

Coakley Consulting Engineers

Whitebox Student Campus,
Groody Road, Newcastle,
Castletroy, Co. Limerick

Stage 1 Quality Audit

Coakley Consulting Engineers

Whitebox Student Campus, Groody
Road, Newcastle, Castletroy, Co.
Limerick

Stage 1 Quality Audit

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1 Quality Audit Report

1.1 Introduction

This report was prepared in response to a request from Mr. Brian Coakley of Coakley Consulting Engineers, on behalf of Groody Developments Limited to provide a Stage 1 Quality Audit of the proposed Whitebox Student Campus at Castletroy, Co. Limerick.

Quality Audits consist of a number of overlapping audits, as described in the Design Manual for Urban Roads and Streets (Ireland). Table 1-1 identifies the transport related audits undertaken by PMCE and includes a brief overview of the purpose or goal of each report.

TABLE 1-1 QUALITY AUDIT REPORT CONTENTS

Access Audit	The purpose of this Access Audit is to review the proposed Scheme to assess if it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, or disability.
Cycle Audit	The purpose of this Cycle Audit is to review the proposed Scheme/Development to assess if it will cater comfortably for cyclists, of all ages and abilities, and that the needs of cyclists have been prioritised over vehicular traffic.
Walking Audit	The purpose of this Walking Audit is to review the proposed Scheme to assess if it can be readily and comfortably traversed by pedestrians, that the needs of pedestrians have been prioritised over cyclists & vehicles, and that footpaths are continuous and wide enough to cater for the anticipated number of pedestrians.
Road Safety Audit	The purpose of a Road Safety Audit is to identify problems that may lead to road safety collisions, material damage or personal injury, and to offer recommendations that mitigate identified safety risks.
Non-Motorised User Audit¹	The purpose of a Non-Motorised User (NMU) Audit is to review the proposed Scheme to assess if it will cater comfortably for all non-motorised road users, of all ages and abilities, and that the needs of these vulnerable road users have been prioritised over vehicular traffic.

A Quality Audit is not intended to pass or fail a design, rather it is intended as an assessment tool that highlights the strengths and weaknesses of a design.

1.2 Site Visit

A site visit was undertaken on Thursday the 3rd of October 2024. Weather conditions during the site visit were dry and the road surface was dry. Traffic volumes during the site visit were high, pedestrian and cyclist volumes were moderate and traffic speeds were considered to be generally within the posted speed limit.

1.3 Local Environment

1.3.1 Proposed Development

A new student development is proposed on the L5173 (Groody Road), to the south of the R445 (Dublin Road), to the east of Groody River in Castletroy, Co. Limerick (see Figure 1-1). The proposed development shall include five apartment blocks within a greenfield site (see Figure 1-2) and will be located in a predominantly residential area, with pedestrian and cycle facilities provided along the eastern side of Groody Road adjacent to the built up residential areas of Curragh Birin, Brú Na Gruadán and Cois Ghrúda, which are located opposite the site of the proposed development, and on the northern side of Dublin Road in close proximity to the development site connecting the University of Limerick and Castletroy, in the northeast, with Limerick City, in the west.

The development shall have one vehicular which would form a new western arm at the existing Groody Road/Curragh Birin roundabout, and three pedestrian accesses, including two onto Groody Road and one onto Dublin Road. The proposed development would include five multistorey apartment blocks including a total of 1,400 beds, an internal road and footpath network within the development, public open spaces, 40 on-street

¹ A separate Non-motorised User (NMU) Audit has not been prepared. For the proposed scheme/development, separate Access, Walking & Cycling Audits have been undertaken, and these should be referred to for findings in relation to NMUs.

car parking spaces, including two accessible parking spaces, and two set down areas. Cyclists would be required to share the carriageway with motorised road users within the proposed development.



FIGURE 1-1: SITE LOCATION (SOURCE: WWW.OPENSTREETMAP.ORG)



FIGURE 1-2: PROPOSED DEVELOPMENT LAYOUT (DRAWING PP-1.01 (REV.-))

1.3.2 Existing Pedestrian & Cycle Facilities

Segregated pedestrian and cycle facilities are currently provided on the eastern side of the Groody Road from the Garryglass Roundabout, to the south of the proposed development, to the Groody Road/Dublin Road roundabout (Groody Roundabout), to the northeast of the proposed development. A protected cycle lane is provided on the western side of Groody Road transitioning to an off-road cycle track on approach to the Groody Roundabout. However, no footpath is currently provided on the western side of Groody Road. A segregated footpath and a two-way cycle track is provided on the northern side of the Dublin Road, and a pedestrian-only footpath on the southern side of Dublin Road in the vicinity to the proposed development.

Zebra crossings are provided on all arms of the Groody Roundabout providing connectivity between the southern side of Dublin Road for pedestrians and cyclists to the surrounding network. However, no pedestrian or cycle crossings are provided on the Groody Road/Curragh Birin roundabout. Groody Road and Dublin Road provide public lighting on both sides of the road in the vicinity of the development.

1.3.3 Public Transport

There are existing bus stops on Dublin Road and Groody Road in close proximity to the proposed residential development. The nearest bus stops that can be accessed by road users within the proposed scheme are listed in Table 1-2 including the bus routes which serve these bus stops. Figure 1-3 illustrates the bus routes and the location of these bus stops in relation to the proposed scheme.

TABLE 1-2: BUS ROUTES WITHIN PROPOSED SCHEME

Route No.	Bus Stop (number)	Bus Stop (Name)	Travelling between	Frequency
310	11079	Groody Road Kilbane	National Technology Park, Plassey Park Road to Sarsfield Street. through the University of Limerick	30mins
	11076	Groody Road, Groody Park		
304/304A	607701	Groody Roundabout Kilbane	University of Limerick to Raheen	15mins
304/304A	607601	Plassey Park Road, Limerick	University of Limerick to Raheen	15mins
310	11086	Plassey Park Road, University of Limerick	National Technology Park, Plassey Park Road to Sarsfield Street. through the University of Limerick	30mins

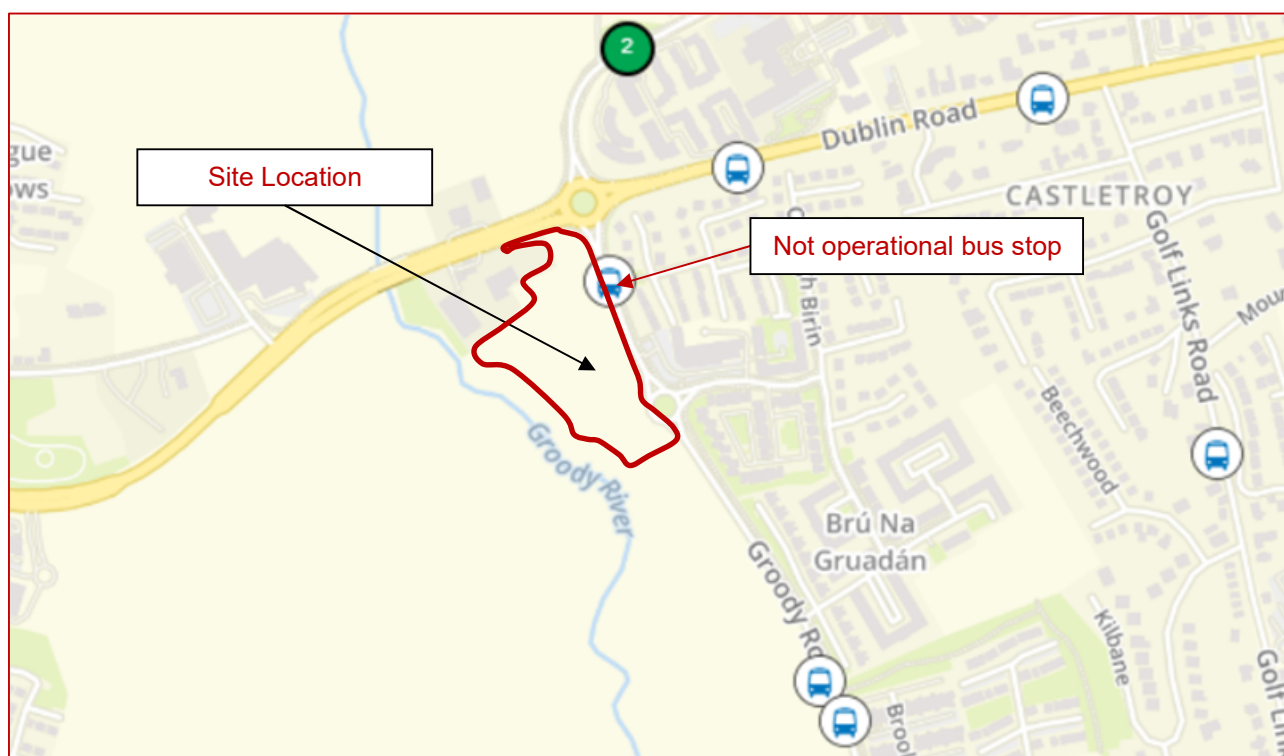














FIGURE 1-3: NEARBY BUS STOPS (SOURCE: WWW.TRANSPORTFORIRELAND.IE)

1.4 Summary of Individual Audit Findings

The following table summarises the issues identified by the component audits of this Quality Audit, and the Design Team's response to the issues raised.

#					Summary of Audit Issue	Design Team Response/Action
1	✓		✓		Pedestrian crossings have not been indicated on pedestrian desire lines within the development.	Pedestrian crossings will be indicated with dropped kerbs and tactile paving at all key locations and desire lines
2	✓		✓		No footpath is currently provided on the western side of Groody Road nor are pedestrian crossings provided connecting the development with Curragh Birin, including at the Groody Road/Curragh Birin roundabout.	A footpath on the western side of Groody road and crossing facility proposal will be brought to the attention of the Local Authority
3	✓				It is unclear if the gradient of the proposed footpath connecting the proposed development with Dublin Road would be suitable for all pedestrians	A suitable gradient will be provided on the pedestrian link to Dublin Road
4	✓				Dropped kerbs, and tactile paving, have not been indicated at the accessible parking spaces within the proposed development.	Dropped kerbs and tactile paving will be provided at mobility impaired parking spaces
5			✓		No seating or benches have been indicated within the public open spaces and paths on Groody Valley	Seating / benches will be provided within the public open spaces, courtyards and Groody Valley. See landscaping plan.
6			✓		It is unclear if there will be sufficient vertical clearance between the tree canopies and the footpath should trees overhang the pedestrian facilities.	Sufficient vertical clearance between the tree canopies and the footpath will be provided. See landscaping plan.
7		✓			Bicycle storage areas have not been indicated, and it is, therefore, unclear if, and where, bicycle parking will be provided within the development.	In excess of the required cycle parking will be provided throughout the development, for both short term and internal long term (storage) cycle parking

#					Summary of Audit Issue	Design Team Response/Action
8		✓			Cyclists may attempt to mount/dismount the full height kerb to access areas within the development from the development access road e.g. the apartment blocks where cycle stands may be provided.	Dropped kerbs will be provided where cycle parking is proposed
9		✓			The path connecting Dublin Road and the proposed development is not wide enough to cater for the expected types, and volumes, of non-motorised road users travelling between Dublin Road and the proposed development.	A sufficiently wide shared pedestrian and cycle path will be provided between the proposed development and Dublin Road
10		✓			There is no existing crossing facility provided for cyclists within the development, or for northbound cyclists on Groody Road.	A suitable shared crossing proposal on Groody road will be brought to the attention of the Local Authority
11				✓	No pedestrian crossings have been indicated to/from the proposed development on Groody Road.	A suitable shared crossing proposal on Groody road will be brought to the attention of the Local Authority
12				✓	No footpath has been indicated around the parking spaces at the proposed development's northern boundary adjacent to Blocks A and B	A footpath and crossing will be provided adjacent to proposed parking spaces for Block A and B
13				✓	Details of pedestrian crossings within the development have not been indicated.	Pedestrian crossings, including dropped kerbs and tactile paving will be provided at key locations
14				✓	No pedestrian crossings have been indicated to cater for vehicle occupants travelling between their vehicle and the apartment blocks within the proposed development.	Pedestrian crossings, including dropped kerbs and tactile paving will be provided at key locations
15				✓	It is unclear if the swept path of large vehicles, for example fire tenders and refuse trucks, will be safely accommodated within the development.	An Autotrack assessment has demonstrated that multiple vehicle types can safely move and turn with the development. See Garland drawing package.

#					Summary of Audit Issue	Design Team Response/Action
16				✓	Forward visibility of drivers within the proposed development may be restricted by proposed planting and building boundaries on the inside of horizontal curves.	The proposed planting and building boundaries will not restrict the required forward visibility for ambient speeds.
17				✓	The set-down area at Block B is indicated on the offside relative to drivers entering the development which may lead to unsafe U-turn manoeuvres when exiting the set-down area.	The setdown area will be revised south of Block B
18				✓	It is unclear where the bicycle parking/storage area(s) will be located within the proposed development, and if sufficient measures would be provided for cyclists to access these locations from the development's access road carriageway.	Suitable shared surfaces and dropped kerbs will be provided for cycle parking areas.
19				✓	The pedestrian desire line on Groody Road between the pedestrian access to the proposed development and the existing Curragh Birin residential development is not adequately catered for.	A suitable shared crossing proposal on Groody road will be brought to the attention of the Local Authority
20				✓	The existing level difference between the site and the adjacent public footpath on the southern side of the R445 may result in a steep gradient on the proposed pedestrian path between the R445 and the development.	A suitable gradient and non-slip surface will be provided on the pedestrian link to Dublin Road

Appendix A: Access Audit

The purpose of this Access Audit is to review the proposed Scheme to assess if it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, or disability.

2 Access Audit Findings

2.1 Pedestrian Desire Lines within the Development

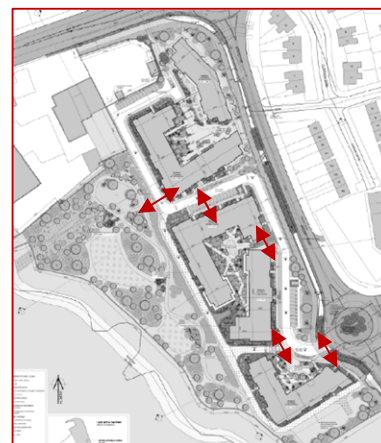
Pedestrian crossings have not been indicated at pedestrian desire lines within the development. No pedestrian crossings have been indicated at the following locations:

- Between the central public open spaces and the surrounding residential development/.
- Between parking spaces and the footpath on the opposite side of the road.
- At the development access and internal vehicular accesses.

A failure to provide an appropriate crossing for non-motorised road users at these expected desire lines could result in difficulties when crossing the carriageway, particularly for mobility and visually impaired pedestrians.

Recommendation

A thorough review of the likely pedestrian desire lines within the development should be undertaken, and suitable pedestrian crossings, including dropped kerbs and tactile paving, provided to facilitate safe VRU movement.



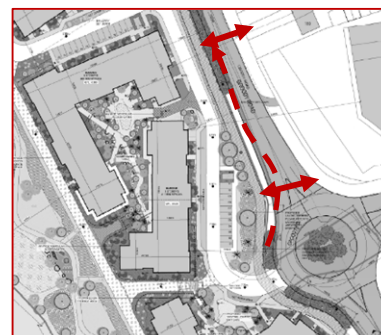
2.2 Pedestrian Desire Lines to/from the Footpath on Groody Road

It is likely that pedestrian desire lines will exist between the proposed development and the neighbouring residential area to the east on the opposite side of Groody Road. Two pedestrian accesses to the proposed development have been indicated on Groody Road, however, no footpath is currently provided on the western side of Groody Road, nor are any pedestrian crossings provided, or proposed, connecting the development with Curragh Birin, including at the Groody Road/Curragh Birin roundabout.

If pedestrian facilities, including footpaths and formal pedestrian crossings, with dropped kerbs and tactile paving, are not provided on Groody Road, this may lead to difficulties for pedestrians, particularly the mobility and visually impaired, such as wheelchair users, in independently navigating the road layout.

Recommendation

Pedestrian facilities should be provided on Groody Road, including a footpath on the western side of the road and pedestrian crossings, with dropped kerb and associated tactile paving, to cater for pedestrian desire lines.

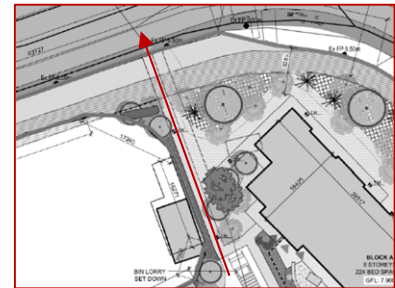


2.3 Steep Gradient

A pedestrian access onto the footpath on the southern side of Dublin Road has been indicated at the northern boundary of the proposed development. Due to the existing level difference between the land within the development site and this footpath it is unclear if the gradient of this path would be suitable for all pedestrians, particularly the mobility impaired. Should the path gradient exceed 1V:20H, it will create difficulties for mobility impaired pedestrians to traverse.

Recommendation

Ensure the proposed ramp gradients are suitable for all road users.

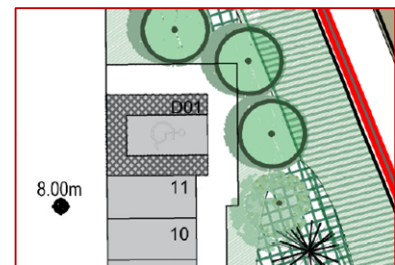


2.4 No Dropped Kerb/Tactile Paving at Accessible Parking Spaces

Two accessible parking spaces have been indicated within the proposed development. Dropped kerbs, and tactile paving, have not been indicated at these parking spaces. This may lead to mobility impaired vehicle occupants having to travel within the carriageway to a suitable location to access the footpath, which may be a lengthy journey, or have to mount/dismount full height kerbs to access a footpath.

Recommendation

Dropped kerbs, and tactile paving, should be provided adjacent to accessible parking spaces.



Appendix B: Walking Audit

The purpose of this Walking Audit is to review the proposed Scheme to assess if it can be readily and comfortably traversed by pedestrians, that the needs of pedestrians have been prioritised over cyclists & vehicles, and that footpaths are continuous and wide enough to cater for the anticipated number of pedestrians.

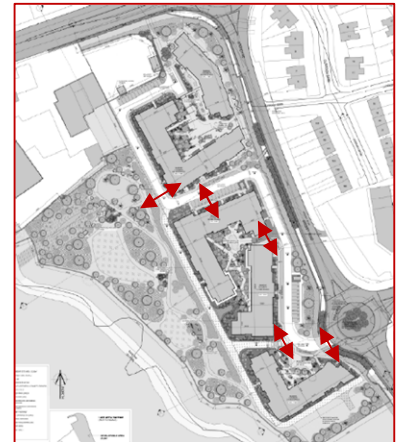
3 Walking Audit Findings

3.1 Pedestrian Desire Lines within the Development

Pedestrian crossings have not been indicated at pedestrian desire lines within the development. No pedestrian crossings have been indicated at the following locations:

- Between the central public open spaces and the surrounding residential development.
- Between parking spaces and the footpath on the opposite side of the road.
- At the development access and internal vehicular accesses.

A failure to provide an appropriate crossing for non-motorised users at these expected desire lines could result in difficulties in crossing the carriageway, particularly for mobility and visually impaired pedestrians.



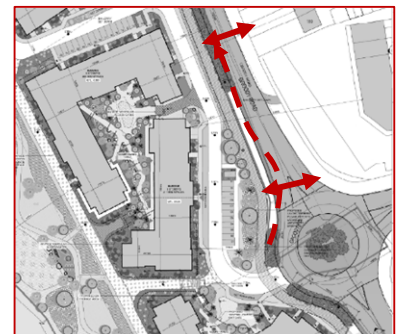
Recommendation

A thorough review of likely pedestrian desire lines within the development should be undertaken, and suitable pedestrian crossings, including dropped kerbs and tactile paving, provided to facilitate safe VRU movement.

3.2 Pedestrian Desire Lines to/from the Footpath on Groody Road

It is likely that pedestrian desire lines will exist between the proposed development and the neighbouring residential area to the east on the opposite side of Groody Road. Two pedestrian accesses to the proposed development have been indicated on Groody Road, however, no footpath is currently provided on the western side of Groody Road nor are any pedestrian crossings provided, or proposed, connecting the development with Curragh Birin, including at the Groody Road/Curragh Birin roundabout.

If pedestrian facilities, including footpaths and formal pedestrian crossings, with dropped kerbs and tactile paving, are not provided on Groody Road, this may lead to difficulties for pedestrians, particularly the mobility and visually impaired, such as wheelchair users, in independently navigating the road layout.



Recommendation

Pedestrian facilities should be provided on Groody Road, including a footpath on the western side of the road and pedestrian crossings, including dropped kerb and associated tactile paving, to cater for pedestrian desire lines.

3.3 Absence of Seating on Groody Valley

No seating or benches have been indicated within the public open spaces and paths on Groody Valley. Pedestrians, particularly the mobility impaired, may have difficulties walking, or standing, for long periods leading to fatigue.

Recommendation

Seating should be provided within public open spaces and courtyards.



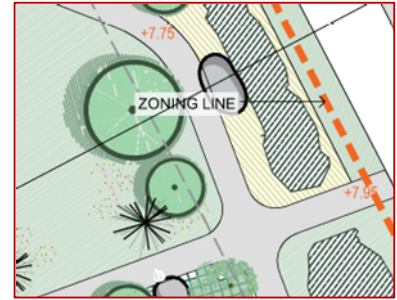
3.4 Mounting Height of Tree Canopies

Information regarding the mounting height of tree canopies, located within the development and on Groody Valley public open space area, has not been provided to the Auditor. It is, therefore, unclear if there will be sufficient vertical clearance between the tree canopies and the footpath should trees overhang these pedestrian facilities.

If sufficient vertical clearance is not provided there is a risk that the tree canopies could present an obstacle to pedestrians.

Recommendation

Tree canopies should have a clear vertical clearance of 2.3m above footpaths.



Appendix C: Cycle Audit

The purpose of this Cycle Audit is to review the proposed Scheme/Development to assess if it will cater comfortably for cyclists, of all ages and abilities, and that the needs of cyclists have been prioritised over vehicular traffic.

4 Cycle Audit Findings

4.1 Bicycle Parking Provision

Bicycle storage areas have not been indicated on the drawings provided, and it is, therefore, unclear if and where bicycle parking will be provided within the development.

Recommendation

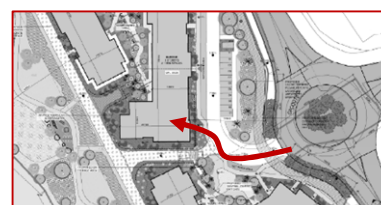
Sufficient bicycle parking spaces should be provided for the student development in accordance with the Limerick Development Plan 2022 - 2028, including both short-stay and long-stay bicycle parking spaces.

The proposed bicycle stands should be located at all apartment blocks and should accommodate a mix of bicycles in order to cater for the widest possible mix of cyclists (e.g. standard bicycles, cargo bicycles, hand-operated bicycles, etc.).

Depending on the location of the cycle stands, doors used by cyclists should be operated electronically by automatic detection or with a push button within 3m of the door.

4.2 Cyclist Routes to/from Apartment Blocks

It is unclear where bicycle storage facilities are to be provided within the proposed development. Dropped kerb access has not been indicated within the development, including at locations where cyclists would access the necessary bicycle storage areas within the development. Cyclists are likely to want to access the apartment blocks, where cycle stands may be provided, via the development access road and, if sufficient dropped kerb access is not provided, they may attempt to mount/dismount the full height kerb, which may lead to difficulties.



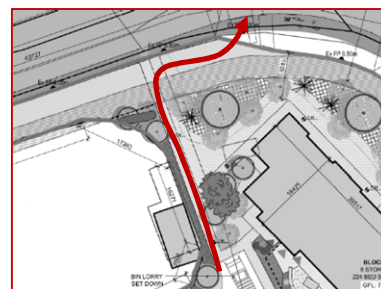
Recommendation

Dropped kerbs and tactile paving should be provided at the edge of the footpath adjacent to locations which are likely to attract cyclists.

4.3 Absence of Cycle Route between the Development and Dublin Road

Existing cycle facilities and a Zebra crossing are provided on Dublin Road connecting the University of Limerick with Groody Roundabout. Whilst a pedestrian access onto the footpath on the southern side of Dublin Road has been indicated at the northern boundary of the proposed development, a route, and access, for cyclists has not been indicated at this location.

It is, therefore, likely to result in cyclists travelling within the footpath between Dublin Road and the development. The width of the proposed pedestrian route at this location would be insufficient for use by both pedestrians and cyclists resulting in conflicts between these road users.



Recommendation

The path connecting Dublin Road and the proposed development should be wide enough to cater for the expected types and volumes of non-motorised road users, including the provision of shared path sections on the route between Dublin Road and the proposed development.

'Ladder & Tramline' tactile paving should be provided where the shared paths would transition to pedestrian-only paths.

The ramp gradient at this location (see Issue 2.3) should also be suitable for cyclists.

4.4 Absence of Cycle Crossing on Groody Road

There is no crossing facility indicated for cyclists within the development nor is there an existing crossing for northbound cyclists on Groody Road. This may lead to cyclists crossing the carriageway across the path of vehicles whose drivers may not anticipate a cyclist to undertake this manoeuvre.



Recommendation

Measures should be provided for cyclists to cross to the cycle facilities on the eastern side of Groody Road.

Appendix D: Road Safety Audit

The purpose of a Road Safety Audit is to identify problems that may lead to road safety collisions, material damage or personal injury, and to offer recommendations that mitigate identified safety risks.

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Stage 1 Road Safety Audit

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4.0	AOR	XY	AOR	17 th Jan 2025	Final
3.0	AOR	XY	AOR	14 th Oct 2024	Final Report
2.0	AOR	XY	AOR	11 th Oct 2024	Revised Drawing Received
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1 Introduction

1.1 General

This report results from a Stage 1 Road Safety Audit on the proposed Whitebox Student Campus at Castletroy, Co. Limerick carried out at the request of Mr Brian Coakley of Coakley Consulting Engineers on behalf of Groody Developments Limited.

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

Mr. Alan O'Reilly

(BA, BAI, MSc, PGDip(PM), RSACert, CEng, MIEI)
Road Safety Audit Team Leader

Ms. Xue Yan

(BEng, MSc, MIEI)
Road Safety Audit Team Member

The Road Safety Audit took place during October 2024 and comprised an examination of the documents provided by the designers (see Appendix A). In addition to examining the documents supplied the Road Safety Audit Team visited the site of the proposed measures on the 3rd of October 2024. Weather conditions during the site visit were dry and the road surface was dry. Traffic volumes during the site visit were high, pedestrian and cyclist volumes were moderate 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 B. 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.

2 Project Description

It is proposed to construct a new student accommodation development on the outskirts of Limerick City (see Figure 2.1), to the southwest of the University of Limerick. The proposed student accommodation development would be bound to the north by the R445 (Dublin Road), to the east by the L5173 (Groody Road) and to the west and the south by an existing greenfield site to be developed in the future.

The proposed student accommodation development would be accessed via a new arm on the western side of the existing roundabout at the intersection of Groody Road and the access road to Groody Student Park, approximately 180m to the south of the Groody Roundabout, where Groody Road intersects the Dublin Road.

Groody Road is a two-way single carriageway, approximately 7.0m wide, and includes a protected northbound cycle lane on its western side. A segregated footpath and cycle track is provided on the eastern side of the road. Public lighting is also provided on both sides of the road. The posted speed limit on Groody Road is 50kph

The proposed development would include the following:

- 1,400-bed accommodation spread over five apartment blocks.
- 40 parking spaces, including two accessible parking spaces, and three set down areas.
- Open green space, and courtyards, within, and between, the apartment blocks.
- Internal road and footpath network.
- Fire and emergency access route.
- Development of Groody Valley to provide walking routes, recreational areas and landscaped areas.



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

3 Items Arising from the Audit

3.1 Absence of Pedestrian Connectivity to Footpath on Groody Road

Location: Drawing no. PP-1.01

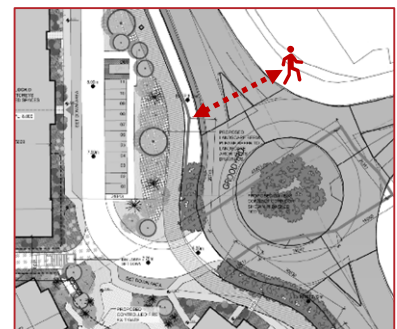
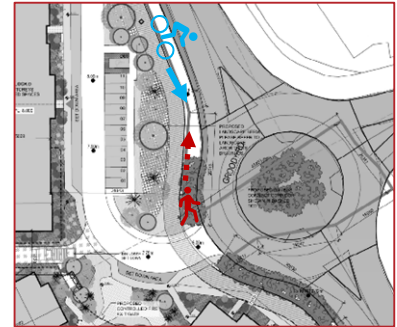
Summary: No pedestrian crossings have been indicated to/from the proposed development on Groody Road.

It is proposed to construct the student accommodation development on the western side of Groody Road with two pedestrian accesses indicated onto this side of the road, however, there is currently no footpath along the western side of Groody Road with an existing public footpath provided along the opposite side only. A pedestrian crossing has not been indicated on Groody Road with the nearest crossing being the Zebra crossing at the Groody Roundabout approximately 200m to the north.

There is likely to be a pedestrian desire line between the proposed development and the shops/residential developments on the eastern side of Groody Road, and it is unlikely that residents of the proposed development would travel north to this crossing. This may lead to pedestrians, who wish to travel between these developments, crossing Groody Road at locations where a driver may be less attentive to them, and insufficiently prepared to react, resulting in an increased risk of vehicle-pedestrian collisions.

There are also currently no pedestrian crossings at the roundabout at the proposed development access, which was noted as extremely busy at the time of the site visit, further exacerbating the problem.

In addition, the lack of a footpath on the western side of Groody Road will likely lead to pedestrians travelling in the verge or protected northbound cycle lane along the proposed development boundary, resulting in a risk of slips and falls, or pedestrian/cyclist collisions.



Recommendation

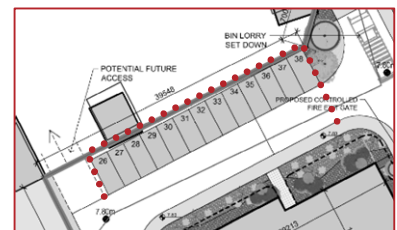
Measures should be provided to support the safe movement of pedestrians between the proposed development and developments on the eastern side of Groody Road.

3.2 Absence of Footpath at Parking Spaces

Location: Drawing no. PP-1.01

Summary: No footpath has been indicated around the parking spaces at the proposed development's northern boundary adjacent to Blocks A and B.

Parking spaces 26 – 38 have been indicated at the development's northern boundary adjacent to Blocks A and B. No footpath has been indicated adjacent to these parking spaces. The lack of a footpath at this location may lead to vehicle occupants travelling in the verge, which may rut over time, resulting in unstable ground and ponding, and an increased risk of slips, trips and falls.



Recommendation

Provide a paved footpath bounding these parking spaces and a pedestrian crossing to access the footpath on the opposite side of the road.

3.3 Provision of Crossings

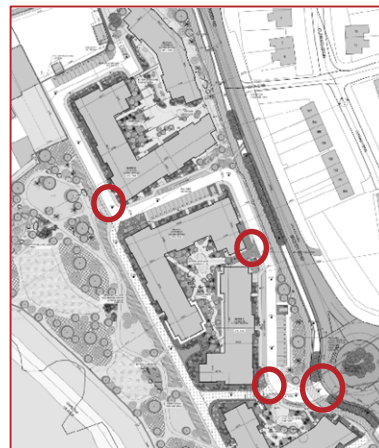
Location: Drawing no. PP-1.01

Summary: Details of pedestrian crossings within the development have not been indicated.

Pedestrian crossings have not been indicated within the development particularly at the development access and internal junctions where it is likely that these will be required to cater for pedestrians crossing the internal road network.

A failure to provide formal pedestrian crossings, with dropped kerbs and tactile paving, could lead to pedestrians crossing the carriageway at locations where drivers may be less attentive to them and insufficiently prepared to react safely resulting in an increased risk of vehicle-pedestrian collisions.

In addition, the lack of dropped kerbs and tactile paving at locations where pedestrians are likely to cross the carriageway would lead to pedestrians having to mount/dismount full height kerbs where there is a risk of trips and falls, and further accessibility issues for the visually and mobility impaired.



Recommendation

Pedestrian crossings, including dropped kerbs and tactile paving, should be provided at the development access and across side road junctions within the development.

3.4 Absence of Pedestrian Connectivity at Parking Spaces

Location: Drawing no. PP-1.01

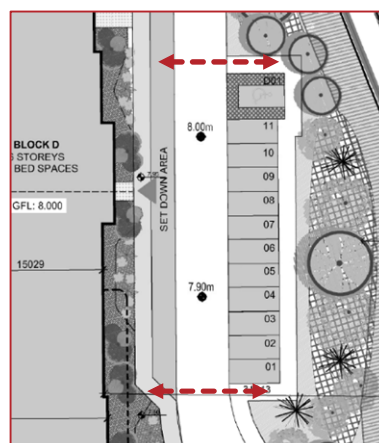
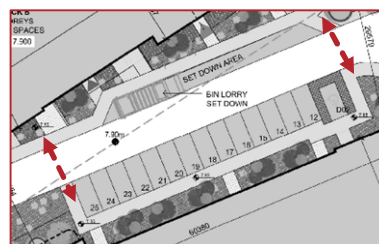
Summary: No pedestrian crossings have been indicated to cater for vehicle occupants travelling between their vehicle and the apartment blocks within the proposed development.

Parking spaces have been indicated within the proposed development on the opposite side of the development access road to the main entrance to Blocks B and D. Formal pedestrian crossings have not been indicated adjacent to these parking spaces to accommodate vehicle occupants crossing between their vehicle and the apartment blocks. A failure to provide a formal pedestrian crossing, with dropped kerbs and tactile paving, at these locations could lead to pedestrians, particularly mobility impaired pedestrians, being unable to safely and independently enter the carriageway to cross to the opposite footpath.

This could result in slips, trips and falls as these pedestrians attempt to descend the kerb, or an increased risk in visually impaired pedestrians unintentionally entering the carriageway where they could be struck by vehicles.

Recommendation

Formal pedestrian crossings, including dropped kerbs and tactile paving, should be provided at pedestrian desire lines between the proposed parking spaces and the opposite footpath adjacent the main apartment block entrances.



3.5 Swept Path Analysis

Location: Drawing no. PP-1.01

Summary: *It is unclear if the swept path of large vehicles, for example fire tenders and refuse trucks, will be safely accommodated within the development.*

A designated fire tender emergency route and multiple refuse truck set down areas have been indicated within the proposed development. It is unclear if large vehicles, including fire tenders and refuse trucks, will be able to safely travel along these routes and turn at the proposed turning heads. If sufficient space is not available, this could lead to large vehicles mounting the footpath when turning or undertaking multi-point turning manoeuvres where there is an increased risk of striking parked vehicles, items of roadside furniture or collisions with other road users.

Recommendation

A swept path analysis should be undertaken to confirm that all vehicles, particularly fire tenders and refuse trucks, can safely navigate the necessary routes within the development's road network and complete safe turning manoeuvres at the turning heads indicated.

3.6 Restricted Forward Visibility at Bends

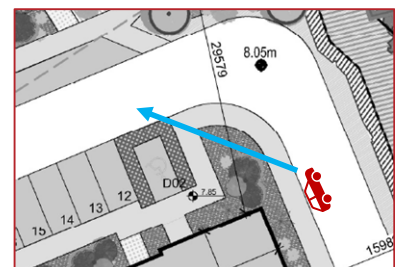
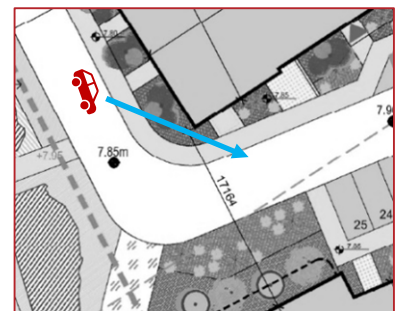
Location: Drawing no. PP-1.01

Summary: *Forward visibility of drivers within the proposed development may be restricted by proposed planting and building boundaries on the inside of horizontal curves.*

Horizontal curves have been indicated within the alignment of the development's internal access road between Blocks B and C. It is unclear if sufficient forward visibility will be available for drivers on the inside of these horizontal curves due to the trees and building boundaries located on the inside of the bend. This may lead to drivers being insufficiently aware of oncoming opposing traffic resulting in a risk of low-speed head on collisions.

Recommendation

Sufficient forward visibility should be provided for drivers on approach to, and throughout, the horizontal curves.

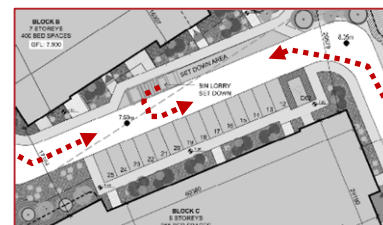


3.7 Set-down Area Arrangement

Location: Drawing no. PP-1.01

Summary: The set-down area at Block B is indicated on the offside relative to drivers entering the development which may lead to unsafe U-turn manoeuvres when exiting the set-down area.

A set-down area has been indicated adjacent to Block B located on the offside relative to vehicles entering the development. A turning head has been indicated at the end of the access road at Block A however it is unlikely that drivers will continue to the turning head at Block A, turn around, and then enter the set-down area so that they are facing the correct direction to exit the development when leaving, and instead cross the carriageway to enter the set-down area.



This may lead to drivers performing U-turn manoeuvres on the access road at the set-down area when exiting the development which may result in an increased risk of collisions with other vehicles.

This problem would be exacerbated by the horizontal curves at either side of the set-down area which may restrict visibility for drivers on the access road towards U-turning vehicles.

Recommendation

The set-down area should be relocated to the nearside of the access road.

3.8 Location of Bicycle Parking/Storage Area

Location: Drawing no. PP-1.01

Summary: It is unclear where the bicycle parking/storage area(s) will be located within the proposed development, and if sufficient measures would be provided for cyclists to access these locations from the development's access road carriageway.

The footpath within the proposed development does not appear to be wide enough to cater for both pedestrians and cyclists so it is assumed that cyclists will share the carriageway with vehicles when travelling within the development. The location of bicycle stores, or bicycle parking stands, has not been indicated on the drawing provided to the Audit Team, however, and it is unclear where cyclists would be travelling to/from in the development. It is, therefore, unclear if cyclists would be required to mount/dismount a full height kerb when accessing bicycle parking stands/storage areas from the carriageway. If so, this may result in a risk of loss of control and falls from their bicycle.

In addition, no information has been indicated regarding the width of the proposed footpaths within the development and whether or not cyclists would need to use any sections of the footpath to access bicycle parking stands/storage areas. A failure to provide sufficiently wide shared surfaces may result in an increased risk of pedestrian/cyclist collisions.

Recommendation

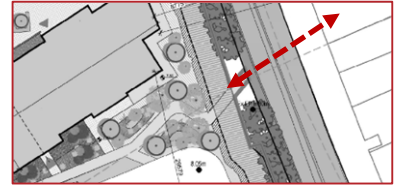
Routes to/from bicycle parking, both long-stay and short-stay, should be catered for with sufficiently wide shared surfaces, and dropped kerbs for cyclists to enter/exit the carriageway.

3.9 Pedestrian Desire Line to Curragh Birin

Location: Drawing no. PP-1.01

Summary: *The pedestrian desire line on Groody Road between the pedestrian access to the proposed development and the existing Curragh Birin residential development is not adequately catered for.*

A pedestrian access onto the western side of Groody Road from the proposed development has been indicated in close proximity to the pedestrian/cyclist route from the Curragh Birin residential development on the opposite side of Groody Road. There is likely to be a pedestrian desire line between this pedestrian/cyclist access to Curragh Birin and the proposed development.



The Audit Team acknowledge the existing Zebra crossing further north at Groody Roundabout, however this would be a 130m trip and unlikely to be undertaken. This may lead to unsafe crossing manoeuvres on Groody Road at this location, which was noted as extremely busy at the time of the site visit, resulting in an increased risk of vehicle-pedestrian collisions.



Recommendation

A suitable pedestrian crossing of Groody Road should be provided at this location.

3.10 Level Difference

Location: Drawing no. PP-1.01

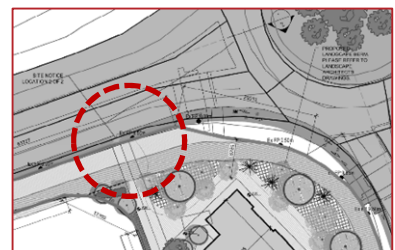
Summary: *The existing level difference between the site and the adjacent public footpath on the southern side of the R445 may result in a steep gradient on the proposed pedestrian path between the R445 and the development.*

A pedestrian route from the proposed development to the footpath on the southern side of the R445 has been indicated at the development's northern boundary. At the time of the site visit, the Audit Team noted a level difference between the development site and the footpath on the R445. It is, therefore, unclear if the gradient of this access path would be suitable for all pedestrians, particularly the mobility impaired. If not, this may increase the risk of slips, trips and falls and personal injuries.



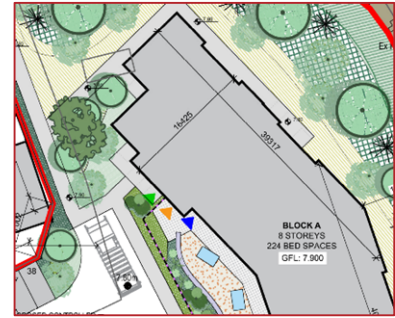
Recommendation

The access path should have a smooth, non-slip surface and should provide a gentle gradient that can be safely traversed by all road users.



4 Observations

- 4.1 The Main Lobby Entrances have not been indicated at Blocks A and C. It is, therefore, unclear how pedestrians will access these blocks, i.e. from the development's internal footpath network or from routes between other apartment blocks. The Main Lobby Entrances should be clearly marked on the drawings and sufficient routes provided to these locations.



5 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.

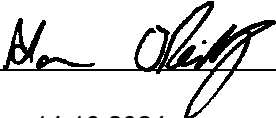
The problems identified have been noted in this report together with associated safety improvement suggestions, which we would recommend should be studied for implementation.

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

ROAD SAFETY AUDIT TEAM LEADER

Alan O'Reilly

Signed:




Dated:

14.10.2024

ROAD SAFETY AUDIT TEAM MEMBER

Xue Yan

Signed:



Dated:

14.10.2024

6 Road Safety Audit Feedback Form

Road Safety Audit Feedback Form

Scheme: Student Development, Castletroy, Limerick

Route No.: R445 (Dublin Road) & L5173 (Groody Road)

Audit Stage: Stage 1 **Date Audit Completed:** 17th January 2025

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. Only complete if recommended measure is not accepted	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: Darryl O'Neill **Designer** **Date** 14.10.2024

Signed: Ma O'Neill **Audit Team Leader** **Date** 14.10.2024

Signed: E. R. **Employer** **Date** 16.01.2025

Appendix A - Documents Submitted to the Road Safety Audit Team

DOCUMENT/DRAWING TITLE	DOCUMENT/DRAWING NO.	REVISION
Proposed Site Layout	PP-1.01	N/A

Appendix B – Problem Locations

