24225-01-001

PROPOSED RESIDENTIAL DEVELOPMENT AT KINSEALY

Stage 1 Quality Audit

(Incorporating a DMURS Street Design Audit, and Audits of Accessibility, Cycling, Walking and Road Safety)

for

CS CONSULTING

JANUARY 2025



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1. INTRODUCTION

- 1.1 Roadplan Consulting has been commissioned by CS Consulting to carry out a Quality Audit of a proposed development at Kinsealy, Co Dublin.
- 1.2 The proposed development comprises the redevelopment of some existing commercial lands and agricultural lands into a residential development.
- 1.3 The development is situated at Kinsealy, Co Dublin.
- 1.4 Figure 1.1 below is a layout drawing of the development.



Figure 1.1- Site Location Map and Site Layout for the development

2. QUALITY AUDIT

- Quality Audit is a defined process, independent of, but involving, the design team that, through planning, design, construction and management stages of a project provides a check that high quality places are delivered and maintained by all relevant parties, for the benefit of all end users. Quality Audit is a process, applied to urban roads, traffic management or development schemes, which systematically reviews projects using a series of discrete but linked evaluations and ensures that the broad objectives of place, functionality, maintenance and safety are achieved.
- Quality Audit was introduced in the publication Design Manual for Urban Roads and Streets following concerns that in the design of new streets provisions made for motor vehicles frequently led to a poorly designed public realm. In an urban area there is a high level of competing demand from different classes of road users. A well-balanced street will have minimal visual clutter and obstacles; it will use durable materials and most importantly, will encourage a degree of negotiation between road users as they make their way through it.
- 2.3 Quality Audit involves various assessments of the impacts of a street scheme in terms of road safety, visual quality and the use of streets by the community. Access for disabled people, pedestrians, cyclists and drivers of motor vehicles is considered.
- 2.4 In the context of a Quality Audit, road safety assessment is considered to be an appropriate method of examining road safety issues as it incorporates both the hazard identification techniques used in road safety audit and formal risk assessment techniques. This allows the opportunity at an early stage for road safety issues to be considered in a more dynamic way within the design process, and to ensure that safety issues are considered as part of the design rather than after design work is completed.
- 2.5 The Quality Audit Team reports findings with suggestions for future action. It should be noted that, in a Quality Audit, it is not the intention that suggestions would be binding on the design team; they are offered for detailed consideration in the design process.
- 2.6 DMURS states that Quality Audits should consist of the following parts:
 - DMURS Street Design Audit
 - Individual Design Audits
 - Quality Audit Report

In the case of this report the individual design audits comprise an RSA, an Accessibility audit, a Walking audit and a Cycle audit.

3. METHODOLOGY

3.1 The Audit Team was as follows:

George Frisby,Glenn Hingerty,Chartered Engineer MIEI

- 3.2 Road safety, non-motorised users, visual quality, access for disabled and functionality were considered in the Quality Audit. This exercise focused on issues such as:
 - the design rationale as it related to vehicle, cycle and pedestrian movements;
 - pedestrian desire lines both to and through the site;
 - access requirements for all modes of transport;
 - access requirements for disabled people and other vulnerable users;
 - any road safety concerns associated with the scheme;
 - how the scheme is experienced by those entering it and moving around within the street, including how this affects road user behavior; and
 - any other issues considered relevant to each constituent element of the Quality Audit process.
- 3.3 The site visit for this quality audit was carried out on 24th November 2024.

The documents provided for the audit were:

Drawing Number	Rev	Drawing Title
C215-CSC-00-XX-DR-C-0004	P4	General Arrangement-Sheet 1 of 2
C215-CSC-00-XX-DR-C-0005	P4	General Arrangement-Sheet 2 of 2
C215-CSC-00-XX-DR-C-0008	P4	Proposed Road Markings and Traffic Signs-Sheet 1 of 2
C215-CSC-00-XX-DR-C-0009	P4	Proposed Road Markings and Traffic Signs-Sheet 2 of 2
C215-CSC-00-XX-DR-C-0014	P4	Swept Path Analysis Refuse Vehicle
C215-CSC-00-XX-DR-C-0015	P4	Swept Path Analysis Fire Tender

Copies of these audited drawings are contained in Appendix A.

Details of drainage or road lighting are not provided. It is assumed that adequate layouts will be provided for each.

In accordance with DMURS Advice Note No. 4 May 2019 (contained on https://www.dmurs.ie/supplementary-material) a Quality Audit should always contain a DMURS Street Design Audit and Other Design Audits (as required). Section 4 of this report contains the Street Design Audit and Section 5 contains the Other Design Audits (Road Safety, Walking, Cycling, Accessibility). The Street Design Audit is in the format provided as a template on the DMURS website.

4. STREET DESIGN AUDIT

CONNECTIVITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
Strategic routes/major desire lines been identified and are clearly incorporated into the design.	3.1 – Integrated Street Network3.2.1 – Movement Function3.3.1 – Street layouts3.3.4 - Wayfinding	No Comment	No Comment
Multiple points of access are provided to the site/place, in particular for sustainable modes.	3.3.1 – Street Layouts 3.3.3 – Retrofitting ¹	No Comment	No Comment
Accessibility throughout the site is maximised for pedestrians and cyclists, ensuring route choice.	3.3.1 – Street Layouts 3.3.2 – Block Sizes 3.4.1 – Vehicle Permeability	3.3.1 – No segregated cycle infrastructure is proposed	The development includes delivery of pedestrian and bicycle greenways through the site, as required by the 2019 Kinsaley Local Area Plan. These connect to the Malahide Road at the development's western boundary and extend to the site's northern and eastern boundaries, where they will connect to pedestrian and bicycle infrastructure in adjacent existing and future residential developments.

¹ When connecting with existing communities a detailed analysis and extensive community consultation should be carried out to identify the optimal location for connections (refer also to the NTA Permeability in Existing Urban Areas: Best Practice Guide).

CONNECTIVITY				
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response	
			These greenway sections will form part of the Kinsealy Walking & Cycling Scheme in preparation by Fingal County Council. They have been configured as shared pedestrian & cyclist spaces, in keeping with the preliminary design drawings published by the Council for this Scheme.	
			Elsewhere within the proposed development, bicycle movements are catered for by homezones and residential access streets with low traffic volumes. The provision of cycle infrastructure completely segregated from both motor vehicle traffic and pedestrian traffic is therefore deemed unnecessary.	
Through movements by private vehicles on local streets are discouraged by an appropriate level of traffic calming measures.	3.2.1 – Movement Function 3.2.2 – Place Context 3.4.1 – Vehicle Permeability	No Comment	No Comment	

SELF-REGULATING STREET ENVIRONMENT				
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response	
A suitable range of design speeds have been applied with regard to context and function.	3.2.1 – Movement Function 3.2.2 – Place Context 4.1.1 – A Balanced Approach to Speed ²	No Comment	No Comment	
The street environment will facilitate the creation of a traffic calmed environment via the use of 'softer' or passive measures.3	4.2.1 – Building Height and Street Width 4.2.2 – Street Trees 4.2.3 – Active Street Edges 4.2.4 – Signage and Line Marking 4.2.7 – Planting 4.4.2 – Carriageway Surfaces 4.4.9 – On-Street Parking Advice Note 1 – Transitions and Gateways	4.2.2 – Proposed Trees may compromise stopping sight distance and pedestrian visibility 4.2.9 – Ensure adequate manoeuvrability into and out of parking bays	All planting on the development's internal street network will comprise species appropriate to that context. Trees will be of slender stem varieties and will be maintained to ensure that their canopies do not intrude into the space 2m above footpath or carriageway. The accessibility of all parking bays will be verified through swep path analysis, and adjustments made where necessary to ensure that each space is safely usable.	
A suitable range of design standards/ measures have been applied that are	4.4.1 – Carriageway Widths 4.4.4 – Forward Visibility 4.4.5 – Visibility Splays 4.4.6 – Alignment and curvature	4.4.5 - Visibility Splays at junctions may be compromised due to proposed parking arrangements and planting.	Sightlines at internal junctions will be verified and it will be ensured that the required unobstructed	

² Refer also to the National Speed Limit Guidelines

³ In retrofit situations a detailed analysis should be carried out to establish what measures exist, what their likely effectiveness is and level of intervention required to achieve the designed design speed.

SELF-REGULATING STREET ENVIRONMENT				
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response	
consistent with the applied design speeds.	4.4.7 – Horizontal and Vertical Deflections Advice Note 1 – Transitions and Gateways	4.4.6 – Vehicle manoeuvrability within certain street areas may be challenging, especially for larger vehicles.	visibility splays and stopping sight distances are achieved. All planting on the development's internal street network will comprise species appropriate to that context. Trees will be of slender stem varieties and will be maintained to ensure that their canopies do not intrude into the space 2m above footpath or carriageway.	

PEDESTRIAN AND CYCLING ENVIRONMENT				
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response	
The built environment contributes to the creation of a safe and comfortable pedestrian environment.	 4.2.1 – Building Height and Street Width 4.2.3 – Active Street Edges 4.2.5 – Street Furniture 4.4.9 – On-Street parking 	4.4.6 – On street parking may not be fully accessible for private vehicles which may impact footway space.	The accessibility of all parking bays will be verified through swept path analysis, and adjustments made where necessary to ensure that each space is safely usable.	
Footpaths are continuous and wide enough to cater for the anticipated number of pedestrian movements.	 3.2.1 – Movement Function 3.2.2 – Place Context 4.2.5 – Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings 	No Comment	No Comment	

PEDESTRIAN AND CYCLING ENVIRONMENT			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
Cycling facilities will cater for	3.2.1 – Movement Function		
cyclists of all ages and	3.2.2 – Place Context		
abilities.	4.3.5 - Cycle facilities		
The particular needs of	4.2.5 - Street Furniture	There is no provision for tactile	Tactile paving will be provided at
visually and mobility	4.3.1 - Footways, Verges and Strips	paving through the development.	all relevant locations throughout
impaired users been	4.3.2 - Pedestrian Crossings	This will compromise independent	the development, in accordance
identified and incorporated in	4.3.4 - Pedestrianised and Shared	navigation of the development for	with the Guidance on the Use of
the design.	Surfaces	pedestrians with vision impairments.	Tactile Paving Surfaces.

VISUAL QUALITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
The landscape plan responds to the street hierarchy and the value of the place.	3.2.1 – Movement Function 3.2.2 – Place Context 4.2.2 – Street Trees 4.2.7 – Planting Advice Note 1 – Transitions and Gateways	No Comment	No Comment
Street furniture is orderly placed.	3.2.1 – Movement Function3.2.2 – Place Context4.2.5 - Street Furniture4.3.1 - Footways, Verges and Strips	No comment	No Comment
The use of signage and line marking has been minimised.	3.2.1 – Movement Function.3.2.2 – Place Context.4.2.4 - Signage and Line Marking.	No comment	No Comment
Materials and finishes used throughout the scheme have	3.2.1 – Movement Function 3.2.2 – Place Context	No comment	No Comment

VISUAL QUALITY			
Key Issues	Key DMURS Reference	Audit Suggestion	Design Team Response
been selected from a limited	4.2.6 – Materials and Finishes		
palette and respond to the	4.2.8 – Historic Contexts		
value of the place?	4.3.2 – Pedestrian Crossings		
	4.4.2 – Carriageway Surfaces		
	Advice Note 2 – Materials and		
	Specifications		

ADDITIONAL COMMENTS

5. ROAD SAFETY

5.1 **Issue**

Visibility splays at the proposed development access from the R107 may be restricted by the existing roadside boundary either side of the access. A lack of adequate visibility splays may contribute to a turning collision at this location.

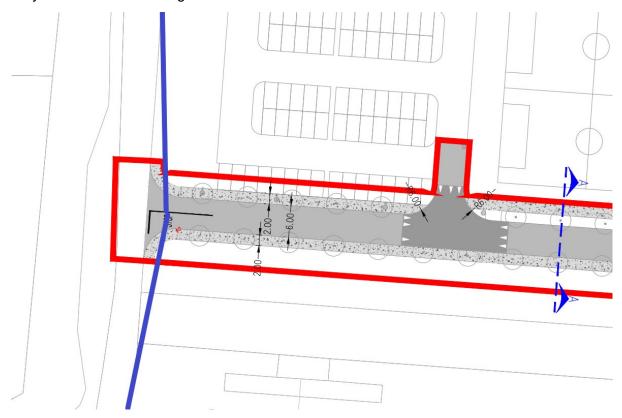


Figure 5.1 - Visibility Splay at development access

Suggestion

Ensure that adequate visibility splays are provided at the proposed development access.

5.2 **Issue**

The visibility splay at various proposed junctions in the development, including but not limited to the one in Figure 5.2, will be compromised by proposed parking, planting, bin storage areas and internal boundaries. This may compromise vehicle-to-vehicle intervisibility, increasing the risk of collisions.

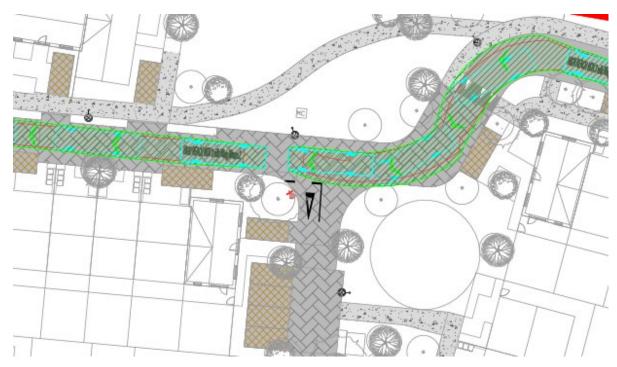


Figure 5.2 - Visibility Splay not shown

Ensure adequate visibility splays at all junctions. Revise parking and planting arrangements as necessary.

5.3 **Issue**

It is unclear if the proposed parking bays are adequate for all likely vehicle manoeuvres due to its arrangement. Vehicle manoeuvrability into and out of some parking bays is unclear. This may give rise to vehicle collisions or kerb mountain with associate pedestrian injuries.

Suggestion

Swept path analyses should be carried out on all parking bays for all vehicle types expected to use the parking bays.

5.4 **Issue**

It is unclear how fire tender and refuse truck movements can occur in certain areas of the development (e.g. Figure 5.3). Tight manoeuvring spaces create a risk of kerb mounting with pedestrian injuries or colliding with parked vehicles. Parked vehicles in this area, on a bend, may also reduce the effective width of the carriageway further.

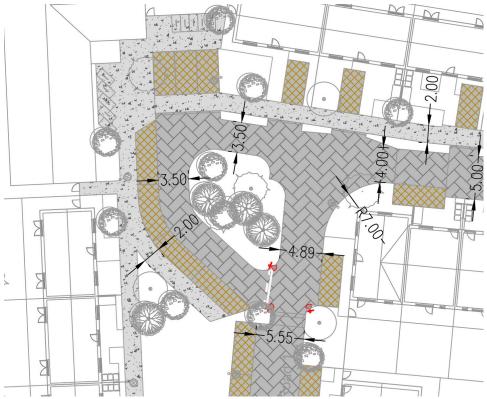


Figure 5.3 – Narrow Carraigeway

Ensure adequate swept path analyses for all vehicles. Consider minimum carraigeway widths as per DMURS and Building Regulations Part M.

5.5 **Issue**

Various raised kerbs and vertical carraigeway deflections are proposed. It is unclear what the proposed drainage arrangements are at these locations. This may result in ponding of water and silting which may create a slipping risk for cyclists.

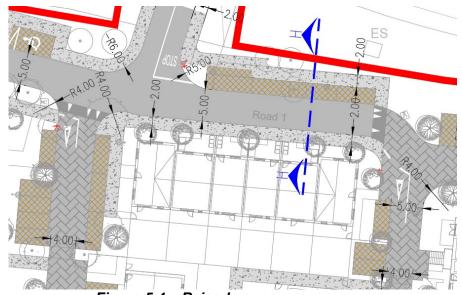


Figure 5.4 – Raised carrageways

Ensure adequate drainage throughout the development.

5.6 **Issue**

In some carraigeway areas, the stopping sight distance (at corners) may be compromised by parked vehicles and proposed trees/planting. This may increase the risk of rear shunt, head on vehicles collisions or collisions with pedestrians within the shared space.

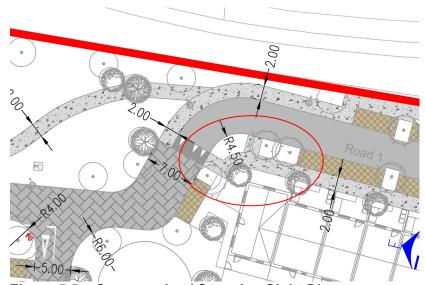


Figure 5.5 - Compromised Stopping Sight Distances

Suggestion

Ensure adequate stopping sight distances for all movements. Remove parking and trees as appropriate.

5.7 **Issue**

Some swept path analyses show vehicle movmeents on pedestrian areas. This will increase risk of pedestrian injury and creation of tripping hazards through footway surface damage.



Figure 5.5 – Vehicle movements on pedestrian areas

Ensure adequate separation between pedestrian and vehicular movements.

5.8 <u>Issue</u>

Some vehicle movements may only be possible by striking overhanging branches of trees (e.g. Figure 5.6). This may result in pedestrian injury, vehicle collisions or vehicles mounting kerbs to avoid trees causing pedestrian injury.

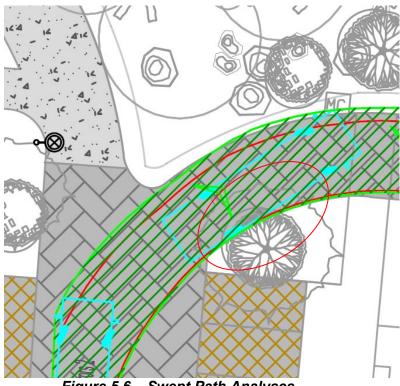


Figure 5.6 – Swept Path Analyses

Ensure all movements are achievable.

5.9 **Issue**

Some proposed road signs may be obscured by proposed trees, result in vehicle collisions.

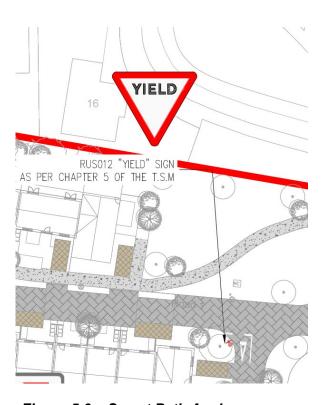


Figure 5.6 - Swept Path Analyses

Suggestion

Ensure all signage is separated from trees.

5.10 **Issue**

It is unclear if the proposed access roads (including shared surfaces) can cater for two-way flow of vehicles. There are a number of abrupt changes in the horizontal alignment and the carriageway widths vary substantially. A lack of appropriate alignment and carriageway widths may contribute to collisions within the proposed development.

Suggestion

Ensure that the proposed alignment and carriageway widths can safety cater for two opposing cars in all locations (including within the shared surfaces). Where pinch points are introduced, ensure that adequate measures are provided at these give-way locations so that priority is clear to approaching motorists.

6. WALKING

6. 1 **Issue**

Not all pedestrian desire lines in the development are considered and some crossings are incomplete (i.e. parking on one side). This will reduce the attractiveness of walking in the development. It is also unclear how pedestrians will access the doors of certain properties.

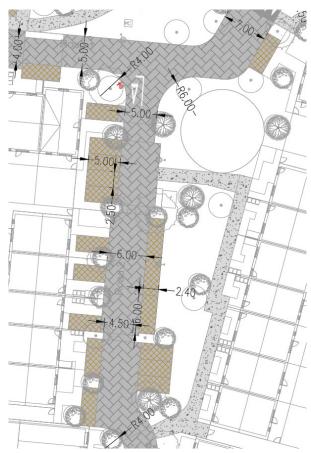


Figure 6.1 – Incomplete pedestrian desire lines

Suggestion

Ensure adequate pedestrian infrastructure for all movements. Ensure all pedestrian crossings are complete.

6. 2 **Issue**

Pedestrian tie-ins at certain locations will be compromised by parked vehicles and trees (e.g. Figure 6.2). This will compromise intervisibility between pedestrians and motorists, potentially conflict and injuries.

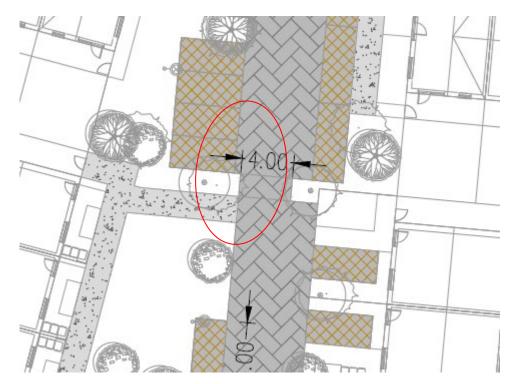


Figure 6.2 - Reduced Intervisibility between pedestrians and motorists

Ensure adequate intervisibility between pedestrians and motorists at all locations.

6. 3 **Issue**

Due to the proximity of the development to a school, and permeability with adjacent developments, footway widths may not be adequate for the required level of service needed at school run times.

Suggestion

Ensure adequate footway widths for all times.

6. 4 **Issue**

It is unclear how bin collection will happen without impeding footway access. This may increase requirements to walk on roadways during bin collection day, especially during school run times.

Suggestion

Ensure adequate footway separation from bin collection with adequate waste collection strategy.

6. 5 **Issue**

The proposed footpath alignment either side of the school access does not align with one another. This may lead to difficulties for visually impaired pedestrians crossing at this location.

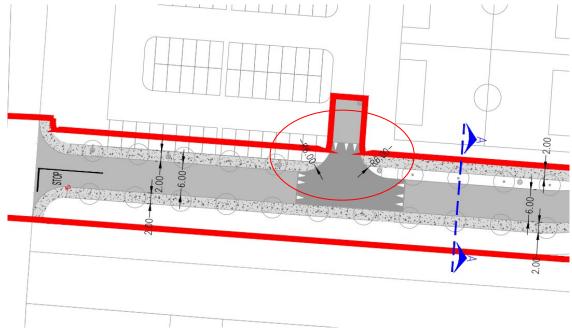


Figure 6.3 – Footpath Alignment

Suggestion

Revise the footpath layout at this location so that the footpaths either side of the junction aligns with one another.

6. 6 **Issue**

Trees are shown to be provided within footpath in a number of locations throughout the proposed development (e.g. Figure 6.4). trees and street furniture located within footpaths reduces its effective width and as a result pedestrians may be forced to travel along the carriageway where they would be at an increased risk of being struck by a passing vehicle.

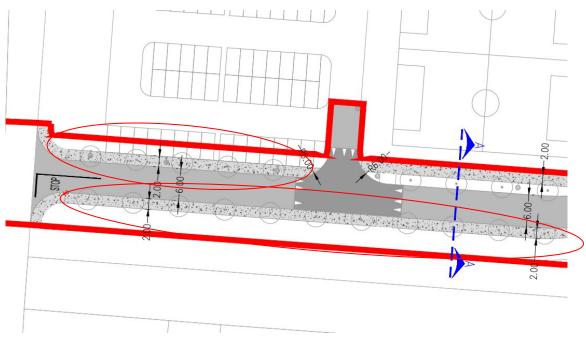


Figure 6.4 – Footpath Alignment

Ensure tress and other street furniture do not reduce the effective width of footpaths within the proposed development.

6. 7 **Issue**

Shared surfaces are proposed within the proposed development. It is unclear what edge definition, if any, is provided along the edges of the shared surfaces. In addition, the width and alignment of the shared surfaces changes abruptly in a number of locations. Where adequate guidance features are not provided, visually impaired pedestrians may become disoriented in the shared space and may stray onto the central access road, increasing the risk of collisions or may collide with objects outside of the shared surfaces where the alignment changes abruptly.

Suggestion

Ensure that the proposed alignment and widths of the shared surface can safety cater for all road users and that measures are provided to safely guide visually impaired pedestrians using the shared surfaces.

6.8 **Issue**

A pedestrian access is proposed from the development onto the R107. While there is a bus stop on the east side of the R107 at the proposed pedestrian access, there is no existing footpath on this side of the carriageway. This may result in pedestrians travelling along the carriageway or crossing the carriageway at an unsafe location.

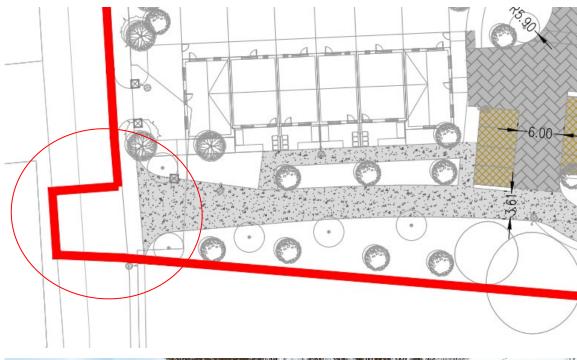




Figure 6.5 – Pedestrian Access

Provide a suitable pedestrian crossing at the proposed pedestrian access to cater for pedestrians crossing the R107 at this location.

7. CYCLING

7. 1 **Issue**

It is unclear how the proposed development will connect to existing/adjacent cycling infrastructure in adjacent developments. Lack of continuation will compromise the cycling experience or attractiveness in the development.



Figure 7.1 – Tie in to existing footway and pedestrian infrastructure



Figure 7.2 – Tie in to existing footway and pedestrian infrastructure

Suggestion

Consider cycle infrastructure through the development to tie-in to existing.

7. 2 **Issue**

It is unclear if the proposed cycle storage facilities in the development will be adequate for the anticipated volumes of cyclists or if cargo cycles have been considered. As such, it is

unclear how attractive cycling, including that of cargo cycles, to/from the development will be.

Suggestion

Ensure adequate provision of cycle storage facilities for all cycle types.

7. 3 **Issue**

It is unclear how the development will tie in to the proposed 'Primary Radial' Route in the GDA Cycle network (https://www.nationaltransport.ie/wp-content/uploads/2023/01/2022-GDA-Cycle-Network.pdf). Fragmented cycle networks may reduce the attractiveness of cycling as a mode.

Suggestion

Tie-ins to adjacent cycle infrastructure should be considered.

8. ACCESSIBILITY

8. 1 **Issue**

It is unclear if the proposed development features tactile paving. Lack of tactile paving will pose navigation challenges for pedestrians with vision impairments.

Suggestion

Include tactile paving measures as appropriate throughout the development.

8. 2 **Issue**

In the absence of cycle infrastructure, wider footways may become shared surfaces between cycles and pedestrians. This may increase the conflict between cyclists and pedestrians, especially pedestrians with a vision impairment.

Suggestion

A kerb upstand or tactile delineation line should be included to ensure separation from cyclists for vision impaired pedestrians.

8. 3 **Issue**

Mobility impaired pedestrians may also struggle at crossings proposed at ramps to vehicular grade changes.

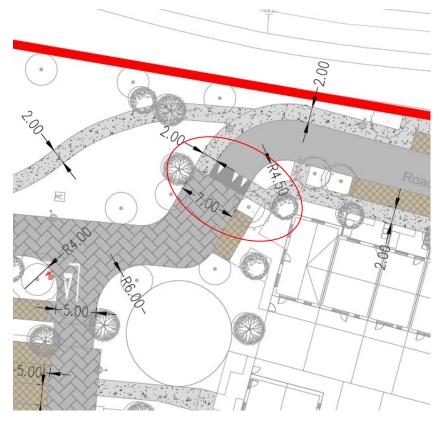


Figure 8.1 – Pedestrian crossing on ramps

Relocate crossing points away from ramps.

8. 4 **Issue**

It is unclear if suitable access will be proposed from disabled parking spaces to the adjacent footpaths (e.g. Figure 8.2). A lack of appropriate dropped kerbs may lead to mobility impaired pedestrians travelling along the carriageway to access the footpaths increasing their risk of being struck by a passing vehicle.

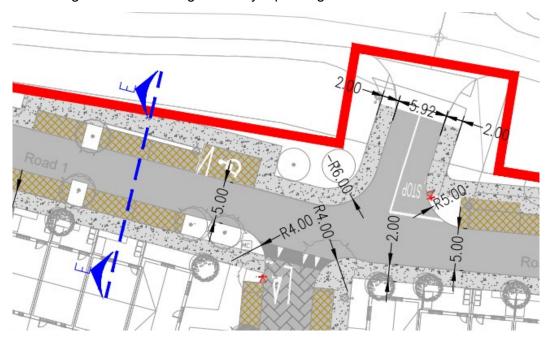


Figure 8.2 - Access to disabled parking

Suggestion

Provide a dropped kerb at all locations where disabled parking spaces are provide adjacent to footpaths.

4. QUALITY AUDIT FEEDBACK FORM

Scheme: Proposed Residential Development at Kinsealy

Document Number: 24225-01-001

Date Audit Completed: 16th December 2024

Paragraph No. in Quality Audit Report	To Be Completed By Designer			To Be Completed by Audit Team
	Issue Accepted (yes/no)	Suggested Measure Accepted (yes/no)	Describe alternative measure(s). Give reasons for not accepting suggested measure. Only complete if suggested measure is not accepted.	Alternative measures or reasons accepted by auditors (yes/no)
5.1	Yes	Yes		
5.2	Yes	Yes		
5.3	Yes	Yes		
5.4	Yes	Yes		
5.5	Yes	Yes		
5.6	Yes	Yes		
5.7	Yes	No	Vehicle movements shown across pedestrian areas are for fire tender access only. These shall occur extremely infrequently.	Yes
5.8	Yes	Yes		
5.9	Yes	Yes		
5.10	Yes	Yes		
6.1	No	No	The locations indicated are not pedestrian crossings but are transitions between footpaths and shared surfaces. Tactile paving and dropped kerbs (as appropriate) will be provided to make this clearer to users.	Yes
6.2	Yes	Yes		
6.3	Yes	Yes		
6.4	Yes	Yes		
6.5	Yes	Yes		
6.6	Yes	Yes		
6.7	Yes	Yes		
6.8	Yes	Yes		
7.1	Yes	Yes		
7.2	Yes	Yes		
7.3	Yes	Yes		

Paragraph No. in Quality Audit Report	To Be Completed By Designer			To Be Completed by Audit Team
	Issue Accepted (yes/no)	Suggested Measure Accepted (yes/no)	Describe alternative measure(s). Give reasons for not accepting suggested measure. Only complete if suggested measure is not accepted.	Alternative measures or reasons accepted by auditors (yes/no)
8.1	Yes	Yes		
8.2	Yes	Yes		
8.3	Yes	Yes		
8.4	Yes	Yes		

Gang hinder

Safety Audit Signed off Design Team Leader

Print Name Gary Lindsay Date 12.01.2025

Safety Audit

Signed off Audit Team Leader

Print NameGeorge Frisby............ Date13.01.2025....

Please complete and return to: Roadplan Consulting,

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APPENDIX A – DRAWINGS

