criteria for pathways and pedestrian links. There is no information in relation to the gradients, lighting, tactile paving, dropped kerb crossing areas or surface treatment for these routes. There is a serious safety risk to their use if they are not designed in accordance with best practice. It is also unclear as to the treatment of the main pedestrian routes along the main site frontage. It is not clear if pedestrian footpaths are to be provided at the main vehicular entrances.

Recommendation No.9

It is recommended that the design team review their approach to the pedestrian linkages to service the campus and ensure they confirm to all best practice design criteria and guidance available. Pedestrian desire lines should also be considered in the proposed design.

Problem No.10**Location: Internal Campus Road**

The audit team note that while the main internal road system is designed for one-way traffic, there are a number of spur roads serving car parks and there is also an area to the rear of the existing school that will be two-way. It is unclear on the plans provided as to the information and road geometry available to ensure that two-way movements are possible and what measures will be provided to ensure that vehicles do not attempt to travel back along the one-way system in the wrong direction resulting in an increased safety risk.

Recommendation No.10

It is recommended that the design team review their internal road layout provided and ensure that the internal road markings and signage is correctly provided to prevent any confusion on site.

4 Audit Team Statement


We certify that we have examined the drawings listed in Appendix A and examined the site by means of a site visit. This examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified to improve the safety of the scheme. The problems that we have identified have been noted in the report, together with suggestions for improvement, which we recommend should be studied for implementation.

Audit Team Leader: David McCormack: BEng (Hons), Dip Eng, CEng, MIEI
ORS

Signed: 


Date: 05th December 2016

Audit Team Member: Shane Gill: BEng (Hons), CEng, MIEI
ORS

Signed: 

Date: 05th December 2016

Audit Team Member: Adam Price: BEng (Hons), MIEI
ORS

Signed: 

Date: 05th December 2016



Appendix A – Inspected Documentation

1. Site Layout Plan

Appendix B – Photographs



Photograph 1 – View from existing school access looking towards the R113



Photograph 2 – R113 approach to the school access from the Old Nangor Road



Photograph 3 – Existing road markings at the school access



Photograph 4 – Existing parking facilities on Old Nangor Road at school access



Photograph 5 – Existing gated school access



Appendix C – Designer Response Form



Road Safety Audit Feedback Form

Job: Clandarkin School

Stage of Audit: 1/2

Completion Date of Audit: November 2016

Note: Please fill out relevant information below

Problem Point In Safety Audit Report	Problem Accepted (Yes/No)	Recommendation Accepted (Yes/No)	Alternative Option (Describe)	Alternative Option Accepted by Auditors (Yes/No)
P1	Yes	Yes		
P2	Yes	Yes		
P3	Yes	Yes		
P4	Yes	Yes		
P5	Yes	Yes		
P6	Yes	Yes		
P7	Yes	Yes		
P8	Yes	Yes		
P9	Yes	Yes		
P10	Yes	Yes		

NB: Alternatively, the designer may compose a formal letter outlining in detail their responses and alternative solutions (if any) to the problems outlined by the audit team.

Signed: Anthony Mulligan Design Team Leader

Date: 03/02/17

Please complete and return to safety auditor.

Safety Audit Signed Off: David Cook Audit Team Leader

Date: 03/02/2017