

Title: **Stage 1 Road Safety Audit**

For;

**Proposed Strategic Housing Development, Greenpark
Housing.**

Client: **PUNCH**

Date: **September 2021**

Report reference: **1153R01**

VERSION: **FINAL**

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1.0 Introduction

This report was prepared in response to a request from Mr. Donal Gallery, PUNCH Consulting Engineers, for a Stage 1 Road Safety Audit of the proposed strategic housing development (SHD) at Greenpark, Limerick.

The Road Safety Team comprised of;

Team Leader: **Norman Bruton**, BE CEng FIEI, Cert Comp RSA

TII Auditor Approval no. NB 168446

Team Member: **Owen O'Reilly**, B.SC. Eng Dip Struct. Eng NCEA Civil Dip Civil. Eng CEng MIEI

TII Auditor Approval no. OO1291756

The Road Safety Audit comprised of an examination of drawings and other material provided by PUNCH and a site visit by the Audit Team on the 3rd of September 2021. The weather at the time of the site visit was dry and the road surface was also dry.

This Stage 1 Road Safety Audit has been carried out in accordance with the requirements of TII Publication Number GE-STY-01024, dated December 2017.

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety. It has not been examined or verified for compliance with any other standards or criteria.

The problems identified in this report are considered to require action in order to improve the safety of the scheme for road users.

If any of the recommendations within this safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observation are intended to be for information only. Written responses to Observations are not required.

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

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

A plan drawing showing the problem locations is contained in **Appendix C**.

2.0 Background

It is proposed to construct a strategic housing development at Greenpark in Limerick. The scheme also includes a link road to the Limerick Greyhound Stadium roundabout which in turn links with the N69 Dock Road, Greenpark Roundabout.

The proposed development is residential in nature and comprises of 371 residential units consisting of 157 no. semi-detached and terraced houses; 76 no. duplex units and 138 no. apartments and a creche. The development will also include all relevant infrastructure including parking areas, access roads, drainage, internal roads, pedestrian and cycle routes, services provisions, landscaping and boundary treatment and all associated site development and excavation works.

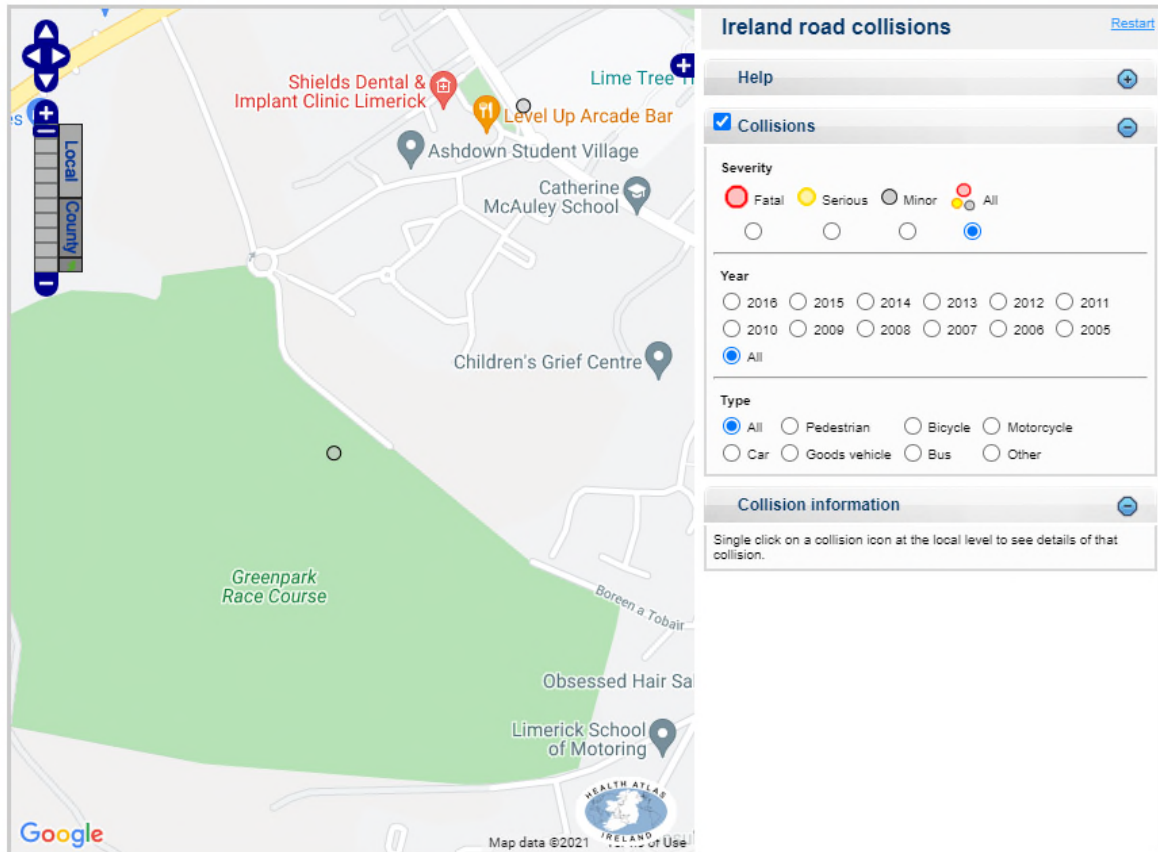
Pedestrian and cycle connections will be provided to Log Na gCapall and Greenpark Avenue.

The location of the site is shown below.



Site Location Map (image courtesy of openstreetmap.org)

The Road Safety Authority’s website shows that during the 12-year period 2005 to 2016 there were no recorded injury collisions in the vicinity of the site.



3.0 Issues Raised in This Road Safety Audit.

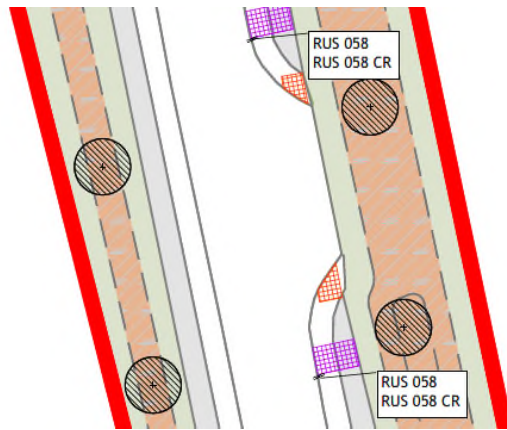
3.1 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0450 Rev PLO, Link Road.

PROBLEM

The footpath and cycle track merge into a single shared use crossing point at the potential future access on the Link Road southbound between the Greenpark Roundabout and the Greyhound stadium roundabout. This could lead to collisions between cyclists and pedestrians as they have to share a narrow space.



RECOMMENDATION

It is recommended that the cycle track be brought on-road across the junction without a shared area for pedestrians.

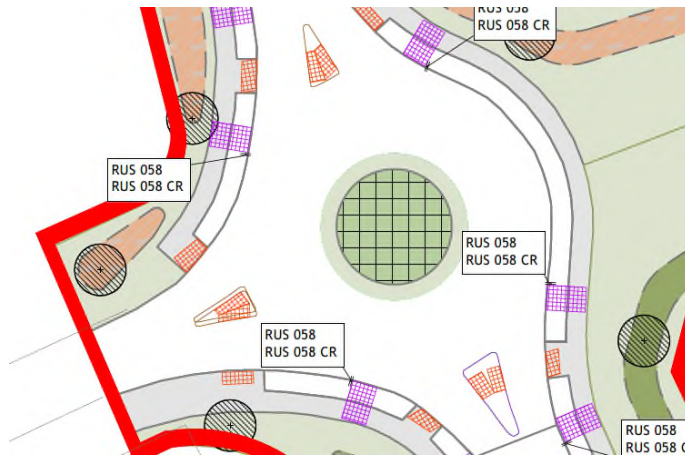
3.2 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0450 Rev PLO, Link Road.

PROBLEM

Two of the splitter islands at the greyhound stadium roundabout appear to be too small to be able to provide safe refuge for cyclists and pedestrians. If the islands are not wide enough, pedestrians with bicycles or those pushing buggies may be struck by passing vehicles.



RECOMMENDATION

It is recommended that the traffic islands be made sufficiently large to cater for vulnerable road users.

3.3 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0451 Rev PLO, Link Road.

PROBLEM

There is a relatively long distance between the greyhound stadium roundabout and the proposed roundabout leading to the proposed residential development. This link also has a relatively straight alignment. There is a risk that drivers will travel at excessive speed along this section which could lead to high injury severity if a vulnerable road user is struck.

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PUNCH



RECOMMENDATION

It is recommended that traffic calming be provided along this section of the Link Road.

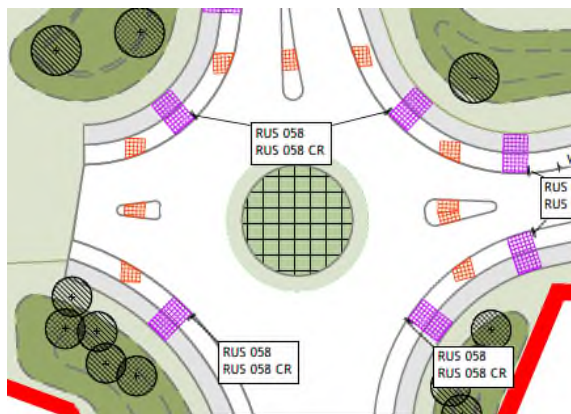
3.4 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0451 Rev PL0, Link Road.

PROBLEM

The splitter islands at the proposed new roundabout appear to be too small to be able to provide safe refuge for cyclists and pedestrians. If the islands are not wide enough, pedestrians with bicycles or those pushing buggies may be struck by passing vehicles.



RECOMMENDATION

It is recommended that the splitter islands be made sufficiently large to cater for vulnerable road users.

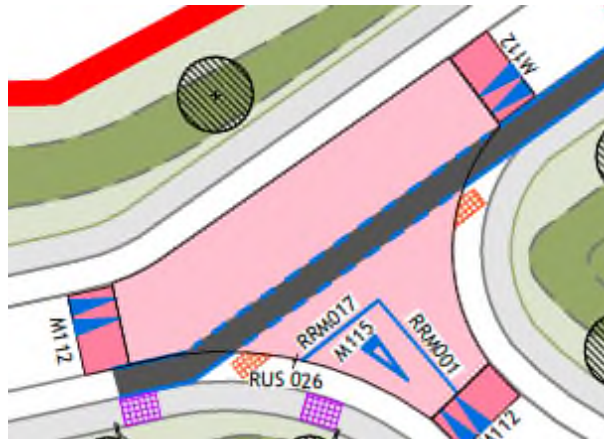
3.5 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0451 Rev PL0, Development Access from Link Road.

PROBLEM

The corner radii at the junction into the proposed residential area are high. This could lead to high turning speeds and possible collisions with pedestrians and cyclists. It is also proposed to provide a yield control which would also lead to higher turning speeds.



RECOMMENDATION

It is recommended that tighter corner radii are provided in accordance with the guidance in DMURS and that a stop control is provided.

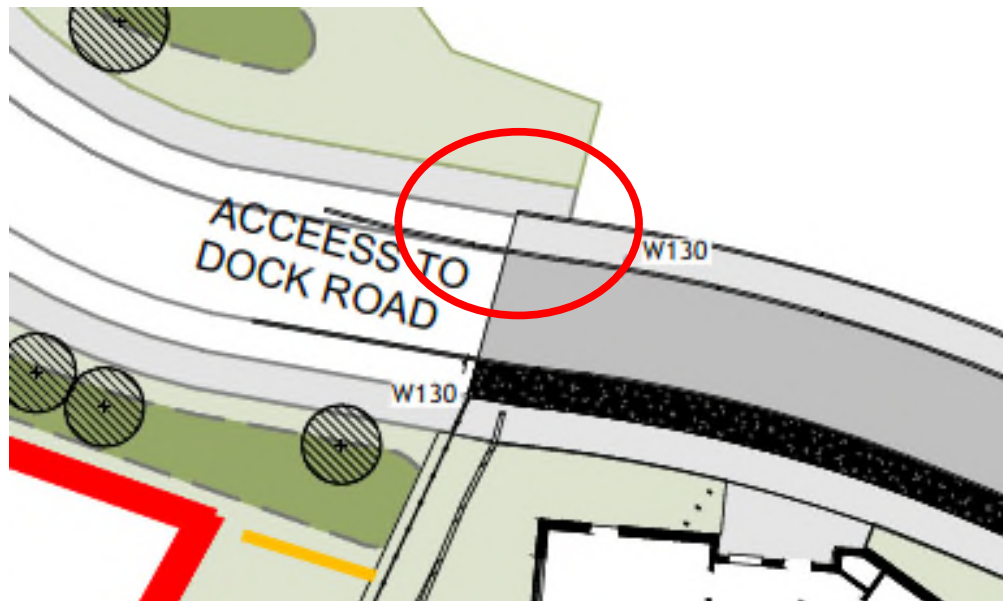
3.6 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0451 Rev PL0, cycle track provision in residential area.

PROBLEM

There is a change in cross section at the main access road outside the creche. The cycle track terminates suddenly. This could lead to cyclists sharing the footpath with pedestrians which may lead to collisions between those two user groups due to a lack of space for both.



RECOMMENDATION

It is recommended that a consistent cross section to be provided along the main access road.

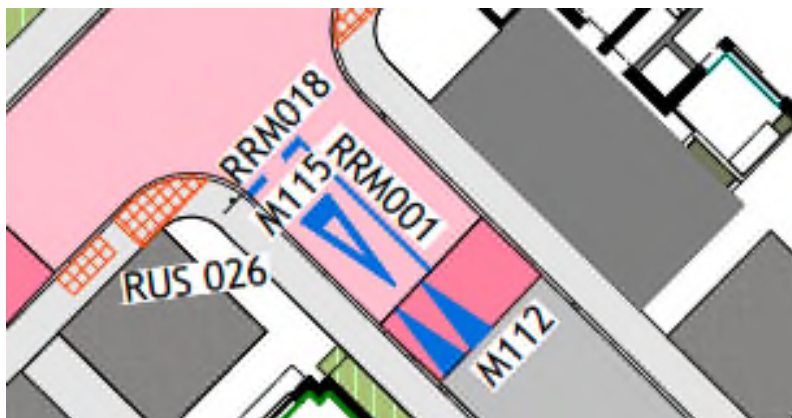
3.7 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0452 Rev PL0, throughout the scheme, yield control junctions.

PROBLEM

It is proposed to provide yield control junctions throughout the scheme. This could lead to higher turning speeds and in turn higher injury severity if vulnerable road users are struck.



Example only

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PUNCH

RECOMMENDATION

It is recommended that stop control be provided in lieu of yield control.

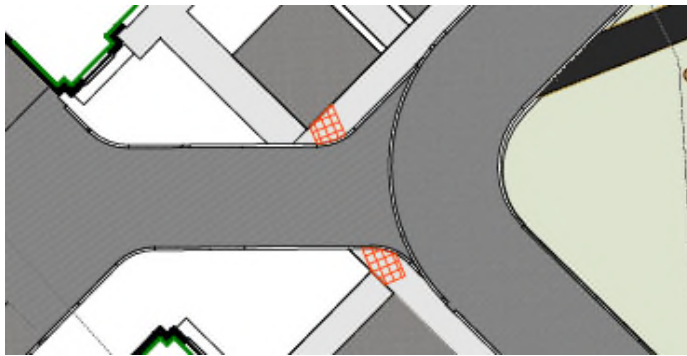
3.8 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0452 Rev PLO, The Paddocks.

PROBLEM

It is proposed to provide vehicle access to 2 no. residential units at five of the corners of The Paddocks. At these accesses points the footpath is to be terminated and dropped kerbs and tactile paving provided. This gives priority to vehicular traffic which would be infrequent. It is anticipated that this area will be used regularly by children playing. Drivers may not anticipate pedestrians to cross and this may lead to a higher likelihood of a collision.



RECOMMENDATION

It is recommended that pedestrians be given priority and that the footpaths be made continuous with drivers having to stop and check for crossing pedestrians.

3.9 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0452 Rev PLO, The Paddocks.

PROBLEM

There is no provision for pedestrians to cross into the green areas at The Paddocks. The high kerbs may lead to accessibility for some mobility impaired pedestrians and may lead to trips and falls for others.



Example only

RECOMMENDATION

It is recommended that uncontrolled pedestrian crossing points be provided from the surrounding footpaths to the green areas.

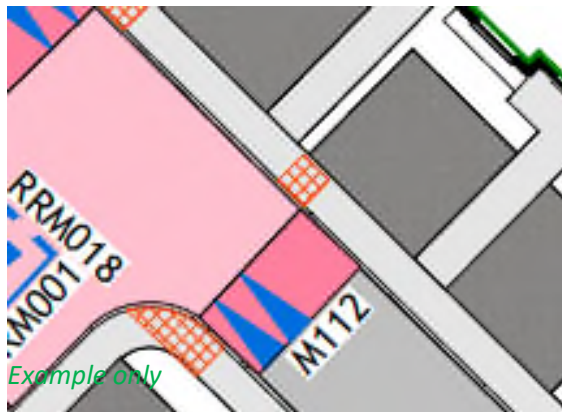
3.10 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0452 Rev PL0, General Item, uncontrolled crossing areas.

PROBLEM

There are uncontrolled pedestrian crossings at each of the raised tables at internal junctions within the development. At some locations the uncontrolled crossings are where vehicles will be reversing out of curtilage parking spaces. This may lead to collisions with small children who attempt to cross at the crossing point and vehicles whose drivers cannot see them in their mirrors. In addition, the tactile paving may not be capable of taking vehicular loading and may crack in time leading to trip hazards for pedestrians.



Example only

RECOMMENDATION

It is recommended that the crossing points be away from area where drivers will be reversing.

3.11 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0452 Rev PLO, Disabled parking spaces at the apartment block.

PROBLEM

There are 2 no. disabled parking spaces at the turning head along the apartment block. It is unclear if the occupants of those spaces will have a route without kerbs or hard surfacing to get to the main access of the apartment block. Without a suitable route for the mobility impaired drivers may have to park elsewhere which may block pedestrian routes.



RECOMMENDATION

It is recommended that access to the apartment block from the disabled parking spaces be provided as per the guidance in Technical Guidance Document of Part M of the Building Regulations.

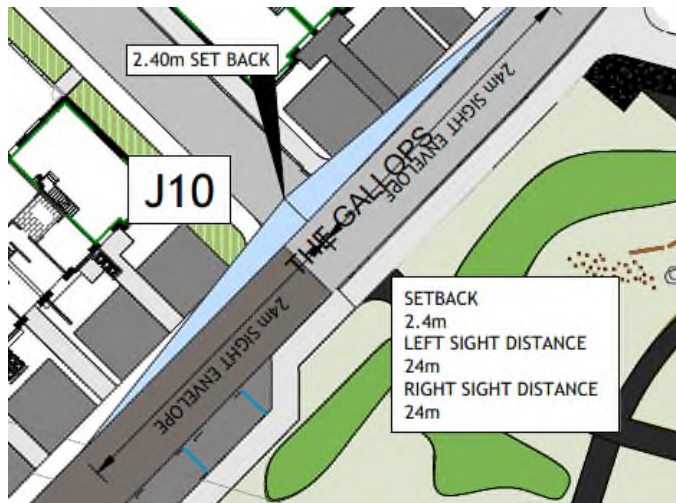
3.12 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0750 Rev PLO, J10 Sightlines.

PROBLEM

The visibility envelope at J10 intersects with the curtilage parking spaces for the residential unit to the left. This could lead to a lack of visibility for exiting drivers if the parking spaces are occupied by high vehicles such as vans or hatchback SUVs.



RECOMMENDATION

It is recommended that the visibility envelope be kept clear of obstructions.

3.13 Problem

LOCATION

Drawing 191325- PUNCH-XX-XX-DR-C-0453 Rev PL0, Parking area adjacent to Greenpark Avenue.

PROBLEM

There is a proposed one way circulatory route around the car park close to the Greenpark Avenue connection. There is a high likelihood that drivers will enter the wrong way leading to head-on collisions as the natural instinct would be to turn at the first access point and travel clockwise.



RECOMMENDATION

It is recommended that one way system be reversed.

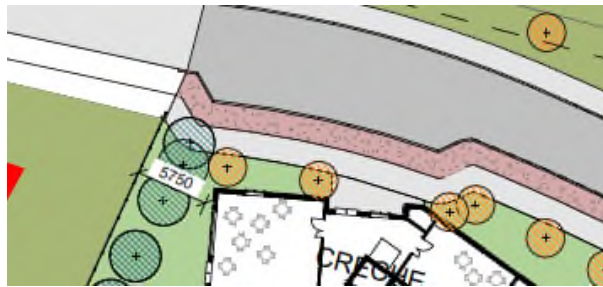
3.14 Problem

LOCATION

Drawing20133-RAU-ZZ-ZZ-DR-A-02.1004 Rev A

PROBLEM

This drawing shows a set down area outside the creche. The set down area is along the cycle track. There could be collisions between cyclists and opening doors from parked cars.



RECOMMENDATION

It is recommended that a shared area be provided along the set down and that a buffer zone be provided between the parked cars and the shared use area.

3.15 Problem

LOCATION

Site visit observation, existing road from Greenpark roundabout.

PROBLEM

The quality of the existing road/footway and cycle track from the Greenpark roundabout to the gates is relatively poor including settlement at chambers and trip hazards for vulnerable road users. The skid resistance of the surfacing course may not be adequate which could lead to overshoot of the roundabout or failure to stop in time if brakes have to be applied suddenly.



RECOMMENDATION

It is recommended that suitable repairs and resurfacing be carried out along this section.

4.0 Observations

4.1 Observation

It is assumed by the Audit Team that the gates on the Link Road south of Greenpark Roundabout will be removed.

4.2 Observation

Road gullies should be provided at the upstream side of all raised tables and ramps.

5.0 Audit Statement

We certify that we have examined the information provided and the site. The examination has been carried out with the sole purpose of identifying any aspects of the design which could be added, removed or modified in order to improve the safety of the scheme.

The problems identified have been noted in this report together with associated safety improvement suggestions which we would recommend should be studied for implementation. The audit has been carried out by the persons named below who have not been involved in any design work on this scheme as a member of the Design Team.

Norman Bruton Signed: 
(Audit Team Leader) Dated: 20-9-2021

Owen O'Reilly Signed: 
(Audit Team Member) Dated: 20-9-2021

Appendix A

List of Material Supplied for this Audit;

- Drawing191325-PUNCH-XX-XX-DR-C-0475 Road Sections 1 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0476 Road Sections 2 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0477 Road Sections 3 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0500 Standard Details Sheet 1 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0501 Standard Details Sheet 2 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0502 Standard Details Sheet 3 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0700 Autotrack Simulations 1 of 6
- Drawing191325-PUNCH-XX-XX-DR-C-0701 Autotrack Simulations 2 of 6
- Drawing191325-PUNCH-XX-XX-DR-C-0702 Autotrack Simulations 3 of 6
- Drawing191325-PUNCH-XX-XX-DR-C-0703 Autotrack Simulations 4 of 6
- Drawing191325-PUNCH-XX-XX-DR-C-0704 Autotrack Simulations 5 of 6
- Drawing191325-PUNCH-XX-XX-DR-C-0705 Autotracks Simulations 6 of 6
- Drawing191325-PUNCH-XX-XX-DR-C-0750 Sightlines
- Drawing20133-RAU-ZZ-ZZ-DR-A-02.1008
- Drawing191325-PUNCH-XX-XX-DR-C-0100 Drainage Layout 1 of 4
- Drawing191325-PUNCH-XX-XX-DR-C-0101 Drainage Layout 2 of 4
- Drawing191325-PUNCH-XX-XX-DR-C-0102 Drainage Layout 3 of 4
- Drawing191325-PUNCH-XX-XX-DR-C-0103 Drainage Layout 4 of 4
- Drawing191325-PUNCH-XX-XX-DR-C-0401 Proposed Road Layout 1 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0402 Proposed Road Layout 2 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0403 Proposed Road Layout 3 of 3
- Drawing191325-PUNCH-XX-XX-DR-C-0450 Roadmarking & Signage Layout 1 of 4
- Drawing191325-PUNCH-XX-XX-DR-C-0451 Roadmarking & Signage Layout 2 of 4
- Drawing191325-PUNCH-XX-XX-DR-C-0452 Roadmarking & Signage Layout 3 of 4
- Drawing191325-PUNCH-XX-XX-DR-C-0453 Roadmarking & Signage Layout 4 of 4
- Drawing20133-RAU-ZZ-ZZ-DR-A-02.1004 Rev A


Appendix B

Feedback Form

ROAD SAFETY AUDIT FORM – FEEDBACK ON AUDIT REPORT

Scheme: Greenpark, Limerick SHD
 Stage: Stage 1 Road Safety Audit
 Date Audit (Site Visit) Completed: 3rd September 2021

Paragraph No. in Quality Audit Report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measures (describe)	Alternative measures accepted by Auditors (Yes/No)
3.1	Y	Y		
3.2	Y	Y		
3.3	Y	Y		
3.4	Y	Y		
3.5	Y	Y		
3.6	Y	Y		
3.7	Y	Y		
3.8	Y	Y		
3.9	Y	Y		
3.10	Y	Y		
3.11	Y	Y		
3.12	Y	Y		
3.13	Y	Y		
3.14	Y	Y		
3.15	Y	Y		

Signed 
Design Team Leader

Date 14-09-21

Signed 
Audit Team Leader

Date 20-9-2021

Signed 
Employer/Developer

Date 14-09-21

Appendix C

Problem Location Plan.

