

Roughan & O'Donovan

Proposed Residential
Development, Dalguise House,
Monkstown Road, Co. Dublin

Quality Audit Stage 1

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1 Quality Audit Report

1.1 Introduction

This report was prepared in response to a request from Mr Eoin O'Catháin of Roughan & O'Donovan to provide a Quality Audit Stage 1 of the Proposed Residential Development, Dalguise House, Monkstown Road, Co. Dublin.

The Quality Audit Stage 1 considers the following elements: -

- Access Audit (Appendix I)
- Walking Audit (Appendix II)
- Non-Motorised User Audit (Appendix III)
- Cycle Audit (Appendix IV)
- Road Safety Audit (Appendix V)

The Quality Audit Stage 1 followed a site visit on the 3rd May 2022. At the time of the site visit the weather was dry, the ground surface was dry and traffic volumes in the vicinity of the site were moderate.

The different audits included in the appendices to this report address the implications for the different types of non-motorised road users of the proposed development.

The Access (Accessibility) & Walking Audits assess potential usability/accessibility for pedestrians and, in particular, people with sensory or intellectual disabilities. The Cycle Audit predominantly focusses on cycle use, whilst the Road Safety Audit identifies potential safety implications of the scheme. Finally, there are currently no requirements for equestrians as part of this development.

1.2 Project Objectives

The Project Objective is the provision of a new multi-block mixed-use development in Monkstown, Co Dublin.

1.3 Description of Proposed Development

The proposed development is located in Monkstown Co. Dublin. It is proposed to provide two vehicular accesses to the development using an existing private access at Dalguise House Access Avenue onto Monkstown Road and the 'Purbeck' road that currently serves 2 residential units.

The proposed development will be constructed on c. 35,760m² of land and will consist of 493 dwellings – a mix of studio, 1 bed, 2 bed and 3 bed apartments, 3 houses, a Café, a Crèche, residential amenities, and a basement car park.

The car park is to be located under Blocks E, F & G, would be accessed via Purbeck and would accommodate 80% of the traffic/parking for the development. This audit doesn't include reviewing the underground car park layout.

The development would include 222 car parking spaces, including 6 mobility-impaired parking spaces at ground level for access to adjacent Blocks, 5 mobility-impaired parking spaces located in the basement car park with access to the cores of Blocks E, F & G, and additional mobility-impaired spaces located at the undercroft of Blocks B & C with direct access via the core.

The development would also include 967 bicycle parking spaces, 711 of which are for long-stay parking for residents and 256 are for use by visitors, at various locations throughout the site. In addition, 20 cargo bike spaces would be provided.

Vehicular access to the proposed development would be via Purbeck Avenue, from which the main underground car park would be accessed, and via the existing Dalguise House Access Avenue. The Dalguise House Access Avenue would be amended to include passing bays to facilitate two-way vehicular traffic. The Traffic & Transport Assessment Report provided to the Audit Team states that traffic to/from Blocks A to G (i.e. the blocks in front of Dalguise House) will access the site via Purbeck Avenue, representing approx. 80% of total development traffic. Traffic to/from Blocks H to I will access the site via the Dalguise House Access Avenue.

Green space and play areas are proposed within the development with footpaths linking them with the residential blocks.

Five existing units on the lands will be retained (North West Houses, Brick Gate Lodge and Coach House), with vehicular access to these to be via the Dalguise House Access Avenue.



FIGURE 1.1: SITE LOCATION (SOURCE: WWW.OPENSTREETMAP.ORG)

1.3.1 Existing Road Network

Monkstown Road (R119)

Monkstown Road (R119 Regional Road) is a two-way single carriageway road with a footpath and advisory cycle lane on both sides in the vicinity of the site access. It extends along the northern side of the proposed development and vehicular access to the site would be provided from Monkstown Road.

It is approximately 8m wide and runs in an east-west direction providing connection to Dun Laoghaire and access to transport services including various bus stops and the Salthill & Monkstown DART Station. It has a staggered junction at Albany Avenue as well as a number of side road priority T-Junctions along its length.

Purbeck

Purbeck is a two-way access road located approximately 70m east of the proposed site access at Dalguise House Access Avenue. The road is approximately 4m wide and serves 7 residential units. A footpath and public lighting is provided on the east side of the road.

1.3.2 Existing Pedestrian & Cyclist Facilities

At present there are footpaths and advisory cycle lanes provided on both sides of Monkstown Road.

1.3.3 Public Transport

There are existing bus stops located on Monkstown Road, one in each direction, to the north of the proposed development. The nearest bus stops are listed in Table 1 below, their proximity to the development was measured from the proposed shared access on Monkstown Road and includes the use of the controlled pedestrian crossings where necessary.

TABLE 1: BUS ROUTES NEAR PROPOSED DEVELOPMENT

Bus Stop (Name)	Bus Stop (Number)	Proximity to the development	Bus Route	Travelling between
Albany Avenue	3039	500m	7	Mountjoy Square Park – Bride’s Glen
			7A	Mountjoy Square Park – Loughlinstown Wood Estate
Drayton Close	3074	77m	7	Bride’s Glen – Mountjoy Square Park
			7A	Loughlinstown Wood Estate – Mountjoy Square Park

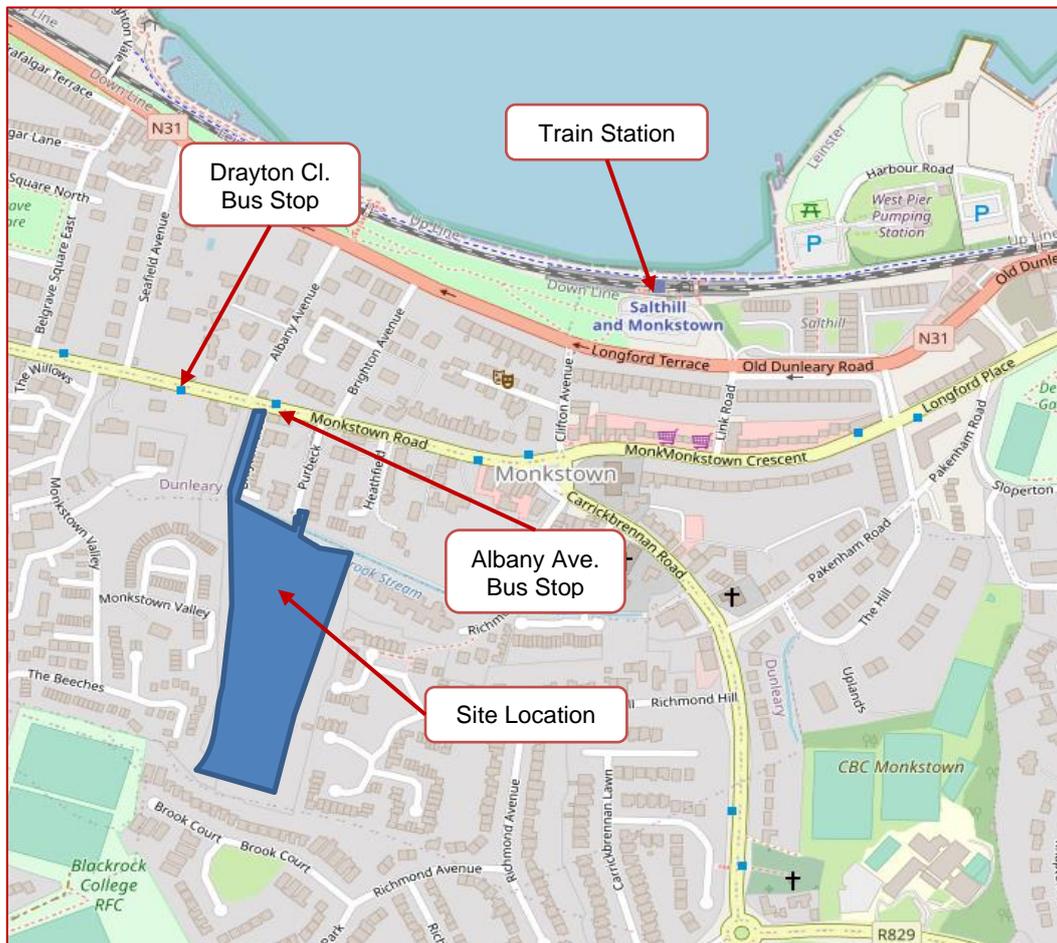


FIGURE 1.2: NEARBY BUS STOPS AND LUAS STOP (SOURCE: WWW.OPENSTREETMAP.ORG)

It is considered that the development will have good access to the bus network as shown in Table 1 above.

The proposed development is located approximately 550m southwest of the Salthill and Monkstown Train Station, which provides access to all rail stops on the Dublin Area Rapid Transit (DART) line between Howth/Malahide and Greystones, as well as connecting services with commuter rail services, the LUAS Red Line, and other Public Transport services. This train station can be accessed on foot from the proposed developments shared pedestrian access in approximately 7 minutes.

Given its proximity to Salthill and Monkstown Train Station, and the pedestrian crossing facilities at the Salthill and Monkstown Train Station, the proposed development is considered to have good access to the local rail network.

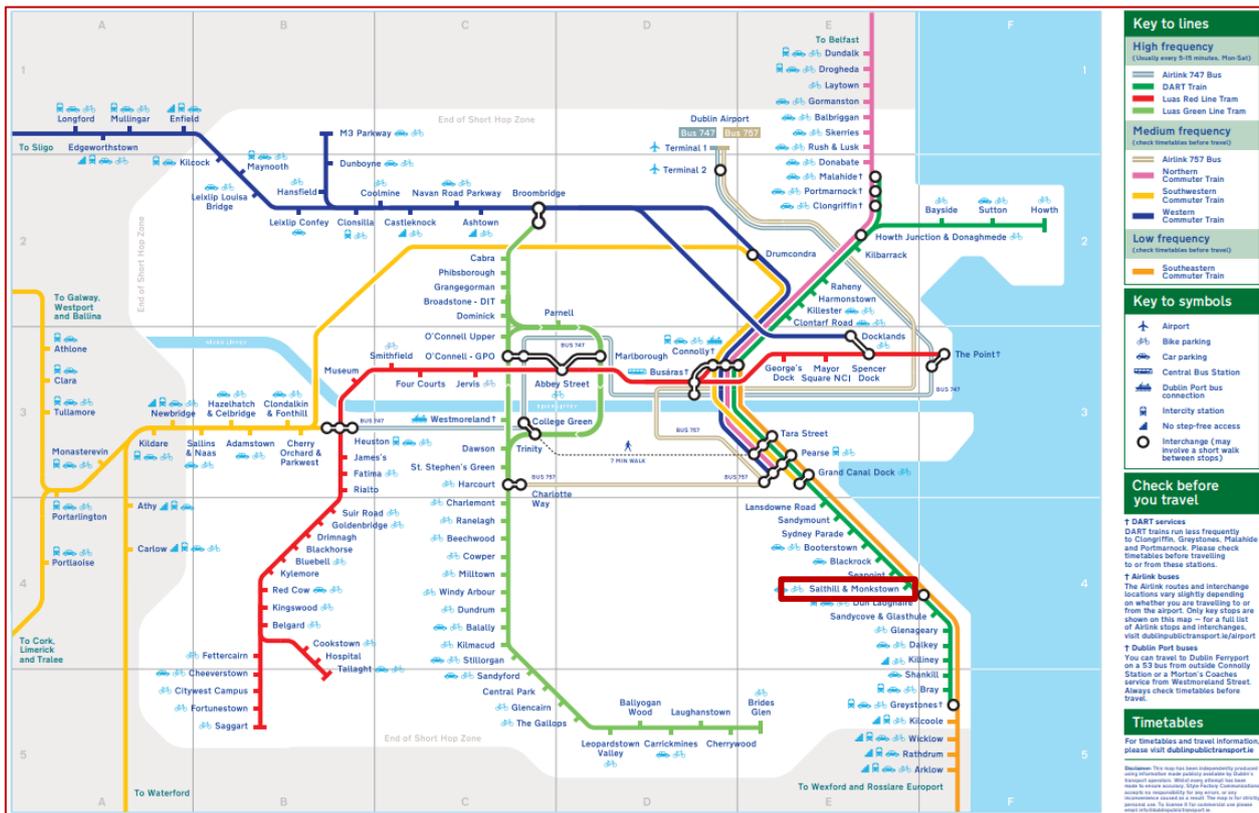


FIGURE 1.3: DUBLIN AREA RAIL AND AIRPORT BUS SERVICES

1.3.4 Local Amenities

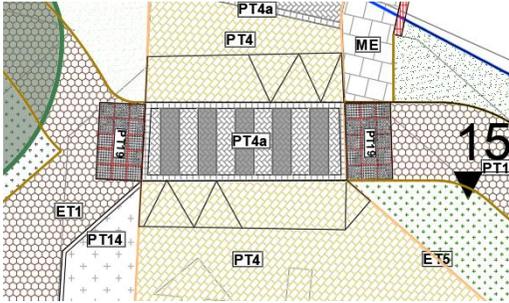
The proposed development is located a densely populated residential area in close proximity to the suburbs of Dun Laoghaire to the east and Blackrock to the west. The area provides a wide range of amenities within walking distance of the proposed development including grocery shops, schools, sports facilities, restaurants, cafés, parks, and many more. Table 2 below includes a selection of amenities which can be accessed in a short journey time, on foot or bicycle, from the proposed shared access on Monkstown Road.

TABLE 2: LOCAL AMENITIES CLOSE TO THE PROPOSED DEVELOPMENT

Amenity	Distance (approx.)	Journey Time on Foot / Bicycle (approx.)	Direction from Development
Spar	300m	4 minutes / 2 minutes	East
Seapoint Park	700m	9 minutes / 2 minutes	North
Seapoint Beach	550m	7 minutes / 3 minutes	Northwest
Cosgrove's Pharmacy	300m	4 minutes / 2 minutes	East
Generation Health Medical Clinic	500m	6 minutes / 2 minutes	East
Beechlawn Medical Centre	550m	7 minutes / 3 minutes	Southeast
The Friendly Dentist	1.0km	12 minutes / 4 minutes	Northwest
Monkstown Park Junior School	1.0km	13 minutes / 5 minutes	Southeast
St. Oliver Plunkett Special School	450m	6 minutes / 2 minutes	Southeast
Rockford Manor Secondary School	1.4km	19 minutes / 6 minutes	South
Christian Brothers College	1.0km	14 minutes / 5 minutes	Southeast
Church of Ireland Monkstown	300m	4 minutes / 2 minutes	East
De Vesci Tennis Club	1.0km	13 minutes / 5 minutes	East
Blackrock College RFC	1.3km	17 minutes / 5 minutes	Southwest
Monkstown Swimming Pool & Fitness Centre	1.2km	15 minutes / 5 minutes	Southeast
Newpark Sports Centre	1.6km	20 minutes / 6 minutes	Southwest
Avoca Monkstown Food Market	400m	5 minutes / 2 minutes	East
The Butler's Pantry	900m	12 minutes / 4 minutes	West
Blackrock Village Centre	1.7km	22 minutes / 8 minutes	Northwest

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.

Item No.	Summary of Issue	Individual Audit References				Design Team Response/Action
		Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	
1	Absence of "Safe Zone" for the Visually-Impaired within Shared Paths	I.2.1			V.3.3	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>A Safe Zone has not been provided on the Avenue, there is an accessible route from Purbeck to the centre of the site, and each building entrances.</p> <p>Encouraging all non-vehicular traffic onto the shared surface will encourage considered movement through the space and allow for pedestrian priority.</p>
2	Vertical Hazards for Visually Impaired Pedestrians	I.2.2			V.3.15	<p>Please refer to Road Safety Audit Feedback Form in Appendix V. Hazard paving would be provided at the top and bottom of all steps within the development.</p>
3	Unclear Crossing indicated at Purbeck Access	I.2.3			V.3.7	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>As flashing beacons are not in keeping with the scale and character of the site, alternatively an uncontrolled crossing would be provided including a raised table, zebra markings and stop signs.</p> 

Item No.	Summary of Issue	Individual Audit References				Design Team Response/Action
		Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	
4	Grassed Steps	I.2.4			V.3.6	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>A low wall would separate the grassed area of steps, these areas will be inaccessible and only provide visual interest.</p> 
5	Unbound Path Surfaces	I.2.5			V.3.8	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>All accessible paths would be surfaced with resin bound surfacing, paved, or decked.</p> <p>Minimal Bark chip would remain as a play surface or as a woodland path where accessible paths cannot be provided due to site levels and existing tree root protection zones.</p> <p>All bark chip paths are additional recreational routes.</p>

Item No.	Summary of Issue	Individual Audit References				Design Team Response/Action
		Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	
6	Insufficient Provision of Tactile Paving	I.2.6			V.3.17	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>All crossing locations would include tactile paving.</p>
7	Mobility Impaired Parking Spaces at Southern Extent	I.2.7				<p>The primary entrance would be accessible and there would be an additional building entrance provided adjacent to the accessible parking bays, at the drop-off space, for those who would struggle to travel the longer distance.</p> 

Item No.	Summary of Issue	Individual Audit References				Design Team Response/Action
		Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	
8	Incorrect Tactile Paving Depth	I.2.8			V.3.16	Please refer to Road Safety Audit Feedback Form in Appendix V. All inline crossings would have tactile paving of 1,200mm in depth.
9	Inaccessible Route to and from Purbeck Access Point	I.2.9				<p>Accessible route from Purbeck to/from the centre of the development would be provided without use of shared path by the inclusion of an additional parallel crossing and short length of pedestrian path.</p> 

Item No.	Summary of Issue	Individual Audit References				Design Team Response/Action
		Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	
10	Lighting		II.2.1	IV.4.12	V.3.14	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>A revised lighting design has been prepared in response to the RFI. The revised lighting design has been designed in line with Dun Laoghaire Rathdown County Council Public Lighting Technical Specification & Requirements and EN 13201-2.</p> <p>The lighting scheme achieves the recommended lux levels in accordance with current regulations and standards and achieves good uniformity throughout the development to ensure good visibility at night.</p>
11	Connectivity to the Surrounding Road Network		II.2.2		V.3.5	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>This will be brought to the attention of the Local Authority.</p>
12	Likely Desire Line not Accommodated		II.2.3		V.3.2	<p>Please refer to Road Safety Audit Feedback Form in Appendix V.</p> <p>Desire line cannot be accommodated while maintaining existing trees. The desire line is not seen as more valuable than the existing tree cover and residents are unlikely to cross from one block entrance to another but are more likely to travel from the shared surface to their own block entrance.</p> <p>This location would be a steep, densely planted terrace/slope and would not attract pedestrians to traverse through.</p>
13	Short-Stay Bicycle Parking Locations			IV.4.2		<p>The majority of bike stands would be less than 25m from building entrances, however due to number of stands required/proposed some spaces are up to 36m away. Any stand that exceeds the 25m distance is for long-stay bicycle parking.</p> <p>Please see page 26 of the Landscape RFI response document for further description and Drawing No. C0135 L900 which sets out locations of cycle parking and gives distances to building entrances.</p>

Item No.	Summary of Issue	Individual Audit References				Design Team Response/Action
		Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	
14	Narrow Cycle Parking Access Route			IV.4.3		Dimensions have been included on cycle access drawings and all access routes now meet the guidelines/standards.
15	Mix of Long-Stay Bicycle Stands			IV.4.4		The proposals include a number of larger bicycle parking spaces which cater for cargo bikes or hand-operated bikes at both ground and basement level.
16	Bicycle Stand Sizes			IV.4.5		DLR standards have been followed for all Sheffield bicycle stand spacing.
17	Headroom			IV.4.6	V.3.18	Please refer to Road Safety Audit Feedback Form in Appendix V. Trees would have a clear stem height of 2.5m to 3m when planted and will be maintained.
18	Long-Stay Bicycle Parking Locations			IV.4.7		Block E and Block C secure parking have been configured to allow for ease of access with a minimum clear width of 1.9m between car parking spaces and bicycles.
19	Security of Long-Stay Bicycle Parking			IV.4.8		All Long-Stay Bicycle parking will be caged with a secure lock.
20	Ramp Gradients			IV.4.9		The ramp will be a 1:21 slope, 42m in length with landings clear of doors.
21	Showers and Lockers			IV.4.10		Showers and Lockers will be provided in the Creche and in Block E for staff located in the scheme.
22	Long-stay Bicycle Parking Area Doors			IV.4.11		Secure doors will be provided with fobbed access to long-stay bicycle parking
23	Sheltered Short-Stay Bicycle Parking			IV.4.13		DLR standard requires a minimum of 108 short-stay bicycle parking stands for the development, 50% of which are to be sheltered. The proposed development would provide 62 sheltered short-stay bicycle parking spaces (57%).
24	Bicycle Maintenance Areas			IV.4.14		Bicycle Maintenance Areas will be provided across the scheme.

Item No.	Summary of Issue	Individual Audit References				Design Team Response/Action
		Access Audit	Walking Audit	Cycle Audit	Road Safety Audit	
25	Narrow gateway could increase the risk for pedestrians/cyclists conflicts.				V.3.1	Please refer to Road Safety Audit Feedback Form in Appendix V.
26	Visibility to the left at the access may result in overhang into carriageway/cycle lane.				V.3.4	Please refer to Road Safety Audit Feedback Form in Appendix V.
27	Visibility at the internal junction may result in unsafe exiting manoeuvres.				V.3.9	Please refer to Road Safety Audit Feedback Form in Appendix V.
28	Cyclists entering/exiting the proposed bicycle shelter may be at risk of being struck by a vehicle.				V.3.10	Please refer to Road Safety Audit Feedback Form in Appendix V.
29	Lack of edge protection may result in falls from height.				V.3.11	Please refer to Road Safety Audit Feedback Form in Appendix V.
30	Drivers may encroach onto paths from shared road.				V.3.12	Please refer to Road Safety Audit Feedback Form in Appendix V.
31	Lateral clearance to Brick Gate Lodge.				V.3.13	Please refer to Road Safety Audit Feedback Form in Appendix V.

Appendix I Access Audit

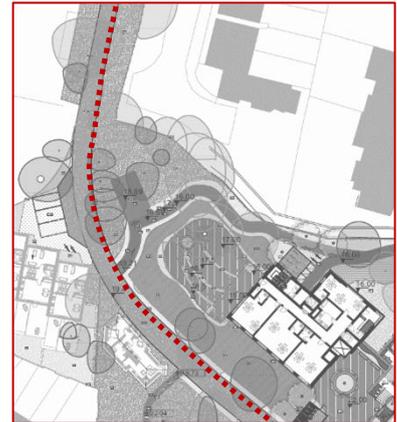
I.1 Introduction

The purpose of this Access Audit is to review the proposed Scheme, and the existing surrounding environment, 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. The Audit considers a number of aspects of the proposed Scheme, including wayfinding, lighting, tonal contrast of proposed materials, gradients, the provision of kerbs and/or dropped kerbs as appropriate, etc.

I.2 Access Audit Findings

I.2.1 Absence of “Safe Zone” for the Visually-Impaired within Shared Paths

The extensive shared area along the Avenue does not include a Safe Zone for visually-impaired pedestrians. In addition, it is unclear if any warning is provided to visually-impaired pedestrians of the non-accessible routes within the development (e.g. pedestrian routes that have a loose surface or which include steps).



Recommendation

A “Safe Zone” should be provided within all shared paths to enable visually-impaired pedestrians to independently navigate the proposed road layout.

I.2.2 Vertical Hazards for Visually Impaired Pedestrians

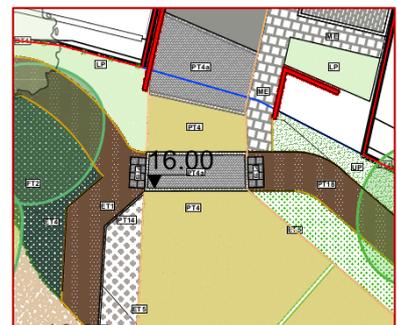
Hazard warning paving has not been indicated at the top and bottom of the steps within the development. This could lead to visually impaired pedestrians being unprepared for the vertical hazard when approaching the steps, resulting in possible trips and falls.

Recommendation

Ensure hazard paving is provided at the top and bottom of all steps within the development.

I.2.3 Unclear Crossing indicated at Purbeck Access

A zebra crossing arrangement has been indicated at the pedestrian crossing of Purbeck. It is unclear if it is intended that this will, in fact, be a zebra crossing. If so, Belisha beacons would be required noted to confirm pedestrian/cyclist priority at this crossing.



If it isn't at zebra crossing, then this route may not be accessible to visually impaired pedestrians entering/exiting the development along Purbeck, confining them to the shared route along the Avenue, where there is no Safe Zone.

Recommendation

A zebra crossing, including the appropriate “L-shaped” tactile paving layout, road markings, and Belisha beacons, should be provided at the pedestrian crossing of Purbeck.

I.2.4 Grassed Steps

A series of steps are proposed between Blocks A and B. The steps are indicated to include grass encroached areas. It is unclear how visually impaired pedestrians will be advised that they should not walk on the grassed side of the steps.

The arrangement of the handrails indicated along the steps may lead to visually impaired pedestrians inadvertently entering the grassed side of the steps where there is an increased risk of slips, trips and falls, particularly during wet/icy weather conditions.

Recommendation

Measures should be provided to guide visually impaired pedestrians through the series of steps.



I.2.5 Unbound Path Surfaces

It is proposed to provide unbound “Loose Bark Chip” path material for some of the internal footpaths. The proposed loose bark chip path surfacing would present difficulties for wheelchair users. The unbound material may deteriorate over time, creating unstable or uneven ground, leading to slips, trips or falls.

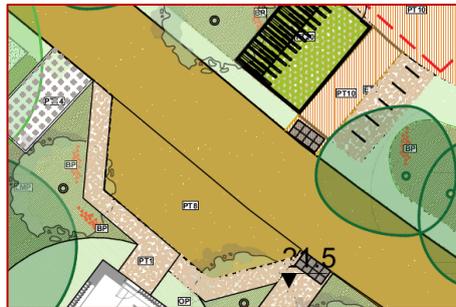
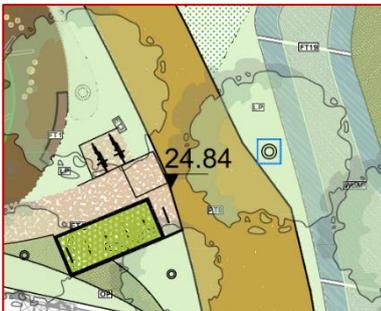
It is also unclear if unbound surfacing is proposed on the steps along the unbound paths which would also create difficulties for the mobility-impaired and wheelchair users, who would be unable to travel along these paths.

Recommendation

A bound surface footpath should be provided along the paths within the proposed development.

I.2.6 Insufficient Provision of Tactile Paving

At a number of locations the shared NMU path joins the shared carriageway, however, at some of these locations no tactile paving is provided. For example, in front of Dalguise House the shared NMU path joins the shared carriageway at two locations, however no tactile paving has been indicated to warn visually impaired pedestrians that they are about to enter an area shared with vehicles at the western end of the of the ‘Ha-Ha’ water feature.



The absence of tactile paving at these locations could lead to visually impaired pedestrians being unaware that they have entered a space shared with vehicles.

Recommendation

Tactile paving, of the correct depth, should be provided where pedestrians are expected to enter the shared carriageway.

I.2.7 Mobility Impaired Parking Spaces at Southern Extent

Car parking spaces associated with Block J are located at surface level to the rear of the building. However, no mobility impaired parking spaces have been provided at this location adjacent to Block J. The absence of a mobility impaired parking space may lead to mobility impaired vehicle occupants parking at an alternative accessible parking space and travelling a long distance between their vehicle and the building entrance.



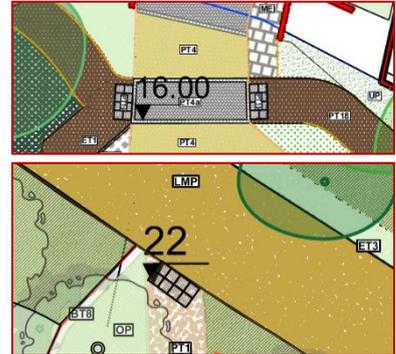
In addition, the mobility parking spaces associated with Block H are located to the rear of the building entrance and would require mobility impaired vehicle occupants a long distance between their vehicle and the building entrance.

Recommendation

Mobility impaired parking spaces should be provided close to their associated buildings main entry point.

1.2.8 Incorrect Tactile Paving Depth

At a number of locations where the proposed crossings are in-line with the footway it is proposed to provide 800mm deep tactile paving as opposed to 1200mm. Incorrect tactile paving provision could increase the risk of visually impaired pedestrians stepping over the tactile arrangement, and inadvertently entering the carriageway where there is an increased risk of being struck by a vehicle.



Recommendation

Tactile paving should be 1200mm in depth at in-line crossings.

1.2.9 Inaccessible Route to and from Purbeck Access Point

A number of routes within the site will be inaccessible to mobility-impaired individuals, in particular those using wheelchairs, where steps have been provided. Resulting in inaccessible route into the development from the Purbeck access point and vice versa, which would require vulnerable road users, wishing to access the southern blocks to enter and exit the site via the Dalguise House shared access road.

Steps can present particular difficulties for the mobility-impaired, in particular wheelchair users, and for the visually-impaired. This will result in mobility impaired or visually impaired being unable to use the proposed paths that include steps and are more likely to use the shared carriageways where they are at increased risk of being struck by a vehicle.

In addition, no "Safe Zone" has been indicated within the shared carriageways for visually-impaired pedestrians, which can lead to them being unable to safely & independently navigate the proposed shared roads.

Recommendation

Alternative accessible route for mobility impaired should be provided to and from Purbeck access point to the southern apartment blocks.

In addition, a Safe Zones should be provided within shared areas/carriageways in accordance with the guidance provided by the National Disability Authority.

Appendix II Walking Audit

II.1 Introduction

The purpose of this Walking Audit is to review the proposed Scheme, and the existing surrounding environment, 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.

II.2 Walking Audit Findings

II.2.1 Lighting

Information regarding the internal lighting provision, and layout, within the proposed residential development has not been provided to the Audit Team. It is therefore unclear if the proposed internal lighting layout will be sufficient and provide adequate visibility for vulnerable road users within the development. A failure to provide sufficient lighting levels may lead to slips, trips and falls, as well as security concerns for residents.

Recommendation

Ensure sufficient lighting is provided within the residential complex.

II.2.2 Connectivity to the Surrounding Road Network

Given the likely pedestrian volumes expected to use public transport links in the vicinity of the proposed development, pedestrians may want to cross Monkstown Road when accessing the amenities/bus stops on the northern side of the road. This would result in mobility impaired and visually impaired being unable to access the bus stops on the northern side of Monkstown Road closest to the proposed development, resulting in them having to take lengthier routes to access alternative bus stop locations.

Recommendation

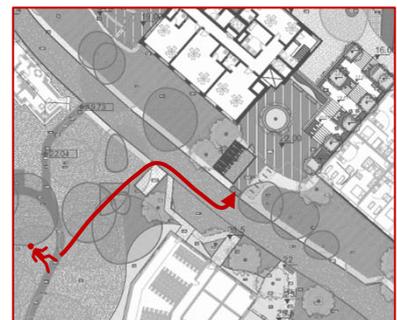
An assessment of the need for a crossing of Monkstown Road in the vicinity of the proposed development accesses should be undertaken and, where necessary, an appropriate crossing should be provided.

II.2.3 Likely Desire Line not Accommodated

Where NMU routes join the Avenue, which is indicated as a vehicle & cyclist predominant route, the paths do not line up with the likely intended pedestrian desire line, resulting in pedestrians either travelling within the shared path with vehicles & cyclists over a lengthy distance or choosing to travel across the grassed areas where they are at increased risk of slips, trips or falls.

Recommendation

Pedestrian routes should align with the likely pedestrian desire lines to minimise pedestrians interaction with vehicles and cyclists.



Appendix III Non-Motorised User Audit

III.1 Introduction

The purpose of a Non-Motorised User (NMU) Audit is to review the proposed Scheme, and the existing surrounding environment, 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.

For the proposed Scheme separate Access, Walking & Cycling Audits have been undertaken (ref Appendix I, Appendix II & Appendix IV), and these should be referred to for findings in relation to NMUs.

Appendix IV Cycle Audit

IV.1 Introduction

The purpose of this Cycle Audit is to review the proposed Scheme, and the existing surrounding environment, 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.

IV.2 Existing Cycle Facilities

There are existing advisory cycle lanes on both sides of Monkstown Road which extend approximately 230m to the east of the site access. The advisory cycle lanes also extend to the west of the site access where they tie-into the existing cycle facilities on the R113 Regional Road at its signalised junction with Monkstown Road.

IV.3 Proposed Cycle Facilities

It is proposed to provide cyclist access to the development from Monkstown Road via a new access which would run parallel to Dalguise House Access Avenue, and also pedestrian & cyclist access at Purbeck.

Cycle routes are provided throughout the developments internal road network along shared surfaces with cars and shared surfaces with pedestrians, where cyclists would be required to dismount and push their bicycle, which provide connection to cycle shelters and stands.

IV.4 Cycle Audit Findings

IV.4.1 Bicycle Parking

The minimum number of bicycle parking spaces required by the National Cycle Manual for housing developments is 1 per bed space and for other developments (Café and Crèche) 1 per car space or 10% of employee numbers. This equates to a minimum requirement of 703 long-stay bicycle parking spaces and 251 short-stay bicycle parking spaces for the proposed development. The minimum bicycle parking requirements in accordance with the DLRCC “Standards for Cycle Parking and associated Cycling Facilities for New Developments” is given in Table IV.4-1 and Table IV.4-2.

TABLE IV.4-1: LONG-STAY BICYCLE PARKING PROVISION

Land Use	Bicycle Parking Requirements	Quantum	Required Provision	Proposed Provision
Apartments	1 space per unit	490 units	490	695
Houses	1 space per unit	3 units	3	16
Café	1 space per 5 staff	- staff	2*	0
Crèche	1 space per 5 staff	15 staff	3	0
Long-Stay Bicycle Parking			498	711

* Minimum requirement of 2 long stay parking spaces

TABLE IV.4-2: SHORT-STAY BICYCLE PARKING PROVISION

Land Use	Bicycle Parking Requirements	Quantum	Required Provision	Proposed Provision
Apartments	1 space per 5 units	490 units	98	245
Houses	1 space per 5 units	3 units	1	3
Café	1 space per 100m ² PFA	273 m ²	3	8
Crèche	1 space per 10 children	55 children	6	
Short-Stay Bicycle Parking			108	256

The proposed number of long-stay and short-stay bicycle parking spaces exceeds the minimum requirements of the DLRCC “Standards for Cycle Parking and associated Cycling Facilities for New Developments” and the requirements in the National Cycle Manual.

IV.4.2 Short-Stay Bicycle Parking Locations

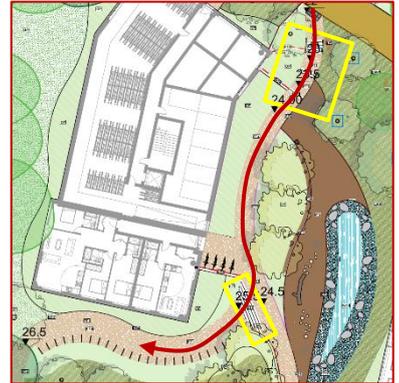
The location of a number of short-stay bicycle parking areas is such that cyclists must travel a lengthy route between the parking spaces and the entrance to their associated Block.

The location of the short-stay bicycle parking spaces associated with Block D and Block G would require cyclists to dismount their bicycle and ascend/descend a series of steps or, alternatively, they must travel a less direct, lengthy, route. This may discourage cyclists from parking their bicycles at these locations and may encourage informal parking on footways, possibly restricting pedestrian access.

Location of short-stay bicycle parking spaces associated with Block E would require cyclists to travel a lengthy distance, on foot within the shared Avenue, between the bicycle stands and the building entrance.

Recommendation

Short-stay bicycle parking should be accessible without cyclists being required to ascend/descend steps and be located no further than 25m from their associated building entry points.



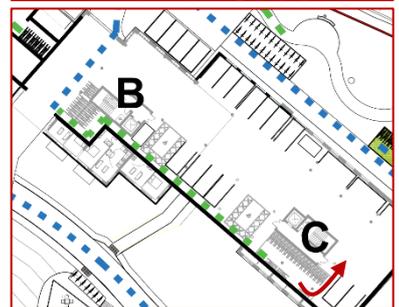
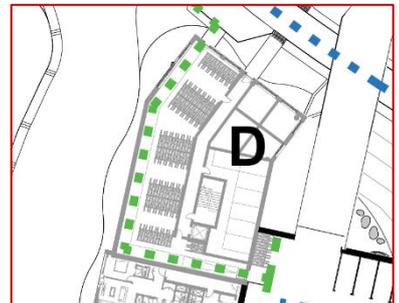
IV.4.3 Narrow Cycle Parking Access Route

The width of the proposed access routes to long-stay bicycle parking areas within the basement car parks of Block D and Block B & C has not been indicated in the drawings provided. It is therefore unclear if an adequate width would be provided for cyclists to comfortably access/egress the parking areas. Furthermore, the proposed cycle route within the basement car park of Block B & C would require cyclists to travel to the rear of car parking spaces where the route may become obstructed by a parked vehicle. A narrow access route may result in there being insufficient space for cyclists to pass one another.

In addition, cyclists may experience difficulties entering/exiting the long-stay bicycle parking area associated with Block C as they are located in close proximity to car parking spaces.

Recommendation

Cycle parking access routes should be at least 1.5m, preferably 2.0m, wide between walls/fences. A reduced width of 1.2m is acceptable over short distances, i.e. less than 10m



IV.4.4 Mix of Long-Stay Bicycle Stands

It appears that a majority of the proposed long-stay bicycle parking spaces would be single level stacker stands. This type of bicycle parking stand is not accessible for the mobility impaired and, where they are the only bicycle parking stand type provided within the long stay bicycle parking area for a residential Block (i.e. all Blocks with the exception of Blocks F and J), this would discourage non-able bodied residents from cycling.

Recommendation

The proposed bicycle stands 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.)

IV.4.5 Bicycle Stand Sizes

It is unclear what the dimensions of the proposed bicycle stands in the long-stay & short-stay bicycle parking areas is to be. Bicycle stands should be placed at least 1.0m (1.2m preferred) from parallel bicycle stands and 2.0m from adjacent bicycle stands to provide ready access for all users and types of bicycle.

It is also unclear if the bicycle stands proposed can accommodate a mix of bicycle types/sizes. In the interests of accessibility, the proposed bicycle parking should be able to accommodate a mix of different bicycle sizes/types.

Recommendation

The proposed dimensions of bicycle parking stands meet the minimum cycle parking requirements. The proposed bicycle stands 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.).

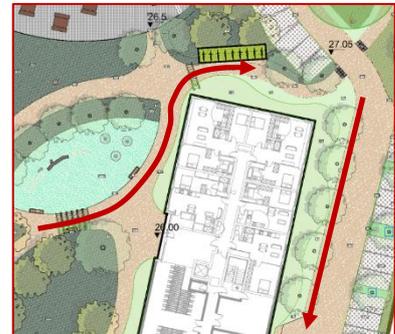
IV.4.6 Headroom

Street trees have been indicated near, or extending over, the shared paths within the proposed development. The vertical clearance between the cycle track and the tree canopies is unclear.

Insufficient clearance to the tree canopies will present a hazard to cyclists, or lead to sudden avoidance manoeuvres by cyclists.

Recommendation

A vertical clearance of 2.5m should be provided on all cyclist routes within the development.



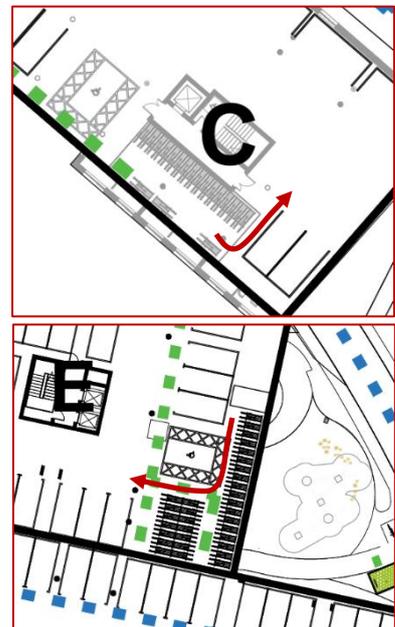
IV.4.7 Long-Stay Bicycle Parking Locations

Long-stay bicycle parking areas have been indicated in adjacent to car parking spaces within the basement car parks associated with residential Block C and Block E.

It is unclear if sufficient space would be provided between the bicycle parking stands and the car parking spaces. Should there be insufficient space for cyclists, this create difficulties for access/egress to/from the bicycle parking area, this may discourage cyclists from parking their bicycles at these locations and could lead to them parking within the long-stay bicycle parking spaces provided for residents of other Blocks.

Recommendation

Sufficient space between the bicycle parking areas and car parking spaces should be provided such that cyclists can comfortably enter/exit these areas.



IV.4.8 Security of Long-Stay Bicycle Parking

It is unclear if a secure/locked gate would be provided at the access to the underground parking area at Purbeck. Should no gate, or equivalent, be provided, bicycle parking spaces within this area which are not located in an enclosed area behind a door would not be secure.

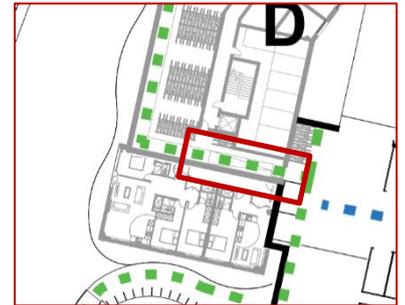
A lack of security at bicycle parking locations may deter their use.

Recommendation

All long-stay bicycle parking should be located within a secure area and any CCTV systems should include the bicycle parking areas in their coverage to ensure both bicycle and personal security.

IV.4.9 Ramp Gradients

A ramp is indicated within the underground car park providing a link to an area of long-stay bicycle parking. The gradient of this ramp has not been indicated on the drawing provided. If the gradient of the ramp is steeper than 1:20 there is a risk that cyclists may experience difficulties when using the ramp leading to the potential for them to roll backwards or be unable to wheel their bicycle up the ramp.



Recommendation

Access to the long-stay bicycle parking at this location should be facilitated by ramped access with appropriate gradients or elevator access.

IV.4.10 Showers and Lockers

It is unclear if showers, lockers and changing rooms will be provided for cyclists within the proposed commercial developments, including the creche and café, as details of the internal layout of the buildings has not been provided. Lack of provision of necessary facilities for cyclists may discourage staff members from cycling to and from the proposed development.

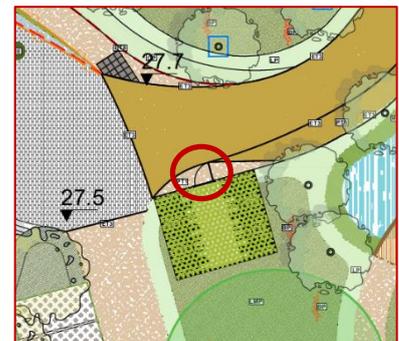
Recommendation

Showers, lockers and changing rooms should be provided within the commercial developments.

IV.4.11 Long-stay Bicycle Parking Area Doors

It is unclear from the information provided whether there are doors along the routes to/from the underground bicycle parking areas, and, if there are, whether they are manually operated or powered.

Manually operated doors may present difficulties for cyclists accessing/egressing the underground parking area.



Recommendation

Doors used by cyclists should be operated electronically by automatic detection or with the push button 3m from the door.

IV.4.12 Lighting

Information regarding lighting within the proposed development has not been provided to the Audit Team. It is therefore unclear if the long-stay bicycle parking access routes and the proposed short-stay bicycle parking spaces would be sufficiently lit during the hours of darkness.

A lack of sufficient lighting along the cyclist access routes and at the short-stay bicycle parking spaces may lead to anti-social behaviour and personal security concerns for cyclists travelling to/from the development.

Recommendation

All cyclist routes and bicycle parking areas should be adequately lit during the hours of darkness.

IV.4.13 Sheltered Short-Stay Bicycle Parking

A total of 256 short-stay bicycle parking spaces would be provided within the proposed development, of this, 38 bicycle parking spaces (14.8%) would be sheltered.

Unsheltered bicycle parking spaces would result in parked bicycles being unprotected from adverse weather conditions and may deter their use. In addition, this may encourage informal parking on footways, possibly restricting pedestrian access.

Recommendation

A minimum of 50% of all short-stay bicycle parking spaces within the proposed development should be covered.

IV.4.14 Bicycle Maintenance Areas

No areas appear to be provided within, or adjacent to, the long-stay bicycle parking areas for residents to undertake bicycle maintenance. It is unlikely that residents would be able to undertake bicycle maintenance within the proposed apartments, resulting in difficulties for cyclists undertaking routine bicycle maintenance.

Recommendation

An area should be provided within the long-stay bicycle parking area associated with each residential block in the proposed development, including a bicycle stand, where residents can undertake routine bicycle maintenance.

Appendix V Road Safety Audit

Roughan & O'Donovan

Proposed Residential
Development, Dalguise House,
Monkstown Road, Co. Dublin

Stage 1 Road Safety Audit

Roughan & O'Donovan

Proposed Residential Development, Dalguise House, Monkstown Road, Co. Dublin

Stage 1 Road Safety Audit

Document Ref:	P23074-RP-SA-3_01
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Rev	Prepared By	Reviewed By	Approved By	Issue Date	Reason for Revision
4.0	AOR	MAH	PJM	10 th July 2023	Revised Final
3.0	PJM	MAH	PJM	15 th June 2023	Final
2.0	PJM	MAH	PJM	9 th June 2023	Draft Feedback Included
1.0	MAH	PJM	PJM	2 nd June 2023	Draft Report

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1 Introduction

1.1 General

This report results from a Stage 1 on the Proposed Residential Development, Dalguise House, Monkstown Road, Co. Dublin carried out at the request of Mr Eoin O'Catháin of Roughan & O'Donovan.

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,MSc, MIEI)
Road Safety Audit Team Member

The Road Safety Audit took place during April & May 2022 and May & June 2023 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 3rd May 2022. Weather conditions during the site visit were dry and the road surface was dry. 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: -

- Vehicle Swept Paths
- Drainage
- Public Lighting
- Visibility splays

1.3 Previous Road Safety Audits

A Stage 1 Road Safety Audit was previously undertaken on the proposed development in May 2022 (Ref: P22-062-RSA-PD-RP-001), and a Stage 1 Road Safety Audit was also previously undertaken as part of a Quality Audit in October 2022 (Ref: P22-148-UQA-GEN-RP-001).

Amendments have been made to the proposals, and consequently a new Stage 1 Road Safety Audit has been undertaken (this report) and the findings of the previous Stage 1 Road Safety Audits have been reviewed as part of this Audit.

2 Project Description

2.1 General

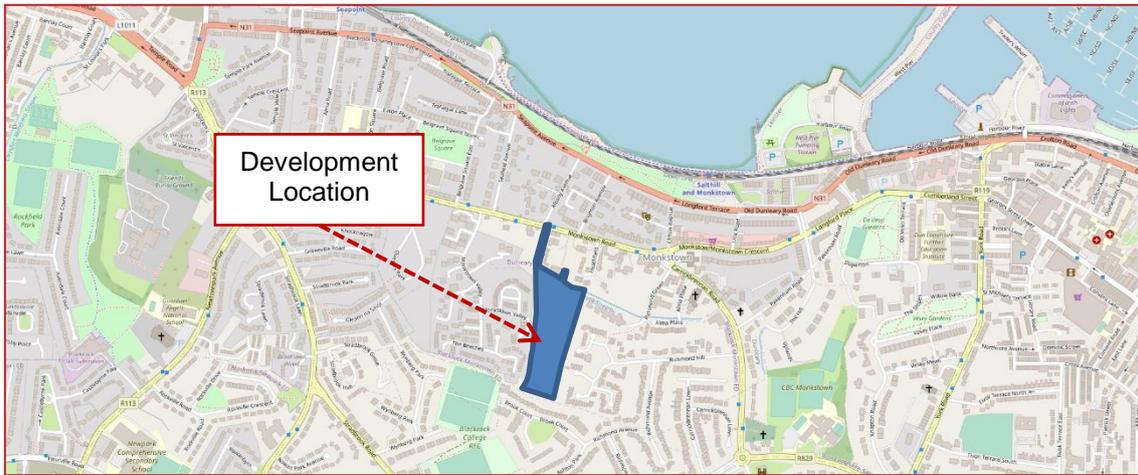


FIGURE 2-1: SITE LOCATION (SOURCE: WWW.OPENSTREETMAP.ORG)

The proposed development is located in Monkstown Co. Dublin. It is proposed to provide two vehicular accesses to the development using the existing private Dalguise House Access Avenue onto Monkstown Road and the 'Purbeck' road that currently serves 2 residential units.

The proposed development will be constructed on c. 35,760m² of land and will consist of 493 dwellings – a mix of studio, 1 bed, 2 bed and 3 bed apartments, 3 houses, a Café, a Crèche, residential amenities, and a basement car park.

The car park is to be located under Blocks E, F & G, would be accessed via Purbeck and would accommodate 80% of the traffic/parking for the development. This audit doesn't include reviewing the underground car park layout.

The development would include 222 car parking spaces, including 6 mobility-impaired parking spaces at ground level for access to adjacent Blocks, 5 mobility-impaired parking spaces located in the basement car park with access to the cores of Blocks E, F & G, and additional mobility-impaired spaces located at the undercroft of Blocks B & C with direct access via the core.

The development would also include 967 bicycle parking spaces, 711 of which are for long-stay parking for residents and 256 are for use by visitors, at various locations throughout the site. In addition, 20 cargo bike spaces would be provided.

Vehicular access to the proposed development would be via Purbeck Avenue, from which the main underground car park would be accessed, and via the existing Dalguise House Access Avenue. The Dalguise House Access Avenue would be amended to include passing bays to facilitate two-way vehicular traffic. The Traffic & Transport Assessment Report provided to the Audit Team states that traffic to/from Blocks A to G (i.e. the blocks in front of Dalguise House) will access the site via Purbeck Avenue, representing approx. 80% of total development traffic. Traffic to/from Blocks H to I will access the site via the Dalguise House Access Avenue.

Green space and play areas are proposed within the development with footpaths linking them with the residential blocks.

Five existing units on the lands will be retained (North West Houses, Brick Gate Lodge and Coach House), with vehicular access to these to be via the Dalguise House Access Avenue.

3 Main Report

3.1 Problem

Location: Dalguise House Access Avenue Gateway

Summary: Narrow gateway could increase the risk for pedestrians/cyclists conflicts.

The existing narrow gateway, to be retained, may result in insufficient inter-visibility between drivers of entering/exiting vehicles and pedestrians/cyclists.

Recommendation

Ensure adequate inter-visibility is available for road users entering/exiting at the gate.



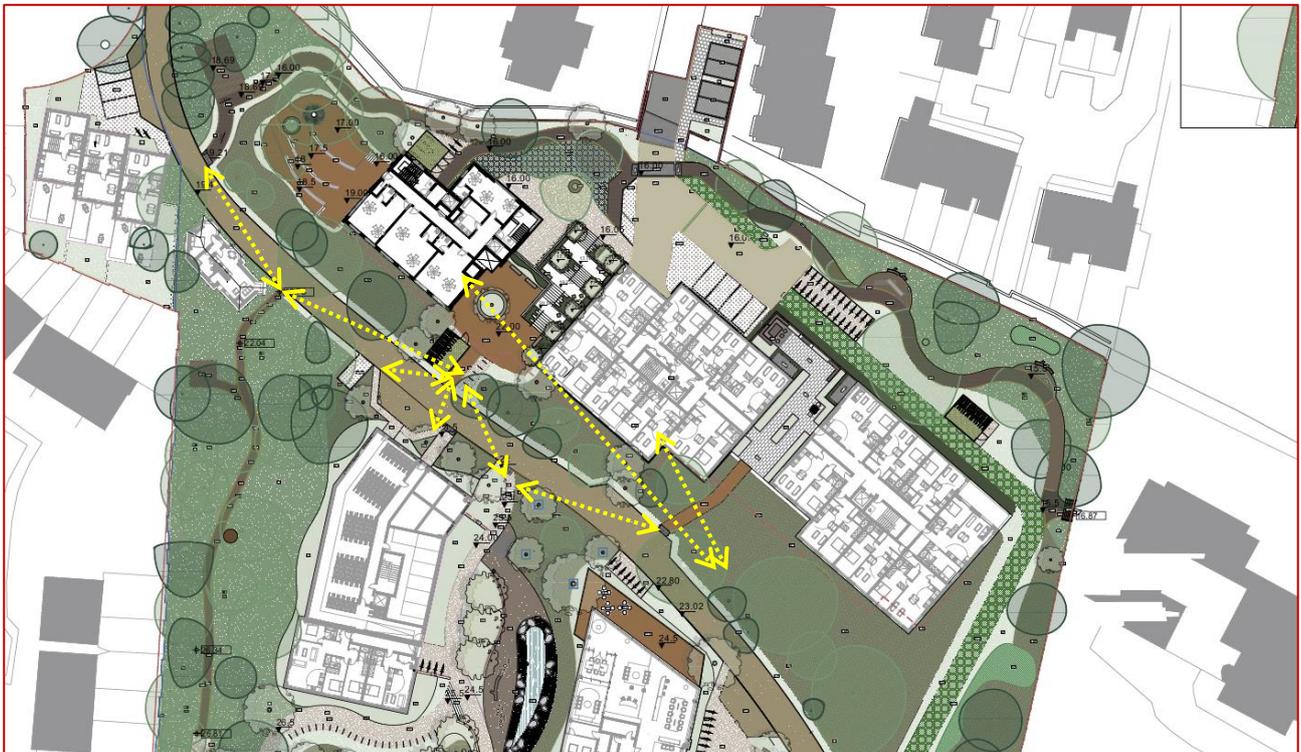
3.2 Problem

Location: General Problem

Summary: Likely NMU crossing desire lines not catered for.

Where NMU routes join the Avenue, which is indicated as a vehicle & cyclist predominant route, the paths do not line up in all instances with the likely intended desire lines, which would result in pedestrians either travelling within the shared carriageway with vehicles & cyclists over unnecessarily lengthy distances or choosing to travel across grassed areas where they are at increased risk of slips, trips or falls, in particular during wet or icy weather.

This would be a particular issue for visually-impaired or partially-sighted pedestrians.



Recommendation

The likely pedestrian crossing desire lines should be assessed and, where necessary, the proposed paths should be amended to better serve the identified crossing desire lines and to reduce the exposure of pedestrians to vehicles and cyclists.

The provision of a path or "Safe Zone" within the Avenue linking the path terminals may assist in addressing this issue.

3.3 Problem

Location: Dalguise House Access Avenue

Summary: Narrow shared road without a 'Safe Zone' could increase the risk for visually-impaired pedestrians.

It is proposed to retain the existing Dalguise House Access Avenue as one of the accesses to the proposed development.

The narrow carriageway, to be shared with cyclists, pedestrians & vehicles, and the absence of a "Safe Zone" would result in difficulties for visually-impaired & partially-sighted pedestrians safely & independently navigating this route.



Recommendation

A safe route for the visually-impaired should be provided to/from the Monkstown Road and the development (e.g. a "Safe Zone" or a footpath provided along the Avenue).

3.4 Problem

Location: Dalguise House Avenue Access

Summary: Visibility to the left at the access may result in overhang into carriageway/cycle lane.

The existing visibility at the Dalguise House Access Avenue gateway on Monkstown Road may result in an exiting vehicle encroaching into the carriageway/cycle lane on Monkstown Road before sufficient visibility is available towards approaching vehicles.

This could result in cyclist avoidance measures (swerving) which may not be anticipated by following drivers resulting in vehicular/cyclist collisions.



Recommendation

Visibility for drivers exiting the Dalguise House Access Avenue should be available without need for the exiting vehicle to encroach into the carriageway/cycle lane.

3.5 Problem

Location: Monkstown Road

Summary: Safe pedestrian movement for pedestrians wishing to access the amenities/bus stops on Monkstown Road.

Given the likely pedestrian volumes expected to use public transport links in the vicinity of the proposed development, pedestrians may want to cross Monkstown Road when accessing the amenities/bus stops on the northern side of the road. There is no existing crossing in the vicinity of the proposed development accesses, and a lack of safe crossing facilities for pedestrians, particularly partially sighted or mobility impaired pedestrians, may lead to unsafe crossings resulting in personal injury collisions.

It is acknowledged that a number of pedestrian accesses are proposed which would connect onto the existing residential road network in the vicinity of the proposed development, and that these would facilitate alternative routes to/from public transport facilities and other amenities apart from the primary vehicular accesses onto Monkstown Road.

Recommendation

An assessment of the need for a crossing of Monkstown Road in the vicinity of the proposed development accesses should be undertaken and, where necessary, an appropriate crossing should be provided.

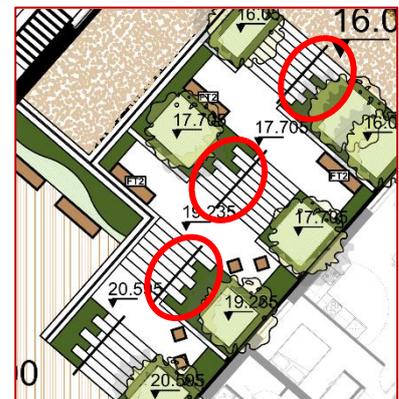
3.6 Problem

Location: Apartment Blocks A and B

Summary: Potential for slips & falls on grassed areas of steps, in particular during wet or icy weather.

Steps are proposed between Apartment Blocks A and B and are indicated as including encroaching/overlapping grassed areas.

It is unclear how pedestrians, in particular the visually-impaired, would be advised that they should not walk on the grassed side of the steps. A lack of measures to warn/deter pedestrians from using the grassed side, could increase the risk of slips, trips and falls in particular during wet or icy weather.



Recommendation

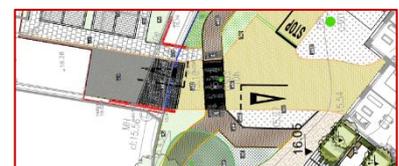
Measures should be provided to advise pedestrians, in particular the visually-impaired, from walking on the grassed areas adjacent to the steps.

3.7 Problem

Location: Access road via Purbeck

Summary: Unclear if the proposed crossing of road leading to Purbeck is to be a zebra or an uncontrolled crossing.

A pedestrian/cyclist crossing has been indicated across the road leading to Purbeck. Zebra-type markings have been shown on the drawing, however no Belisha beacons have been indicated and the tactile paving layout indicated is incorrect for a controlled crossing.



If a zebra crossing is proposed, a failure to provide Belisha beacons may lead to drivers being insufficiently aware of the requirement to give-way to crossing non-motorised road users and an increased risk of collisions with pedestrians and cyclists.

If a zebra crossing is not proposed at this location, then this route may not be accessible to visually impaired pedestrians entering/exiting the development along Purbeck, confining them to the shared route along the Avenue, where there is no "Safe Zone".

Recommendation

A pedestrian-priority crossing should be provided at this location.

3.8 Problem

Location: General Problem – Loose Bark Surfaced Paths

Summary: Unbound road surface may represent slip and trip hazard

It is proposed to provide unbound "Loose Bark Chip" path material for some of the internal footpaths. The unbound material may deteriorate over time, creating unstable or uneven ground, leading to slips, trips or falls.

It is also unclear if unbound surfacing is proposed on the steps along the unbound paths. Loose material on the steps may exacerbate the risk of slips, trips or falls.

Recommendation

During the design development the proposed path surface and step surfaces should be designed so as not to present a slip or trip hazard.

3.9 Problem

Location: Junction east of Dalguise House

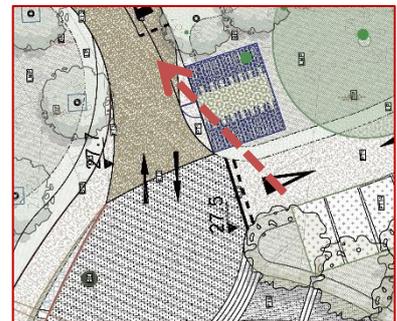
Summary: Visibility at the internal junction may result in unsafe exiting manoeuvres.

The internal road which will provide access to Blocks I (East) and I (West) intersects with the main access road at a junction to the north of Block H.

Visibility for drivers exiting from the minor arm at this junction may be impeded by the proposed bicycle shelter at the junction. Insufficient visibility could result in unsafe exiting manoeuvres from the side road leading to side-on collisions with through traffic on the main access road.

Recommendation

The bicycle shelter should be re-positioned to where it will not impede visibility for drivers at the junction.



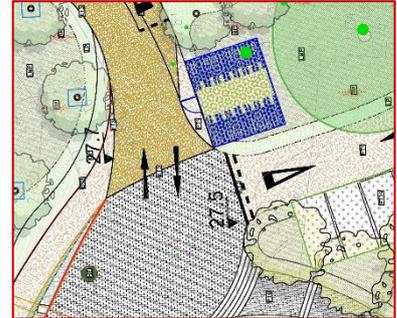
3.10 Problem

Location: Junction east of Dalguise House

Summary: Cyclists entering/exiting the proposed bicycle shelter may be at risk of being struck by a vehicle.

The proposed secure bicycle parking area is indicated in close proximity to the Avenue carriageway at a location where inbound vehicles must move into the path of oncoming vehicles when entering the plaza area in front of the House.

The door on the cycle shelter is indicated as opening towards the Avenue, and close to the possible path of vehicles. This could lead to cyclists opening the door ahead of oncoming vehicle or stepping out on the shared path in front of an oncoming vehicle.



Recommendation

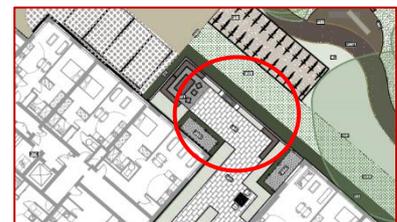
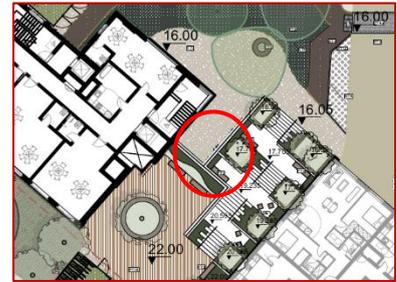
The bicycle shelter should be re-positioned so that a landing area can be provided at the door so that cyclists can enter/exit without encroaching onto the adjacent carriageway.

3.11 Problem

Location: General problem

Summary: Lack of edge protection may result in falls from height.

At a number of locations throughout the development level differences are indicated. It is unclear from the information provided if edge protection is proposed at these locations. A lack of edge protection may result in pedestrians falling from height, resulting in personal injury.



Recommendation

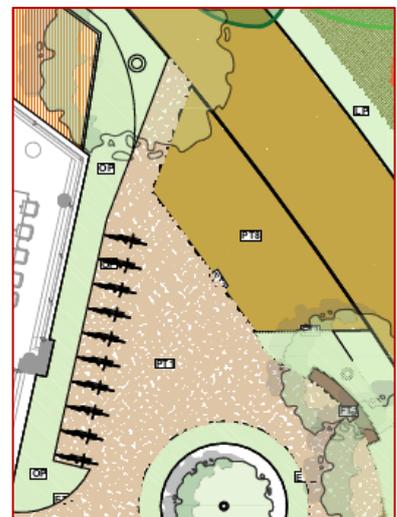
During the design development edge protection should be provided at all locations where there is a risk of falls from height.

3.12 Problem

Location: General Problem

Summary: Drivers may encroach onto paths from shared road

At a number of location where the interface between the paths and shared road is wide, drivers intentionally or inadvertently enter the path, for example to park, resulting in an increased risk of vehicular/NMU collisions or the creation of obstacles for NMU's, in particular the visually-impaired or mobility-impaired.



Recommendation

Where the interface between the paths and shared road is wide, measures should be put in place to prevent vehicles from entering onto the paths.

3.13 Problem

Location: Brick Gate Lodge

Summary: Lateral clearance to Brick Gate Lodge.

It is proposed to retain the Brick Gate Lodge, with the internal road indicated in close proximity to the lodge building. It is unclear if there is sufficient lateral clearance between the building and the proposed carriageway, insufficient setback could result in the building being struck by passing vehicles resulting in material damage.



Recommendation

Adequate lateral clearance should be provided between the edge of the carriageway and the Brick Gate Lodge building.

3.14 Problem

Location: General Problem

Summary: No information regarding lighting within the development has been provided to the Audit Team.

It is unclear what, if any, public lighting is proposed along the main Avenue. This is a route which is to be shared by vehicles, cyclist & pedestrians and an absence of adequate lighting, in particular during the winter months, could lead to an increased risk that drivers or cyclists may fail to see a pedestrian in the road ahead resulting in increased risk of vehicle/cyclist collisions with pedestrians.

Recommendation

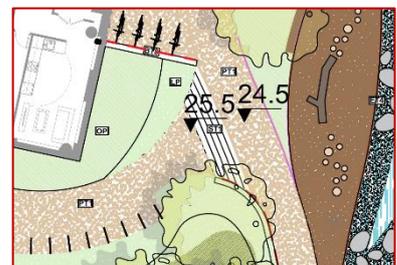
During the design development measures should be included to ensure that the proposed development is sufficiently lit and that lighting columns are located such that they do not present obstacles to vulnerable road users.

3.15 Problem

Location: General problem

Summary: Hazard tactile paving has not been indicated at the top and bottom of steps within the development.

Steps have been indicated throughout the development, for example in between apartment blocks A and B. Hazard tactile paving has not been indicated at the top or bottom of these steps. This could lead to visually impaired pedestrians being insufficiently aware of the vertical hazard ahead resulting in them inadvertently entering the steps resulting in trips, falls and serious injury.



Recommendation

Hazard tactile paving should be provided at the top and bottom of steps.

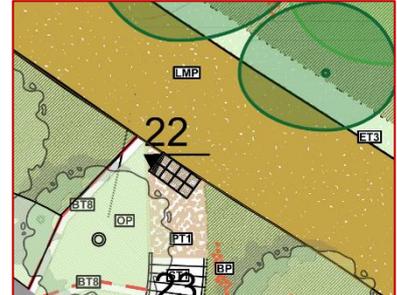
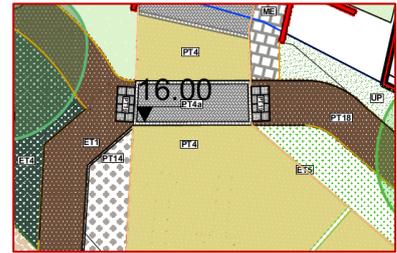
3.16 Problem

Location: General Problem

Summary: The depth of the tactile paving on in-line approaches to crossings may not be of sufficient depth.

At a number of locations tactile paving is indicated at in-line crossings of roads, but the indicated depth of the tactile paving at these locations may be insufficient.

Where tactile paving is less than 1.2m in depth from the kerb line at in-line crossings, there is a risk of visually impaired pedestrians stepping over the tactile paving and inadvertently entering the carriageway where they may be struck by a vehicle or cyclist.



Recommendation

Tactile paving should extend at least 1.2m from the kerb edge at in-line uncontrolled crossings across the full width of dropped kerb.

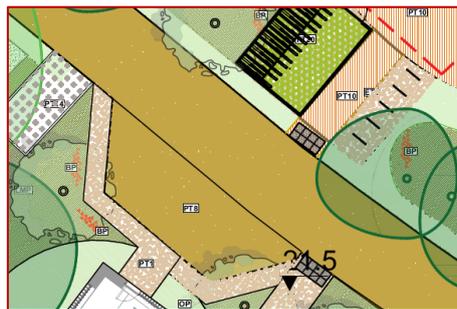
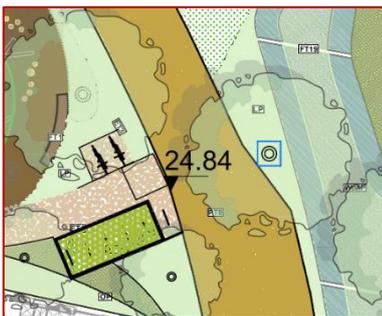
3.17 Problem

Location: General Problem

Summary: Absence of tactile paving at some locations

The NMU paths within the development intersects the shared carriageway on the Avenue at a number of locations, however, at some these locations tactile paving has not been indicated. For example, in front of Dalguise House the shared NMU path joins the shared carriageway at two locations, however no tactile paving has been indicated to warn visually-impaired pedestrians that they are about to enter an area shared with vehicles at the western end of the Ha-Ha water feature.

An absence of tactile paving at these locations could lead to visually-impaired pedestrians unknowingly entering the carriageway where there is an increased risk of being struck by a vehicle.



Recommendation

During the design development ensure that tactile paving is provided where pedestrians are expected to enter trafficked carriageways.

3.18 Problem

Location: General Problem

Summary: Insufficient headroom space for cyclist

Street trees have been indicated near, or extending over, the shared paths within the proposed development. The vertical clearance between the cycle track and the tree canopies is unclear.

Insufficient clearance to the tree canopies will present a hazard to cyclists, or lead to sudden avoidance manoeuvres by cyclists and possible falls and personal injury.

Recommendation

Where cyclists are expected to use the shared paths/carriageway, a vertical clearance of 2.5m should be provided to trees and street furniture.

4 Observations

4.1 It is proposed to provide a 'Ha-ha' feature, with associated water basin and water chutes, within the Central Plaza. Boundary Type 1 (recycled Cast Iron railing) and 8 (Retaining wall) are proposed.

It is unclear from the information provided if the proposed railings will be high enough to prevent possible falls from height.

Edge protection of sufficient height should be provided at the Ha-ha.



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:



Dated:

10th July 2023

ROAD SAFETY AUDIT TEAM MEMBER

Mazen Al Hosni/

Signed:



Dated:

10th July 2023

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	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Departures from Standard	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Scheme Drawings	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Scheme Details such as signs schedules, traffic signal staging	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Collision data for existing roads affected by scheme	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Traffic surveys	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Previous Road Safety Audit Reports and Designer's Responses/Feedback Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Previous Exception Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Start date for construction and expected opening date	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Any elements to be excluded from audit	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Any other information?

(if 'Yes', describe below)

Yes No

Appendix B – Documents Submitted to the Road Safety Audit Team

DOCUMENT/DRAWING TITLE	DOCUMENT/DRAWING NO.	REVISION
Transport Impact Assessment Report	21.120	-
Traffic Signs & Road Markings (Sheet 01 of 03)	DHSH-ROD-GEN-SW_AE-DR-CH-30003	P01
Traffic Signs & Road Markings (Sheet 02 of 03)	DHSH-ROD-GEN-SW_AE-DR-CH-30003	P01
Traffic Signs & Road Markings (Sheet 02 of 03)	DHSH-ROD-GEN-SW_AE-DR-CH-30003	P01
Landscape General Arrangement		
Ground Floor - Combined Plan	C0135 L103	02
Bicycle Parking Quantum and Layout	C0135 L9000	01

Appendix C – Feedback Form

Road Safety Audit Feedback Form

Scheme: Proposed Residential Development, Dalguise House, Monkstown Road, Co. Dublin

Route No.: R119

Audit Stage: 1 **Date Audit Completed:** 1st June 2023

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	No	<p>Topographical constraints dictate the maximum gradients of paths, which, in turn, has dictated where they can connect to the Avenue.</p> <p>The same topographical constraints will prevent the short cuts suggested being taken.</p> <p>A safe route for the visually-impaired through the development will be provided to/from Purbeck with either a crossing of the Avenue or a short length of footpath along the Avenue where needed to cater for likely crossing desire lines.</p>	Yes
3.3	Yes	No	A safe route for the visually-impaired will be provided to/from Purbeck.	Yes
3.4	Yes	Yes		
3.5	Yes	No	This will be brought to the attention of the Local Authority.	Yes
3.6	No	No	A low wall is proposed which would separate the grassed area of steps, these areas will be inaccessible and only provide visual interest.	Yes
3.7	Yes	Yes		
3.8	Yes	Yes		
3.9	Yes	Yes		
3.10	Yes	Yes		
3.11	Yes	Yes		

Road Safety Audit Feedback Form

Scheme: Proposed Residential Development, Dalguise House, Monkstown Road, Co. Dublin

Route No.: R119

Audit Stage: 1 **Date Audit Completed:** 1st June 2023

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)
3.12	Yes	Yes		
3.13	Yes	Yes	Drawings will be updated to show the existing clearance between laneway and building is to be maintained.	
3.14	Yes	Yes		
3.15	Yes	Yes		
3.16	Yes	Yes		
3.17	Yes	Yes		
3.18	Yes	Yes		

Signed: _____ **Designer** **Date** _____

Signed: Peter J. Monahan **Audit Team Leader** **Date** 15/6/2023

Signed: _____ **Employer** **Date** _____

Appendix D – Problem Locations

