



Quality Audit – Stage 1

Shanganagh Castle Residential Neighbourhood

On behalf of Dún Laoghaire-Rathdown County Council

Prepared By:

CST Group Chartered Consulting Engineers

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January 2020

Civil
Structural
Traffic

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Document History

Revision	R0	R1	R1						
Purpose of Issue: P=Preliminary PG=Progress C=Comment I=Information PL=Planning T=Tender CN=Construction	C	C	I						
Date:	08 01 20	10 01 20	23 01 20						
Originator:	SS	SS	SS						
Checked By:		FF	FF						
Approved By:	SS	FF	FF						

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1. Introduction

1.1. This report describes a Quality Audit carried out on a proposed residential neighbourhood at Shanganagh Castle, Dublin on behalf of Dún Laoghaire-Rathdown County Council.

The Quality Audit will demonstrate 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 consists of a large-scale residential development on the lands of Shanganagh Castle. Access to the lands is to be gained from the Dublin Road to the west of the lands and a secondary pedestrian link is to be formed to the Shanganagh playing fields to the south of the subject lands.

1.2. The audit team were as follows:

Francis Fidgeon, Chartered Engineer, BE CEng MIEI, Partner
Stuart Summerfield, HNC (Civil) MCIHT FSoRSA, Partner

1.3. The audit comprised an examination of the drawings relating to the scheme supplied by the design office. A site visit was carried out by both audit team members together on 27th November 2019 between the hours of 07:45 and 08:15. Weather conditions during the inspection were raining and the road surface was wet. Photographs were taken during the inspection.

1.4. This quality audit includes the following audits:

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

The report will be broken down into a number of sections to include the results of the Access Audit, Cycle Audit and Walking Audit. The Stage 1 Road Safety Audit is provided as a separate report.

1.5. Appendix A describes the documents examined by the audit team.

2. Site Location

2.1 The scheme comprises of a new residential development totalling circa 350 units.

Location: Shanganagh Park – Cork Little, Co. Dublin

Classification: Proposed Residential Development

Internal Road Speed Limit: 50kph

Local Authority: Dún Laoghaire-Rathdown County Council

Type of Roads: Internal – Estate Road of Mixed Classification
External – Regional Road (R119 Dublin Road)

The site is outlined in Figure 2.1 below.

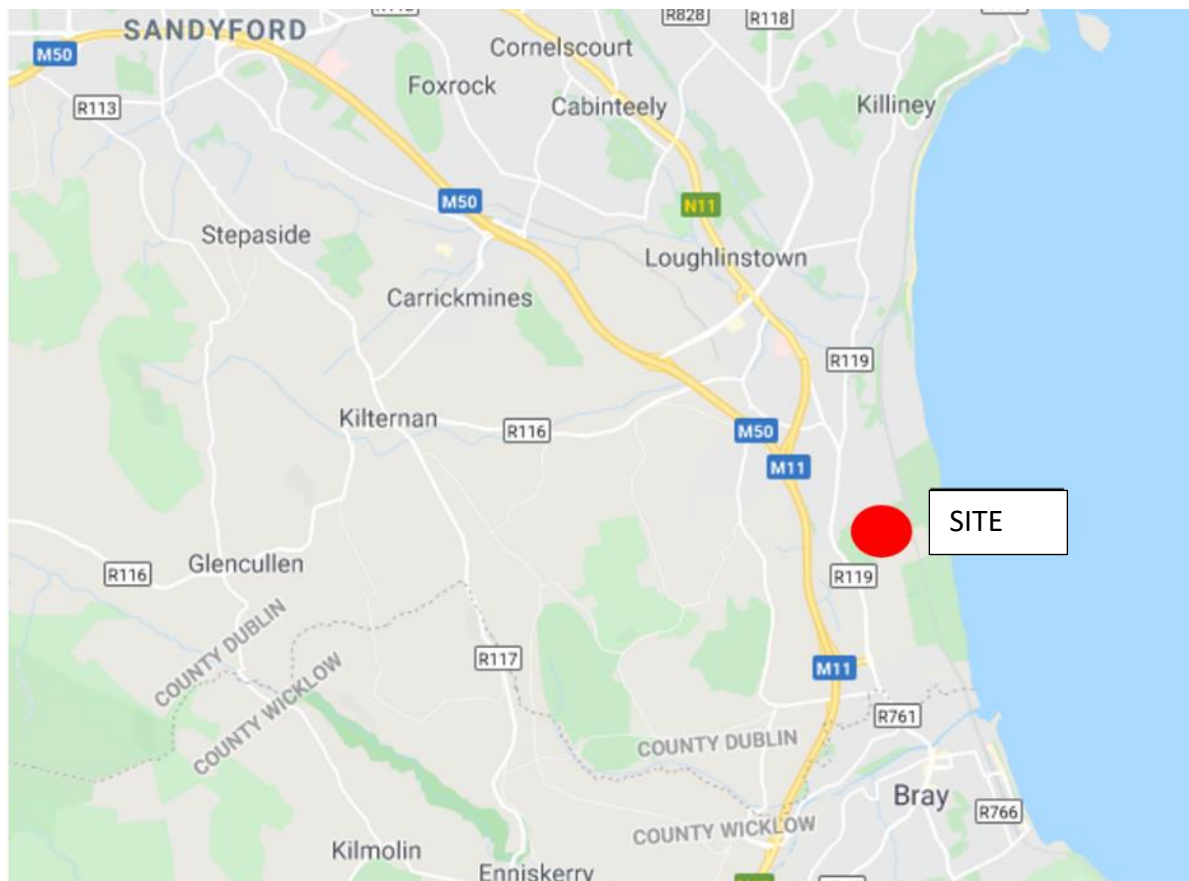


Figure 2.1 Site Location

© GoogleMaps

3. Site Observations

3.1 Road Geometry

The R119 Dublin Road is approximately 9m in carriageway width with a cycle lane to both sides. The road has a narrow footpath to both sides and incorporates on-line bus stops at regular intervals. The proposed development access is to be formed by provision of a signalised 'T' junction with the R119.

A secondary cyclist and pedestrian access is proposed approximately 40m to the north of this signalised junction also forming a junction with the R119. A further pedestrian link is proposed to junction with the existing pedestrian paths in the Shanganagh Park playing fields.

3.2 Traffic

3.2.1 Motorised Users

The R119 is a major artery road for commuters to/from Bray and surrounding areas to Dublin City centre. The site visit was undertaken on the 27th November 2019 between the hours of 07:45 – 08:15 and found that traffic flows were generally high. Pedestrian and cycle numbers were minimal however this could have been affected by the extremely high rainfall on the morning of the visit.

The speed limit on the R119 in the area of the proposed is 50kph. From site observations it appears that this speed limit is generally obeyed. There are no proposals shown to further reduce the speed limit for the development roads.

3.2.2 Pedestrians and Cyclists

Footpaths are provided on both sides of the R119. Although slightly limited in width they are considered suitable for purpose. On the morning of the site visit pedestrian numbers were limited, however the very high levels of rainfall on the morning may have impacted on the pedestrian activity. There are bus shelters to both sides of the R119 in close proximity to the proposed development access.

On-road cycle lanes are provided on the R119. These cycle lanes run through the bus stops, therefore the cyclist is required to wait behind any stationary bus or overtake the bus within the main carriageway.

3.2.3 Street Lighting

Public lighting is provided on the R119. The site visit was undertaken in daylight hours and therefore, the performance of the lighting was not observed.

3.2.4 Collisions

Road Collision Data available on the Road Safety Authority Database within the period 2014 to 2016 - see Figure 3.1 - recorded no collisions in the immediate vicinity of the existing Shanganagh Castle/Allies Road junction. In total 4 collisions are recorded within approximately 200m either side of the proposed development junction. Three of these are minor collisions involving cars. The remaining collision is listed as 'serious' and involved a cyclist.

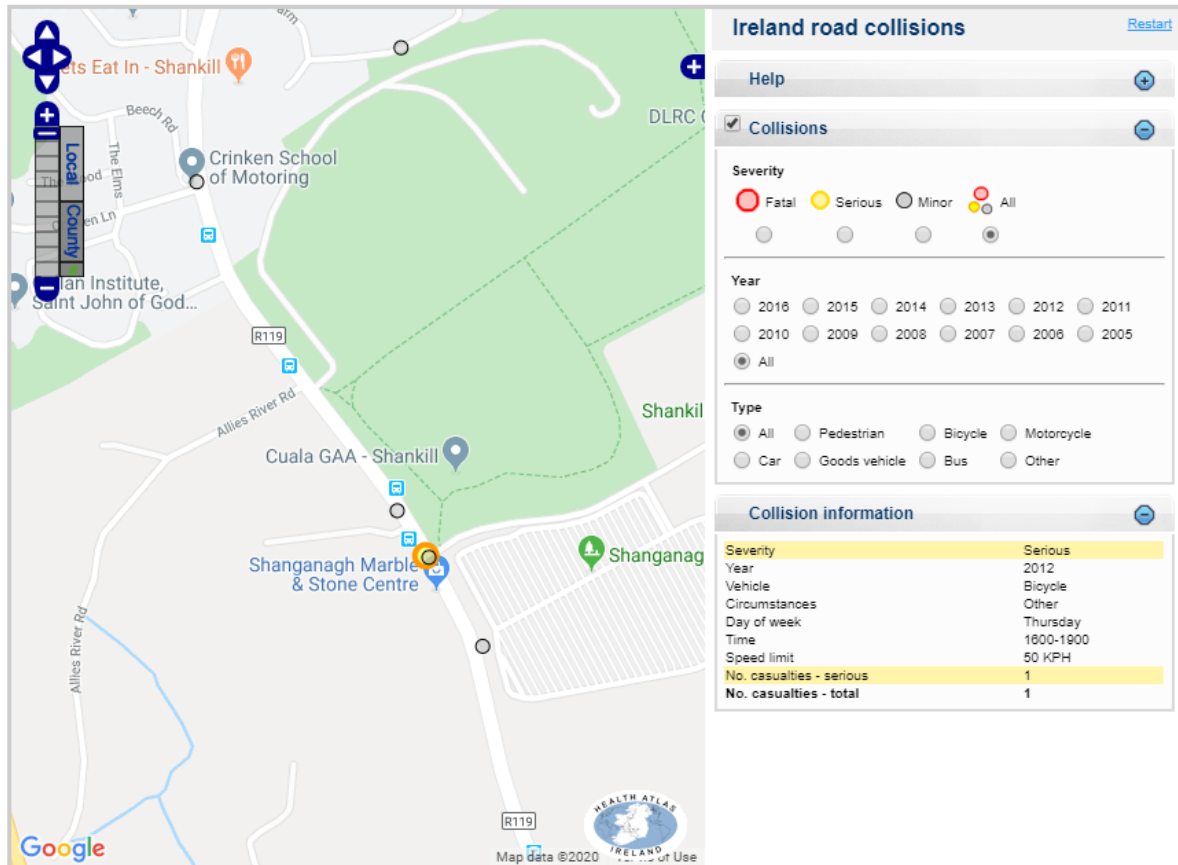


Figure 3.1 RSA Road Collision Data

4. Access Audit

4.1 Overview

The Access Audit identifies a range of barriers that potentially restrict access for disabled people in the external and internal 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
- British Standards Institute BS8300:2001 and BS5588
- 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)
- 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 disabilities. In addition to people who use wheelchairs or have restricted mobility, there are many people affected by some degree of hearing loss, learning disability, 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 people with disabilities may encounter when engaging with the community, public services and facilities.

4.2 Paths and Pavements in Streets, Roads and Public Areas

Streets, Roadways and Access for vehicle routes would have a footway provided for the safety of pedestrians particularly in cities, built-up urban areas, developed towns and village environments. The surrounding existing roads adjacent to the development are not subject to the planning application for which this report is required, and therefore this audit is confined to the proposed alterations to the existing infrastructure and the proposed development itself.

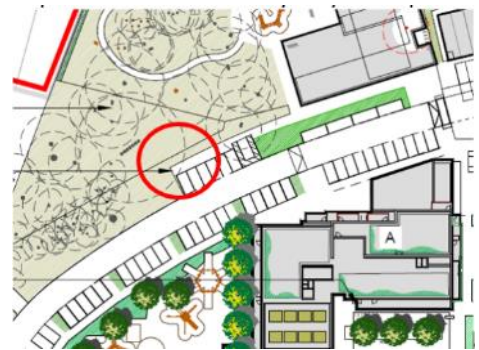
Ref	Feature	Conforms	Access Comment	Action
4.2.1	Are the footways a minimum width of 1.5m (1.8-2.0m in high volume areas)	Unknown	No dimensions shown on proposals drawing	Design Team to note requirement
4.2.2	Is the main footway clear of obstructions that would impede wheelchair users or be a trip hazard to sight impaired users?	Yes	No obstructions visible on the drawings	None
4.2.3	Are all surface water gullies / slot drains outside of the desire line or less than 13mm wide and set at right angles to the line of traffic?	Unknown	No drainage details provided	Design Team to note requirement
4.2.4	Are all paving materials suitable for the passage of sight impaired and arthritic and wheelchair users.	Unknown	No materials indicated on the drawings	Design Team to note requirement
4.2.5	Is the footpath clear of obstacles mounted more than 300mm above ground and protruding into the footpath by more than 100mm	Yes	No obstacles indicated on the drawings	None
4.2.6	Is the footway route to an acceptable gradient of less than 1:20	Unknown	No gradients shown on drawings	Design Team to note requirement
4.2.7	Is the footway route clear of abrupt changes in level with crossfalls less than 2.5%	Unknown	No gradients shown on the drawings	Design Team to note requirement
4.2.8	Is the footway clear of physical obstructions or windows, doors, and gates that open onto the access route?	Yes		None
4.2.9	Are the footway routes clear of headroom hazards (2.1m or 2.3m if shared with cyclists)	Unknown	No signage or lighting shown on the drawings	Design Team to note requirement
4.2.10	Is the footway route clear of any slip, trip hazards for sight impaired users?	Yes		None
4.2.11	Is the footpath clear of and advertising 'A' boards	Yes		None
4.2.12	Is the footway shared with cyclists or abutting a cycle lane where cyclists may encroach?	No	Separation between cyclists and pedestrians is not clearly designed	Designs should be developed to ensure segregation between cyclists and pedestrians

Ref	Feature	Conforms	Access Comment	Action
4.2.13	Is the footway or public area adequately illuminated for night-time use?	Unknown	Insufficient street lighting provided for assessment	Design Team to note requirement
4.2.14	Is suitable tactile surfacing provided at all pedestrian crossing locations	No	Some locations have no tactile surfaces shown on the drawings. Some other tactile is non-standard.	Provide appropriate tactile paving.

4.2.15 Footpath Dead-ends

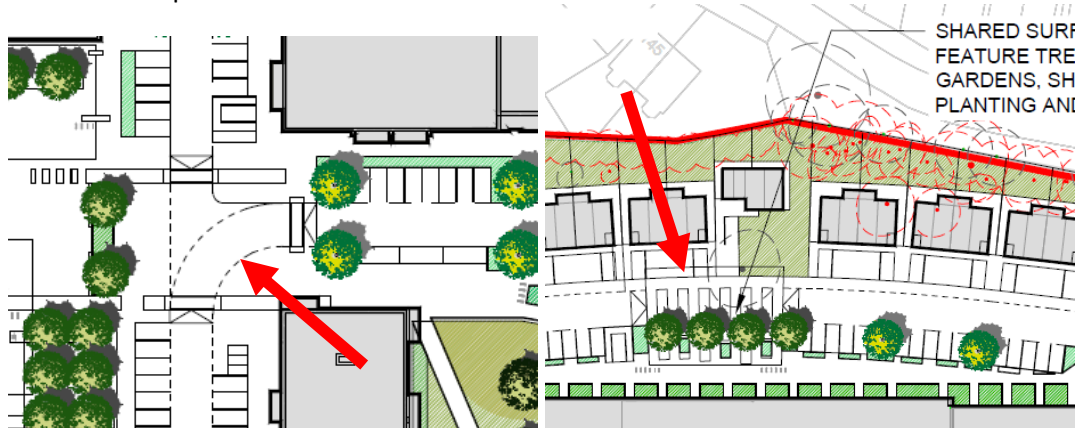
Problem: Pedestrians may encounter dead ends to footpaths. This is of particular concern to sight impaired users where they may attempt to continue their journey across the unpaved surface.

Recommendation: Ensure all footpaths provide a continuous route, even if this requires a road crossing or provide hazard tactile.



4.2.16 Areas of Raised Carriageway

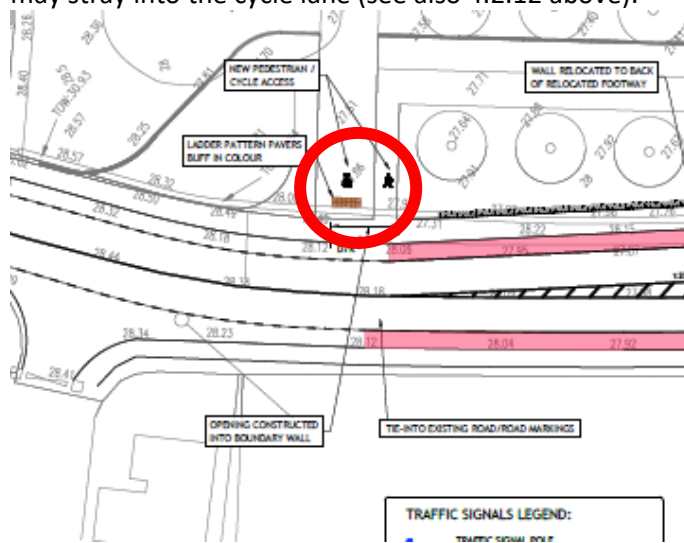
Problem: There are several areas of carriageway shown as 'raised' with a dotted line at the carriageway edge. It is not clear how the footway is to be segregated from the carriageway in these areas. Sight impaired users may experience difficulty in traversing these areas and finding their intended footpath continuation.



Recommendation: A clear identifiable route should be provided for sight impaired users through the entire development.

4.2.17 Shared Cycle / Pedestrian areas

Problem: No segregation is shown between the cyclist and pedestrian user. Sight impaired users may stray into the cycle lane (see also 4.2.12 above).



Recommendation: Segregate pedestrians from cyclists.

4.2.18 Grass Verge between Parking and Path

Problem: A grass verge is shown between some parking and the footpath.

Recommendation: Provide hard surfacing between parking and paths.

4.2.19 Disabled Space Location

Problem: Some disabled spaces are removed from buildings.

Recommendation: Ensure disabled spaces are as close as possible to entities they are provided for. #

4.2.20 Cyclist Priority

Problem: No priority control is shown where cyclists encounter Street 2 or the footpath on the R119.

Recommendation: Provide yield symbols for the traffic that should yield.

4.3 Public Seating in the Street or Public Area

It is recommended that seating should be provided to public areas or within a street environment at intervals of approx.. 50 metres, particularly in streets and pavements that have inclines or slopes to give rest points for persons with mobility-impairments, also to provide a wheelchair rest position on hillside streets, sloping footways and other public areas.

Ref	Feature	Conforms	Access Comment	Action
4.3.1	Is seating provided at intervals of approximately 50m	No	No seating shown on the drawings	Design Team to note requirement
4.3.2	Is seating provided at inclines or slopes as rest points for mobility impaired users?	Unknown	Gradients not provided, although it is unlikely they will be significant.	Design Team to note requirement

Ref	Feature	Conforms	Access Comment	Action
4.3.3	Are flat areas provided at regular intervals on inclines or slopes as rest point for mobility assisted (wheel chair, frames, stick) users?	Unknown	No levels shown on the drawings although it is unlikely there will be inclines.	Design Team to note requirement

4.4 Controlled Pedestrian Crossings

The proposals include for a signal-controlled crossing as part of the main entrance junction.

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
4.4.1	Is the crossing type appropriate for the location?	Yes		None required
4.4.2	Does the controlled crossing have tactile paving in compliance with the standards and red in colour	No	Tactile 'L' shown incorrectly, See Fig 4.4.1 below	Design Team update layout
4.4.3	Is visibility to approaching traffic achieved from all crossing locations.	Yes	Landscaping to be kept clear of visibility requirements	Design Team to note requirement
4.4.4	Are push button controls within 450mm of edge of tactile surface	Unknown	No dimensions shown on drawings	Design Team to note requirement
4.4.5	Is the crossing area adequately covered with street lighting.	Unknown	No street lighting shown on the drawings and site not visited at night	Design Team to note requirement
4.4.6	Is there a clear wheelchair turning circle of 1.8m at the junction of the crossing with both footways?	Yes		

Ref	Feature	Conforms	Access Comment	Action
4.4.7	Are the kerbs lowered to form a dished kerb approach gradient no greater than 1:12 and an upstand above road level no greater than 6mm	Unknown	No levels shown on the drawings	Design Team to note requirement
4.4.8	Is the crossing free of road gullies, gratings or channels that may cause wheelchair users problems	Unknown	No service covers shown on the drawings.	Design Team to note requirement
4.4.9	Is an audible 'walk now' signal provided	Unknown	No details provided	Design team to note requirement

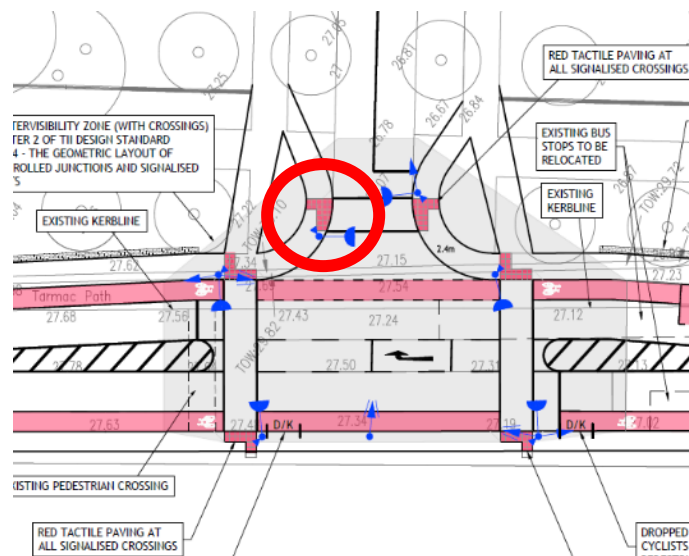


Figure 4.4.1

4.5 Un-controlled Pedestrians Crossings

The proposals include for un-controlled crossing within the development.

Ref	Feature	Conforms	Access Comment	Action
4.5.1	Does the crossing have tactile paving in compliance with the standards and in buff colour	Unknown	Some locations have no tactile surfaces shown on the drawings	Design Team update layout
4.5.2	Does the un-controlled crossing have dished kerbs with an unobstructed width of 1200mm.	Unknown	No details shown on the drawings Levels	Design Team to note requirement
4.5.3	Are the kerbs lowered to form a dished kerb approach gradient no greater than 1:12 and an upstand above road level no greater than 6mm	Unknown	No dimension s shown on the drawings	Design Team to note requirement
4.5.4	Is the crossing free of road gullies, gratings or channels that may cause wheelchair or stick users problems	Unknown	No service covers shown on the drawings.	Design Team to note requirement

Ref	Feature	Conforms	Access Comment	Action
4.5.5	Is visibility to approaching traffic achieved from all crossing locations and clear of temporary obstructions such as parked vehicles	Unknown	Crossing locations not all identified on the drawings	Design Team to note requirement
4.5.6	Is the crossing area adequately covered with street lighting	Unknown	Not all street lighting shown on the drawings	Design Team to note requirement

4.6 Disabled User Parking Spaces

For Disabled Parking Spaces within a parking scheme it is important to provide designated Accessible Parking Spaces to serve the needs of disabled drivers or passengers. These spaces should be located to minimise travel distance for the user from the space to their intended destination.

The number of Disabled User spaces provided will change dependant on the destination i.e. a medical centre will require a greater provision than a crèche.

For this subject housing development scheme the number of spaces required should be determined from the local Development Plan.

Ref	Feature	Conforms	Access Comment	Action
4.6.1	Are Disabled User Parking spaces provided?	Unknown	Disabled User parking spaces should be provided at a rate of 4%	Design Team to note requirement
4.6.2	Are disabled parking spaces provided with a clearly marked 104m symbol on the road surface to show parking assigned to disabled or mobility-impaired drivers or passenger?	Yes		
4.6.3	Is there a flush kerb to allow wheelchair access to the adjacent footpath	Unknown	Details not provided	Design Team to note requirement
4.6.4	Is there a yellow cross hatch marking to indicate the travel clear route for the user?	Yes		

4.7 Wayfinding

It is important to provide way-finding signage in the area. It should be noted that information signage should not be positioned too high for persons of short stature and wheelchair users to access. Also visitors to the area with vision impairment will find it difficult to read signage at high levels.

Information boards benefit blind or visually-impaired persons if essential notes and information are provided in conjunction with existing visual signs, directional routes in Braille and tactile will assist visitors to the area.

Effective colour contrast on signage is essential and is as important as the size of the lettering or symbols. Colours can appear different under various light sources, so when choosing sign colours ensure that under the same lighting conditions be used in the area where the sign is to be located at night. Particularly avoid red and green colour schemes in signage due to the prevalence of red/green colour blindness.

Ref	Feature	Conforms	Access Comment	Action
4.7.1	Is signage provided to guide the user through the development?	No	Provide a signage scheme to include road names at a minimum	Update proposals drawing.
4.7.2	Are the signs of a suitable size and colour combination?	N/A		
4.7.3	Are the signs mounted at a suitable height so they can be read but not cause a head clearance issue?	N/A		
4.7.4	Are the signs positions so they do not cause a hazard?	N/A		

5. Cycle Audit

Cycling in Ireland is increasing in popularity. Advice for the safe provision of cycle facilities is given in both the DMURS and the National Cycle Manual (NCM) publications in order to promote cycling as a sustainable form of transport and seeks to rebalance design priorities to promote a safer and more comfortable environment for cyclists.

It is noted for this subject development alterations to the cycle lanes on the R119 Dublin Road are required due to the introduction of the signalised 'T' junction. The Road Safety Audit includes commentary on the cycle provision in this area and therefore is NOT repeated in this Cycle Audit.

5.1 Cycleway Provision

Construction costs for the provision of segregated cycleways can be considerable and not always warranted. The provision of cycleways that are remote from the carriageway can raise concerns for the safety of the user as 'over looking' is less likely. The NCM provides guidance on where best to accommodate the cyclist in the public environment i.e. on lightly trafficked/low speed streets designers are generally dictated to create shared streets where cyclists and motor vehicles share the carriageway. On busier/moderate speed streets designers are generally dictated to apply separate cycle lanes/cycle tracks.

Ref	Feature	Conforms	Access Comment	Action
5.1.1	Are cycle facilities appropriate to the environment?	Yes		N/A
5.1.2	Does the cycleway terminate at an appropriate location?	Yes		
5.1.3	Are the cycle lanes of adequate width (refer to NCM width calculator)	Unknown	No dimensions shown on layout drawing	Design Team to note requirement
5.1.4	Is the direction of cycle flow clearly marked in order to avoid conflicts?	No	No markings shown on the drawing	Design Team to note requirement
5.1.5	Is the cycleway suitable segregated from the pedestrian path to prevent pedestrians walking into the cycleway?	No	Delineations should be provided.	Design Team to note requirement
5.1.6	Is the cycleway to an acceptable gradient with suitable dwell areas at junctions?	Unknown	No levels / gradients shown on the drawings	Design Team to note requirement
5.1.7	Is the cycleway surfaced with suitable smooth material?	Unknown	No materials indicated on drawings	Design Team to note requirement
5.1.8	Is suitable wayfinding signage provided for the cyclists with appropriate cycle symbols?	No	No Signage included on the drawings	Design Team to note requirement
5.1.9	Are suitable and safe bike storage solutions provided at the nodes of demand	Yes		

Figure 5.1.2 – Cycleway Terminal

6. Walking Audit

Walking audits examine and evaluate the walking environment in a given area. The audit's purpose is to identify concerns for pedestrians related to the safety, access, comfort, and convenience of the walking environment.

Many of the concerns for able-bodied pedestrians are the same as for the disabled users i.e. footpath surface condition, footpath width etc. For that reason, the items of concern raised under the Access Audit have not been repeated in this Walking Audit.

Ref	Feature	Conforms	Access Comment	Action
6.1.1	Does the proposed design adequately cater for the safe passage of existing pedestrian users after completion of the project by reinstating existing facilities or providing alternative new facilities?	Yes	The existing footpath is 'broken' by the access junction. Suitable provision is made at this junction	N/A
6.1.2	Are the footpaths of adequate width to cater for the expected pedestrian numbers	Unknown	No dimensions are shown on the drawings	Design Team to note requirement
6.1.3	Do the footpaths terminate at an appropriate location?	Yes		N/A
6.1.4	Are the footpaths direct without unnecessary diversions, loops etc?	No	Northern access promotes pedestrians to make use of the cycleway (see Fig 6.1.4)	Redesign the footway to provide access to the northern areas of the development.
6.1.5	Do the footpaths conflict with cycle or motor users	Yes	In areas of raised carriageway	Design Team to assess segregation.
6.1.6	Are suitable signs provided to enable wayfinding through the development	No	No Signage included on the drawings	Design Team to note requirement
6.1.7	Are any areas of shared use suitably signed by way of change in environment (surface colour, texture, signage, furniture etc.)	Unknown	No materials indicated on the drawings	Design Team to note requirement

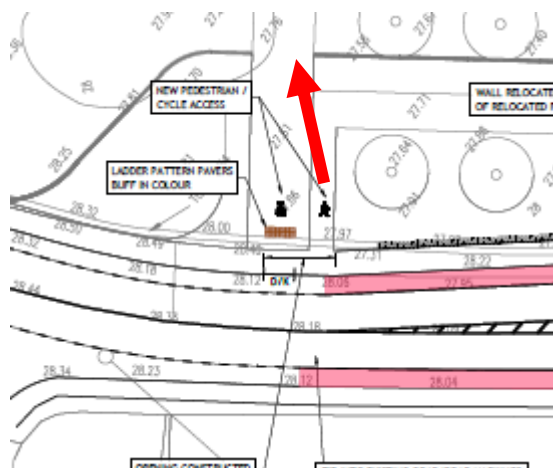
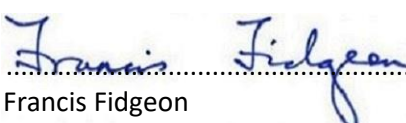


Figure 6.1.4 – No direct pedestrian route

7. Audit Team Statement

We certify that we have examined the drawings and other information listed in Appendix A. 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 safety and comfort in use of the scheme. The problems that we have identified have been noted in the report, together with suggestions for improvement which we recommend should be studied for implementation. No one in the audit team has been involved with the scheme design as shown in Appendix A.

Signed 
Francis Fidgeon
Chartered Engineer
Audit Team Leader

Date 10/01/2020

Signed 
Stuart Summerfield
Audit Team Member

Date 10/01/2020

Appendix A List of Documents Examined

DRAWING NO:	DRAWING NAME:	RECEIVED FROM:	DATE:
182-134-022 PRO	Proposed development Access Junction	Punch Consulting	2020.01.03
182-134-023 PRO	Swept Path Analysis – Fire Tender	Punch Consulting	2020.01.03
182-134-024 PRO	Swept Path Analysis – Refuse Vehicle	Punch Consulting	2020.01.03
182-134-025 PRO	Sightlines and visibility splays	Punch Consulting	2020.01.03
ABK 788/PA 1120 Rev 3	Proposed Site Layout	Punch Consulting	2020.01.03
ABK 788/PA 1152 Rev -	Bin and Bike Strategy	Punch Consulting	2020.01.03

Appendix B Audit Feedback Form

QUALITY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

Scheme: Shanganagh Castle Residential Neighbourhood on behalf of Dún Laoghaire-Rathdown Co Council

Audit Stage: 1 Date Audit Completed: 10-01-20

Our Ref : 118155 | R0

TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Audit Report	Problem accepted (Yes/No)	Recommended measure accepted (Yes/No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by Auditors (Yes/No)
4.2.1	Y	Y	Min. 1.5m. Typically 2m.	
4.2.2	n/a	n/a		
4.2.3	Y	Y		
4.2.4	Y	Y		
4.2.5	n/a	n/a		
4.2.6	Y	Y		
4.2.7	Y	Y		
4.2.8	n/a	n/a		
4.2.9	Y	Y		
4.2.10	n/a	n/a		
4.2.11	n/a	n/a		
4.2.12	Y	Y	This is a mixed/shared pedestrian and cycle entrance – 5m wide. Bollards prevent vehicular traffic.	
4.2.13	Y	Y	Lighting will comply with standards. Design drawings and report produced for Planning.	
4.2.14	Y	Y	Item accommodated in revised drawings	
4.2.15	Y	Y		
4.2.16	Y	Y		
4.2.17	Y	Y	Different surface finishes and floor signage to be provided.	
4.2.18	Y	Y		
4.2.19	Y	Y	Spaces located near core entrances	
4.2.20	Y	Y		

QUALITY AUDIT FEEDBACK FORM

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TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Audit Report	Problem accepted (Yes/No)	Recommended measure accepted (Yes/No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by Auditors (Yes/No)
4.3.1	N	N	Seating located in square and along main pedestrian routes. Refer to 4.3.2 below also.	Yes
4.3.2	Y	Y	Layout includes seating at key rest points where change in gradient occurs	
4.3.3	Y	Y		
4.4.1	n/a	n/a		
4.4.2	Y	Y		
4.4.3	Y	Y	All trees previously proposed within the sightlines have been removed however there remains 1 incident where an existing tree is being retained within the sightline. Proposed crown lifting to be done to improve condition.	
4.4.4	Y	Y		
4.4.5	Y	Y		
4.4.6	n/a	n/a		
4.4.7	Y	Y		
4.4.8	Y	Y		
4.4.9	Y	Y		
4.5.1	Y	Y		
4.5.2	Y	Y		
4.5.3	Y	Y		
4.5.4	Y	Y		
4.5.5	Y	Y		
4.5.6	Y	Y	See 4.2.13	
4.6.1	Y	Y		
4.6.2	n/a	n/a		

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Paragraph No. in Audit Report	Problem accepted (Yes/No)	Recommended measure accepted (Yes/No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by Auditors (Yes/No)
4.6.3	Y	Y	Raised tables accommodate levelled crossings for pedestrians and drop kerbs for disable parking spaces are acknowledge and will be further detailed in each case.	
4.6.4	n/a	n/a		
4.7.1	Y	Y		
4.7.2	n/a	n/a		
4.7.3	n/a	n/a		
4.7.4	n/a	n/a		
5.1.1	n/a	n/a		
5.1.2	n/a	n/a	No action required.	
5.1.3	Y	Y		
5.1.4	N	N	Unsegregated cycle off road facilities proposed from R119 and through park which do not warrant arrows. Markings will show shared use.	Yes
5.1.5	Y	Y		
5.1.6	Y	Y		
5.1.7	Y	Y	Proposed surface finish of these areas are suitable for cycling and walking	
5.1.8	Y	Y		
5.1.9	n/a	n/a		
6.1.1	n/a	n/a		
6.1.2	Y	Y		
6.1.3	n/a	n/a		
6.1.4	Y	Y	This is a shared pedestrian and cycle entrance. Signage to be provided. Different surface materials currently provided.	

QUALITY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Audit Report	Problem accepted (Yes/No)	Recommended measure accepted (Yes/No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by Auditors (Yes/No)
6.1.5	Y	Y		
6.1.6	Y	Y		
6.1.7	Y	Y		

Signed:  Designer Date: 21.01.2020
Matthew McCrum
ABK Architects

Signed:  Audit Team Leader Date: 23-01-2020
Stuart Summerfield
CST Group Chartered Consulting Engineers