Road Safety Matters

Road Safety Audit

Stage 1

for

APARTMENT DEVELOPMENT

AT

SCHOLARSTOWN RD, RATHFARNHAM, DUBLIN 16

Date: October 2022

Report produced for: Martin Hanley Traffic & Transportation Consulting Engineers

Report produced by: Road Safety Matters Ltd

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BACKGROUND INFORMATION

The report which follows is the Road Safety Audit - Stage 1 for the access and internal road layout at a proposed Residential Development site off the southern side of Scholarstown Rd in Rathfarnham, Dublin 16, based on the information supplied to the RSA Team as detailed below. The scheme will involve construction of 75 No. apartments with parking for the facility to be located at surface level, with provision of a priority-controlled access junction off Orlagh Grove, which runs along the western boundary of the site, with access road into the development site, inclusive of internal surface parking areas and all associated ancillary works.

Table 1: Information Supplied

Item		Supplied	Comment
A	Plans / Drawings	Y	Drg No CL12-V1-XXX-DR-HLCE-CE-0001-DRAFT-27.09.22: PROPOSED STORM DRAINAGE LAYOUT
			Drg No SH-DA-P01: Development Access
			Drg No SH-DA-P02: Development Access.
B	Traffic Volume Information	N	Final TTA Scholarstown
C	Speed Count Data	N	
D	Collision Data	N	
E	Departures from Standards	N	
F	Audit Brief	Y	Road Safety Audit, Stage 1, Preliminary Design
G	Other Data / Documents	N	22070 Scholarstown - Energy Statement - DRAFT 22119 Scholarstown Residential Development MARSON Lighting Study

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1. INTRODUCTION

1.1 This report results from a Stage 1 Preliminary Design Road Safety Audit (RSA) on the access/egress junction and internal access road to a residential development site off Scholarstown Rd in Rathfarnham, Dublin 16 carried out at the request of Martin Hanley Traffic & Transportation Consulting Engineers. This Audit examines the road safety implications associated with provision of a priority-controlled access junction and access road into the site off Orlagh Grove, which is the southern arm of the roundabout intersection of Scholarstown Road and St Colmcille's way, which is approximately 300m to the east of exit 12 of the M50 motorway, at the location shown in figure 1. The Audit includes an overview of the internal site works, which includes access roads, parking and all associated ancillary works. The internal site proposals are illustrated in figure 2, and include construction of 75 No residential apartments on the site and provision of new footways and access roads, inclusive of 38 No car parking spaces and 164 No cycle spaces and all associated works. The new road layout also includes for vertical traffic calming measures in the form of a raised pedestrian crossing point at the mouth of the access junction.

Figure 1: Site Location Plan

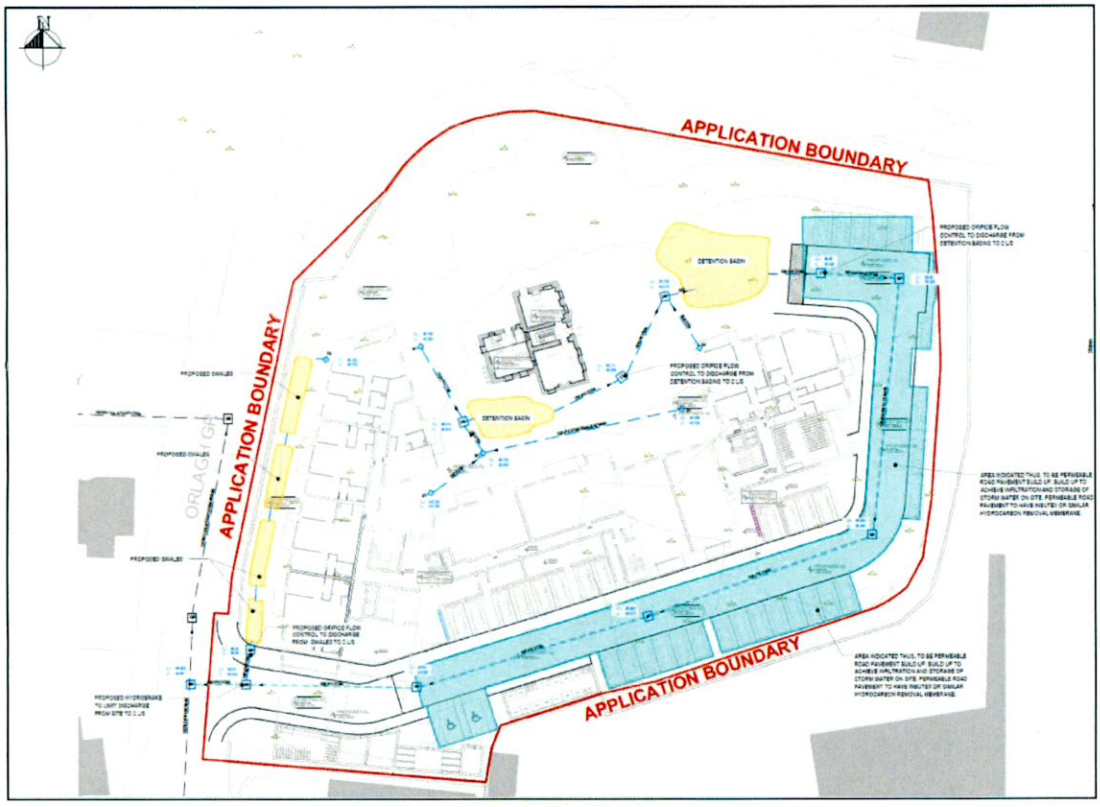


Figure 2: Internal Site Layout

1.2 The RSA was carried out during August 2022 and included a site visit by the Audit Team during daylight hours on Wednesday 17th August 2022. The weather at the time of the site visit was fine and dry, and the surface of the road was dry. Traffic conditions were light to moderate, and the posted speed limit at the site was 30 km/hr within the residential area on Orlagh Grove, from which the site will be accessed, and 50 km/hr on Scholarstown Rd which runs along the northern boundary of the site. The level of VRU (Vulnerable Road User – including pedestrians and cyclists) usage of the network surrounding the site was low at the time of the site visit.

1.3 Most of the issues raised in this Stage 1 RSA report should be considered in the context of relatively low anticipated traffic levels at the site, and should also be considered in the context of the requirements for developments satisfying the criteria for completion of a Traffic and Transportation Assessment, which also require Stage 2 RSAs at detailed design, Stage 3 RSAs post construction, and a Stage 4 Road Safety Audit in the period 2-4 months post opening of the development scheme to traffic, in accordance with Appendix A of GE-STY-01024 Dec 2017.

1.4 The Audit Team Membership was as follows;

Team Leader:	Miriam O'Brien – BE (Civil) MIEI FIHE MCIHT-SoRSA RSA CoC
Team Member:	Anthony Sumner – HNC Civil Eng, AEng MIEI

1.5 The Audit took place at the offices of Road Safety Matters Ltd following the site visit by the Audit Team. The Audit was undertaken in accordance with the Design Team's Audit Brief, and comprised an examination of the plans provided by the Design Team, as listed in Background Information, Table 1.

1.6 The terms of reference of the Audit are as described in TII GE-STY-01024 Dec 2017. The team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

1.7 Section 2 of this report contains issues raised by the Stage 1 RSA together with recommendations to be considered. Section 3 contains the Auditor Team Statement. Most issues raised in Section 2 can be cross-referenced with the scheme drawing **(Appendix C)** and photographs taken on the site visit, which are included in **Appendix B** and in the body of the report where necessary.

2. ISSUES RAISED BY THE STAGE 1 ROAD SAFETY AUDIT

2.1 GENERAL

2.1.1 The designers have not advised of any departures from standard.

2.1.2 There were no long or cross sections provided.

2.1.3 Observation – Collision History

No information was provided on any existing collision statistics in the vicinity of the site. A review of the Road Safety Authority (RSA) online collision database was not possible at the time of writing of this report, to determine the extent of existing available collision records on Scholarstown Rd and Orlagh Grove adjacent to the site, particularly on approaches to the proposed site access, however it was considered that the relatively small scale of the proposed development site is unlikely to significantly exacerbate any existing collision risks on the network in the locality.

Recommendations

The final layout at and on approaches to the site should take into account any existing risks and collision evidence in close proximity to the site prior to detailed design stage and construction, to include a review of all existing Local Authority / Gardaí collision records on the adjacent road network, with provision for any necessary remediation to ensure that a safe layout has been provided for all road users in the locality.

2.1.4 Observation – Traffic Speeds Generally

The posted speed limit on Orlagh Grove adjacent to the site is 30 km/hr. There was no 85th percentile speed survey data provided for the link, however on-site observation demonstrated that most vehicles appeared to be travelling close to the posted speed limit. Reduced DMURS visibility splays have been noted on the design plans, and visibility to the left and right at the new

site access appeared sufficient for observed speeds at the time of the site visit, although the proximity of the junction to the adjacent Scholarstown Rd roundabout may present risks.

There is formal traffic calming provided on entry to the Orlagh Grove in the form of vertical deflection at a raised zebra crossing to the north of the proposed site access, which is shown in figure 3, and which appears to be effective in reducing vehicle speeds on entry to the link. The site is also posted with 30 km/hr slow zone speed limit signage on the nearside on entry to the residential area. Existing vertical deflection measures are also provided on the link further south of the proposed access point, as shown in figure 7. The design for the proposed development site also includes for vertical deflection in the form of a raised pedestrian crossing point across the mouth of the access junction, which should assist in maintaining low speeds on entry to the site. It was noted that sightlines illustrated on the design plan have been taken from a distance of 2.4m back from the channel line of the major road, which is the x-distance applicable for lightly trafficked junctions, however it was noted that vehicles egressing from the development site will be stopped at a significant offset from the channel line due to the proposals for a raised crossing at the junction mouth, which is intended to prioritise the movement of pedestrians. For the reduced visibility x-distance to be achievable, motorists will need to stop closer to the stop line, which will block the pedestrian crossing.

There is no provision for internal speed control measures, however the link will be a cul de sac, and it is considered highly unlikely that significant speeds can be achieved on the internal road due to the limited length.

Figure 3: 30 km/hr posted urban speed limit on Orlagh Grove on exit from Roundabout

Figure 4: Raised Zebra Crossing on approach to Scholarstown Rd Roundabout

Figure 5: 30 km/hr Slow Zone speed limit north of Site Access

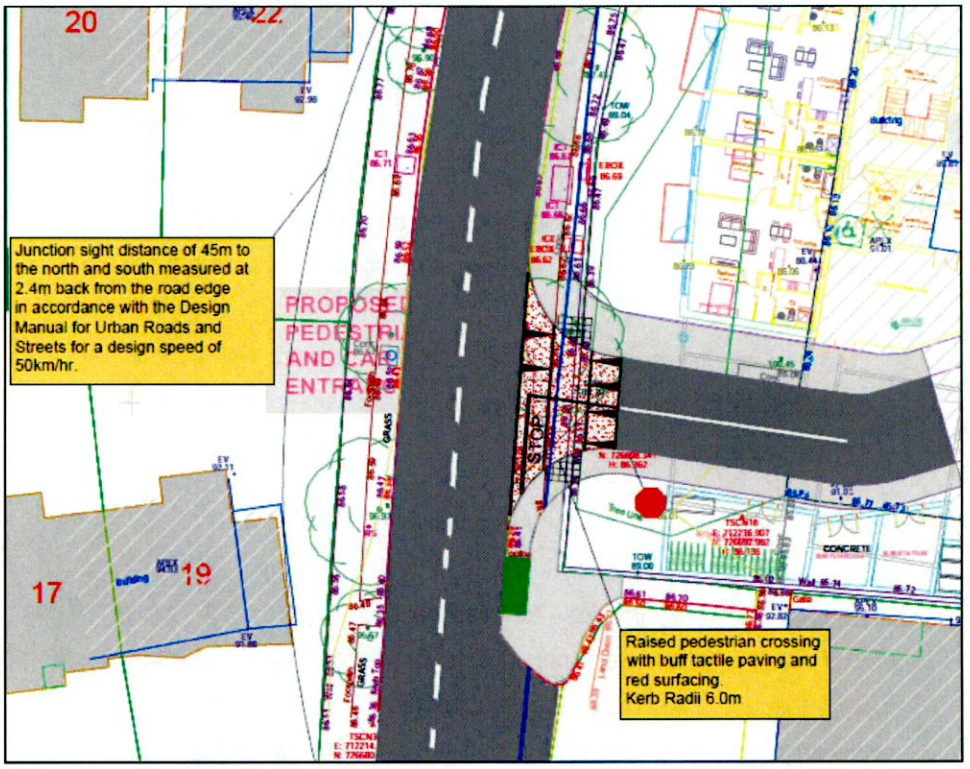


Figure 6: Proposed Raised Entry Treatment on Entry to Site

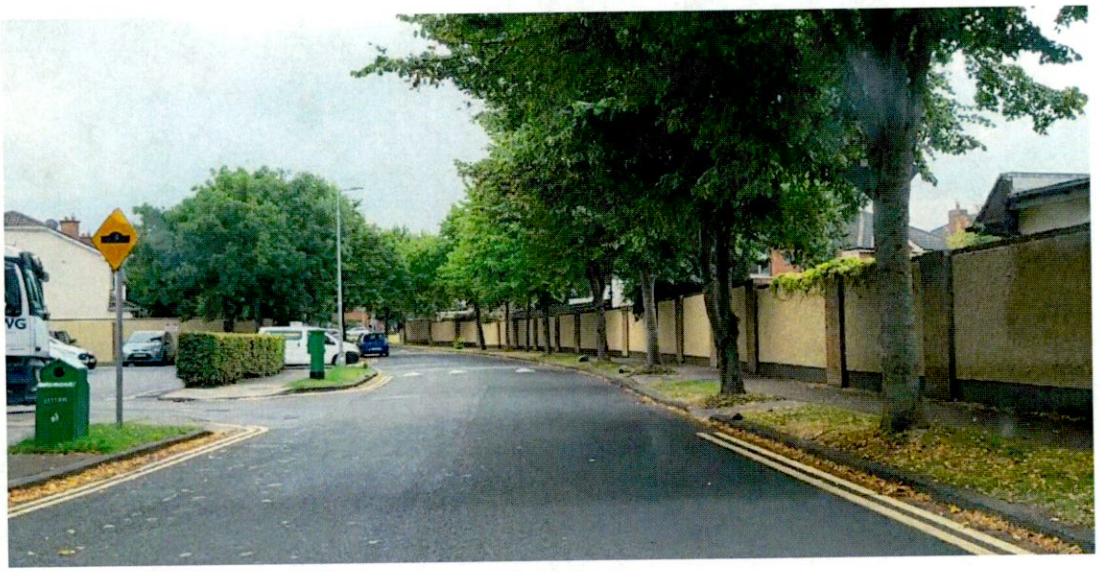


Figure 7: Existing Vertical Deflection and Traffic Calming South of Site Access

Recommendations

1. Visibility at the site access junction should be clear and unobstructed at all times in accordance with traffic speeds, with visibility splay requirements to be determined on the basis of prevalent 85th percentile speeds on the adjacent link, and adjusted where necessary to take into account the likely waiting position of vehicles at a significant offset from the channel line.

2. Low internal site speeds should also be encouraged, with provision for additional vertical or horizontal traffic calming measures where necessary on the internal access road to maintain low vehicle speeds.

2.1.5 Problem - Drainage and Surface Proposals Generally

There were no details provided for the location of gullies on the proposed roads layout, and no long or cross sections were provided to determine crossfalls, gradients and any potential low spots. Existing drainage at the site access is achieved via kerbside gullies, which may be displaced by the proposed layout, and a number of existing gullies were also partially blocked due to debris and fallen leaves from overhanging trees in the locality. The new road layout will

need to be adequately drained to prevent ponding and build up of surface water, which can lead to hazards for all road users in wet and icy conditions.

Recommendations

1. The new access road and footways will need to be adequately drained to minimise the risk of ponding and excess surface water, and provision should be made to ensure excess surface water does not runoff onto the adjacent public road from the site. Any new gullies or drainage channels should be flush with the surrounding pavement, and placed in a location which is outside the desire line for pedestrians and two-wheeled vehicles.

2. Detailed design should include pavement and kerb design, with sharp kerb edges to be avoided, and with suitable crossfalls and gradients on proposed surfaces throughout the site to facilitate positive drainage paths.

3. All exisitng drainage provision to be reviewed along both sides of Orlagh Grove, with blocked gullies to be cleared and maintained.

4. Chamber covers should also be located away from VRU desire lines throughout the site where possible, with finished levels to be flush with the surrounding pavement.

2.1.6 Problem – Boundary Treatment, Landscaping and Site Clearance

There were no details provided on proposed boundary treatment or landscaping for the site or for any of the internal areas of the site, and no provision for site clearance, with a significant number of mature trees noted within the site, with mature overhanging trees also located within the verges on both sides of Orlagh Avenue leading to fallen leaves and slippy conditions underneath and likely contributing to darker conditions and interference with street lighting during the hours of darkness. Within the site, inappropriately located boundaries or landscaping which exceeds 1.05m in height can reduce forward visibility and intervisibility between pedestrians and motorists, and may lead to an increased risk of conflict with oncoming vehicles and VRUs. Inappropriate boundary treatment or landscaping at or on approaches to the proposed site access can also present an obstruction in the visibility splay at a junction, leading to an increased risk of pulling

out type incidents and right-angled collisions. There are also a number of large utility cabinets located in close proximity to the proposed site access point, which can obstruct pedestrian movement and can also obstruct clear visibility to and from oncoming traffic.

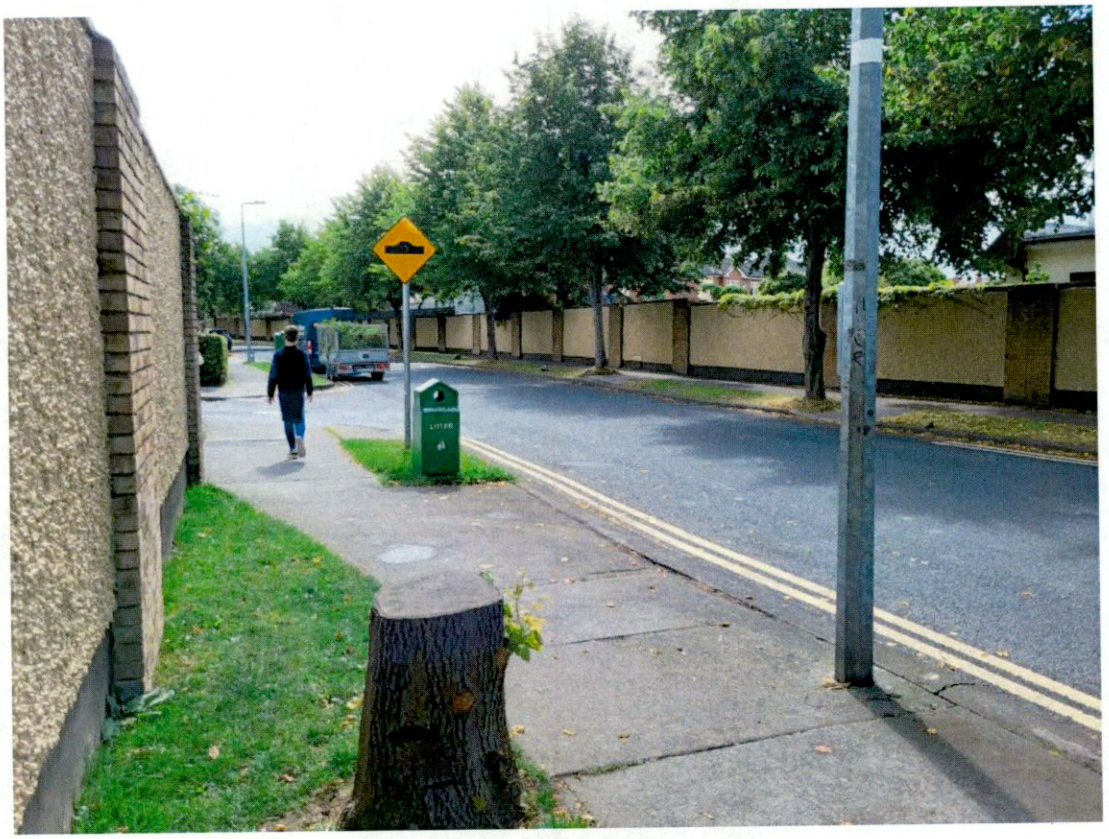


Figure 8: Visibility to left from proposed Site Access showing existing high wall and street furniture

Figure 9: Visibility to Right from proposed Site Access showing existing high wall Trees and utility cabinet

Figure 10: View towards site showing trees within site and utility cabinets/high wall along site boundary

Recommendations

1. Detailed design should include provision for site clearance to indicate treatment of all existing features on the site, with provision for reinstatement of all features displaced by the works where necessary, at a safe location which does not present a hazard to road users.

2. Landscaping [proposals to be clarified at detailed design stage, with all trees and landscaping to be located away from positions which could increase the risk of conflict or have a negative impact on intervisibility at Vulnerable Road User (VRU) desire lines.

3. Any potential intervisibility obstructions arising from boundary treatment, internal walls, landscaping, utilities, or street furniture should be removed or relocated or provided at a height less than 1.05m, and all trees, hedges and landscaping should be located away

from positions which could increase the risk of conflict for road users, including pedestrians, with pedestrians to be clearly visible from a point 2m back from each crossing and desire line or conflict point.

4. Trees, boundaries and landscaping should be offset a safe distance from the carriageway edges and ideally away from footways or areas where shedding leaves and tree roots may cause slip/trip hazards, or where street lighting luminescence may be compromised.

5. All features and street furniture including fencing, gate posts/pillars, sign faces, landscaping and lighting columns should be at a minimum recommended 450mm offset from the kerb in an urban environment. Solid continuous hazards such as walls should be a minimum 600mm offset from the kerb edges.

2.1.7 Problem – Existing On-Street Parking

There was no information provided on cumulative parking demand for the site, however there was significant on street parking noted on one side of Orlagh Grove at present. Vehicles continuing to park at this location will obstruct visibility to and from the site access as shown previously in figure 11, and will also compromise safe unobstructed two-way movement on the link. Internally within the site a number of proposed parking bays are configured as perpendicular bays rather than parallel, which necessitates reversing manoeuvres and increased risks to VRUs, including child pedestrians who may be playing in the area. The proposals for dropped kerbs and road markings to accompany the proposed on-street parking areas is not clear from the plans supplied, and the provision for drainage of these surfaces is not clear.

Recommendation

1. The cumulative traffic volumes and parking demand at the site should be monitored once the site is fully occupied, with provision for suitable parking restrictions where necessary to prevent vehicles parking at inappropriate locations on the internal street or on approaches to the main access junction.

2. Existing street parking along Orlagh Grove on approaches to the site access should be removed and replaced at a suitable safe location away from the proposed access junction or any other neighbouring junctions and access points.

3. Detailed design should include kerb design to include for suitable dropped kerb access for all vehicular traffic which is crossing footways and pedestrian zones. Detailed design should also include provision for clear demarcation for all proposed on-street parking bays, with signs and dropped kerbs where appropriate, including adjacent to disabled parking bays.

2.2 JUNCTION LAYOUT AND ALIGNMENT

2.2.1 Problem – Geometry Generally

There was no swept path analysis provided to demonstrate that the proposed geometry of the site access and internal road will safely accommodate the swept paths and turning movements of all anticipated vehicle sizes. A relatively sharp internal curve was noted with no provision for widening on the bend. Low radii values are not advisable on single carriageway roads due to the potential for side swipe and head on collision risk with oncoming vehicles. The nearside boundary treatment and parked vehicles may also restrict sightlines on the inside of the bend at this location, as highlighted in figure 11.

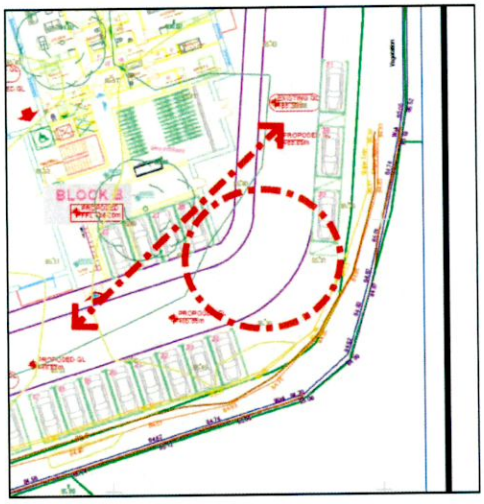


Figure 11: sharp internal bend with nearside sightline restrictions for northeast bound vehicles

Recommendations

1. The geometry of the site access and internal road should be subject to swept path analysis for the worst-case scenario anticipated vehicle sizes, as well as more frequent vehicle types, to demonstrate that the proposed layout will safely accommodate the swept paths and turning movements of all anticipated vehicle sizes with adequate margins of safety, and that two-way movement will be possible on the proposed layout without encroachment into the VRU zone.

2. All internal radii should safely accommodate two-way movement without presenting a head on or side swipe collision risk, and forward visibility around bends should not be compromised by boundary treatment, building lines or the location of parking bays.

2.2.2 Problem – Overlapping visibility Splays

The proposed site access is located in very close proximity to the adjacent access to the Spar Supermarket and associated surface car park, and visibility splays will overlap, as highlighted in figure 13. The demand for use of this access point is unknown, however the Audit Team considered there is likely to be a relatively frequent level of usage at this location, as access and egress to and from food retail developments typically have high trip rates. Overlapping visibility splays represent a departure from standard on single carriageway roads, as vehicles waiting to pull out from either access point simultaneously will restrict visibility to and from oncoming vehicles, resulting in an increased risk of right-angled collisions and pulling out type incidents.

Figure 12: Visibility to right from adjacent access to Spar showing proximity to site

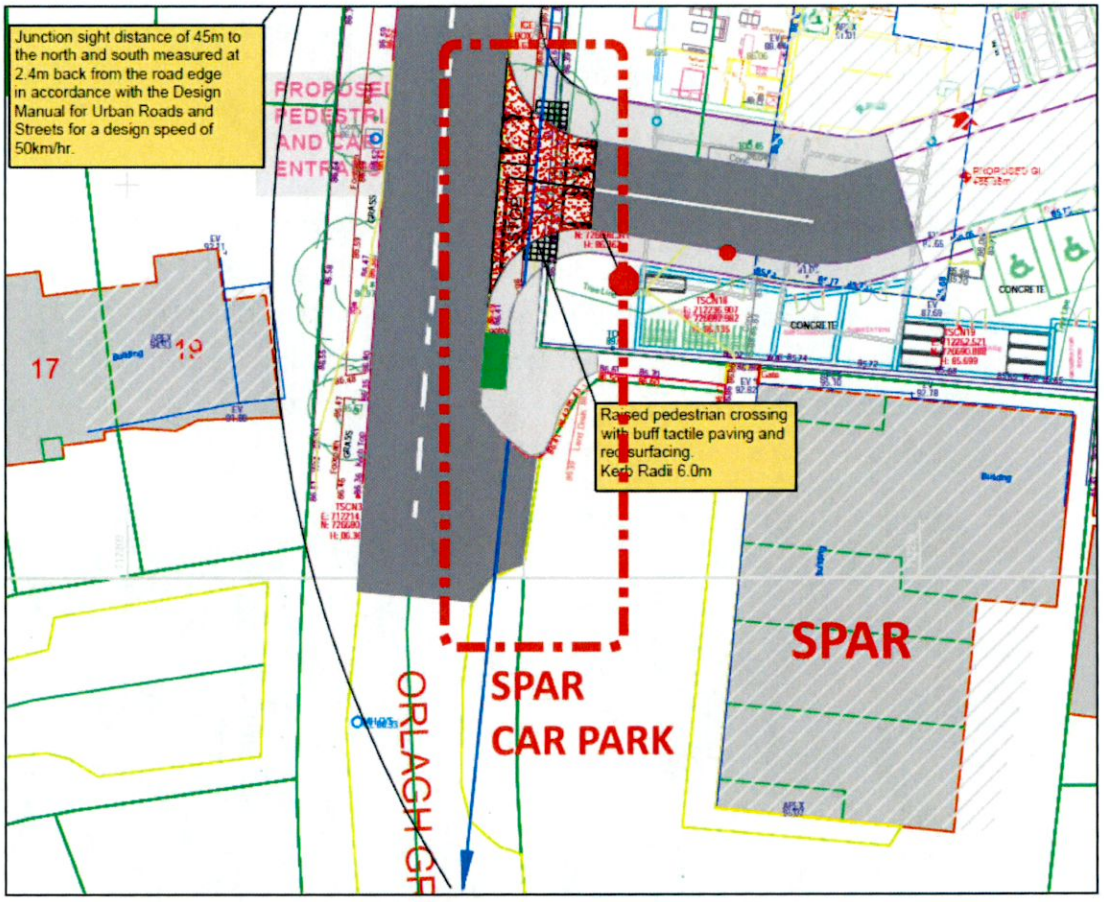


Figure 13: Overlapping visibility splays at closely spaced access points

Recommendations

1. The proposed access should not impact on the safe operation of any other existing junctions or access points in close proximity. Closely spaced access points should be avoided, and ideally combined where feasible to form one access point and to limit the number and frequency of conflicting turning movements occurring in close proximity on the link.

2. Where access points cannot be combined and where visibility splays overlap, associated risks should be mitigated where feasible, with egress from the Spar car park to be permitted from the southernmost access point only, and with suitable low boundary treatment to be

provided between the two sites to ensure enhanced intervisibility can be achieved between the two overlapping access points.

2.2.3 Observation - Additional Site Access Points

There are a number of existing access points on the site which are shown in figures 14-16, and the provision for retention or closure of these access points has not been shown on the preliminary design layout. One of the access points has been configured for VRU accessibility, however there is no provision for VRUs at the western gated access point, and poor intervisibility was noted at this location due to the height of the existing boundary wall, as outlined further in section 2.3 of this Stage 1 RSA report.

Figure 14: Access into the Site Directly off Scholarstown Rd

Figure 15: Approach to Access into the Site Directly off Scholarstown Rd

Figure 16: Additional Site Access off Orlagh Grove

Recommendations

1. A full Audit of all existing access points to and from the site was outside the scope of this Stage 1 report, as there are no proposed design changes at these locations, however consistent treatment of each access point to and from the site should be provided as the site design progresses, to include suitable clearance from gate pillars and improved intervisibility and accessibility for VRUs.

2. The final internal site layout should ensure that no increased demand arises for turning to and from the existing access points as a result of the proposed site development, and that vehicles waiting to turn in at these points do not obstruct the carriageway or footway areas.

2.2.4 Observation – Proximity of Site Access to Scholarstown Rd Roundabout

The access junction to the site will be located in relatively close proximity to the adjacent roundabout on the Scholarstown Rd at the intersection of Scholarstown Road and St Colmcille's way. There were no related conflicts observed at the time of the day-time site visit, and relatively low vehicle speeds and volumes were observed on the movements past the site from this direction. An existing roundabout warning sign on the nearside of the northbound approach to

the junction is obscured by a mature tree trunk and overhanging vegetation, and motorists may be concentrating on the roundabout junction ahead and may not be adequately prepared for conflict with vehicles turning to and from the proposed residential development site, including those slowing to turn right, as there is no warning sign proposed on the approaches regarding the minor access ahead.

Recommendations

1. Provision should be made for suitable advance warning for the site on the approaches from each direction.

2. The offset to the roundabout should be checked to ensure the requirement of DN-GEO-03060 June 2017 have been satisfied, with a permitted relaxation to 50m clearance from 90m on a local or regional road.

2.3 NON-MOTORISED USER PROVISION

2.3.1 Problem – Pedestrian and Cyclist Provision

No details were provided to the Audit Team on the likely pedestrian and cyclist demands and desire lines to and from the development, or existing pedestrian demands on Scholarstown Rd or Orlagh Grove along the site boundary, however relatively low VRU usage of the links was observed at the time of the site visit. The following issues were noted on the preliminary design layout, which should be taken into consideration as the site design progresses:

- Scholarstown Rd is currently configured with segregated off road footways and cycleways, with the cycling facilities terminating on entry to Orlagh Grove, and there is no provision for connectivity between the site and the existing cycling infrastructure on Scholarstown Rd.

- Bicycle parking has been shown within the site, however the provision for safe cyclist accessibility to and from these spaces has not been shown, as proposed footway widths are narrow, and insufficiently wide for shared use. Pedestrians and cyclists using the restricted space will be vulnerable to conflict.

- A narrow footway has been provided on the southern side of the access road to the site, as highlighted in figure 17, which terminates abruptly and does not include provision for safe crossing to the footway on the opposing side of the carriageway. Pedestrians will be vulnerable at this location, particularly those who are mobility and visually impaired.

- The footway is also too narrow adjacent to the bicycle parking adjacent to the access junction, leading to increased risk of conflict between pedestrians and cyclists, with road users potentially forced out into the carriageway at this location to avoid conflict, into the path of oncoming vehicles.

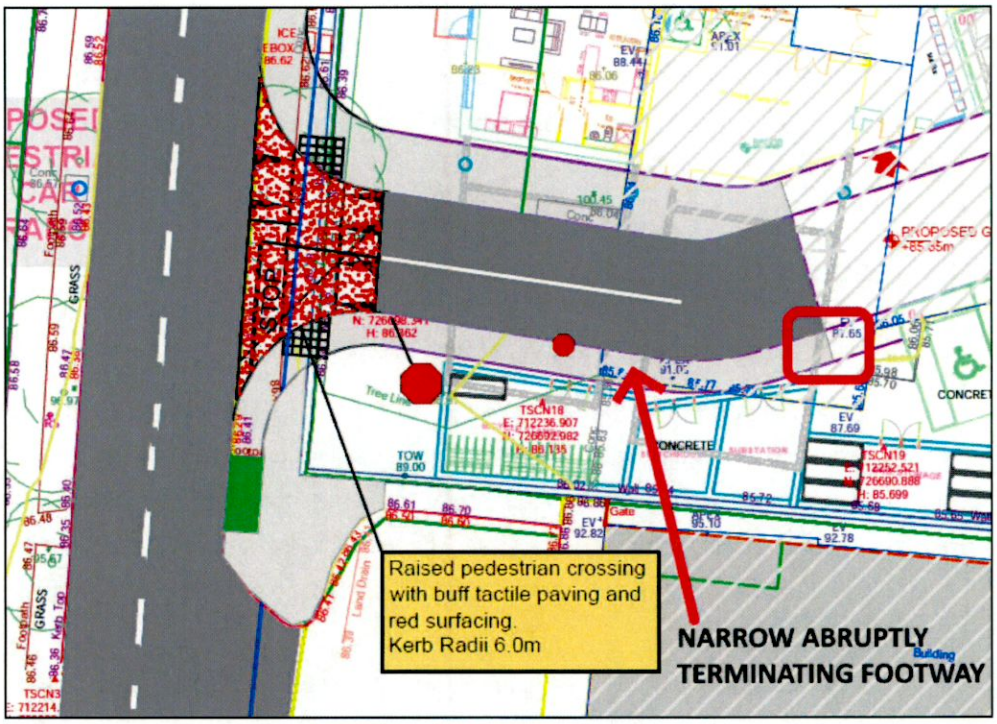


Figure 17: Narrow abruptly terminating footway with insufficient space for shared use

- Poor intervisibility was noted at the existing access to the site off Orlagh Grove, as outlined previously, and as shown in figure 18.

Figure 18: High wall reducing intervisibility at existing access point to site

- There is no provision for footways to the rear of the parking spaces highlighted in figure 19, to minimise the risk of conflict with passing and turning vehicles.

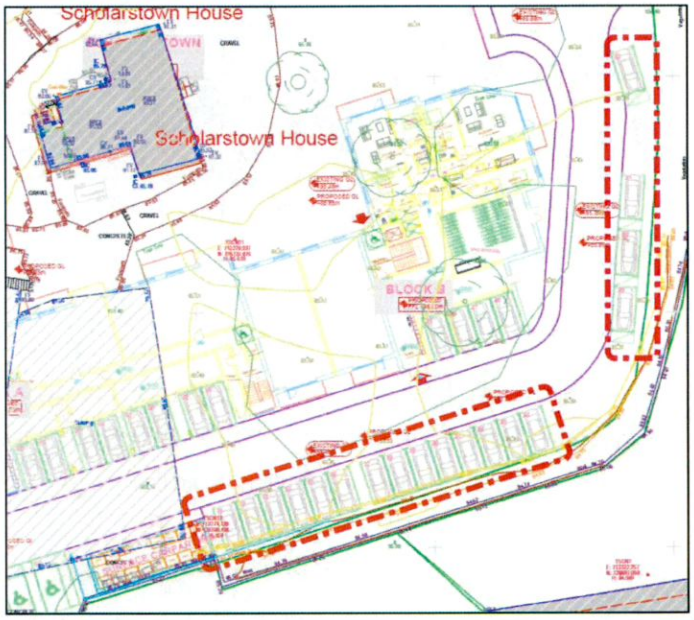


Figure 19: No provision for footways adjacent to parking areas

- There is no provision for safe crossing of the Orlagh Grove carriageway to the south of the proposed site access, with non-standard crossing points shown adjacent to the Spar Access, which is narrow with insufficient dropped kerb and tactile paving provision, as shown in figure 19, and reduced intervisibility also noted due to the location of mature tree trunks within the verges adjacent, as well as the high wall on the eastern side of the crossing. Intervisibility obstructions increases the risk of pedestrian/vehicular conflict.

Figure 20: Narrow Crossing Point with Poor Intervisibility

Recommendations

1. Pedestrian activity, desire lines and demands at the site should be considered as necessary in the final design layout, with due regard for all neighbouring land uses and all likely VRU desire lines, and facilities should not terminate abruptly or transition to narrow substandard facilities where obstructions arise, including obstructions from parked vehicles.

2. Intervisibility between pedestrians and motorists should not be compromised by any vegetation or boundary treatment. Pedestrians should be clearly visible from a point 2m

back from both sides of each crossing point across the path of motorised traffic, on all approaches.

3. The demand for crossing the carriageway of Orlagh Grove to the south of the site access point should be assessed, with provision for safe crossing facilities where necessary.

4. Cyclist activity, desire lines and demands should be investigated further at detailed design stage with safe connectivity to and from the existing cycling infrastructure on Scholarstown Rd, ideally segregated from vehicular traffic where feasible.

5. TSM RUS Signage should be provided at the start and end of all pedestrian and cycling facilities, and safe wayfinding should also be provided to and from secure bicycle parking spaces on the site, with rights of way and priority to be clear at all potential conflict points between pedestrians and cyclists, to include suitable ladder and tramline tactile paving guidance at conflict points between pedestrians and cyclists to alert these road users to the potential for conflict. Provision should also be made for suitable VRU road marking symbology where necessary, in accordance with the requirements of the Traffic Signs Manual, to include refreshing any existing worn markings on the pedestrian and cycling infrastructure, which were noted on Scholarstown Rd.

6. Clear lining and signing should be provided at the start and end of all cycling facilities, with provision for transition kerbs where necessary to facilitate transfer from on to off road facilities.

7. A minimum footway width of 2m should be provided in an urban area where high footfalls are anticipated, including relatively high proportions of mobility impaired pedestrians, to be reduced to an absolute minimum 1.5m where there are isolated obstructions only, including signs and lighting columns.

8. All shared VRU spaces to be used by both pedestrians and cyclists throughout and surrounding the site should be a minimum 3m wide to be increased where a demand for two-way cycling movement is anticipated.

9. Longitudinal gradients on all pedestrian routes and facilities should be relatively level, with a maximum longitudinal gradient of 5% over short distances only. Gradients exceeding 3%

should be accompanied by suitable high friction surfacing to minimise the risk of slipping in wet and icy conditions and handrails on any accessibility ramps.

10. Parking areas should be clearly distinguishable from pedestrian circulation areas for the benefit of visually impaired pedestrians as outlined previously, and footways should ideally be provided to the rear of parking spaces to minimise the risk of conflict and to prevent pedestrians have to walk within the area where vehicles will be passing, turning and reversing from perpendicular parking bays.

11. Tactile paving should be provided at all desire lines where pedestrians are crossing the path of traffic, and at the top and bottom of any steps, in accordance with 'Guidance on the Use of Tactile Paving Surfaces', with dropped kerbs provided where necessary, and with all dropped kerbs to be flush with the carriageway, or to have a maximum upstand of 6mm, including on cyclist desire lines. The maximum kerb upstand of 6mm should be installed on all pedestrian desire lines throughout the site, particularly those which may be used by cyclists and mobility impaired pedestrians, including those using walking aids and wheelchairs.

12. Tactile paving should be the correct colour and configuration, to include correct width and orientation of the blister surfacing towards paving/crossing point on the opposite side of the carriageway at each controlled or uncontrolled crossing point.

13. Suitable dropped kerbs should be provided adjacent to the proposed disabled parkings bays, with clear unobstructed dwell areas and footways to be provided away from areas where traffic will be circulating, and on all identified desire lines.

2.4 ROAD SIGNS, MARKINGS AND LIGHTING

2.4.1 Problem – Lighting Column Location

New lighting columns have been shown within the site, however they appear to be located in close proximity to the kerb edges where vehicles will be turning and reversing, presenting an increased risk that the columns may be struck. Column locations may also obstruct the movement of pedestrians and cyclists on the narrow internal footways. A full review of existing lighting provision was not possible at the time of the site visit, however it was noted that existing lighting on Scholarstown Rd adjacent to the site appears dated, and a lamp was also missing from one of the columns, as shown in figure 21. The dense tree foliage within verges on both

sides of Orlagh Grove are also likely to reduce the effectiveness of street lighting. Insufficient lighting within or surrounding the site may lead to an increased risk of road user conflict during the hours of darkness.

Figure 21: Missing Lighting Lamp on Column at site boundary

Recommendations

1. Existing Lighting Provision surrounding the site should be reviewed and enhanced where necessary to ensure the boundary of the site and all site approaches are well lit in the hours of darkness.

2. All new lighting columns should be provided at a sufficient offset from the carriageway edge to minimise thee risk of being struck by passing and turning vehicles, with a minimum recommended 450mm to be provided in urban environments. Where columns cannot be moved, provision should be made for suitable protection to prevent vehicle strike.

3. Lighting columns should ideally be located to the rear of footways in a location which does not obstruct the movement of VRUs.

4. Internal site lighting should not interfere with lighting on the external public road network, and should not cause dazzle to passing motorists.

2.4.2 Problem – Signing and Lining Generally

There was no signing and lining schedule provided, however the following lining and signing issues were noted, which should be considered at detailed design stage:

- there is no provision for cul de sac signs on entry to the link.

- Proposed signs may obstruct footways, and may not be mounted at a sufficient height to prevent overhead hazards for cyclists and pedestrians.

- No signs or markings have been provided to denote bicycle parking, disabled parking bays or EV bays.

- There is no provision for minor road warning signs to alert motorists to the presence of a junction and potential conflict with turning traffic

- There is no provision for ramp warning signs for the raised pedestrian crossing at the site access, however the proposed dragon's teeth markings should provide good visibility of the hazards during the hours of darkness.

- There are no existing centreline markings on Orlagh Grove, aside from on the approach to the roundabout to the north of the proposed site access, although non-standard centreline road markings have been shown on the preliminary design layout. Vehicles waiting to turn right into the site may encroach over the carriageway centreline to wait at an inappropriate location, increasing risks with oncoming traffic, as well as obstructing the path of through traffic on the link.

- Existing signs are obscured by trees and overhanging vegetation within the verges, as shown in figure 22.

- There is no provision on the design drawing for the existing double yellow lines which are in place on both sides of the carriageway of Orlagh Grove at present, and the impact of the proposed site access on existing markings has not been shown.

Figure 22: Existing Warning Sign for roundabout ahead is Obstructed

Recommendations

1. The layout should be finalised at detailed design stage, taking into account all issues raised in this Stage 1 RSA report, with provision for suitable warning at an appropriate location in advance of the junction.

2. Any new signs should be placed in a location which is clearly visible to approaching motorists in accordance with traffic speeds, and at a suitable mounting height to minimise overhead hazards for pedestrians and cyclists.

3. All signs should be placed at a sufficient offset from the carriageway edge, minimum 450mm from the edge of the sign face to the kerb, to minimise the risk of being struck by passing or turning vehicles.

4. All new road markings and signage to be installed in accordance with the requirements of the Traffic Signs Manual, to include highly reflective material to ensure visibility during the hours of darkness.

3. AUDIT TEAM STATEMENT

We certify that we have visited the site and examined the drawings and information supplied. 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 of the scheme. The problems identified have been noted within the report, together with suggestions for improvements which are recommended to be studied for implementation. No one on the Audit Team has been otherwise involved with the design of the measures audited. This audit has been carried out in accordance with TII GE-STY-01024 Dec 2017.

Signed: _____ Date: 19/10/22

MIRIAM O'BRIEN

Signed: _____ Date: 19/10/22

ANTHONY SUMNER

APPENDIX A – ROAD SAFETY AUDIT BRIEF CHECKLIST

Have the following been included in the audit brief?: (*if 'No', reasons should be given below)*

	Yes	No
1. The Design Brief	☑	☐
2. Departures from Standard	☐	☑
3. Scheme Drawings	☑	☐
4. Scheme Details (e.g. signs schedules, traffic signal staging)	☐	☑
5. Collision data for existing roads affected by scheme	☐	☑
6. Traffic surveys	☐	☑
7. Previous Road Safety Audit Reports and Designer Responses/Feedback Form	☑	☐
8. Previous Exception Reports	☐	☑
9. Start date for construction and expected opening date	☐	☑
10. Any elements to be excluded from audit	☐	☑
Any other information?	☐	☑

APPENDIX B – SITE PHOTOGRAPHS


AA


RAMPS


EUROSPAR


dpd

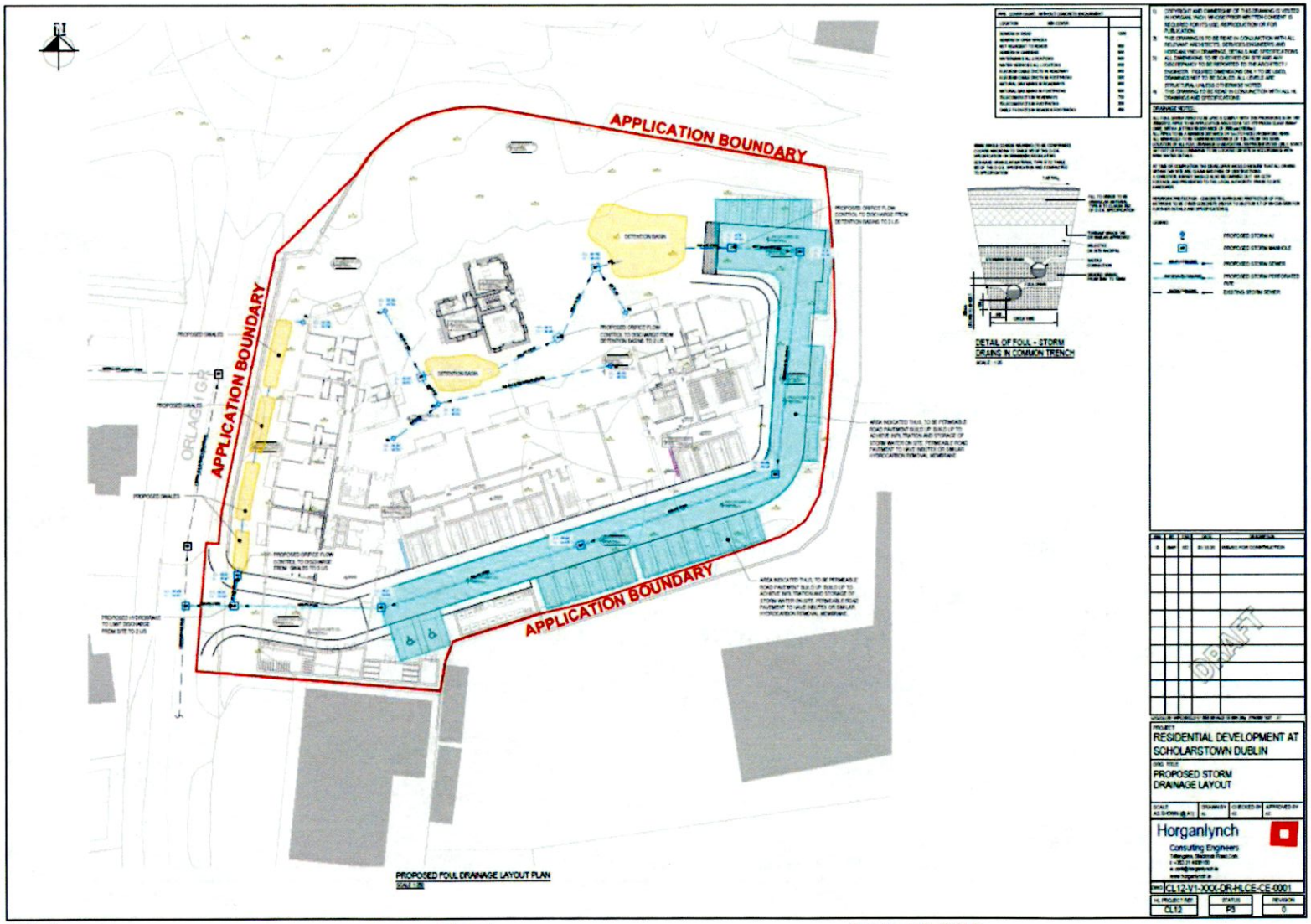

BWG
BRUSCAR
LITTER

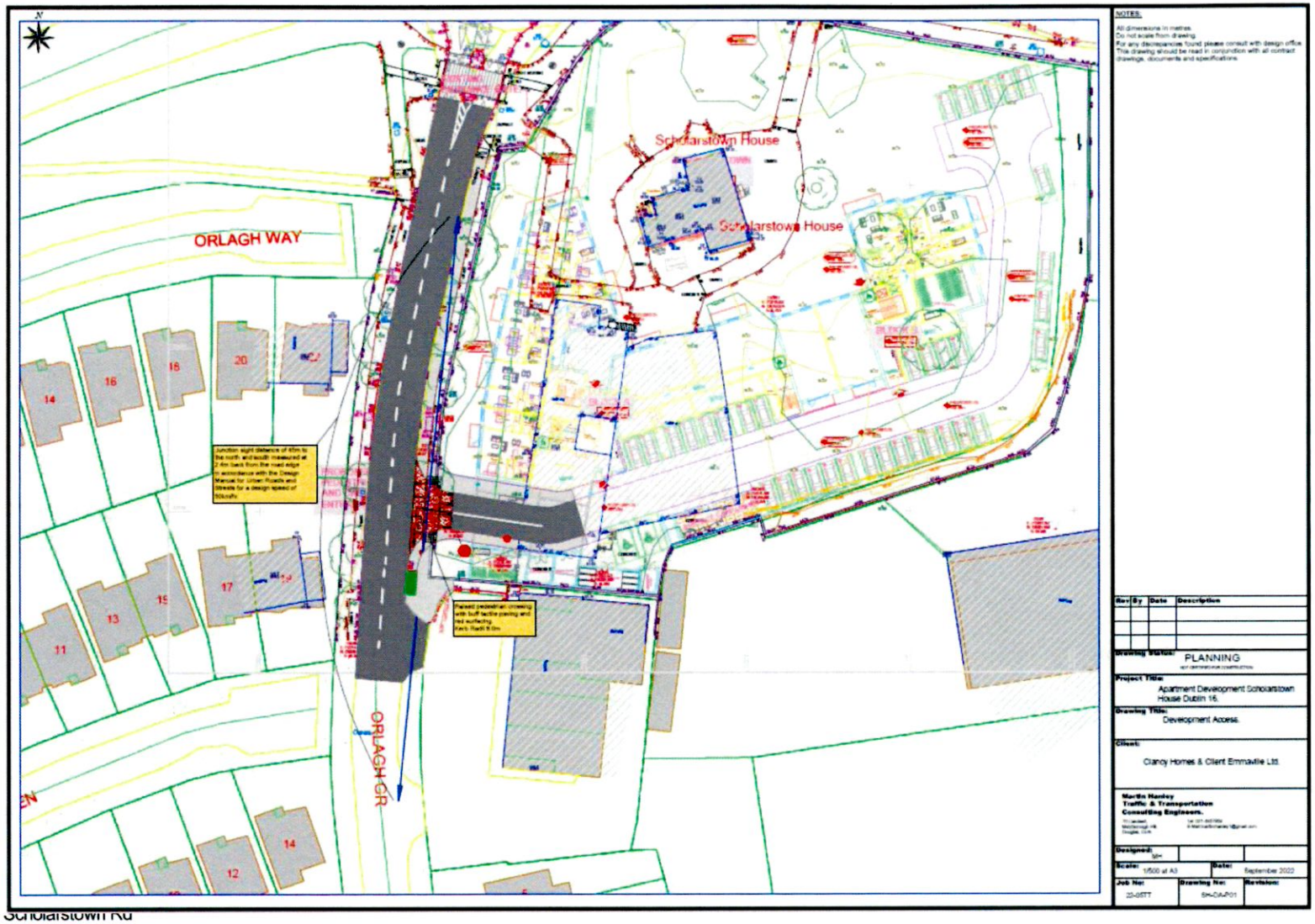

EUROSPAR
chutni
LUCKY STAR TAKE AWAY

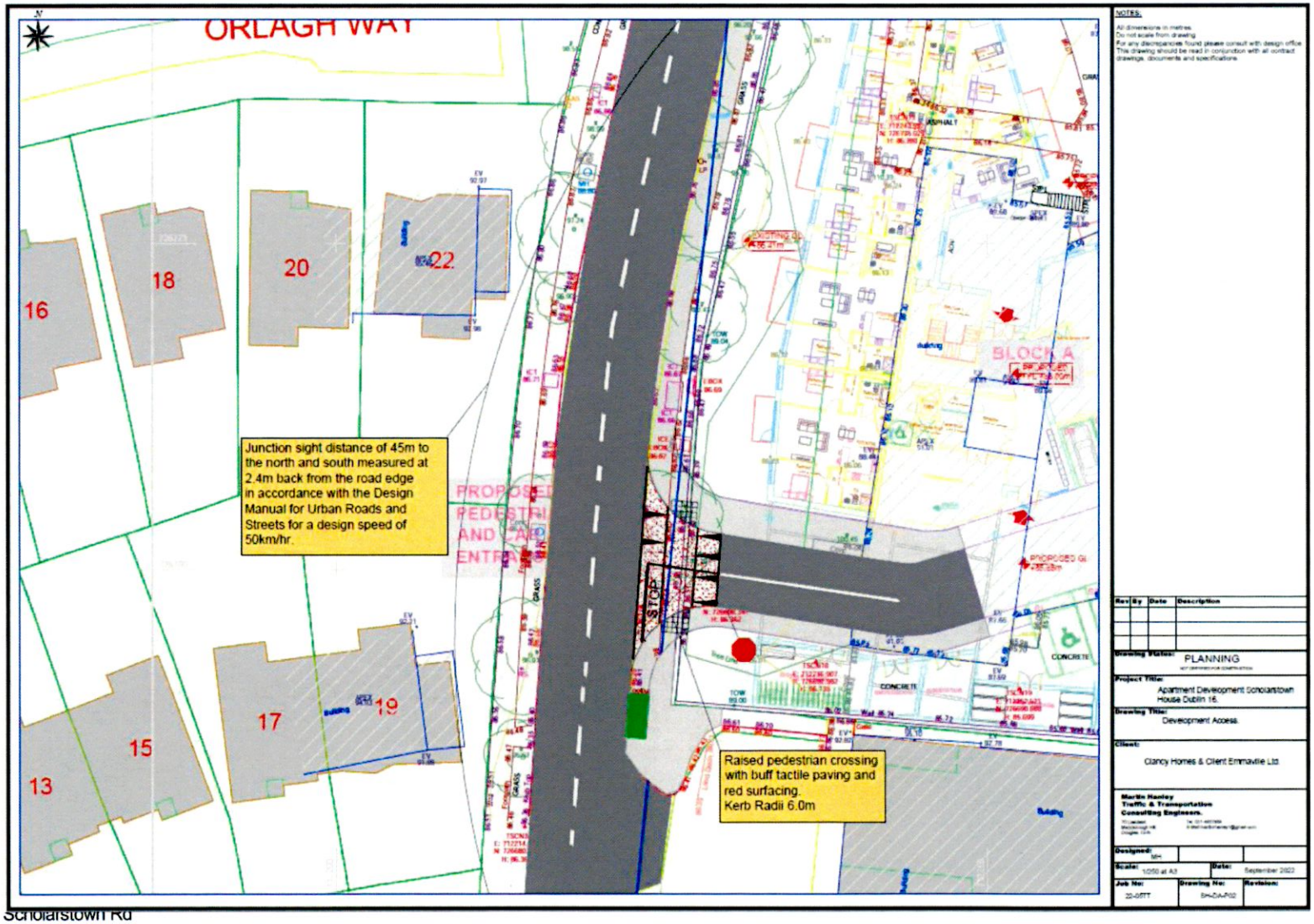
APPENDIX C – DESIGN DRAWING(S)

Road Safety Matters Ltd
Urlingford Rd, Johnstown
Kilkenny, Ireland E41 W721
Tel +353 (0)56 883 8428
mobrien@roadsafetymatters.net
www.roadsafetymatters.net

Company Registration No 657952 VAT No IE 3649269UH


APPLICATION BOUNDARY
APPLICATION BOUNDARY
APPLICATION BOUNDARY
DETAIL OF FOUL + STORM DRAINS IN COMMON TRENCH
PROPOSED FOUL DRAINAGE LAYOUT PLAN
DRAFT
RESIDENTIAL DEVELOPMENT AT SCHOLARSTOWN DUBLIN
PROPOSED STORM DRAINAGE LAYOUT
Horganlynch
Consulting Engineers
CL12-V1-XXX-DR-HLCE-CE-0001
CL12
P5
0


N
ORLAGH WAY
Scholarstown House
Scholarstown House
ORLAGH GR
14
16
18
20
11
13
15
17
12
14
Junction sight distance of 45m to the north and south measured at 2.4m back from the road edge in accordance with the Design Manual for Urban Roads and Streets for a design speed of 50km/h.
Raised pedestrian crossing with buff tactile paving and red surfacing.
Kerb Radii 9.0m
NOTES:
All dimensions in metres.
Do not scale from drawing.
For any discrepancies found please consult with design office.
This drawing should be read in conjunction with all contract drawings, documents and specifications.
Rev | By | Date | Description
Drawing Status: PLANNING
Project Title: Apartment Development Scholarstown House Dublin 16.
Drawing Title: Development Access.
Client: Clancy Homes & Client Emmaville Ltd.
Martin Hanley
Traffic & Transportation
Consulting Engineers.
Designed:
Scale: 1/500 at A3
Date: September 2022
Job No: 22-057T
Drawing No: SK-DA-P01
Revision:


ORLAGH WAY
16
18
20
22
13
15
17
19
Junction sight distance of 45m to the north and south measured at 2.4m back from the road edge in accordance with the Design Manual for Urban Roads and Streets for a design speed of 50km/hr.
Raised pedestrian crossing with buff tactile paving and red surfacing.
Kerb Radii 6.0m
STOP
BLOCK A
PROPOSED
ASPHALT
CONCRETE
NOTES:
All dimensions in metres.
Do not scale from drawing.
For any discrepancies found please consult with design office.
This drawing should be read in conjunction with all contract drawings, documents and specifications.
Rev By Date Description
Drawing Status: PLANNING
Project Title: Apartment Development Scholarstown House Dublin 16.
Drawing Title: Development Access.
Client: Glancy Homes & Client Emmaville Ltd.
Martin Hanley Traffic & Transportation Consulting Engineers.
Designed: MH
Scale: 1:250 at A3
Date: September 2022
Job No: 22-067T
Drawing No: SK-DA-P02
Revision:

Road Safety Audit Feedback Form

Scheme: Apartment Development Access, Scholarstown Rd, Rathfarnham, Dublin
Route No. N/A
Audit Stage: 1
Date Audit Completed: Oct 2022

To Be Completed By Designer				To Be Completed by Audit Team Leader
Paragraph No. in Safety 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)
2.1.4	Yes	Yes	These items will be addressed	
2.1.5	Yes	Yes	These items will be addressed	
2.1.6	Yes	Yes	These items will be addressed	
2.1.7	Yes	Yes	These items will be addressed . Yes double yellow lining will be provided over the extents of the sightlines to prevent unauthorised parking	
2.2.1	Yes	Yes	These items will be addressed. A vehicle tracking analysis has be undertaken.	
2.2.2	Yes	Yes	These items will be addressed	
2.2.3	Yes	Yes	These items will be addressed	
2.2.4	Yes	Yes	These items will be addressed	
2.3.1	Yes	Yes	These items will be addressed	

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Company Registration No 657952 VAT No IE 3649269UH

2.4.1	Yes	Yes	These items will be addressed	
2.4.2	Yes	Yes		

Signed: _____ Designer Date 14/10/2022

Signed: _____ Audit Team Leader Date 19/10/22