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Stage 1 Quality Audit Report Social Housing Bundle 4, Development at Church of the Annunciation, Finglas, Dublin City Council

ENGINEERING A SUSTAINABLE FUTURE

Stage 1 Quality Audit Report Social Housing Bundle 4, Development at Church of the Annunciation, Finglas, Dublin City Council

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ENGINEERING A SUSTAINABLE FUTURE

ORS 1 Introduction

This report documents the findings of a Stage 1 Quality Audit (QA) carried out with respect to a Proposed Bundle 4 Social Housing Development for the construction 110No. residential dwellings at the site of the former Church of Annunciation on Cardiffsbridge Road, Finglas, Dublin 11.

The audit team conducted the site visit on Thursday the 18th of January 2024 in order to identify elements within the road environment that could impact the accessibility and mobility of road users as well as safety issues observed in the proposed scheme.

The audit team comprised of the following people:

Audit Team Leader: Adam Price	BEng (Hons), CEng, MIEI
Audit Team Member: Mark Gallagher	AEng, MIEI
Audit Team Observer: Angeliki Kalatha	MEng, MSc, MIEI

The audit team reviewed the following documents and drawings provided Malone O'Regan Consulting Engineers:

- (1) SHB4-CAF-DR-MOR-CS-P3-101 Rev 2 Site Layout
- (2) SHB4-CAF-DR-MOR-CS-P3-112 Rev 2 Swept Path Analysis Refuse Truck
- (3) SHB4-CAF-DR-MOR-CS-P3-113 Rev 2 Swept Path Analysis Aerial Platform
- (4) SHB4-CAF-DR-MOR-CS-P3-116 Rev 3 Sightlines
- (5) SHB4-CAF-DR-MOR-CS-P3-117 Rev 1 Swept Path Analysis Fire Tender
- (6) SHB4-CAF-DR-MOR-CS-P3-121 Rev 2 Proposed Road Signs and Markings
- (7) SHB4-CAF-DR-MOR-CS-P3-130 Rev 5 Drainage
- (8) SHB5-CAF-DR-MAL-L-P1-0001-P09_Ver3 Landscape (9) SHB5-CAF-DR-SMK-ME-6033-P02_Ver1 - Public Lighting.

Documents/Information not supplied:

- Speed Survey
- Departures from Standards.

Guidance and information on the completion of the Quality Audit was found in:

- Design Manual for Urban Roads and Streets (DMURS), Department of Transport, Tourism and Sport;
- DMURS Supplementary Material Advice Note 4 Quality Audits;
- DMURS Supplementary Material DMURS Street Design Audit (May 2019);
- Traffic Advisory leaflet 5/11, Department of Transport UK; and

• Building for Everyone - A Universal Design Approach, National Disability Authority.

The audit examined only those issues within the design relating to the road safety implications and accessibility of the scheme and has therefore not examined or verified the compliance of the design in any other criteria.

The Quality Audit should not be treated as a design check. The problems identified and described in this report are considered by the Audit Team to require action to improve the safety of the development and minimise accident occurrence.

All comments, references and recommendations in this audit are in respect of the review of information supplied by Malone O'Regan Consulting Engineers and a subsequent site visit by the audit team.

The information supplied to the Audit Team is also listed in **Appendix A**.

2 Background

2.1 Description of the Proposed Development

This report is prepared in support of a planning application for the NDFA on behalf of Dublin City Council for the proposed construction of 110 no. residential dwellings at a site c.0.78 ha at the site of the former Church of Annunciation on Cardiffsbridge Road, Finglas, Dublin 11, which will consist of the following:

- One apartment block ranging from 4 to 5-storeys, containing:

 110 residential units (106 no. 1-bed and 4 no. 2-bed); and
 434 sq.m. of community, arts and cultural facilities.
- 15 no. car parking spaces and 87 no. cycle spaces.
- 935 sq.m. of public open space and 609 sq.m. of communal open space.
- One vehicular and pedestrian access and one dedicated pedestrian access off Cardiffsbridge Road.
- Boundary treatments, public lighting, site drainage works, internal road surfacing and footpath, ESB meter rooms, plant rooms, stores, bin and bicycle storage, landscaping; and
- All ancillary site services and development works above and below ground.

The site has been approved by the Department of Housing, Local Government & Heritage is and is included in PPP National Social Housing Programme, Bundle 4. The subject site is located on residential zoned lands, on the west of Finglas village and will be accessed via a new priority junction on the Cardiffsbridge Road. The speed limit along the Cardiffsbridge Road is 50km/h. Cardiffsbridge Road is located in the centre of a primarily residential area of west Finglas and is equipped with footpaths on both sides and on-street parking. These continuous footpaths connect to the junction with Cappagh Road enhancing accessibility to the broader road network and public transport.

Please refer to **Figure 2.1** displayed overleaf, which provides an overview of the site location.

Figure 2.2 shows the proposed site layout provided by Malone O'Regan Consulting Engineers.



Figure 2.1: Site Location Map (Source: Google Earth)

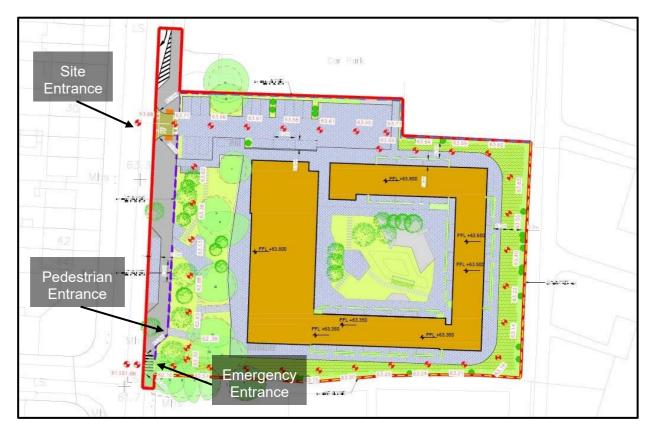


Figure 2.2: Site Layout (cropped) (Source: Malone O'Regan Consulting Engineers)

2.2 Existing Road Network

As previously noted, Cardiffsbridge Road runs along the site's western boundary and is a twoway single carriageway. Cardiffsbridge Road along its route, up to the junction with Cappagh Road, and south to the junction with Tolka Valley Road, primarily serves residential areas. The speed limit on the road is 50km/h. In the area surrounding the proposed development, the road typically spans around 8 metres kerb-to-kerb. Street lighting, footways of varying widths and one controlled crossing point at the junction with Cappagh Road featuring dropped kerbs are present in close proximity to the proposed project site. The footpath along Cardiffsbridge Road has a width of approximately 3m on the eastern side for northbound travel along the site frontage, while on the western side, it widens to about 4.5m. Along Cappagh Road, the footpaths are approximately 2.5m wide. All roads in the vicinity of the site are pedestrianised with adequate footpath infrastructure meaning travel by foot to and from the proposed site is feasible.

Currently, the Cardiffsbridge Road lacks dedicated cycling facilities.

The existing road network is equipped with road markings and signage, while the pavement is generally in good condition, as shown in **Figure 2.3**.



Figure 2.3: Cardiffsbridge Road at the site frontage (Source: ORS, January 2024)

3 Quality Audit Scope

The primary goal of a Quality Audit is to ensure that high-quality places are delivered and maintained by all relevant parties, ultimately benefiting all end users. During that process, the Quality Audit team considers access for disabled people, pedestrians, cyclists, and drivers of motor vehicles to ensure that the scheme is inclusive and caters to the needs of all users.

The scope of this Quality Audit is to review the proposed layouts supplied by the Design Team and make recommendations in line with guidelines as per the Design Manual for Urban Roads and Streets (DMURS) and the Transport Infrastructure Ireland Road Safety Audit Standard GESTY-01024, in order to ensure compliance and good practice of regulations defined in these standards documents.

The introduction of DMURS have sought to improve the design of streets in urban areas and to facilitate the implementation of policy on sustainable living by achieving a better balance between all modes of transport and road users. The introduction of DMURS is intended to encourage more people to walk, cycle or use public transport by making the experience safer and more pleasant.

In general, the principles of DMURS are intended to lower traffic speeds, reduce unnecessary car use, and create a built environment that promotes healthy lifestyles and responds more sympathetically to the distinctive nature of the individual communities and places.

DMURS Quality Audits are undertaken to demonstrate that appropriate consideration has been given to the relevant aspects of the design from a DMURS point of view. The benefits of undertaking a DMURS Quality Audit are as follows:

- The needs of all user groups and the design objectives of the project are fully considered
- An audit enables the project's objectives to be delivered by putting in place a check procedure
- It can contribute to cost efficiency in design and implementation
 A DMURS Quality Audit encourages engagement with stakeholders.

This Quality Audit will be divided into the following assessments:

- A DMURS Street Design Audit
- Additional Audits (Access, Walking and Cycling Audits)
- A Road Safety Audit.

A DMURS audit template, consisting of a series of short tables, is available online by the Department for Transport, Tourism and Sport (DTTAS) and has been adopted into this report.

This Quality Audit was carried out to identify any potential difficulties road users, particularly mobility impaired users, older people and families with children may encounter when accessing the proposed housing development and also to address any safety issues associated with the

proposal. The elements found in this Audit that require further consideration with the guidelines set out in DMURS are outlined at the following pages.

4 DMURS Street Design Audit

4.1 Overview

The DMURS Street Design Audit is an essential tool for evaluating the compliance of street designs with the principles outlined in the Design Manual for Urban Roads and Streets (DMURS). This audit serves to ensure that key considerations outlined in DMURS have been appropriately addressed. The audit focuses on four critical aspects of street design, namely:

- Connectivity;
- Self-Regulating Street Environment; Pedestrian and Cycling Environment; and
- Visual Quality.

4.2 Connectivity

		Connectivity		
Key Issues	Key DMURS Reference	Comments	Audit Suggestion	Design Team Response
Strategic routes/major desire lines been identified and are clearly incorporated into the design.	3.1 – Integrated Street Network 3.2.1 – Movement Function 3.3.1 – Street layouts 3.3.4 – Wayfinding	 3.1 – The internal network connects dwelling entrances with parking area. 3.2.1 – The development creates a permeable network for pedestrians restricting private vehicles. 3.3.1 – The design creates a strong sense of enclosure by using landscaping to enclose the streets and development as a whole. 3.3.4 – Site layout is legible directing users towards main site and building entrances. 		

Multiple points of access are provided to the site/place, in particular for sustainable modes.	3.3.1 – Street Layouts 3.3.3 – Retrofitting	3.3.1 – The development maximises the number of walkable routes between destinations within the development through the provision of pedestrianised area and walkways in open spaces. 3.3.3 – The development creates a permeable network for pedestrians with restrictions on the movement of private vehicles.		
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 – Adequate number of footpaths. 3.3.2 – The maximum block dimension does not exceed 120m. 3.4.1 – The development has created a network with restrictions on the movement of private vehicles. The site provides though accessibility by road, which will benefit construction traffic and service vehicles. 	Separate cyclist tracks have not been provided on the scheme. Cyclists will be required to share the road with vehicles, dismount and reach their destination through the provided footpaths.	On-street provision for cyclists considered appropriate given low design speeds.
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	3.2.1 – The development comprises local (internal) street network which only provides access within the site and does not provide a through route for vehicles. 3.2.2 – The development comprises an appealing living place enriched with valuable green attributes. 3.4.1 – The site has created a network with restrictions on the movement of private vehicles through the use of cul-de-sacs.		

4.3 Self-Regulating Street Environment

Self-Regulating Street Environment					
Key Issues	Key DMURS Reference	Comments	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 3.2.3 – Place Context 4.1.1 – A Balanced Approach to Speed	 3.2.3 – The intended speed limit for the development is 30km/h which would be typical for a neighbourhood development. 4.1.1 – The design provides for a limited straight section (approx. 60m) and traffic calming measures (raised table) at the entrance that discourage high speeds through the development. 			
The street environment will facilitate the creation of a traffic calmed environment via the use of 'softer' or passive measures.	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 – Tree plantings are proposed in the layout plan, enhancing the sense of place. 4.2.3 – Active Street edges are provided through the provision of a community facility, creating an active and inviting streetscape, as well as the provision of own door apartment entrances, open spaces and lighting that promote safety and create an appropriate degree of passive surveillance. 4.2.4 – Signage kept to minimum, in accordance with DMURS. 4.2.7 – Planting is used to create a softer landscape and encourage slower speeds. 4.4.2 – To reinforce narrower carriageways each parking bay is finished so that it is clearly distinguishable from the main carriageway. 			

		4.4.9 – On-street parking has been provided along the access road, clearly distinguishable from the main carriageway, which will visually narrow the road.	
A suitable range of design standards / measures have been applied that are consistent with the applied design speeds.	4.4.1 - Carriageway Widths 4.4.4 – Forward Visibility 4.4.5 – Visibility Splays 4.4.6 – Alignment and curvature 4.4.7 – Horizontal and Vertical Deflections Advice Note 1 – Transitions and Gateways	 4.4.1 – The proposed internal carriageway will be 6m wide which is consistent with recommended carriageway width for a local street in order to accommodate refuse trucks and long vehicles. 4.4.4 – Forward visibility has been reduced through the provision of on-street parking, increasing driver's caution. 4.4.5 – Junction visibility splays in accordance with DMURS. 4.4.6 – The development does not feature changes in horizontal curvature. Despite the absence of significant changes in the road curvature, the relatively short length of the main access road suggests that the likelihood of excessive speeds is considered to be low. 4.4.7 – Vertical deflection is proposed at the site entrance. 	

4.4 Pedestrian and Cycling Environment

Pedestrian and Cycling Environment						
Key Issues	Key DMURS Reference	Comments	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	4.2.1 – Limitations in cross-sectional width and the emphasis on delivering segregated pedestrian areas, as well as the provision of direct access to building entrances enhance pedestrian safety. 4.2.3 – Active Street edges provide passive surveillance of the street environment and promote pedestrian activity. 4.2.5 –Street furniture such as seatings, picnic tables etc are provided throughout the site. 4.2.9 – On-street parking is proposed along the main access road contributing to pedestrian comfort by providing locally a buffer between the carriageway and the footpath.	Designers should ensure that tree canopies over time should not restrict light from street lighting.	Trees specified as clear stem up to a height of 2m.
Junctions been designed to ensure the needs of pedestrians and cyclists are prioritised.	4.3.2 – Pedestrian Crossings 4.3.3 – Corner Radii 4.4.3 – Junction Design 4.4.7 – Horizontal and Vertical Deflections	 4.3.2 – Pedestrian crossing is only provided at the site entrance since separate pedestrian entrances and pedestrianised areas are proposed throughout the site. 4.3.3 – Corner radii of c. 3m have generally been provided at the site entrance and appear to be appropriate for the type of development. 4.4.3 – The main entrance junction is designed with a raised table preventing excessive junction speeds. 		

		4.4.7 – Vertical deflection in the form of raised table designed according to DMURS. Any horizontal deflections not required due to the very short straight section of the main access road.		
Footpaths are continuous and wide enough to cater for the anticipated number of pedestrian movements.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.5 – Street Furniture 4.3.1 – Footways, Verges and Strips 4.3.2 – Pedestrian Crossings	 3.2.1 – The development maximises the number of walkable routes between destinations within the development. Different pedestrian entrances maximise permeability. 3.2.3 – The development comprises an appealing living place with green attributes. Footpath widths according to DMURS. 4.2.5 – Limited presence of light poles. 4.3.1 – The footways within the development exceed the recommended minimum width of 1.8m, ensuring a spacious pedestrian environment. 		
The particular needs of visually and mobility impaired users been identified and incorporated in the design.	4.2.5 – Street Furniture 4.3.1 – Footways, Verges and Strips 4.3.2 – Pedestrian Crossings 4.3.4 – Pedestrianised and Shared Surfaces	 4.2.5 – The use of street furniture (light poles) is limited. 4.3.1 – Segregated pedestrian facilities spacious enough to accommodate wheelchair users. 4.3.2 – Pedestrian crossing is only provided at the site entrance, equipped with tactile pavement. 4.3.4 – Accessible parking spaces proposed, located in a way that allows mobility impaired users to enter pedestrianised areas. 	Installation of suitable footways in communal areas, facilitating accessibility for users with mobility impairments. Crossings to be provided with tactile pavement and dropped kerbs.	Layout amended in response to audit suggestion.

Cycling facilities will cater for cyclists of all ages and abilities.	3.2.1 – Movement Function 3.2.3 – Place Context 4.3.5 – Cycle facilities	 3.2.1 – Multiple entrance points that provide high levels of permeability. 3.2.3 – Dedicated pedestrian/cyclist entrance along with cyclist facilities and green qualities emphasise the sense of place. 4.3.5 – Dedicated cycling facilities are not provided. Cyclists can share the roadway with vehicles. The development proposes two entrance points to cater for pedestrians which could also be utilised by cyclists, and is deemed appropriate for a residential setting. 	Appropriate dismount signage for cyclists to be installed throughout pedestrianised areas to reduce possibility of conflicts.	Noted.
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Visual Quality				
Key Issues	Key DMURS Reference	Comments	Audit Suggestion	Design Team Response
The landscape plan responds to the street hierarchy and the value of the place.	3.2.1 – Movement Function 3.2.3 – Place Context 4.2.2 – Street Trees 4.2.7 – Planting Advice Note 1 – Transitions and Gateways	 3.2.1 – Adequate number of attractive walkable routes are provided throughout the development. 3.2.3 – The development embodies an appealing living environment with an emphasis on green features, enhancing the sense of place and discouraging excessive speeds. 4.2.2 – The inclusion of street trees across the site enhances the sense of enclosure achieving both a sense of place and a traffic calming effect. 4.2.7 – Planting is proposed to create a softer landscape. 		
Street furniture is orderly placed.	3.2.1 – Movement Function 3.2.3 – Place Context 4.2.5 – Street Furniture 4.3.1 – Footways, Verges and Strips	3.2.3 – Street furniture is deemed appropriate to the context. 4.2.5 – Street furniture is appropriately positioned and does not appear to restrict movements and is positioned strategically in focused areas. A landscape layout accompanies this planning application providing details on the street furniture throughout the development.		
The use of signage and line marking has been minimised.	3.2.1 – Movement Function 3.2.3 – Place Context 4.2.4 – Signage and Line Marking	3.2.3, 4.2.4 – Details of signage are provided, and signage is kept to the minimum required.	Signage poles positioning should not hinder safe pedestrian passage.	Noted.

Materials and finishes used throughout the scheme have been	3.2.1 – Movement Function 3.2.3 – Place Context	3.2.1 – Adequate number of walkable routes are provided throughout the development with	
selected from a limited palette and respond to the value of the place?	4.2.6 – Materials and Finishes 4.2.8 – Historic Contexts 4.3.2 – Pedestrian Crossings 4.4.2 – Carriageway Surfaces Advice Note 2 – Materials and Specifications	different surface material to distinguish them from the carriageway. 3.2.3, 4.2.6 – Materials and finishes have been used to define areas of value. 4.3.2 – Different surface textures and materials at one single pedestrian crossing act as traffic calming and indicate the crossing location to drivers.	

5 Additional Audits

5.1 Accessibility and Walkability Audit

The proposed residential development will be accessed via a sole entrance to the west of the site. This access is a new priority T-junction formed between Cardiffsbridge Road and the proposed internal access road. Pedestrians will have separate points of entry to the development via Cardiffsbridge Road, along the western boundary of the site. From these entrances, footpaths will extend throughout the development area. No accessibility issues have been identified relating to dwelling accesses.

The proposed upgrade on the footpath running along the western boundary of the development will link to existing adjacent footpaths (please refer to **Figure 5.1**). Currently, raised concrete footpaths are present on both sides of the road. Designated cycle facilities are absent along Cardiffsbridge Road and its vicinity. Consequently, the site does not include dedicated cycling facilities. Furthermore, the majority of the junctions in the area provide good pedestrian crossing facilities in the form of puffin pedestrian crossing with dropped kerbs such as the one at the junction between Cardiffsbridge and Cappagh Road at the north of the site entrance, providing a safer passage towards Finglas centre.



Figure 5.1: Existing footpath and bus stop location along the western site boundary (Source: ORS, January 2024)

The site is located near several local amenities, such as schools, shops, parks, and sports facilities, which will be easily accessed by pedestrians from Cardiffsbridge Road using the extensive infrastructure network in place. There are three schools in close proximity to the site, Colaiste Eoin, Colaiste Ide College and St. Brigid's National School. Local sports clubs include, Leisure point Gym, Finglas Sports and Fitness and Erins Isle GAA Club.

5.2 Public Transport Network

The proposed development is well served by public transport, as it is located along Cardiffsbridge Road and in close proximity to Finglas Road, the main artery road in Finglas and other communities on the N2/M2 corridor to the city centre. The location of the residential development will ensure great external connectivity by means of walking and public transport to future residents of the site and it should be expected the movements to and from the site to be less car-dominated. The proposal is well-served by several bus routes in the vicinity of the site, as shown in **Figure 5.2** below.

There are 2No. bus stops located adjacent to the site entrance and several others within walking distance from the site. There are continuous footpaths leading the site to the bus stops located adjacent to the site, with signalised pedestrian crossings. The footpaths are deemed to be in reasonable condition and appropriate width in the vicinity of the site entrance.

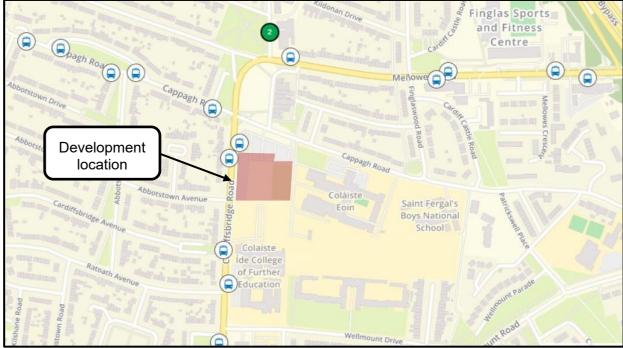


Figure 5.2: Bus stops in the vicinity of site. (Source: transportforireland.ie)

The bus stop provided adjacent to the entrance has the provision of a bus shelter with a bench and the bus cage is clearly marked, as shown in **Figure 5.1** above. The bus stop located to the other side of the site entrance does not provide a bus shelter or bench for its users. None of the bus stops were designed for disabled users with Kassel kerbs. **Table 5.1** overleaf outlines the available bus services in the area.

Table 5.1 – Bus Services Available near Merville Place (Source: TFI)				
Route No.	Bus Operator	Origin	Destination	Weekday Services
40	— Dublin Bus	Charlestown Shopping Centre	Earlsfort Terrace	Several services from 05:35 to 23:30
40e		Broombridge Luas	Tyrrelstown	Every 30min
220	Go-Ahead Ireland	Dublin City University	Damastown Industrial Park	Hourly

Future residents and visitors of the site will have the opportunity to avail of the vast existing bus routes network available in the vicinity of the site which will be further enhanced by the major Bus Connects proposal to improve the public transport, pedestrian, and cyclist network around the site, the maps of which are included in **Figure 5.3**. The proposed Bus Connects project also includes Cappagh Road as part of the Finglas to Phibsborough section.



Figure 5.3: BusConnects network (Source: BusConnects.ie)

In addition to the extensive bus routes network in the vicinity of the site, there is also Luas and rail services which future residents and visitors of the site can possibly avail of. The Broombridge station is located approximately 36 minutes walking from the site and serves both the green line of the Luas and the commuter line to Sligo, M3 Parkway and Dublin.

5.3 Cycle Audit

Currently there is no dedicated cycle infrastructure in place within the scheme. Cyclists are expected to share the public road network with motorists. The drawings indicate the presence of cycle parking facilities which is both secure and aligned with the standards (sheltered or unsheltered).

Creating a sense of safety is crucial for encouraging the use of cycle stands. Cyclists may be deterred from utilising them if they perceive the locations as unsafe or if their bicycles will be exposed to weather. Such concerns could potentially lead to informal parking on footways or at property entrances, resulting in reduced pedestrian accessibility.

6 Road Safety Audit

6.1 Introduction

This report documents the findings of a Stage 1 Road Safety Audit (RSA) carried out with respect to a Proposed Residential Development at Cardiffsbridge Road, Finglas, Co. Dublin.

The audit team conducted the site visit on Thursday the 18th of January 2024. The audit was carried out in the offices of ORS on Monday the 08th of April 2024.

The audit team comprised of the following people:

Audit Team Leader: Adam Price	BEng (Hons), CEng, MIEI
Audit Team Member: Mark Gallagher	AEng, MIEI
Audit Team Observer: Angeliki Kalatha	MEng, MSc, MIEI

During the site visit the weather was partly cloudy with occasional sun. The road surface was dry, and the traffic levels were noted to be low across the audit period.

Previous Road Safety Audits were not available for review. The audit team reviewed the following documents and drawings provided by Malone O'Regan Consulting Engineers.

- (1) SHB4-CAF-DR-MOR-CS-P3-101 Rev 2 Site Layout
- (2) SHB4-CAF-DR-MOR-CS-P3-112 Rev 2 Swept Path Analysis Refuse Truck
- (3) SHB4-CAF-DR-MOR-CS-P3-113 Rev 2 Swept Path Analysis Aerial Platform
- (4) SHB4-CAF-DR-MOR-CS-P3-116 Rev 3 Sightlines
- (5) SHB4-CAF-DR-MOR-CS-P3-117 Rev 1 Swept Path Analysis Fire Tender
- (6) SHB4-CAF-DR-MOR-CS-P3-121 Rev 2 Proposed Road Signs and Markings
- (7) SHB4-CAF-DR-MOR-CS-P3-130 Rev 5 Drainage
- (8) SHB5-CAF-DR-MAL-L-P1-0001-P09_Ver3 Landscape (9) SHB5-CAF-DR-SMK-ME-6033-P02_Ver1 - Public Lighting.

Documents/Information not supplied:

- Speed Survey
- Departures from Standards.

The terms of reference / procedure for the Audit were as per the relevant sections of the **Transport Infrastructure Ireland Road Safety Audit Standard GE-STY-01024.** The audit examined only those issues within the design relating to the road safety implications of the

scheme and has therefore not examined or verified the compliance of the designs to any other criteria. The Road Safety Audit should not be treated as a design check.

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

All comments, references and recommendations in this safety audit are in respect of the review of information supplied by Malone O'Regan Consulting Engineers.

Section 6.2 of this report presents the findings of the Stage 1 Road Safety Audit of the proposed residential development. For development's description and site layout please refer to **Section 2**.

The information supplied to the Audit Team is also listed in **Appendix A**.

A feedback form for the Designer to complete is contained in Appendix B.

6.2 Problems Raised from the Road Safety Audit

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

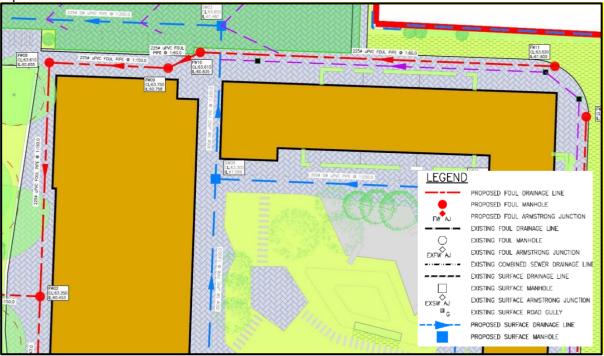
Due to ongoing review of road traffic collision data by the Road Safety Authority website, no traffic collision data could be obtained for the vicinity of the proposed development site.

6.2.1 Potential Problems Identified

Problem No.1: Drainage

Location: Proposed Scheme

The audit team note from the provided drawings that drainage manholes are proposed within areas designated for pedestrian movement. The proposed placement of drainage manholes raises concerns. If crossing points and walkways are not kept clear of road gullies, gratings, or channels, and are not level with the pavement surface or should the surface be slippery, it may pose challenges for wheelchair users or individuals with mobility aids, potentially resulting in trips and falls.



Recommendation:

The design team should ensure that manholes are strategically positioned to minimise obstruction to pedestrian movement and level with the pavement surface to eliminate tripping hazards. The design team should also ensure that the manhole lids are covered with anti-slip surfacing.

Problem No.2: Vulnerable User Permeability – Dropped Kerbs Location: Southwestern Site Boundary

The audit team note from the drawings that there is a new uncontrolled crossing proposed at the southwestern corner of the site boundary. However, it is not evident from the provided drawings whether the necessary dropped kerbing is incorporated to enable users to access both sides of the footpath. The team expresses concern that wheelchair users may encounter difficulties accessing the footpath, potentially resorting to using the road to reach the nearest dropped kerb, thereby risking collisions between vehicles and pedestrians.



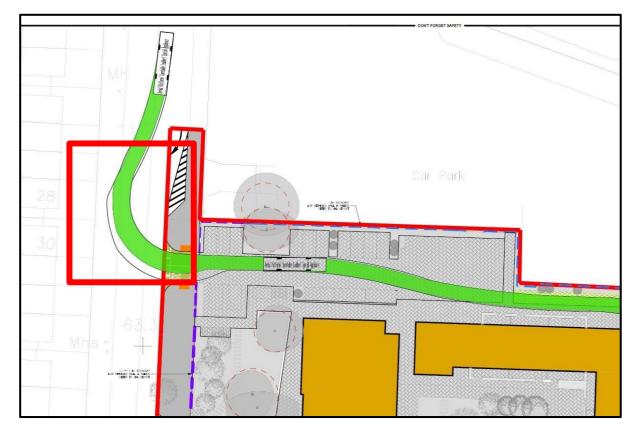
Recommendation:

The design team should ensure that details and locations of dropped kerbs, connecting footpaths as well as tactile paving are provided for.

Problem No.3: Swept Path Analysis Location: Main Site Entrance

The audit team note from the Autotrack analysis provided for aerial platforms that the vehicle mounts the public footpath on the opposite side of Cardiffsbridge Road which poses a direct threat to pedestrian safety, as pedestrians may be at risk of collisions with these vehicles. Additionally, during the site visit, the audit team observed the presence of trees and instances

ORS



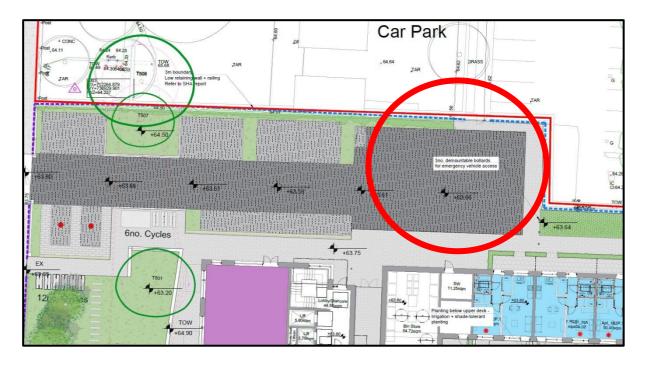
of illegally parked vehicles on the footpath, further exacerbating the risk of accidents, if these vehicles attempt multiple manoeuvres in order to exit the site.

Recommendation:

The design team should ensure that all vehicles can safely enter/exit the site, without obstructing the safe passage of pedestrians or increasing the risk of collisions and accidents.

Problem No.4: Open Space Leading to Illegal Parking Location: Area Identified

The audit team note from the plans provided that there is a large open area identified below next to the proposed carpark area which could result in illegal parking. This could potentially result in an increased risk of vehicle conflict which could result in injury.



Recommendation:

The design team should incorporate measures at the area identified, such as a hammerhead to facilitate turning vehicles within the development.

Problem No.5: Sightlines

Location: Gated Access Point for Emergency Vehicles

The audit team note from the plans that while adequate sightlines are initially provided for emergency vehicle access, concerns arise due to the presence of existing trees that are being retained and the proposed addition of another tree near the on-street parking spaces. These trees could potentially hinder visibility if they become overgrown. Inadequate visibility splays for emergency vehicles pose a significant risk, potentially leading to side impact or rear-end shunttype vehicle collisions, resulting in injuries.

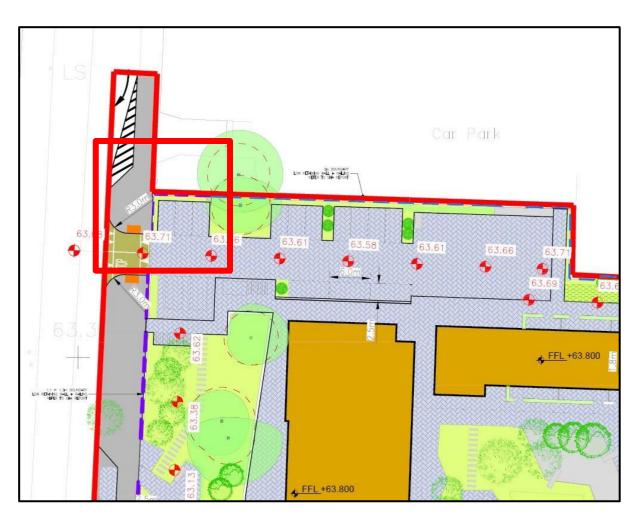


Recommendation:

The design team should carefully assess the proposed landscaping plans to ensure that the type and placement of trees does not compromise visibility for emergency vehicles. If necessary, consider relocating or adjusting the placement of trees to maintain adequate sightlines.

Problem No.6: Parking at Main Entrance Location: Main Access Point

The audit team note from the drawings provided that there are car parking spaces proposed in close proximity to the main access point. The audit team is concerned that vehicles entering and exiting these parking spaces may hinder the movement of traffic into and out of the development. This could potentially lead to collisions at the main access point and may result in vehicles straddling the footpath while waiting for vehicles to negotiate the parking areas.



Recommendation:

The design team should review the possibility of relocating these parking spaces to the large turning area within the development where there appears to be ample space to provide parking.

7 Audit Team Statement

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

ORS

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

Signed: Date:

08th April 2024

Audit Mark

Team Member: Gallagher, MIEI ORS

Signed:

Date: 08th April 2024

ALP:

Hart Gallacher

Audit Team Observer: Angeliki Kalatha: MEng, MSc, MIEI ORS

Date: 08th April 2024

Appendix A – Inspected Documents

The audit team reviewed the following documents and drawings provided by Malone O'Regan Consulting Engineers:

- (1) SHB4-CAF-DR-MOR-CS-P3-101 Rev 2 Site Layout
- (2) SHB4-CAF-DR-MOR-CS-P3-112 Rev 2 Swept Path Analysis Refuse Truck
- (3) SHB4-CAF-DR-MOR-CS-P3-113 Rev 2 Swept Path Analysis Aerial Platform
- (4) SHB4-CAF-DR-MOR-CS-P3-116 Rev 3 Sightlines
- (5) SHB4-CAF-DR-MOR-CS-P3-117 Rev 1 Swept Path Analysis Fire Tender
- (6) SHB4-CAF-DR-MOR-CS-P3-121 Rev 2 Proposed Road Signs and Markings
- (7) SHB4-CAF-DR-MOR-CS-P3-130 Rev 5 Drainage
- (8) SHB5-CAF-DR-MAL-L-P1-0001-P09_Ver3 Landscape
- (9) SHB5-CAF-DR-SMK-ME-6033-P02_Ver1 Public Lighting.

Appendix B – Designer Response Form

Job: 231860 – Proposed Bundle 4 Social Housing Development, Cardiffsbridge Road, Finglas, Dublin 11

Stage of Audit: Stage 1 Date Audit Completed: 08/04/2024

Problem	To Be Completed by the Designer			To be Completed Audit Team Leader
Reference in Safety Audit Report	Problem Accepted (Yes/No)	Recommendation Accepted (Yes/No)	Alternative Option (Describe) (Only complete if recommendation not accepted)	Alternative Option Accepted by Auditors (Yes/No)
P1	YES	YES		
P2	YES	YES		
P3	YES	YES		
P4	YES	YES		
P5	YES	YES		
P6	YES	YES		

12/04/2024 Date:....

Date:....

12/04/2024



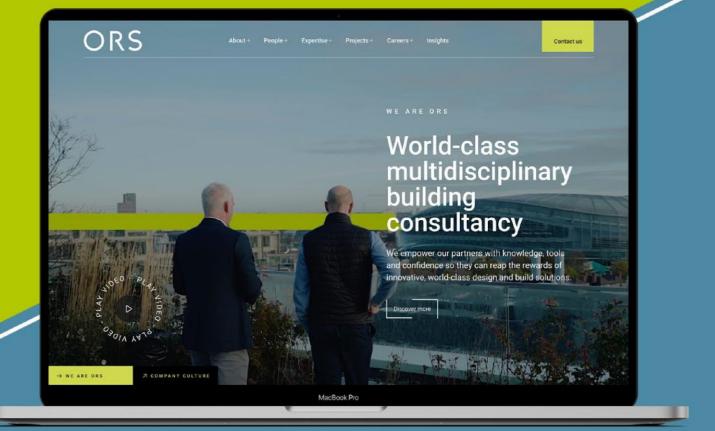


Access more information on our services and expertise by visiting our brand-new

website.

ORS





Find Us Nationwide, on LinkedIn or on Youtube in 🕨

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) Office 4, Spencer House, High Road, Letterkenny, Co. Donegal, Ireland, F92 PX8N) Level One, Block B, Galway Technology Park, Parkmore, Co. Galway, Ireland, H91 A2WD

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