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2024

Stage 2 Quality Audit – Hartfield Place, Swords Road, Dublin

ENGINEERING A SUSTAINABLE FUTURE

Stage 2 Quality Audit Report
Hartfield Place, Swords Road, Dublin

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Table of Contents

1 Introduction

This report documents the findings of a Stage 2 Quality Audit (QA) carried out with respect to the proposed residential development at Hartfield Place located on the Swords Road, Whitehall, Dublin 9. The scope of the Quality Audit includes blocks A to E and the access road in front of Block F and G hatched in magenta in figure 2.2.

The audit team conducted the site visit on the 20th of August 2024 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:
Ankita Kirtane B.Arch, MSc, MIEI

The audit team reviewed the following documents and drawings provided by the design team.

(1) PE18138-CWO-ZZ-00-DR-A-0004-SITE PLAN - GROUND FLOOR REV P04
(2) PE18138-CWO-ZZ-00-DR-A-0005-SITE PLAN - LOWER FLOOR PLAN REV P04
(3) HARTPL-JOR-SM-ZZ-DR-0040-00 (Surface Water Drainage Layout) Rev 00
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(5) HARTPL-JOR-SM-ZZ-DR-0060-00 (Watermain7 Layout) Rev 01
(6) 7335-PHL-ZZ-00-DR-L-1001 Ground Floor Landscape Plan Rev 03
(7) D2419-IN2-SW-00-DR-E-0101 Electrical Services Layout REV P01
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(9) 232306-PUNCH-XX-XX-DR-C-0601 Vehicle Swept Path Analysis 8.68m Fire Tender Rev ----
(10) 232306-PUNCH-XX-XX-DR-C-0602 Vehicle Swept Path Analysis 12m Fire Tender Rev ----
(11) 232306-PUNCH-XX-XX-DR-C-0603 Vehicle Swept Path Analysis Standard Car and Fire Tender Rev ----

Documents/Information not supplied:

- Previous Road Safety Audits
- Collision Data
- Speed & Traffic Surveys
- Departures from Standards
- Visibility Splay Analysis.

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 PUNCH 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

The proposed Hartfield Place development will be located off Swords Road, in Whitehall, Dublin 9, within the Greater Dublin Area. The proposed development will feature a singular vehicular entrance, which will be accessed through the junction between Swords Road (N1) and Iveragh Road to the northwest of the proposed site, as shown in **Figure 2.2.**

The site is located in the north Dublin area, in a green field of 2.73 hectares. The proposed site is bounded to the west by Swords Road (N1), to the south by Highfield Healthcare centre, to the north by vacant lands and GAA pitches and to the east by a convent and residential development.

ORS have been commissioned to conduct a DMURS Stage 2 Quality on behalf of Punch Consulting Engineers for the construction of a residential development comprising of 472 No. residential units ranging from studio apartments to 3-bedroom apartments. Additionally, the development will include a creche, 274 No. car parking spaces, 11 No. motorbike spaces and 732 No. secure bike spaces for residents. As part of the proposed development, the junction between Swords Road and Iveragh Road will be upgraded to include traffic signals on all approaches to the junction and crossing points at Iveragh Road and at the proposed access to the development.

Figure 2.1 shows the proposed site location and **Figure 2.2** shows the proposed site layout.

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

Figure 2.2: Site Layout (Source: Punch Consulting Engineers)

2.2 Existing Road Network

As previously noted, vehicular access proposed to the site is at the junction between Swords Road and Iveragh Road. Service vehicles can access the site off the same vehicular accesses mentioned above. The pedestrian access/egress is off Swords Road adjoining the vehicular access to the site as well as at various points along the eastern site boundary. Separate access for cyclists is not provided throughout the site. Cyclists must share the carriageway with other motorists or pedestrians.

Swords Road is a two-way road with single lane in each direction with bus lanes provided on both sides of the road as per **Figure 2.3**. A controlled crossing point is present at the junction which will serve as the access point for the site (**Figure 2.4**). The overall width of the vehicular carriageway is approximately 6.0 metres excluding the bus lanes, footpaths and streetlights on either side of the carriageway. A cycling lane is present along the opposite side of Swords Road.

Figure 2.3: Existing Road network along Swords Road (Source: Google Maps)

Figure 2.4: Existing controlled crossing point on Swords Road (Source: Google Maps)

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 GE-STY-01024, 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 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 section.

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

Key Issues	Key DMURS Reference	Comments	Audit Suggestion
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 and open spaces. 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 and various streetscapes to enclose the streets and development as a whole. 3.3.4 – Site layout is legible directing users towards 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 footpaths at open spaces. 3.3.3 – The development creates a permeable network for pedestrians with restrictions on the movement of private vehicles and pedestrian links along the western boundary.	

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. 3.4.1 – The development has created a network with restrictions on the movement of private vehicles. 3.4.1 – The site provides vehicular accessibility to the development by road from the northwestern boundary of the site which only provides access to the outer perimeter of the site.	Separate cyclist tracks have been provided for throughout the scheme. Cyclists will be required to share some pavements with pedestrians to access the buildings.
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. Main vehicle route is provided with traffic calming measures to keep velocities low. 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

Key Issues	Key DMURS Reference	Comments	Audit Suggestion
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	3.2.1 – It is not clear what the intended speed limit on the internal road is. 3.2.3 – Higher levels of pedestrian movement are catered for. 4.1.1 – The design provides for limited traffic calming measures which could result in higher speeds through the development.	The proposed scheme is a residential development. Thus, a speed limit <30km/h should be applied
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. 4.2.3 – Active Street edges are provided through the provision of a combination of landscaping, pedestrian connection, and parking bays besides vehicular carriageway. 4.2.4 – Signage kept to minimum. 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 throughout the site which will visually narrow the carriageway.	The type of tree planting proposed should be such that they do not obscure visibility splays from junctions.

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 –Measurements of the road carriageway are not specified in the drawings provided. 4.4.4 – Forward visibility has been reduced through the provision of on-street parking along the access road. 4.4.6 – The development features changes in horizontal curvature which promotes lower speeds. 4.4.7 Vertical deflections are proposed in the design.	

4.4 Pedestrian and Cycling Environment

Key Issues	Key DMURS Reference	Comments	Audit Suggestion
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 footpath and, and the provision of separated pedestrian access increases 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 public lighting, seatings, picnic tables are provided in certain sections of the development. 4.4.9 – On-street parking is proposed only at sections of the development.	Designers should ensure that tree canopies over time do not impede the illumination provided by street lighting.
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 4.3.4 – Pedestrianised and Shared Surfaces	4.3.2 – Pedestrian crossings are not provided throughout the development. 4.3.3 – Corner radii have not been provided. 4.3.4 – Pedestrianised surfaces are provided in abundance throughout the scheme.	Designer should provide corner radii for the internal road network
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 to the west of the development. 3.2.3 – The development comprises an appealing living place with green attributes.	
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 4.2.5 – Street Furniture 4.3.2 – Pedestrian Crossings 4.3.4 – Pedestrianised	4.3.4 – Accessible parking spaces are proposed throughout the site.	

	and Shared Surfaces		
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	4.3.5 – Dedicated cycling lanes are provided. Cyclists will share the carriageway with pedestrians at some locations to access the buildings. The scheme provides ample spaces for cycle parking throughout the development.	Appropriate signage leading to bicycle parking area should be provided within the development.

4.5 Visual Quality

Key Issues	Key DMURS Reference	Comments	Audit Suggestion
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 a sense of place. 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	4.2.5 – Street furniture provided does not restrict pedestrian movements.	
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	4.2.4 – Details of signage are not provided.	
Materials and finishes used throughout the scheme have been selected from a limited palette and respond to the value of the place?	3.2.1 – Movement Function 3.2.3 – Place Context. 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	3.2.1 – Adequate number of walkable routes are provided to the west of the development.	

5 Additional Audits

5.1 Accessibility and Walkability Audit

As mentioned previously the proposed site will be accessed off Swords Road to the west of the application site. The pedestrian access to the site is along Swords Road and Stanley Street as well in close proximity to the vehicular access. The pedestrian footpaths are segregated from the vehicular traffic.

Multiple pedestrian accesses are given to the shared public landscaped area to the west of the proposed site via Swords Road. The local road network is well connected with footpaths in the vicinity of the site on Swords Road which provides a safe environment for pedestrians. Cycling facilities are observed in the vicinity of the site on Brunswick Street North.

The site is well accessible via footpaths that connects the site to several local amenities like train station, shopping centre, schools, and hospitals.

5.1.1 Public Transport Network

The proposed development is well served by public transport, as it is located in close proximity to Dublin city centre in Whitehall. This strategic location facilitates convenient access to various areas within Dublin. Future residents, staff and visitors of the site will have the opportunity to avail of the 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 networks around the site. The proposal is well-served by several bus routes in the vicinity of the site, as shown in **Error! Reference source not found.** below.

There are 7 No. bus stops located in close proximity to the site. Of these, 4 No. are located on Swords Road and 3 No. are located along Collins Avenue which is north of the proposed site. All the bus stops are located ca. 80 to 300 metres from the application site entrance.

There are continuous footpaths and corresponding signalised pedestrian crossings leading to all the bus stops. The footpaths are deemed to be in good condition and of appropriate width in the vicinity of the site entrance. 3No. bus stops along Swords Road have the provision for bus shelters and benches as well as 2No. with a shelter and bench along Collins Avenue. **Table 5.1** overleaf outlines the available bus services in the area. All the Bus stops with the exception of 1No. on Collins Avenue are designed for disabled users being equipped with Kassel kerbs.

In addition to the extensive bus routes network in the vicinity of the site, there are also rail services which future residents and visitors of the site can utilise. The Drumcondra station, located to the southwest of the site, is an approximate 26 minutes' walk from Hartfield Place and serves routes such as Dublin Connolly – Sligo, Dublin – Maynooth, Longford and M3 Parkway and Grand Canal Dock and Dublin Heuston – Portlaoise routes which all run several times a day. The site is also located approximately 21 minutes by bus to Connolly Station, the focal point in the Irish Rail route, with trains for several locations across the county. **Figure 5.3** shows the Drumcondra and Connolly Stations.

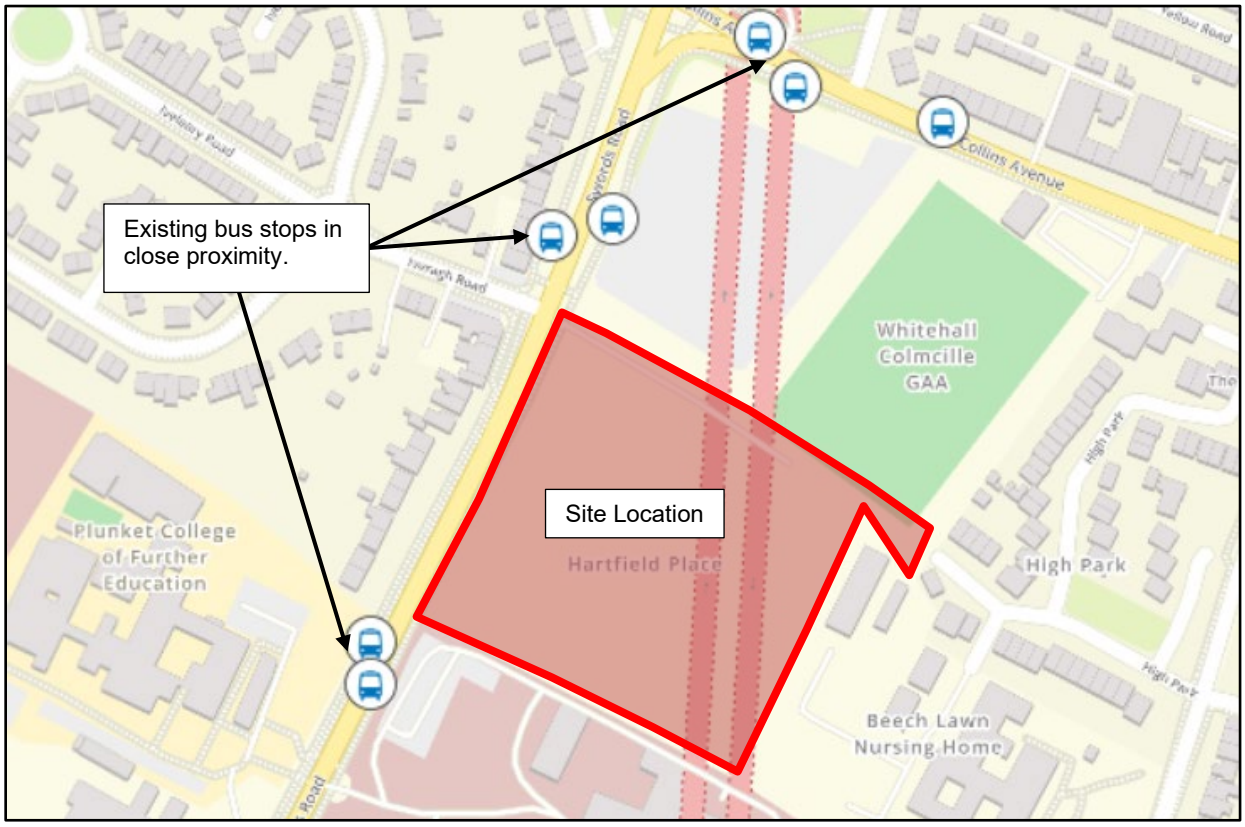

Figure 5.1: Bus stops in the vicinity of the development (Source: TFI)

Table 5.1 – Bus Services Available (Source: TFI)

Route No.	Bus Operator	Origin	Destination	Weekday Services
740X	Wexford Bus	Wexford	Dublin Airport	3 times a day
740	Wexford Bus	Wexford	Dublin Airport	Every 60 minutes
740A	Wexford Bus	Gorey	Dublin Airport	4 times a day
16	Dublin Bus	Ballinteer	Dublin Airport	Every 15 minutes
16d	Dublin Bus	Ballinteer	Dublin Airport	Every 20 minutes
33	Dublin Bus	Lwr Abbey St	Balbriggan	Every 90 minutes
33E	Dublin Bus	Lwr Abbey St	Skerries	Once a day
33n	Dublin Bus	Westmoreland St	Balbriggan	Weekends Only
41	Dublin Bus	Lwr Abbey St	Swords Manor	Every 30 mins
41B	Dublin Bus	Lwr Abbey St	Rolestown	Every 300 mins
41C	Dublin Bus	Lwr Abbey St	Swords Manor	Every 20 mins
41D	Dublin Bus	Lwr Abbey St	Swords Business Park	2 times a day
44	Dublin Bus	Enniskerry	DCU	Every 60 minutes
N4	Dublin Bus	Blanchardstown	Point Village	Every 12 minutes

Future residents and visitors of the site will enjoy access to an extensive network of existing bus routes in the vicinity, which will be further enhanced by the major Bus Connects proposal to improve the public transport, pedestrian, and cyclist network around the site, the map of which are included in Figure 5.2. The proposed site lies in close proximity to multiple proposed Bus Connects project routes with the closest being a peak time A spine route to the west of the development which connects Swords to the city centre. The site is well connected so that future residents will be able to access most of the greater Dublin area through the proposed Bus network upgrades.

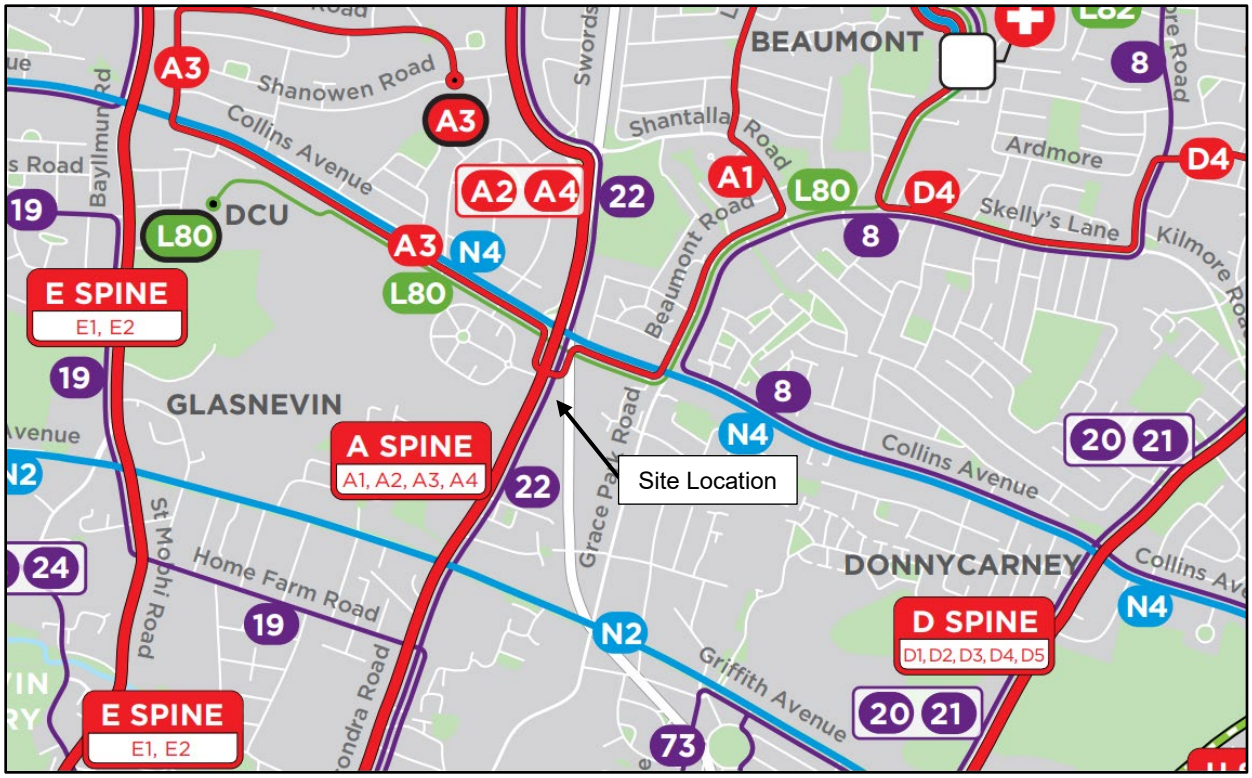

Figure 5.2: Proposed Bus Connects in the vicinity of the development (Source: Bus Connects)

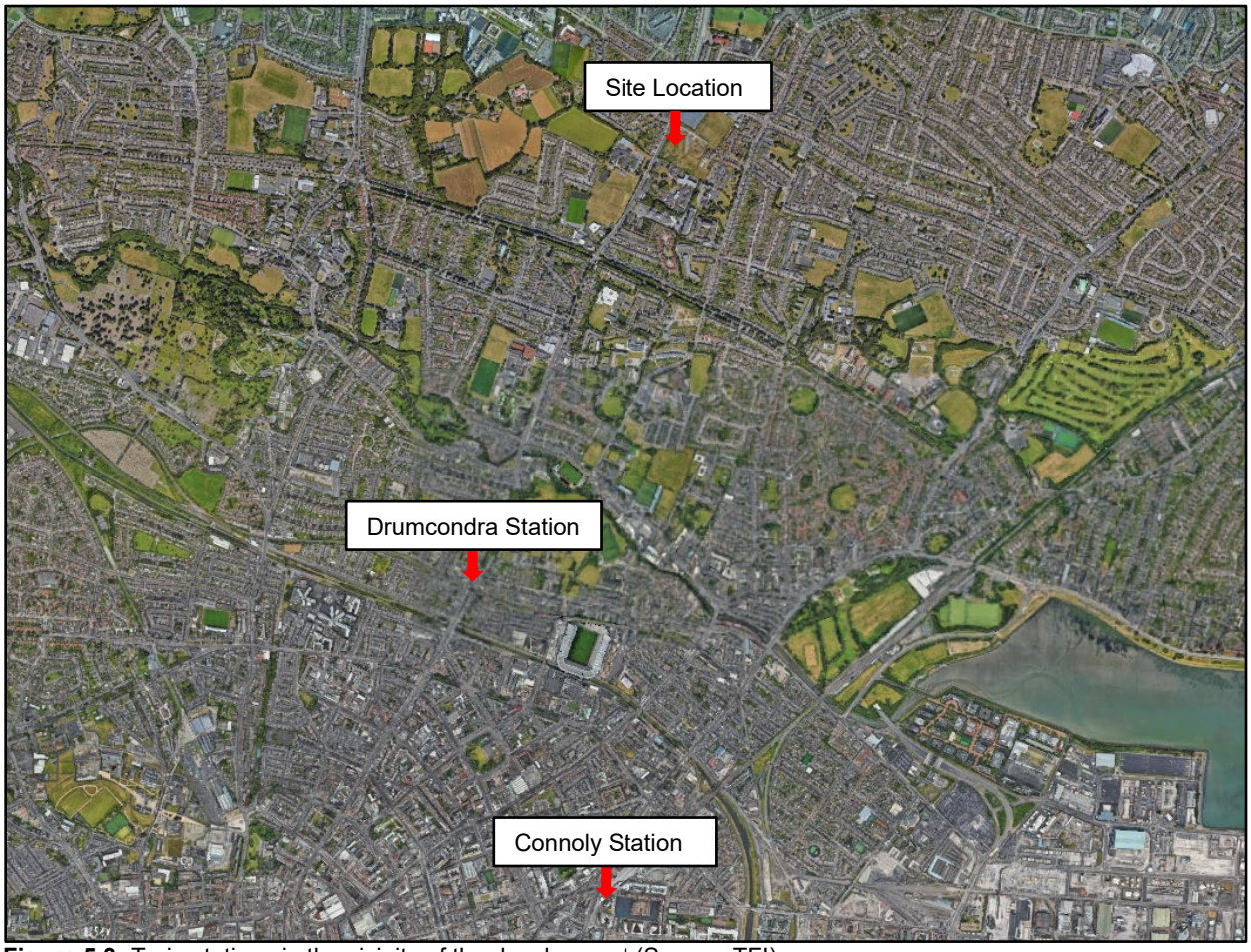

Figure 5.3: Train stations in the vicinity of the development (Source: TFI)

5.2 Cycle Audit

Currently the proposed site provides for dedicated cycle lanes within the scheme which join to existing infrastructure outside the scheme such as the cycle lane on Swords Road to the east. Cyclists are expected to share pathways with pedestrians to access the building. The proposed developments boasts 732 No. cycle parking spaces. However, the provided cycle parking spaces should adhere to the specifications outlined in Dublin City Development Plan 2022-2028. These specifications advise that the cycle parking should be 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 resulting in reduced pedestrian accessibility.

NTA GDA Cycle Network Plan consisting of the Urban Network, Inter-Urban Network and Green Route Network for each of the seven Local Authority areas comprising the GDA was adopted as part of the GDA Transport Strategy 2022-2042. A Primary Radial Route is proposed along Swords Road to the west of the site which provides access to Dublin city centre as well as other amenities. Additionally, a Primary Orbital Route is planned along Collins Avenue to the north of the site. Overall, the site is proposed to be very well connected with cycle infrastructure in the vicinity of the site, as shown in **Figure 5.4** overleaf.

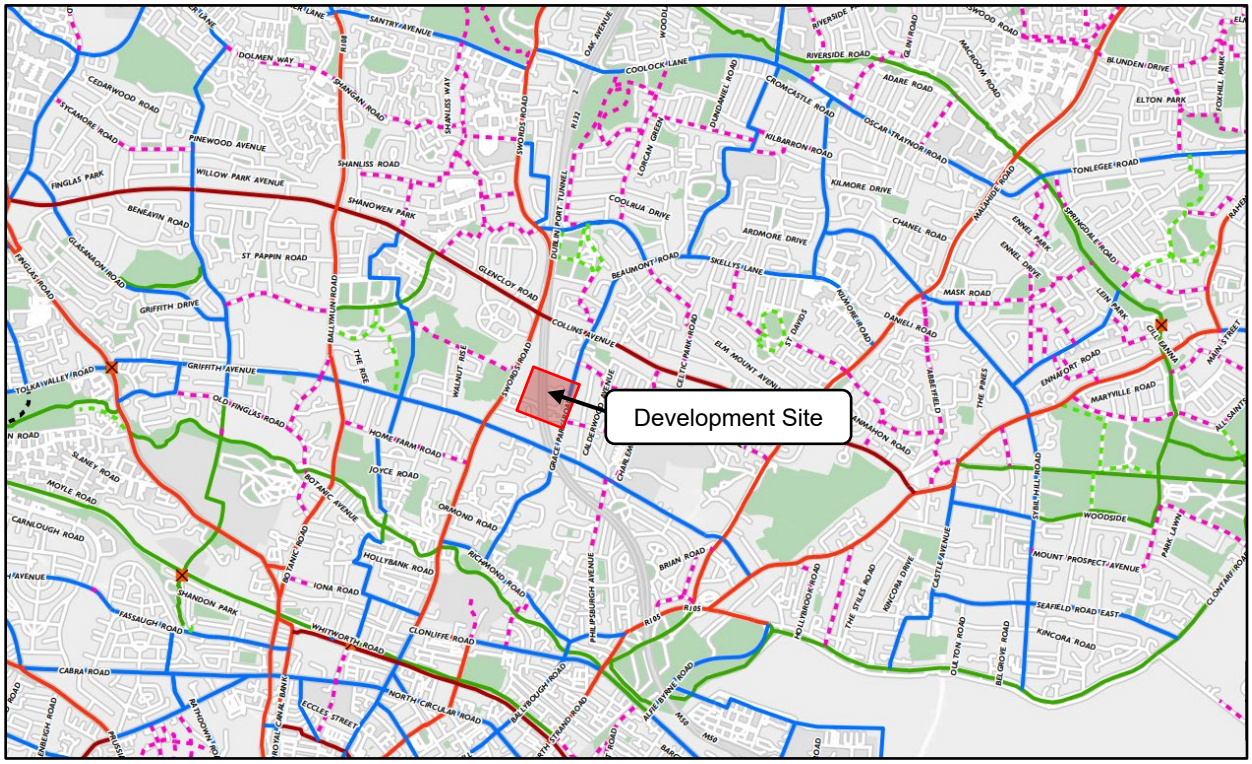

Figure 5.4: NTA GDA Cycle Network Plan in the vicinity of the development (Source: NTA)

6 Road Safety Audit

6.1 Introduction

This report documents the findings of a Stage 2 Road Safety Audit (RSA) carried out with respect to the proposed residential development at Hartfield Place located on the Swords Road, Whitehall, Dublin 9. The scope of the Road Safety Audit includes blocks A to E and the access road in front of Block F and G hatched in magenta in figure 2.2.

The audit team conducted the site visit on the 20th of August 2024. The audit was carried out in the offices of ORS on the 26th of August 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:
Ankita Kirtane B.Arch, MSc, MIEI

During the site visit the weather was clear and dry. The road surface was dry, and the traffic levels were noted to be moderate across the audit period.

The audit team reviewed the following documents and drawings provided by the design team.

(1) PE18138-CWO-ZZ-00-DR-A-0004-SITE PLAN - GROUND FLOOR REV P04
(2) PE18138-CWO-ZZ-00-DR-A-0005-SITE PLAN - LOWER FLOOR PLAN REV P04
(3) HARTPL-JOR-SM-ZZ-DR-0040-00 (Surface Water Drainage Layout) Rev 00
(4) HARTPL-JOR-SM-ZZ-DR-0050-00 (Wastewater Drainage Layout) Rev 01
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(11) 232306-PUNCH-XX-XX-DR-C-0603 Vehicle Swept Path Analysis Standard Car and Fire Tender Rev ----

Documents/Information not supplied:
- Collision Data
- Speed & Traffic Surveys
- Departures from Standards

- Visibility Splay Analysis.

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 PUNCH Consulting Engineers.

Section 6.2 of this report presents the findings of the Stage 2 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.

6.1 Collision History

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.

6.1.1 Potential Problems Identified

Problem No.1: Sightlines

Location: Locations Identified

The audit team note that there are no sightlines detailed on the proposed drawings for the development. However, on the day of the site visit it was noted that public lighting stands, utility poles, boundary fences and boundary walls/hedges appear to be within the line of sight of vehicles exiting the development reducing visibility at the locations identified. The audit team is concerned that inadequate sightlines and stopping distances could lead to sideswipe, side impact, or rear end shunt type collisions.

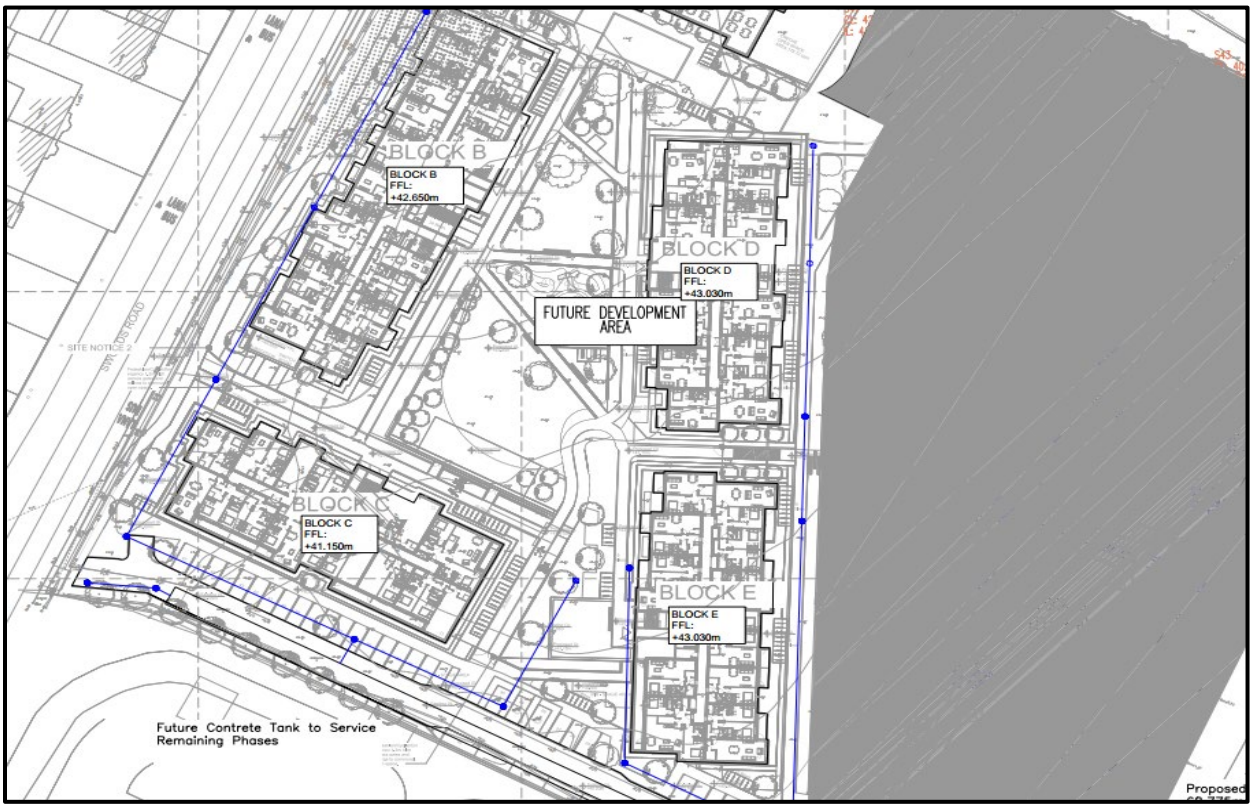
Recommendation:

The design team should ensure that clear visibility is provided in both directions and that visibility envelopes are clear of any obstacles such as street furniture and boundary walls.

Problem No.2: Speed Control Measures
Location: Throughout Scheme
The audit team note from the drawings provided, that there is limited speed control measures proposed within the scheme. The audit team are concerned that the layout as its currently presented could encourage higher speeds which could put vulnerable users within the development at risk. Should a collision occur there is a high risk of injury to the vulnerable user.

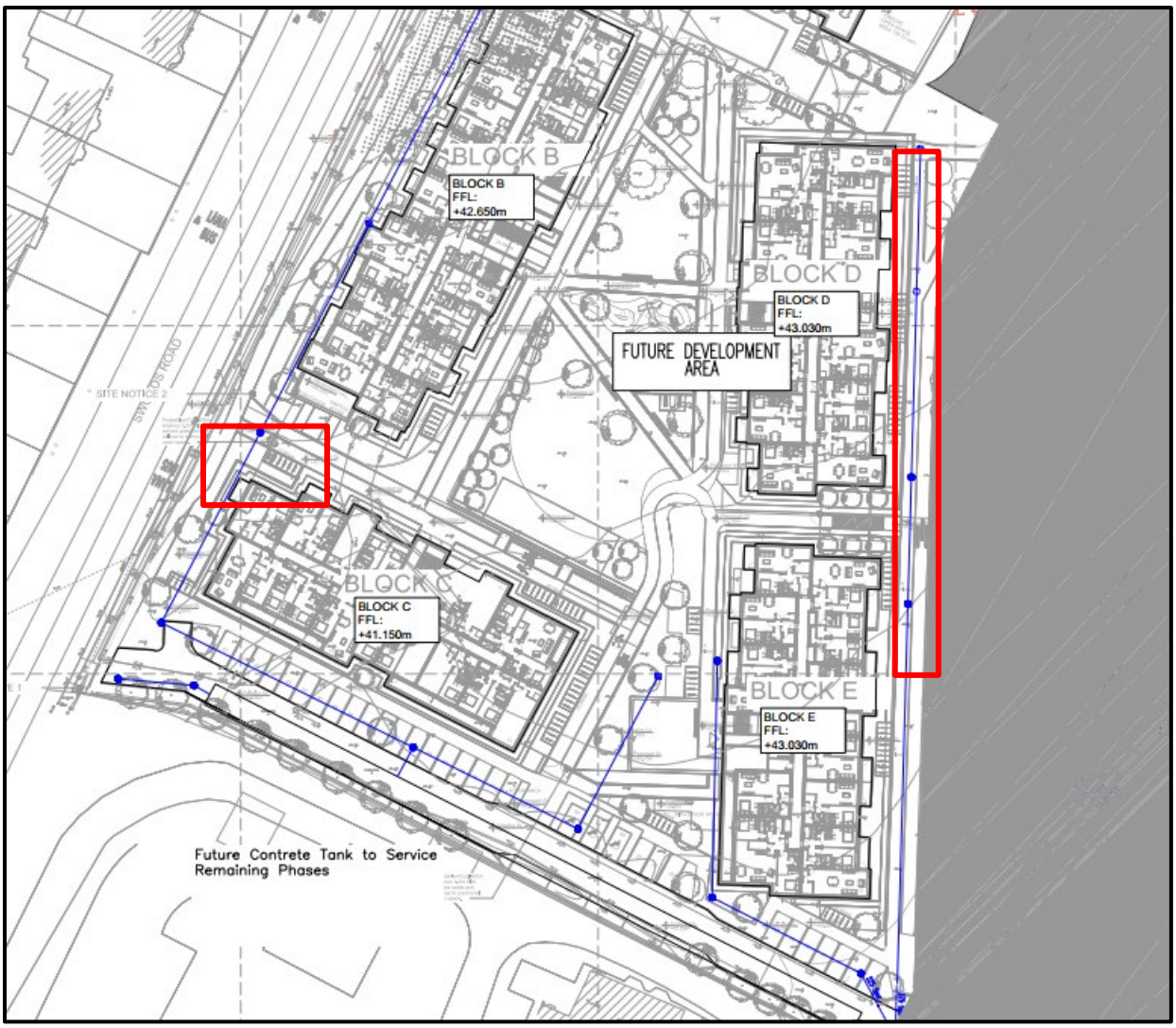
Recommendations:
The design team should ensure that appropriate speed control measures are incorporated within the development to reduced vehicular speeds.

Problem No.3: Drainage
Location: Throughout Scheme
The audit team note from the drawings that there are no provisions for drainage channels/ gullies. Inadequate provisions for drainage could lead to ponding in low lying areas of the development which could result in motorists losing control of their vehicles. This poses a risk to both pedestrians on the proposed footpaths and vehicle occupants.



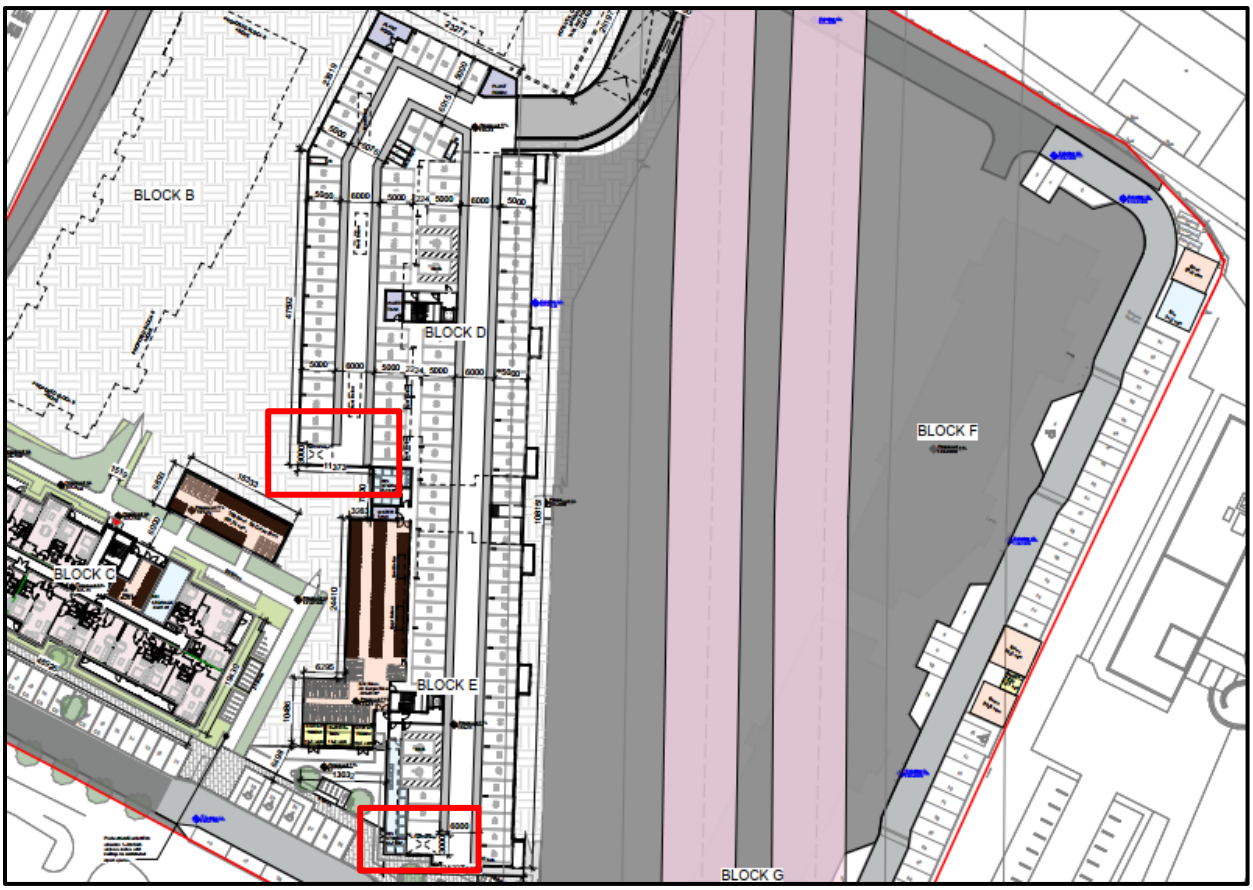
Recommendation:
The design team should ensure that details and locations of all drainage gullies etc, are provided for across the site and positioned strategically to avoid the risk of ponding across the site and at any proposed pedestrian crossing points of at any proposed ramps within the scheme.

Problem No.4: Manhole Locations
Location: Locations Identified
The audit team note from the provided drawings that drainage manholes are proposed within areas designated for pedestrian and cyclist movement. The proposed placement of drainage manholes raises concerns. If walkways are not kept clear of gratings, or channels, and are not level with the pavement surface or should the surface be slippery, it may pose challenges for cyclists, wheelchair users, and individuals with mobility aids, potentially resulting in trips and falls.



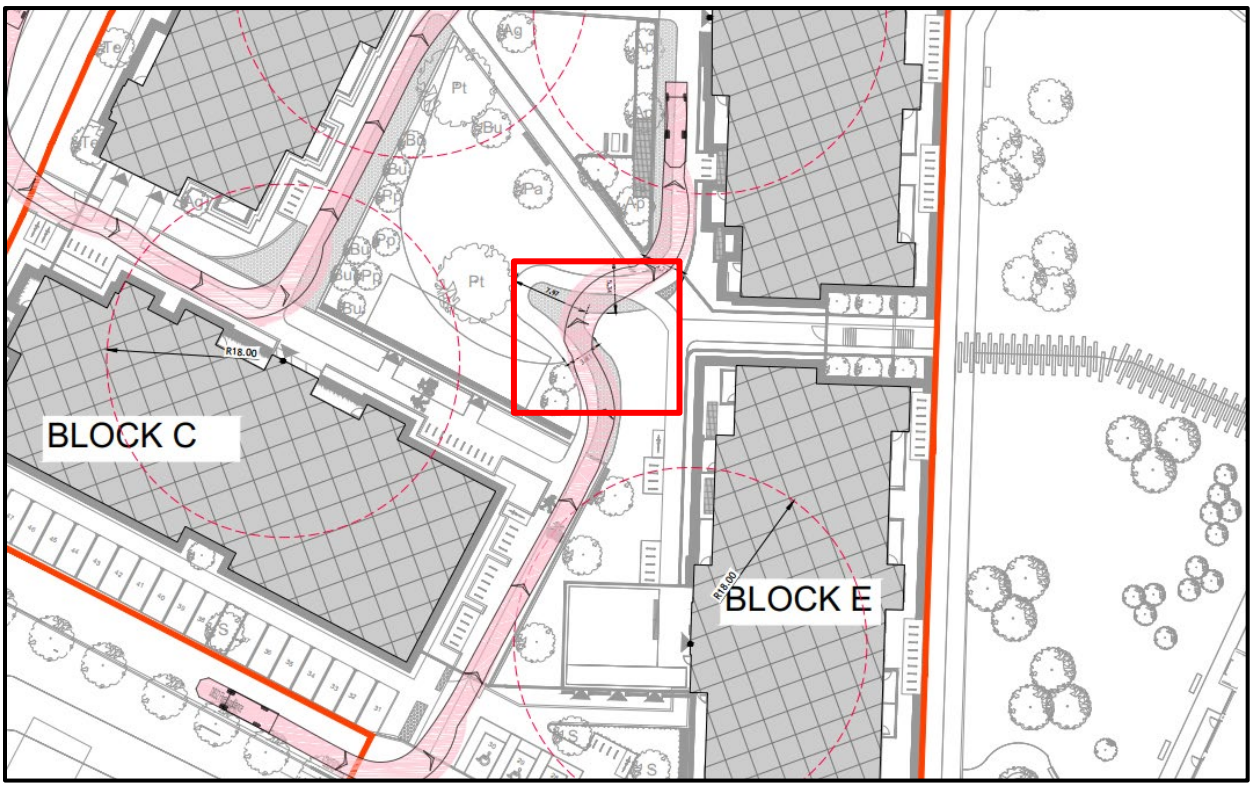
Recommendation:
The design team should ensure that manholes are strategically positioned to minimise obstruction to pedestrian movement and level with the surface to eliminate tripping hazards. The design team should also ensure that the manhole lids are covered with anti-slip surfacing.

Problem No.5: Turning bay identification
Location: Area Identified
The audit team note from the provided plans that turning area are proposed in the zones identified below. These areas are without preventative measures to deter illegal parking, which could compromise the ability of vehicles to safely manoeuvre and exit the car park. This lack of control may lead to an increased risk of potential conflicts among vehicles or vehicles conflicts with pedestrians as users may have to reverse excessive distances to exit the spaces, potentially resulting in injury.



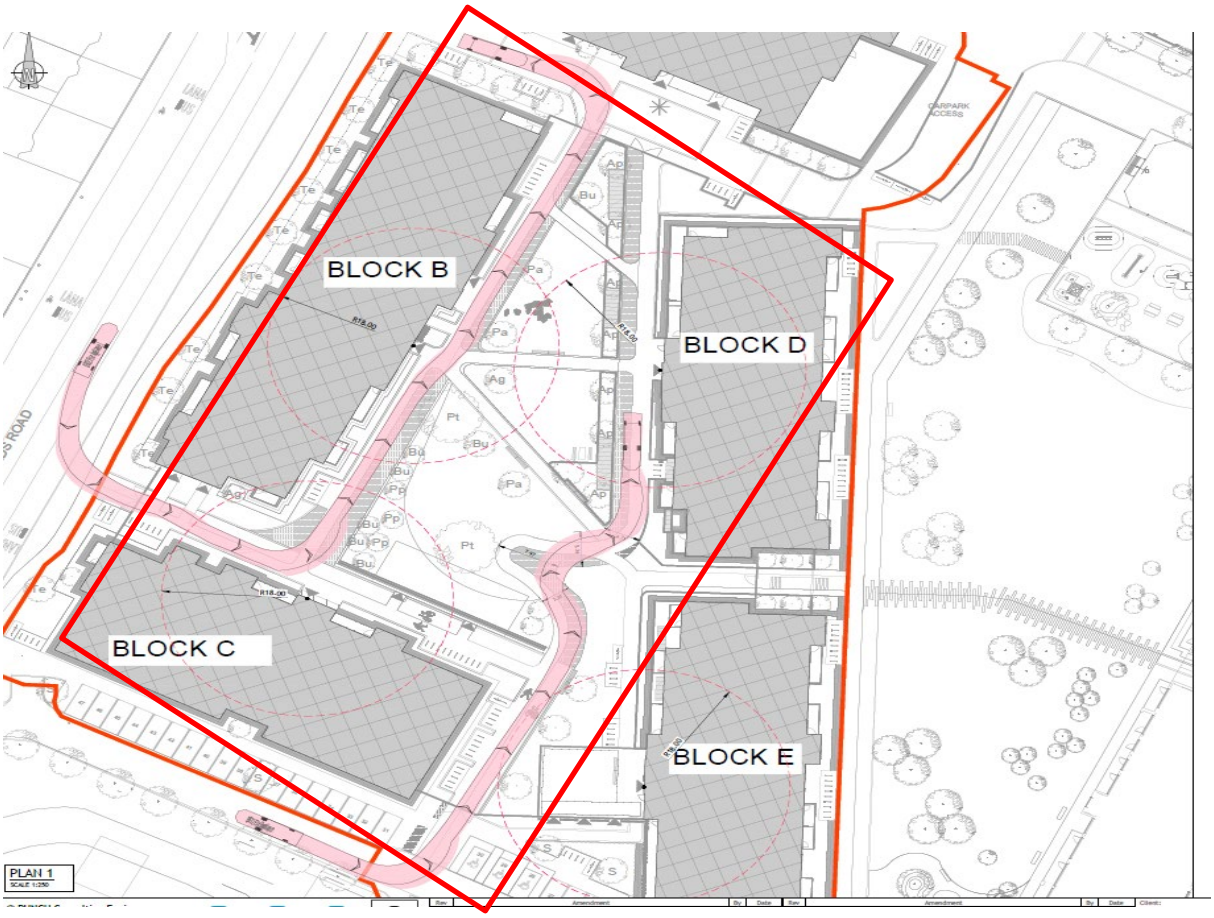
Recommendation:
The design team should ensure that appropriate road markings, such as yellow lines, or other preventative measures such as signage is implemented to clearly indicate no-parking zones.

Problem No.6: Auto Track Conflicts
Location: Location Identified
The audit team note that a fire tender swept path analysis is provided through areas designed for pedestrian/cyclist circulation. The audit team note that these areas are designed to accommodate fire tenders but are concerned the location of landscaping, and any proposed street furniture could impact the turning manoeuvre of the fire tender entering and exiting the area. An example of this is the fire tender seems to collide with public lighting column at the location identified.



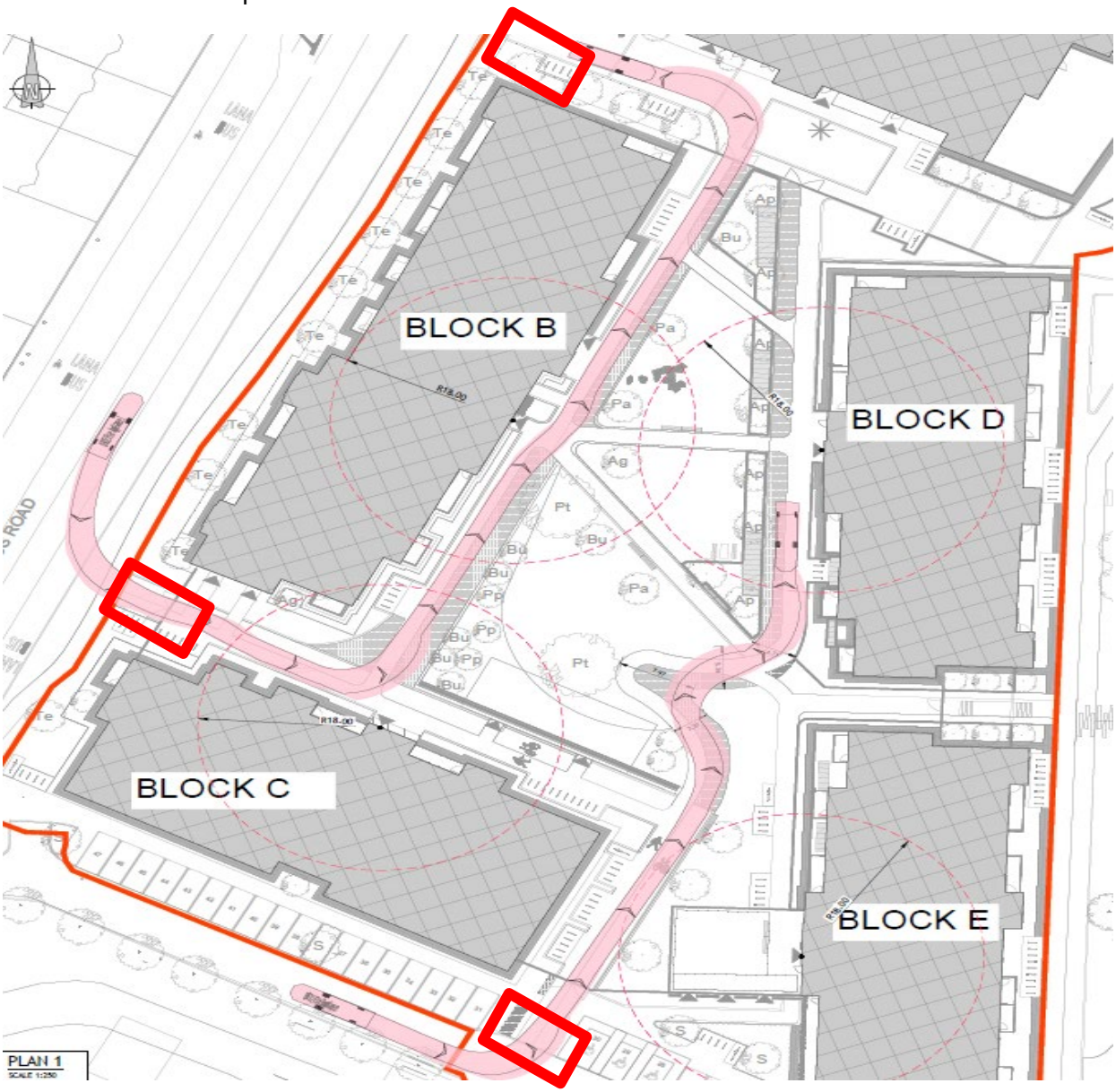
Recommendation:
The design team should ensure that public lighting, landscaping and street furniture do not impact the manoeuvrability of a fire tender.

Problem No.7: Surfacing/Width to Route to Fire Tender
Location: Location Identified
The audit team note that a fire tender swept path analysis is shown at the location identified. Having reviewed the landscaping plan, the audit team has concerns as to the suitability of the Braemore Flags to traffic loading especially fully laden fire tenders. The audit team has concerns as to the width of the routes in the event of fire to facilitate a fire tender.



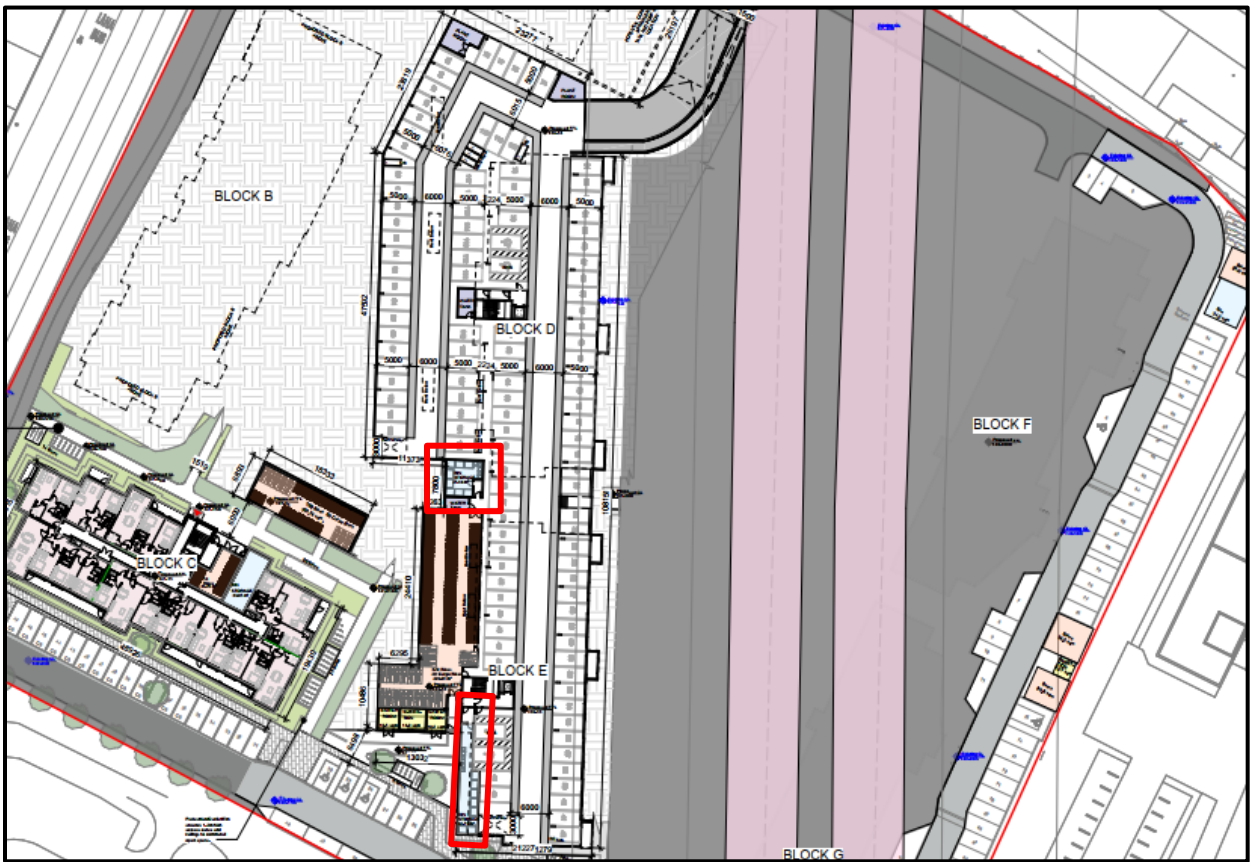
Recommendation:
The design team should ensure that appropriate materials and widths are provided for fire tender access.

Problem No.8: Emergency Services Access
Location: Location Identified
The audit team note that a fire tender swept path analysis is shown at the location identified. It is not clear from the drawings provided if there is a dropped kerb to facilitate access and exit from the site at the locations identified. A full height kerb would be a hazard to a vehicle having to access the development at these locations.



Recommendation:
The design team should provide appropriate dropped kerbs at these locations to facilitate emergency services access and ensure that the changes in gradient are not too abrupt for pedestrians.

Problem No.9: Refuge Pick Up
Location: Underground Carpark.
The audit team note that it is intended to provide bin storage areas in the underground car park. However, it is unclear how the refuge vehicle will access the bin storage areas. If the refuge vehicle is to enter the underground carpark, the audit team is concerned about the limited space and height as the refuge vehicle may not have sufficient height or space to manoeuvre and turn.

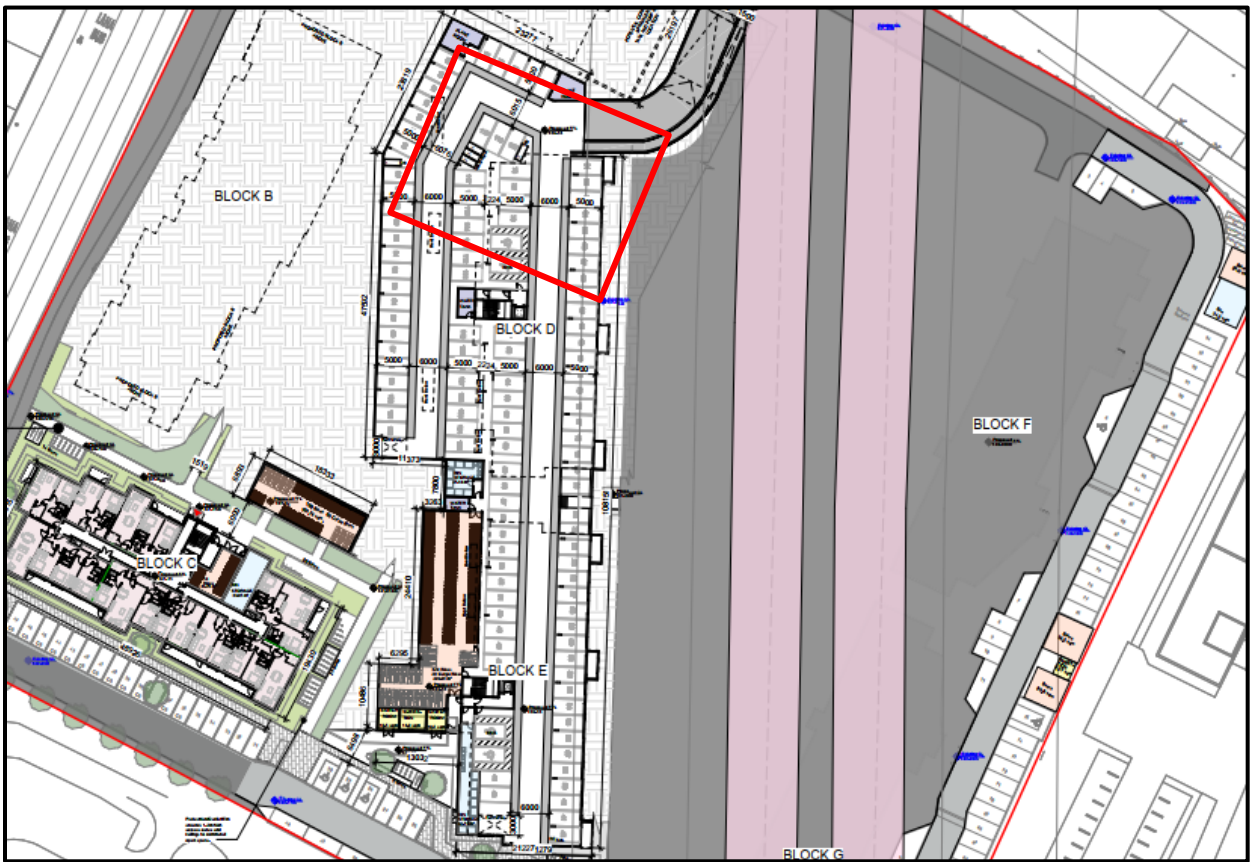


Recommendation:
The design team should ensure that the bin storage areas are easily accessible to prevent the need for a refuse vehicle to enter the underground car park, where space is limited.

Problem No.10: Dropped Kerbs at Accessible Car Parking Bay
Location: Location Identified
The audit team note that there does not appear to be dropped kerbs provided at the disabled parking space identified to allow access to the adjacent footpaths. Without dropped kerbs wheelchair users will have to travel along the roadway to locate a suitable location to mount the footpaths which heightens the risk of potential conflicts with vehicles on the main road.

Recommendation:
The design team should ensure that appropriate locations of dropped kerbs are provided for at the disabled parking spaces.

Problem No.11: Unclear Right of Way.
Location: Underground Carpark Junction
The audit team note that no signage or markings are present on the drawings in respect to the right of way at the internal underground carpark junction shown below. The audit team is concerned that a lack of clear road markings and signage could give rise to driver confusion and lead to vehicle-vehicle and vehicle-pedestrian collisions.



Recommendation:
The design team should ensure that appropriate road markings and signage are provided for at this location and in particular signage to indicate intended right-of-way and give-way instructions to vehicles at the access junction.

6.1.2 General Problems Identified

Problem No.12: Signage and Road Markings
Location: Throughout Scheme
The audit team noted that there is limited home zone signage, regulatory signage or road markings on the drawings provided. Signage and road markings aid in, informing road users of the direction of travel and the presence of vulnerable road users and ramps. The lack of adequate signage and road markings in this case may result in conflicts of vehicles with vulnerable users and vehicles with other vehicles.

Recommendation:
The design team should ensure that signage and road markings are provided in line with DMURS and the applicable Traffic Signs Manual.

Problem No.13: Landscaping
Location: Internal Site Layout
The audit team note from the drawings provided that proposed landscaping within the development may impact the visibility of road users if positioned inappropriately. Trees, high bushes, and shrubbery should be avoided in areas where visibility is to be maintained to ensure that drivers are clearly able to see approaching vehicles and pedestrians at junctions and designated pedestrian crossing locations. This could potentially lead to instances of vehicle-vehicle or pedestrian-vehicle collisions resulting in injury.

Recommendation:
The design team should ensure that any proposed landscaping does not impact on visibility of the internal roads and junctions or forward visibility at the proposed pedestrian crossings.

Problem No.14: Lack of Dimensions
Location: Proposed Scheme
The audit team note from the drawings provided, that there is a lack of dimensions on the drawings. Roadway widths, corner radii, footpath widths are not detailed on the drawings. Inadequate infrastructure geometry may create an increased risk of potential conflicts for both vulnerable road users and motorists.

Recommendation:
The design team should ensure that adequate roadway widths, corner radii, footpath widths are detailed on the drawings.

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.

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

Signed: 

Date: 30th August 2024

Audit Team Member: Mark Gallagher, MIEI
ORS

Signed: 

Date: 30th August 2024

Audit Team Observer: Ankita Kirtane: B.Arch, MSc, MIEI
ORS

Date: 30th August 2024

Appendix A – Inspected Documents

The audit team reviewed the following documents and drawings provided by the design team.

(1) PE18138-CWO-ZZ-00-DR-A-0004-SITE PLAN - GROUND FLOOR REV P04
(2) PE18138-CWO-ZZ-00-DR-A-0005-SITE PLAN - LOWER FLOOR PLAN REV P04
(3) HARTPL-JOR-SM-ZZ-DR-0040-00 (Surface Water Drainage Layout) Rev 00
(4) HARTPL-JOR-SM-ZZ-DR-0050-00 (Wastewater Drainage Layout) Rev 01
(5) HARTPL-JOR-SM-ZZ-DR-0060-00 (Watermain7 Layout) Rev 01
(6) 7335-PHL-ZZ-00-DR-L-1001 Ground Floor Landscape Plan Rev 03
(7) D2419-IN2-SW-00-DR-E-0101 Electrical Services Layout REV P01
(8) D2419-IN2-SW-00-DR-E-0110 Site Lighting Isoline Layout REV P01
(9) 232306-PUNCH-XX-XX-DR-C-0601 Vehicle Swept Path Analysis 8.68m Fire Tender Rev ----
(10) 232306-PUNCH-XX-XX-DR-C-0602 Vehicle Swept Path Analysis 12m Fire Tender Rev ----
(11) 232306-PUNCH-XX-XX-DR-C-0603 Vehicle Swept Path Analysis Standard Car and Fire Tender Rev ----

Appendix B – Designer Response Form

Job: 241227 – Hartfield Place, Swords Road, Dublin
Stage of Audit: Stage 2
Date Audit Completed: 26/08/2024

Problem Reference in Safety Audit Report	To Be Completed by the Designer			To be Completed Audit Team Leader
	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		
P7	Yes	Yes		
P8	Yes	Yes		
P9	Yes	Yes		
P10	Yes	Yes		
P11	Yes	Yes		
P12	Yes	Yes		
P13	Yes	Yes		
P14	Yes	Yes		

Signed:..... Designer Date: 24/09/2024

Signed:..... Audit Team Leader Date: 24/09/2024

Signed:..... Employer Date: 24/09/2024

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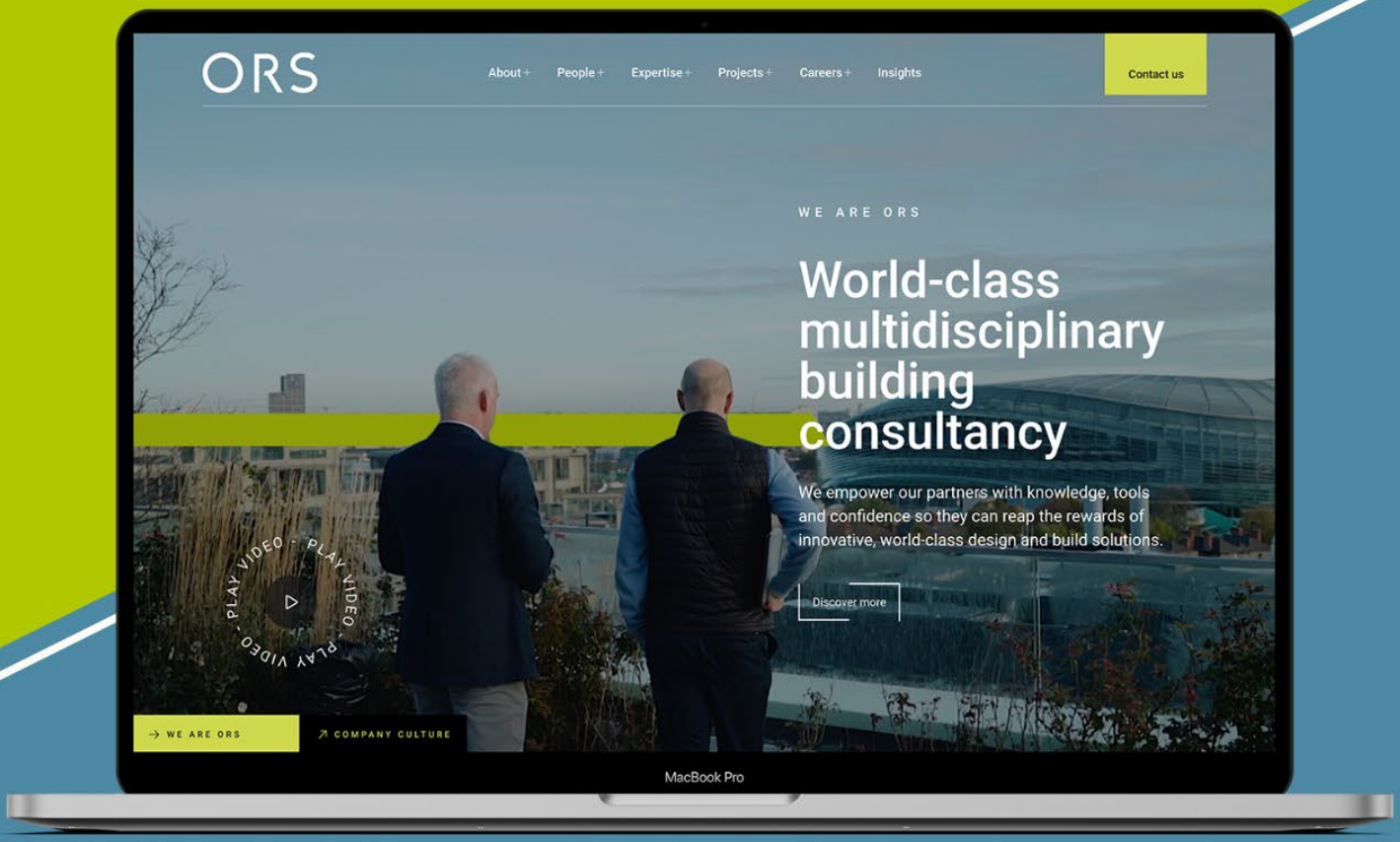

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