

Sector 3, Aiken's Village, Stepaside, Co. Dublin

Quality Audit

Ironborn Real Estate Ltd.

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Quality information

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1 Introduction

1.1 Overview

AECOM has been commissioned by Ironborn Real Estate Ltd. to prepare a Quality Audit (QA) in support of a Strategic Housing Development (SHD) application to An Bord Pleanála (ABP) on an infill/brownfield site located in Sandyford, Co. Dublin.

This Quality Audit includes the following audits:

- Stage 1 Road Safety Audit;
- Access Audit;
- Cycle Audit; and
- Walking Audit.

This Quality Audit aims to demonstrate that appropriate consideration has been given to all relevant aspects of the development in accordance with the Design Manual for Urban Roads and Streets (DMURS).

The development will consist of: -

438no. 'Build-to-Rent' apartment units (154no. 1 bedroom units and 284no. 2 bedroom units) arranged in 9no. blocks ranging in height from 2 – 8 storeys over 2no. independent single level basements. Private patios / terraces and balconies are provided for some apartment units (not all units have a patio, terrace or balcony). Upper level balconies are proposed on elevations of all multi-aspect apartment buildings.

- Blocks A – D are located above Basement 1 (c. 6,002 sq. m gross floor area) and Blocks F – J are above Basement 2 (c. 5,058 sq. m gross floor area).
- Provision 1no. childcare facility (c. 514.9 sq. m gross floor area) in Block D.
- Provision of resident amenity space / communal areas (c. 1,455.7 sq. m gross floor area) in Block C and Block G.

And all associated and ancillary site development, infrastructural, landscaping and boundary treatment works including: -

- New vehicular access to / from Basement 1 from Atkinson Drive and new vehicular access to / from Basement 2 from Thornberry Road.
- Provision of c. 9,799 sq. m public open space, including a public plaza onto Village Road and improvement works to existing open space area to the north of existing Griannan Fidh residential development.
- Provision of 350no. car parking spaces including basement parking, set down spaces for proposed childcare facility and repositioning of set down area on Atkinson Drive.
- Provision of 669no. bicycle parking spaces.
- Provision of 14no. motorcycle parking spaces.
- Communal bin storage and plant provided at basement level and additional plant provided at roof level.
- Provision of below ground wastewater storage tank (c. 500m³) and associated connection to the wastewater networks including ancillary above ground kiosk and appropriate landscaping on open space lands to the south of Griannan Fidh residential development.

The report will be broken down into a number of sections, including a short site description and results of the Access Audit, Cycle Audit and Walking Audit.

The Audits will assess how the proposed scheme provides for all road users. From the results of the four audits a number of proposals will be put forward to improve conditions for vulnerable road users (pedestrians, cyclists, motorcyclists, children and elderly citizens).

The members of the Audit Team were:

Audit Team Leader:

Brian McMahon, BE MSc CEng MIEI

Principal Engineer, AECOM

Audit Team Member:

Conor Luttrell, BEng, CEng MIEI

Senior Consultant, AECOM

The audits comprised an examination of the proposed scheme drawings/documents obtained from AECOM, as detailed in **Appendix A** of this report. The audit was carried out in August 2022. A site visit was previously carried out by members of the team on the 5th December 2019 and there have been no changes to the context in the interim period.

This Audit has been carried out in accordance with the DMRB (UK) Section 5 Part 2 HD45/02 Non-Motorised User Audits, the relevant sections of Transport Infrastructure Ireland guidance GE-STY-01024 December 2017 for Road Safety Audits, in addition to respecting the requirements of the Access Audit, Cycling Audit and Walking Audit.

The problems identified and described in this report are considered by the Audit Team to require action in order to improve accessibility, enhance comfort and safety levels of the scheme and minimise risk of collision occurrence.

The following documents were provided by the Design Team, with the full list of drawings outlined in **Appendix A**:

- PR-424832-ACM-00-GF-DR-CE-00-0001 Proposed General Arrangement
- PR-424832-ACM-00-GF-DR-CE-00-0002 Proposed Basement Arrangement
- PR-424832-ACM-00-GF-DR-CE-00-0101 Proposed Visibility Splay
- PR-424832-ACM-00-GF-DR-CE-00-0102 Autotrack Analysis

It should be noted that the audit team have not been provided with information relating to the following items and therefore cannot comment on their appropriateness or safety: -

- Drainage;
- Public Lighting; and
- Vertical/Horizontal Cross Sections.

The audit team recommends these items should be subject to audit at detailed design stage.

1.2 Scope of Quality Audit

The geographical scope of this Quality Audit has been assumed to consider the subject development site (extent of proposed new infrastructure works within the site boundary) and the proposed site access/egress locations. In addition, the immediate pedestrian/cycle/vehicular routes leading to/from the development site have also been included within the Quality Audit.

1.3 Quality Audit Procedure

The definition of a Quality Audit is provided within the Department for Transport (UK) Traffic Advisory Leaflet 5/11 "Quality Audit", and states: -

"QA is a defined process, independent of, but involving, the design team, that through planning, design, construction and management stages of a project, provides a check that high quality places are delivered and maintained by all relevant parties, for the benefit of all end users. QA is a process, applied to highway, traffic management or development schemes, which systematically reviews projects using a series of discrete but linked evaluations and ensures that the broad objectives of a place, functionality, maintenance and safety are achieved."

The Design Manual for Urban Roads and Streets (DMURS) states that *"the intention of a Quality Audit is not to pass or fail a design rather it is intended as an assessment tool that highlights the strengths and weaknesses of a design and a documented process of how decisions were made."*

Quality Audits are a relatively new process within Ireland and as such no formal detailed guidance has been published here to date. Accordingly, until the publication of such guidance in Ireland, AECOM continue to use our internally derived Quality Audit report structure which has been compiled in reference to international best practice

guidance including, amongst others, the Department for Transport (UK) Traffic Advisory Leaflet 5/11 "Quality Audit", and the CIHT document "Manual for Streets 2". Through the adoption of the guidance detailed within the aforementioned documents, AECOM submit that this Quality Audit complies fully with the requirements introduced in DMURS.

For developer led schemes the Quality Audit is an integral element of the development team approach through which all relevant disciplines contribute to the planning process. The Quality Audit seeks to identify a set of clear, agreed outcomes and recommendations that are fed back into the design process through discussion and agreement with the relevant parties of the design team (e.g. architects, planners, engineers etc.). The Quality Audit process is summarised in **Figure 1.1** below.

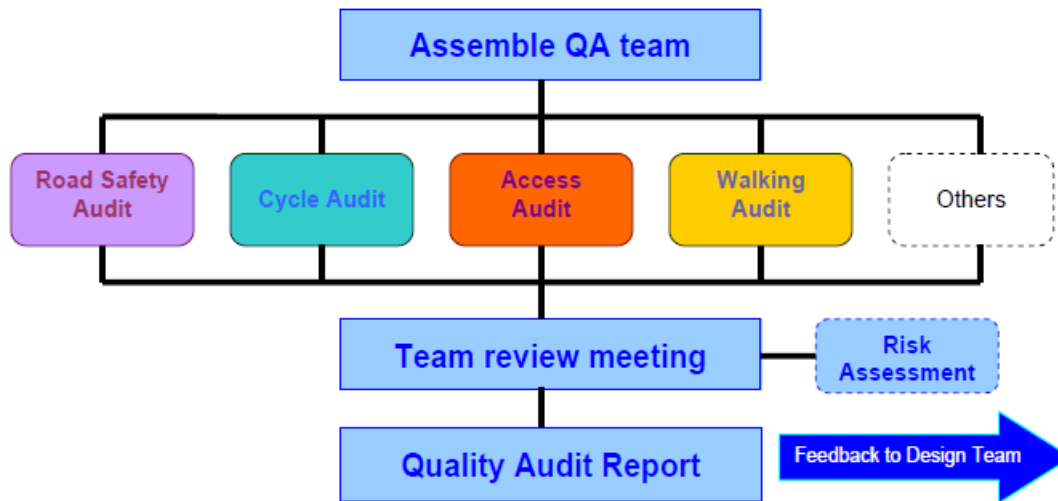


Figure 1.1: Quality Audit Process (Source: DoT, UK)

1.4 Departures from Standard

No departures from standards have been notified to the audit team.

2 Site Location

2.1 Overview

The development site is on a brownfield site located in Aikens Village in Stepside, Co. Dublin. The site is bound to the north by an existing housing estate fronting onto Thornberry Road, to the east by open space and an existing housing estate Ferncarrig Avenue, to the west by Atkinson Drive, to the south by Village Road and to the southwest by an existing residential development, Grianan Fidh.

Two vehicular accesses are proposed into the basement carpark; an access off Atkinson Drive and a separate access off Thornberry Road. Pedestrians can access the site from a number of locations while there is a shared access for cyclists from Village Road and Thornberry Road.

The location of the site is illustrated below in **Figure 2.1**.



Figure 2.1: Site Location

2.2 Site Observations

As mentioned in Section 1.1, a site visit was undertaken on Thursday 5th December 2019. A number of site observations were noted. These observations are discussed below under a number of key headings.

2.2.1 Road Geometry

- Atkinson Drive is a two-way carriageway with a 20 km/h speed limit and serves an existing housing estate to the north of the development site.
- There is a parking layby located along the east side of Atkinson Drive adjacent to the proposed development site.

- Thornberry Road forms a junction with Atkinson Drive and bounds the site to the north. This road is approximately 4.5m in width and serves dwellings located on Thornberry Close and Thornberry Drive.
- Village Road, which bounds the development site to the south, forms a junction with Atkinson Road. This is the main access road through Aikens Village where it serves a number of residential estates.
- Village Road is a two-way carriageway with a speed limit of 50 km/h.
- There are two bus laybys located on both sides of Village Road approximately 30m to the west of its junction with Atkinson Drive.
- Access to Cluan Shee residential development is located off Village Road opposite the proposed development site.



Figure 2.2 Atkinson Drive



Figure 2.3 Thornberry Road

2.2.2 Vehicular Traffic

- Traffic flows during the site visit were negligible.
- The speed limit on Village Road within the Audit Area is 50km/h while the speed limit on Atkinson Drive and Thornberry Road was 20km/h. From the observations during the site visit motorists appeared to obey the speed limit.

2.2.3 Pedestrians and Cyclists

- There is a 2m wide footpath along the east side of Atkinson Drive where it bounds the proposed development site.
- There is a 1.5m wide footpath along the north side of Thornberry Road.
- There are footpaths and off-road cycle tracks along both sides of Village Road. There are dropped kerbs and tactile paving provided at all crossing points/junctions.
- There is an off-road shared pedestrian/cycle path linking Village Road and Ferncarrig Avenue to the south of the site.



Figure 2.4 Junction between Thornberry Road and Atkinson Drive



Figure 2.5 Informal crossing at the junction between Village Road and Atkinson Drive



Figure 2.6 Shared pedestrian/cycle path along the site's frontage with Village Road



Figure 2.7 Shared path between Village Road and Fencarrig Avenue

2.2.4 Street Lighting

- Street lighting is provided along Village Road, Atkinson Drive and Thornberry Road.
- The site visit was carried out during daylight hours; lighting levels at the site during darkness hours were therefore not observed.

2.2.5 Collisions

A review of the Road Safety Authority (RSA) traffic collision database has been undertaken for the road network in the vicinity of the proposed site to identify any collision trends. This review will assist to identify any potential safety concerns in relation to the existing road network.

Traffic collision data was obtained for the 11-year period 2005 – 2016, which is the most recent data available from the RSA website. Upon inspection there have no reported collisions along the Village Road in the vicinity of the subject site. The analysis is shown in Figure 2.8.

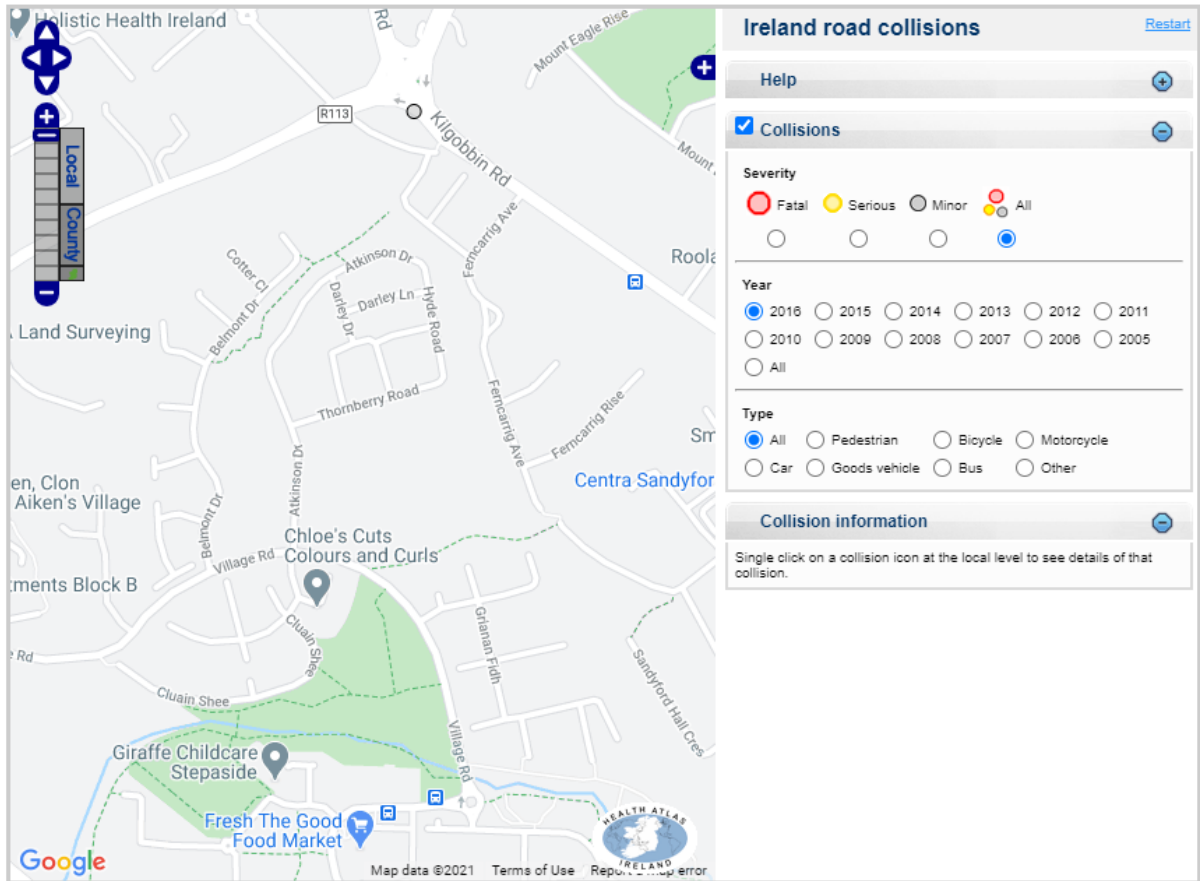


Figure 2.8 Road Collisions (2005-2016) in vicinity of the study area (Source: www.RSA.ie)

3 DMURS Street Design Audit/Access Audit

3.1 Overview

The Street Design and Access Audit identifies a range of barriers that potentially restrict access for mobility impaired road users in the external built environments.

For the purposes of the access assessment, the environment's features have been broken down into its constituent features. Each feature is assessed for conformity against certain access criteria. These criteria are derived from the following range of Best Practice sources, guidelines, standards, publications and legislation:

- The Disability Act 2005 and related Sectoral Plans
- Building Regulations 2000, Technical Guidance Document M – Access for People with Disabilities (Department of the Environment, Heritage and Local Government)
- Buildings for Everyone – Access and use for all citizens (National Disability Authority)
- Access to the Historic Environment – Meeting the needs of Disabled People (Lisa Foster)
- Traffic Management Guidelines (Irish Government Publications 2003)
- Design Manual for Urban Road and Streets (Department of Transport, Tourism and Sport)
- Access Auditing of the Built Environment guidelines (National Disability Authority)
- British Standards Institute BS8300:2001 and BS5588
- Inclusive Mobility – A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure (Department of Transport United Kingdom)
- Guidance on the use of Tactile Paving Surfaces: UK Department for Transport

Where a site feature does not conform to this guidance, an explanation as to the potential restriction on access is provided, together with a suggested action and the priority in which such actions should be undertaken.

The Disability Act 2005 and the National Disability Authority's initiatives build on relationships and practices which currently exist among councils, city planners, building professionals and community groups to make services in Ireland more accessible to people with mobility impairments.

In addition to people who use wheelchairs or have restricted mobility, there are many people affected by some degree of hearing loss, visual impairment or conditions such as arthritis. This access assessment considers the needs of all potential users from a universal access perspective.

The audit is an organisation's first step in identifying physical barriers that mobility impairment road users may encounter when engaging with the community, public services and facilities.

3.2 Paths and Pavements in Streets, Roads and Public Areas

Streets, Roadways and Access for vehicle routes should have a footway/pedestrian route provided for the safety of pedestrians particularly in cities, built-up urban areas, developed towns and village environments. The following access routes were identified as having footways or pedestrian paved areas:

- Atkinson Drive
- Thornberry Road
- Village Road
- Internal Network

3.2.1 Atkinson Drive

There is a 1.8m wide footpath proposed along the east side of Atkinson Drive. This footpath will link with footpaths proposed along the south side of Thornberry Road and the north side of Village Road. Dropped kerb crossings with tactile paving will be provided at the junctions with Thornberry Road and Village Road. Dropped kerbs and tactile paving will also be provided across the vehicular access to the basement car park.

A layby for refuse vehicles will be provided on Atkinson Drive to the south of the vehicular access to the basement carpark. The existing layby will be relocated slightly to the south in order to achieve the required level of visibility from the basement access.

3.2.2 Thornberry Road

There is a 2m wide concrete footpath along the south side of Thornberry Road. This footpath will link with the footpath on Atkinson Drive. A dropped kerb crossing with tactile paving will be provided at the junction with Atkinson Drive. Dropped kerbs and tactile paving will also be provided across the vehicular access to the basement car park.

3.2.3 Village Road

There will be a shared access to the site for pedestrians and cyclists from Village Road. This will link with the existing footpath and off-road cycle facilities on Village Road.

3.2.4 Internal Network

A 4m wide shared path will be provided through the site for NMUs and will link Village Road and Thornberry Road.

Another pedestrian path will also be provided along the south boundary of the site from the Village Road access and will connect with future shared facilities at the south and east boundaries of the site.

Further shared facilities for pedestrians and cyclists will be provided across the site providing access to the residential units and creche.

Ref	Feature	Conforms	Access Comment	Action
D1	Are the Footways and Pavings a minimum of width of 1500mm? DMURS would suggest that 1800mm is the minimum space for two people to pass each other comfortably (1800 to 2000mm minimum width in High Volume Pedestrian areas)	Yes	No action required.	
D2	Is the main footway route clear of hazards that would impede wheelchair access or be a trip hazard to visually-impaired pedestrians?	No	See 5.1.1.7 and 5.1.1.2 of walking audit below	An alternative means of access should be provided where steps are present on site, such as a ramp with appropriate gradients and handrails, in accordance with the <i>Building for Everyone</i> . The footpath near the existing parking on Thornberry Road should be redesigned to direct pedestrians away from the trip hazard of the kerb and the parking area.
D3	Are pavement surfaces free of excessive joints or cracks that would impede wheelchair access	Unknown	Further information to be provided by design team.	

	or be a potential trip hazard to visually-impaired pedestrians?			
D4	Is the main footway route clear of obstacles mounted more than 300mm above the ground and jutting out into the access route by more than 100mm?	Unknown	Further information to be provided by design team.	
D5	Is the footway route clear of abrupt changes in level with cross falls or adverse cambers being more than 1:40 (2.5%)?	Unknown	Further information to be provided by design team.	
D6	Is the footway route clear of physical obstructions or windows, doors and gates that open onto the access route which present a potential hazard?	Yes	No Action required.	
D7	Is the main pavement route clear of loose gravel, stones and poor surface conditions that would impede access for wheelchair users or mobility-impaired pedestrians?	Yes	No Action required.	
D8	Are the footway and pedestrian routes free of headroom hazards less than 2300mm height clearance (absolute minimum 2100mm) above ground level? (e.g.: signs, lighting, hanging planters or traders' goods)	Unknown	Further information to be provided by design team.	
D9	Is the access route free from any trip, slip or stumble hazards for visually impaired or blind pedestrians?	Yes	No Action required.	
D10	Is the paving and footway free of advertising hoardings and 'A' Boards?	N/A		
D11	Is the paving and footway route free of temporary building works, hoardings, construction works or roads and pavement maintenance hazards?	N/A		
D12	The footway route should be free of overgrown tree branches, hedges and vegetation giving clear headroom of 2300mm and not encroaching from the side?	No	The trees along Thornberry Road appear to be encroaching on the footpath. Trees proposed in the main pedestrian plaza may cause obstruction.	The applicant should revisit the landscaping and ensure that the height of the tree does not obstruct pedestrian movement.
D13	Cycle Track or Cycle Lanes provided where shared or immediately adjacent to the	Yes	No action required.	

	dedicated footway or paving area for pedestrians			
D14	Is the street and pedestrian movement environment or public areas adequately covered for lighting at night?	Unknown	Further information to be provided by design team.	

3.3 Uncontrolled Pedestrian Crossings

Uncontrolled crossings include less formal types such as courtesy crossings and/or those identified by a dropped kerb.

There are a number of uncontrolled pedestrian crossings proposed around the development as follows:

- Dropped kerb crossing with buff coloured tactile paving across Thornberry Road at its junction with Atkinson Drive
- Dropped kerb crossing with buff coloured tactile paving across Atkinson Drive at its junction with Village Road
- Dropped kerbs and tactile paving will also be provided across the two vehicular accesses to the basement car park from Atkinson Drive and Thornberry Road.

There are no uncontrolled pedestrian crossings noted on Village Road in the vicinity of the site.

Ref	Feature	Conforms	Access Comment	Action
D15	Does the Uncontrolled Crossing and dished kerbs have an unobstructed width of 1200mm?	Yes	No Action Required.	
D16	Are the kerbs to the crossing reduced or lowered to form a dished kerb of maximum approach gradient of 1:12 and free of edge lips in excess of 6mm?	Unknown	Further information to be provided by design team.	
D17	Is there a clear radius of at least 1800mm in which to circulate (i.e. the turning circle) at the junctions of the crossing with both footways on either side?	Yes	No Action Required.	
D18	Are the footway approaches to the crossing free from obstructions including posts, signs, utilities boxes, litter bins, etc?	Yes	No Action Required.	
D19	Are the footway approaches to the crossing provided with Tactile Blistered paving, yellow, fawn or buff coloured and to a minimum approach depth of 800mm from the kerb edge?	No	See 5.1.1.6 of the Walking Audit	Tactile paving should be added to either side of the basement entrance to assist with visually impaired pedestrian crossing the access junction.
D20	Is the crossing free of gratings, drains and culverts that would cause hazards to mobility impaired pedestrians or wheelchair users?	Yes	No Action Required.	

D21	Are the Pedestrian viewing points at the Crossing free from obstructions causing blind spots? (i.e.: parking encroachments, fences, walls, railings and advertising signs, etc)	Yes	No Action Required.	
D22	Is the Crossing environment or area adequately covered for lighting at night?	Unknown	Further information to be provided by design team.	

3.4 Controlled Pedestrian Crossings

There were no controlled pedestrian crossings identified within the area of the Audit.

Controlled Crossings are defined as Priority positions for pedestrians to cross the roadway, junction area or high-volume vehicle access route onto the street, these crossing points would be positioned by design.

The type of crossing (i.e.; Pelican, Junction Prioritized or Zebra) would be determined by the volume of traffic, both pedestrian and vehicles: a specific design criteria in Traffic Management must be adopted and calculated for each location proposed for a controlled crossing.

Creating formal Controlled Crossing points to roads and streets requires pre-planning and design to ensure the crossing is correctly positioned for least safety hazard, (i.e.: vision, footway width, ramps and adverse cambers)

A Controlled Crossing for accessibility should have 2400mm wide Dished or Dropped kerbs levelling to 6mm or less at the road, a maximum approach ramp of 1:12 and Blister type tactile paving in Red to indicate the crossing position and direction of travel, tactile paving must extend back the full width of the pavement, control buttons for pedestrians must be appropriately positioned and easy to operate, audible and 'walk-now' signalling for pedestrians provided and good street lighting should be provided for both drivers and pedestrians in and around the crossing point.

Ref	Feature	Conforms	Access Comment	Action
D23	Is the type of Controlled Crossing provided appropriate for the type of use?	N/A		
D24	Does the Controlled Crossing and dished kerbs have an unobstructed width of 2400mm?	N/A		
D25	Are the kerbs to the crossing reduced or lowered to form a dished kerb of maximum approach gradient of 1:12 and free of edge lips in excess of 6mm?	N/A		
D26	Is there a clear radius of at least 1800mm in which to circulate (i.e. the turning circle) at the junctions of the crossing with both footways on either side?	N/A		
D27	Are the footway approaches to the crossing free from obstructions including posts, signs, utilities boxes, litter bins, etc?	N/A		
D28	Are the footway approaches to the crossing provided with Tactile Blistered paving red coloured and to	N/A		

	the back of footpath from the kerb edge?			
D29	Is the crossing free of gratings, drains and culverts that would cause hazards to mobility impaired pedestrians or wheelchair users?	N/A		
D30	Are the Pedestrian viewing points at the Crossing free from obstructions causing blind spots? (i.e.: parking encroachments, fences, walls, railings and advertising signs, etc)	N/A		
D31	Is the Crossing environment or area adequately covered for lighting at night?	N/A		
D32	Are control buttons provided for pedestrians, appropriately positioned and easy to operate?	N/A		
D33	Is audible and 'walk-now' signalling provided for pedestrians?	N/A		

3.5 Accessible Parking Spaces

Within a Parking scheme it is important to provide designated Accessible Parking Spaces to serve the needs of disabled drivers or passengers.

Proximity of Accessible Parking can be determined by the type and location of public services, churches, hospitals, shopping and/or other recreational facilities adjacent to the street environment.


There were no disability parking spaces identified within this area of the Audit.

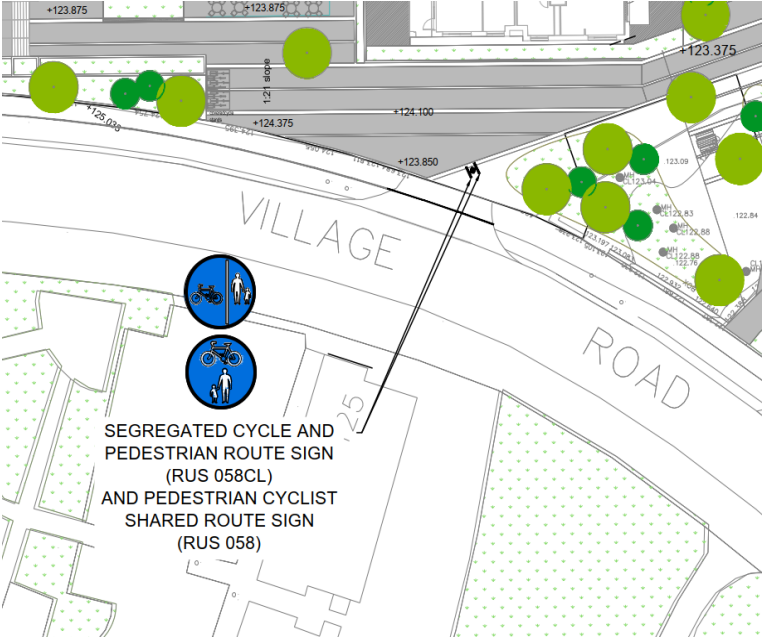
Ref	Feature	Conforms	Access Comment	Action
D34	Are dedicated parking spaces provided with a clearly marked 1.4m symbol on the road surface to show parking assigned to disabled or mobility-impaired drivers or passenger?	Yes	No Action Required.	
D35	Is the Accessible Parking Space indicated by a sign clearly showing the position of the space?	Yes	No Action Required.	
D36	Is there a 1000mm wide Dished or Dropped Kerb edge lowered to allow good access for wheelchair users from the parking space to the pavement or access route with flush or max 6mm upstand and 1:12 max gradient?	Unknown	Further information to be provided by design team.	
D37	Is there Cross-Hatching provided on the road surface to indicate a clear route for wheelchair users entering the paved routes?	N/A		

D38	Parking charges free to Disabled Drivers or Disabled use vehicles	N/A		
D39	Are the Charges and Information on the Ticket Machines clear and easily to read?	N/A		

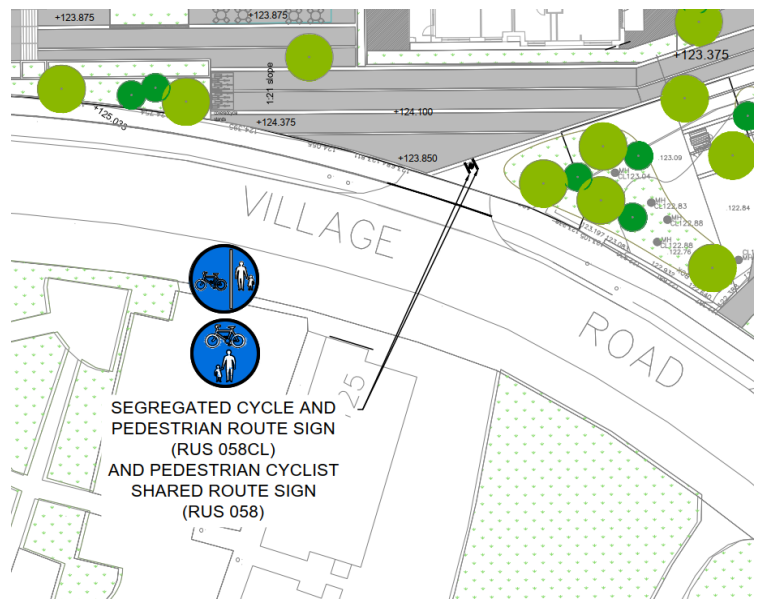

4 Cycle Audit

4.1 Summary of issues from this cycle Audit

4.1.1.1 Problem	
Location	Throughout site
Drawing	Proposed General Arrangement
Summary	Width of Shared Pedestrian and Cycle Facilities
 <p>Figure 4.1: Proposed Shared facilities</p>	
Description	
All the internal paths have been noted at shared facilities on the drawings. However, some of the shared paths are 2.5m. This width may result in conflicts between passing cyclists and pedestrians resulting in collisions.	
Recommendation	
The shared pedestrian/cycle path should be 3.0m as a minimum.	

4.1.1.2 Problem	
Location	Village Road access
Drawing	Proposed General Arrangement
Summary	Transition/tie-in between footway, shared facility and cycle tack
 <p style="text-align: center;">SEGREGATED CYCLE AND PEDESTRIAN ROUTE SIGN (RUS 058CL) AND PEDESTRIAN CYCLIST SHARED ROUTE SIGN (RUS 058)</p> <p style="text-align: center;">Figure 4.2: Access to site from Village Road</p>	
Description	
There is no clear tie-in/transition between the existing segregated pedestrian/cycle path on Village Road and the proposed pedestrian plaza or cycle lane. This may result in conflicts between pedestrians and cyclists at the site access from Village Road.	
Recommendation	
There should be clear definition and tie-in between the cycle track and footpath on Village Road and the Shared Space through the scheme.	

4.1.1.3 Problem	
Location	Village Road access
Drawing	Proposed General Arrangement
Summary	Facilities for Cyclists through the junction
<div> </div> <p style="text-align: center;">Figure 4.3: Atkinson Drive / Village Road</p> <div> </div> <p style="text-align: center;">Figure 4.4: Atkinson Drive / Village Road (Google Image)</p>	
Description	
<p>It is unclear what is proposed for cyclists through the junction. Cyclists will be vulnerable to a collision without appropriate cycle facilities provided through the junction. Typically, cyclists on a cycle lane would be dropped to road level with a cycle lane provided through the junction.</p>	
Recommendation	
<p>Cycle facilities should be provided through the junction in accordance with the National Cycle Manual.</p>	

4.1.1.4 Problem	
Location	Village Road access
Drawing	Proposed General Arrangement
Summary	Facilities for Cyclists through the junction
 <p style="text-align: center;">Figure 4.6: Atkinson Drive / Village Road</p>	
 <p style="text-align: center;">Figure 4.7: Village Road (Google Image)</p>	
Description	
<p>It is unclear what is proposed for the existing bell-mouth site access to the site. Should the entrance be left as it is it may encourage motorists to drive onto the shared pedestrian and cyclists plaza of park in the existing bell-mouth which would be an obstruction for pedestrians and cyclists.</p>	
Recommendation	
<p>Cycle facilities should be provided through the existing access in accordance with the National Cycle Manual. The existing access should be closed off if no longer in use with appropriate kerbs provided.</p>	

4.2 Possible Conflicts with Other Audits/Project Objectives

Wider shared cycle/pedestrian paths will reduce the available greenspace, but is considered necessary to provide a safe pedestrian and cycle environment.

4.3 Conclusions/Recommendations

The cycle path facilities should be shared with pedestrians throughout the scheme, with a minimum width of 3.0m.

5 Walking Audit

5.1 Summary of issues from this Walking Audit

5.1.1.1 Problem		
<i>Location</i>	Junction between Atkinson Drive and Village Road	
<i>Drawing</i>	Proposed General Arrangement	
<i>Summary</i>	No tactile paving on west side of junction	
Description		
Recommendation:		
		The existing tactile paving should be removed and replaced tactile paving in a more suitable area. The proposed layout should be reviewed with up to date topo survey during detailed design stage.

Figure 5.1: Proposed Tactile Paving

Figure 5.2: Atkinson Drive / Thornberry Road (Google Image)

5.1.1.2 Problem	
<i>Location</i>	Throughout scheme
<i>Drawing</i>	Proposed General Arrangement
<i>Summary</i>	Steps provided without a ramp alternative

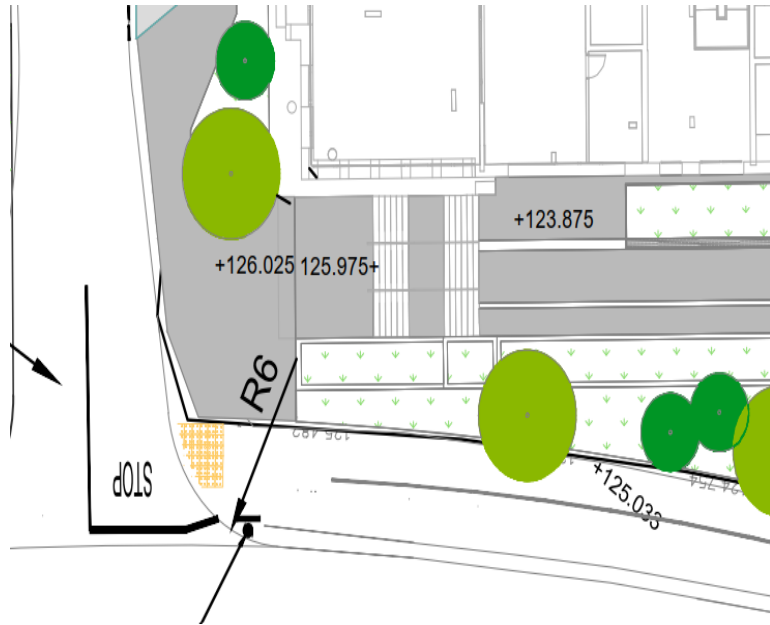


Figure 5.3: Proposed Steps

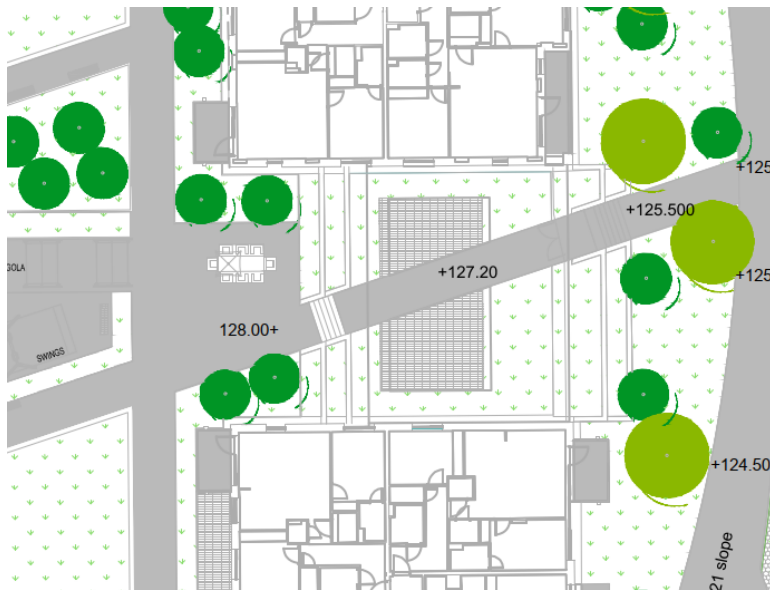


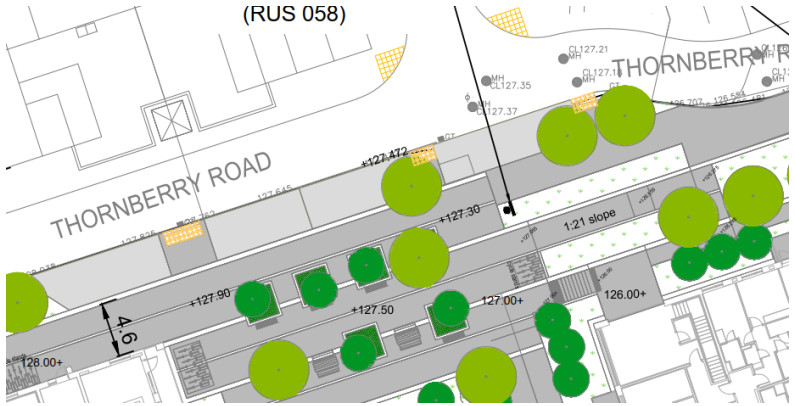
Figure 5.4: Proposed Steps

Description


Steps are proposed at a number of locations, without the provision of an alternative means of access such as a ramp. Some people may find the steps difficult to use, such as the elderly and will result in a barrier for accessibility.

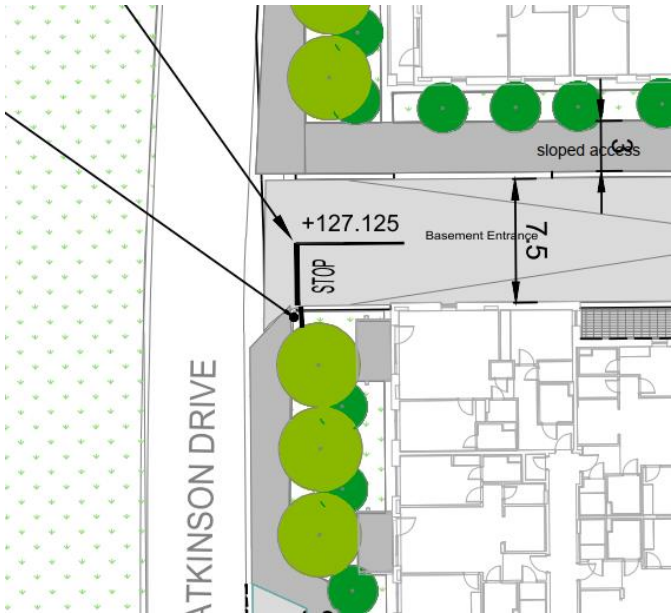
Recommendation:


An alternative means of access should be provided, such as a ramp with appropriate gradients and handrails, in accordance with the *Building for Everyone*.

5.1.1.3 Problem		 <p style="text-align: center;">Figure 5.5: Proposed Tactile Paving</p>
Location	Thornberry Road	
Drawing	Proposed General Arrangement	
Summary	No tactile paving on northern side of crossing	
Description		<p>Tactile paving is proposed Thornberry Road on the southern side, but there isn't a corresponding dropped kerb or tactile paving on the northern side. This may result in a trip hazard, in particular to the visually impaired, or resulting in accessibility issues for people using wheelchairs.</p> <p>Recommendation:</p> <p>Appropriate dropped kerbs and tactile paving should be provided on the northern side of the road carriageway.</p>

5.1.1.4 Problem	
<i>Location</i>	North East and South East of Site
<i>Drawing</i>	Proposed General Arrangement
<i>Summary</i>	Footpath not tying in
<p style="text-align: center;">Figure 5.6: North East Corner of the site</p>	
Description	
Footpath are proposed on the northeast and southeast corners of the site, however, the footpaths end at the boundary line. It is unclear if this link is to be provided in a future phase or development.	
Recommendation:	
The designer is to confirm if this path is provided to connect to a future pedestrian link.	

5.1.1.5 Problem	
<i>Location</i>	Basement
<i>Drawing</i>	Proposed Basement Arrangement
<i>Summary</i>	Mobility Impaired spaces located beside Elevators
Description	
	
<p>It is unclear where the elevators are proposed in the basement arrangement. If mobility impaired spaces are not located close to elevators, some people may find the lifts difficult to use, such as the elderly and will result in a barrier for accessibility.</p>	
Recommendation:	
<p>Mobility Impaired spaces should be located close to elevators to allow for easier access to and from the main developments. Clear signage should be provided to highlight the location of designated parking spaces; ticket machines; lifts; or final exit</p>	

5.1.1.6 Problem	
<i>Location</i>	Basement Entrance on Atkinson Drive
<i>Drawing</i>	General Arrangement
<i>Summary</i>	No Tactile Pavement at Basement Access
Description	
	
<p>No tactile pavement has been indicated at either side of the entrance to the basement car park off Atkinson Drive.</p>	
Recommendation:	
<p>Tactile paving should be added to either side of the basement entrance to assist with visually impaired pedestrian crossing the access junction.</p>	

5.1.1.7 Problem	
<i>Location</i>	North West of Site
<i>Drawing</i>	General Arrangement
<i>Summary</i>	Footway on Thornberry Road
Description	
	
<p>The existing perpendicular parking on Thornberry Road extends into the proposed footway. This presents a trip hazard for pedestrians as the footway leads pedestrians into the end of the existing parking area.</p>	
Recommendation:	
<p>The footpath should be redesigned to direct pedestrians away from the trip hazard of the kerb and the parking area.</p>	

5.2 Possible Conflicts with Other Audits/Project Objectives

None.

5.3 Conclusions/Recommendations

A review of the tactile paving should be undertaken in accordance with the *Guidance of the Use of Tactile Paving Surfaces*.

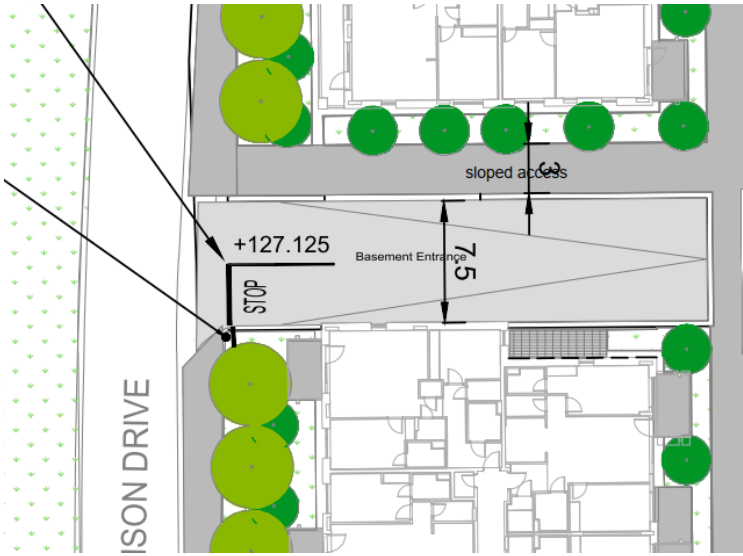
6 Stage 1 Road Safety Audit

6.1 Items Resulting from this Stage 1 Road Safety Audit

6.1.1 Overview

This Safety Audit has reported on issues relating to the construction of 438 residential units, and associated facilities at a greenfield site located in Aikens Village, Stepaside, Co. Dublin. This is classified as a Stage 1 Road Safety Audit, as defined within the TII Road Safety Audit Guidelines.

6.1.2 Road Geometry

6.1.2.1 Problem	
Location	Vehicle access from Basement Car Parks
Drawing	General Arrangement
Summary	Visibility pedestrians crossing the development accesses
 <p style="text-align: center;">Figure 6.1: Access to basement from Atkinson Drive</p>	
Description	
<p>Motorists should be able to see pedestrians crossing at the site access as the drive up the ramp due to its gradient. Furthermore, a wall appears to be proposed at the site access which will block visibility between motorists and pedestrians.</p> <p>Failure to provide appropriate visibility on the exit ramp could result in collisions with pedestrians crossing the access.</p>	
Recommendation:	
<p>Ensure appropriate visibility has been provided on the access ramp in both the horizontal and vertical planes in accordance with DMURS. The proposed wall should be lowered to ensure that pedestrians and motorists can see each other.</p>	

6.1.2.2 Problem	
Location	Basement Level
Drawing	Basement Arrangement
Summary	Tracking through the Basement
<p style="text-align: center;">Figure 6.2: Fire Tender Tracking</p>	
Description	
<p>The proposed end of the access ramp looks close to the end of the car parking aisle. It is unclear how motorists can turn at the end of the aisle. Autotracking analysis of the basement has not been provided and therefore, it is unclear if all turning movements can be accommodated.</p>	
Recommendation:	
<p>Provide appropriate autotracking analysis which shows that all vehicles can access the basement safely.</p>	

7 Audit Team Statement

We certify that we have examined the information provided and the site was visited on 5th December 2019. An additional site visit was not possible due to Covid-19 travel restrictions. This audit has been carried out in accordance with the Transport Infrastructure Ireland Road Safety Audit Guidelines Standard GE-STY-0124.

The Road Safety Audit 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. No one on the audit team has been involved with scheme design.

AUDIT TEAM LEADER: SENIOR ROAD SAFETY AUDITOR

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Signed

Date 04/08/22

AUDIT TEAM MEMBER: ROAD SAFETY AUDITOR

Name: Conor Luttrell BEng CEng MIEI
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Co. Cork

Signed

Date 04/08/22

Appendix A Document copies

The following documents were obtained from the Design Team.

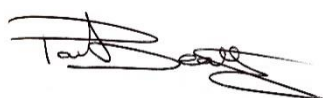
Document No.	Rev.	Description	Date
PR-424832-ACM-00-GF-DR-CE-10-0001	1	Proposed General Arrangement	29/07/2022
PR-424832-ACM-00-GF-DR-CE-10-0002	1	Proposed Basement Arrangement	29/07/2022
PR-424832-ACM-00-GF-DR-CE-10-0101	1	Proposed Visibility Splay	29/07/2022
PR-424832-ACM-00-GF-DR-CE-10-0102	1	Autotrack Analysis	29/07/2022

Appendix B Quality Audit Feedback Form

Scheme: Sector 3, Aikens Village, Stepaside, Dublin 18					
Date Audit Completed: 04.02.21					
Paragraph No. in Safety Audit Report	To Be Completed by Designer				To Be Completed by Audit Team Leader
	Problem Accepted (yes/no)	Recommended measure accepted (yes/no)	Describe alternative measure(s). Give reasons for not accepting recommended measure.	Designers Comments	Alternative measures or reasons accepted by auditors (yes/no)
D2	Y	Y		See response to Items 5.1.1.2 and 5.1.1.7	Yes
D3	Y	Y		A review will be undertaken and will be confirmed during Detailed Design Stage	Yes
D4	Y	Y		A review will be undertaken and will be confirmed during Detailed Design Stage	Yes
D5	Y	Y		Will be confirmed during Detailed Design Stage	Yes
D8	Y	Y		Will be confirmed during Detailed Design Stage	Yes
D12	Y	Y		Will be confirmed during Detailed Design Stage	Yes
D14	Y	Y		Will be confirmed during Detailed Design Stage	Yes
D16	Y	Y		Will be confirmed during Detailed Design Stage	Yes
D22	Y	Y		Will be confirmed during Detailed Design Stage	Yes
4.1.1.1	Y	Y		The thoroughfare routes through the site will be increased to 3m, where space is available	Yes
4.1.1.2	Y	Y		The client will engage with DLRCC for their proposals for cycle routes in the area and will work with DLRCC to deliver appropriate cycle facilities in the area	Yes

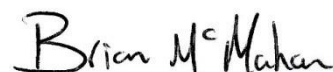
4.1.1.3	Y	Y		The client will engage with DLRCC for their proposals for cycle routes in the area and will work with DLRCC to deliver appropriate cycle facilities in the area	Yes
4.1.1.4	Y	Y		The client will engage with DLRCC for their proposals for cycle routes in the area and will work with DLRCC to deliver appropriate cycle facilities in the area	Yes
5.1.1.1	Y	Y		As part of the Detailed Design Stage, an updated topographical survey will be undertaken.	Yes
5.1.1.2	N	N		The podium areas are for the use of residents only. There is level access provided to each podium from the street between Blocks B and Block C and through Block FG. This layout has been reviewed and approved by the DAC consultant	Yes
5.1.1.3	Y	Y		Tactiles are in place on opposite side of the road and drawings have been updated. Any modifications needed to the tactiles on the northern side will be agreed at Detailed Design stage with DLRCC	Yes
5.1.1.4	Y	Y		This connection point is to be omitted from the drawings	Yes
5.1.1.5	Y	Y		Mobility impaired spaces are provided adjacent to lift cores within both car parks.	Yes
5.1.1.6	Y	Y		Will be confirmed during Detailed Design Stage	Yes
5.1.1.7	Y	Y		Will be confirmed during Detailed Design Stage	Yes
6.1.2.1	Y	Y		Sightlines will be checked to ensure that a vehicle can observe a pedestrian travelling along Atkinson Drive and Thornberry Road	Yes
6.1.2.2	Y	Y		Autotracking to be undertaken in the basement	Yes

Designer's Signature:



Date: 23/08/22

Auditor's Signature:



Date: 23/08/22

