



RPS

Capacity Extension at Shannon Foynes Durnish Lands Development Stage 1 Road Safety Audit - Designers Response

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1 INTRODUCTION

This report has been prepared by RPS Consulting Engineers, Belfast in response to the Stage 1 Road Safety Audit prepared by ILTP Consulting, on behalf of Shannon Foynes Port Company, in relation to the development of the Dunrish lands at Shannon Foynes and associated external highway proposals.

This report answers the recommendations made in the Stage 1 Road Safety Audit with the same numbering system applied.

2 ITEMS RESULTING FROM THE STAGE 1 ROAD SAFETY AUDIT

GENERAL

PROBLEM 3.1.1

Location: *Existing junction to the immediate north of proposed new priority junction on existing main port access road.*

Summary: *Clarification on potential closely associated priority junctions*

The information provided for audit does not indicate if the existing priority junction to the north of the proposed road works on the main port access road is to be retained, and do not show tie-in details for same (junction highlighted in Figure 3.1). The proposed new priority junction to the south is in the immediate proximity of this existing junction. In the event where both junctions are incorporated into the development, this presents a potential risk that traffic may emerge from either junction without appropriate knowledge of traffic at the other intersection. Such closely spaced intersections also present a potential risk of road users incorrectly interpreting the road layout in this area and / or inappropriately indicating the intended direction of travel and coming into conflict.

Recommendation

It is recommended that the design team clarifies the proposed nature and configuration of the existing junction to the north of the proposed new priority junction, and how it is to be incorporated into the wider scheme. It is further recommended that the design team considers closing this existing access to vehicular traffic.

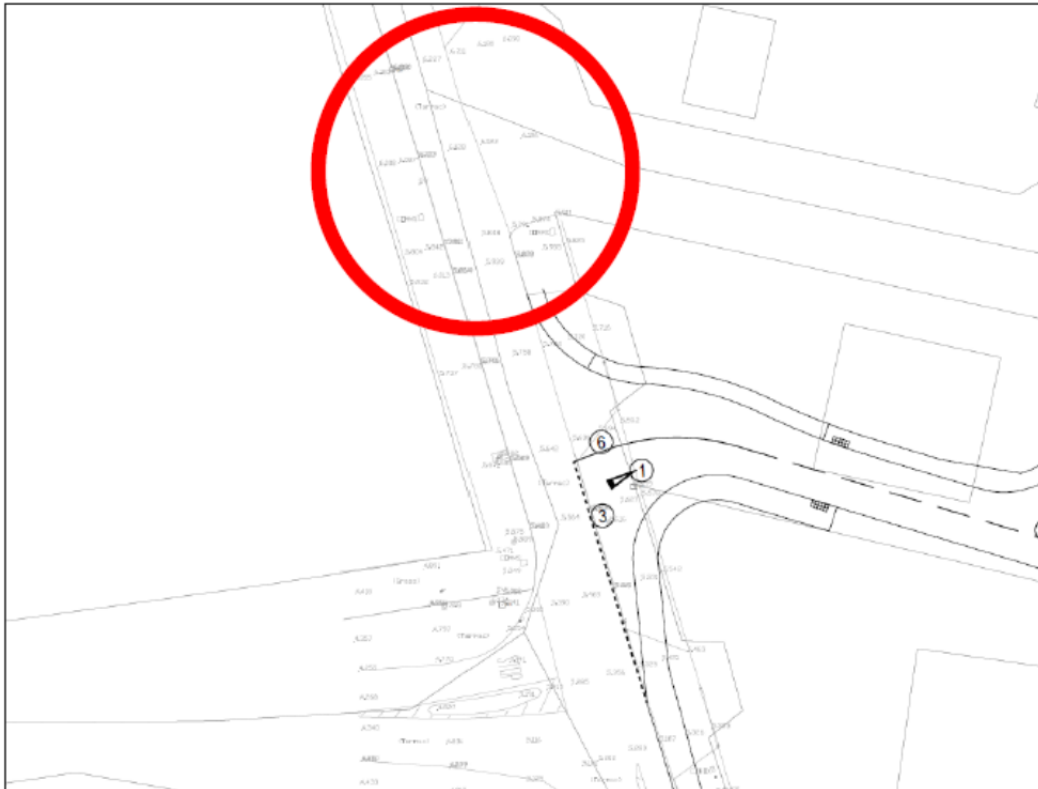


Figure 3.1: Existing Priority Junction in Immediate Proximity to Proposed New Priority Junction (Source: RPS drawing Proposed Road Markings – Sheet 1 of 4, ref: H0548-RPS-XX-00-DR-HE-110-02)

RPS Designers Response:

General comment: A preliminary design was prepared for the Stage 1 Audit. As with other elements of the design, this will be developed at detailed design stage at which time it can be assessed as part of a Stage 2 Road Safety Audit.

The design team can confirm that the existing junction to the immediate north of the proposed middle access road will be closed up to vehicular traffic and replaced by the proposed middle access road.

PROBLEM 3.1.2

Location: Proposed staggered junction arrangement on main port access road

Summary: HGV movements at proposed staggered junction arrangement

The drawings provided for audit show the proposed new priority junction with the main port access road to be staggered from the existing junction to the south (junctions highlighted in Figure 3.2). It is unclear how the existing junction is to be tied into the wider scheme. It is also unclear from the information provided if large vehicles such as HGVs can manoeuvre between these junctions, particularly if travelling from east to west, within the confines of

the carriageway. This presents a potential risk of other road users, particularly non-motorised users, being struck by passing vehicles, including trailers of HGVs.

Recommendation

It is recommended that the design team clarifies the proposed nature and configuration of the existing junction to the south of the proposed new priority junction, and how it is to be incorporated into the wider scheme.

It is further recommended that the design team ensures appropriate swept path analyses are completed to ensure that the anticipated vehicle types and vehicle speeds can be safely accommodated by the proposed junction arrangement within the confines of the carriageway, and adjust the carriageway alignment, if required.



Figure 3.2: Proposed Staggered Priority Junction Arrangement on Main Port Access Road (Source: RPS drawing Proposed Road Markings – Sheet 1 of 4, ref: H0548-RPS-XX-00-DR-HE-110-02).

RPS Designers Response:

It is acknowledged that the two junction intersections are spaced closely together however these junction intersections are considered to be lightly trafficked and are private roads, i.e. located within the private and secure Port owned and operated lands inside the control barrier to the port. Any traffic movement / operational issues will be managed by port staff and therefore the risk of road users incorrectly interpreting the road layout in

this area and / or inappropriately indicating the intended direction of travel and coming into conflict is not considered to be significant.

Please refer to the vehicle tracking provided in the response to Item 3.1.4.

PROBLEM 3.1.3

Location: *At location of proposed roundabout junction*

Summary: *Deflection on entry to roundabout*

The drawings submitted for audit indicate that there may be insufficient deflection at the entry to the roundabout for the northern and southern approaches. This presents a potential risk of vehicles failing to yield and / or entering the circulatory carriageway of the roundabout at an inappropriately high speed resulting in loss of control, side-swipe or side-impact type collisions.

Recommendation

It is recommended that the design team ensures that there is appropriate deflection for all approach arms to the roundabout. It is further recommended that the design is appropriate to the proposed design speed of the new installation.

RPS Designers Response:

The deflection at the proposed roundabout from the southern approach has been measured at 120m while the deflection from the northern approach has been measured at approximately 50m. The roundabout was originally designed for a minimum deflection curve of 100m from the southern approach however the entry width at the southern approach was amended to incorporate road widening as a result of the proposed security hut, associated barriers and express lane/layby between the existing railway crossing and the proposed roundabout.

It is noted that the roundabout and proposed access roads will be provided within private lands maintained by Shannon Foynes Port Company however all works will be constructed to adoptable standard. It is considered that the risk of vehicles failing to yield risk of vehicles failing to yield and / or entering the circulatory carriageway of the roundabout at an inappropriately high speed resulting in loss of control, side-swipe or side-impact type collisions will be mitigated due to the location of the security hut and associated barriers approximately 55m before the roundabout on the southern approach which will stop traffic and ensure that vehicles cannot approach the roundabout at speed. All vehicles entering the port must stop at the barrier to gain access, moving from a stationary position and therefore deflection in that direction is not an issue for through traffic.

It is not considered practical or necessary to provide more deflection due to the constraints offered by the existing road alignment, available lands and the position the existing railway crossing which coupled with the appropriate horizontal alignment design standards would not make it possible to realign the approach any further to achieve greater deflection without sacrificing other design standards.

PROBLEM 3.1.4

Location: *Throughout the extents of the proposals*

Summary: *HGV movements at junctions throughout the extents of the proposals*

It is unclear from the information provided for audit if large vehicles such as HGVs can manoeuvre through the proposed roundabout junction and priority junctions throughout the scheme within the confines of the carriageway. This presents a potential risk of other road users, particularly non-motorised users, being struck by passing vehicles, including trailers of HGVs.

Recommendation

It is recommended that the design team ensures appropriate swept path analyses are completed to ensure that the anticipated vehicle types and vehicle speeds can be safely accommodated by the proposed roundabout junction and priority junctions throughout the scheme within the confines of the carriageway, and adjust the carriageway alignment, if required.

It is further recommended that the design team ensures the proposed junctions throughout the scheme are appropriate in terms of scale, junction radii and general configuration to safely accommodate the anticipated HGV traffic in the port

RPS Designers Response:

All junctions have been designed to facilitate HGV movements. Typically all junctions have been provided with 15m radii with a 1:6 taper on approach and exist from the junction in accordance with DMRB standards. Vehicle tracking of the roundabout and middle access junction has been provided in Figure RPS3.1 & RPS3.2 below. Notwithstanding this, all junctions are located within private lands.

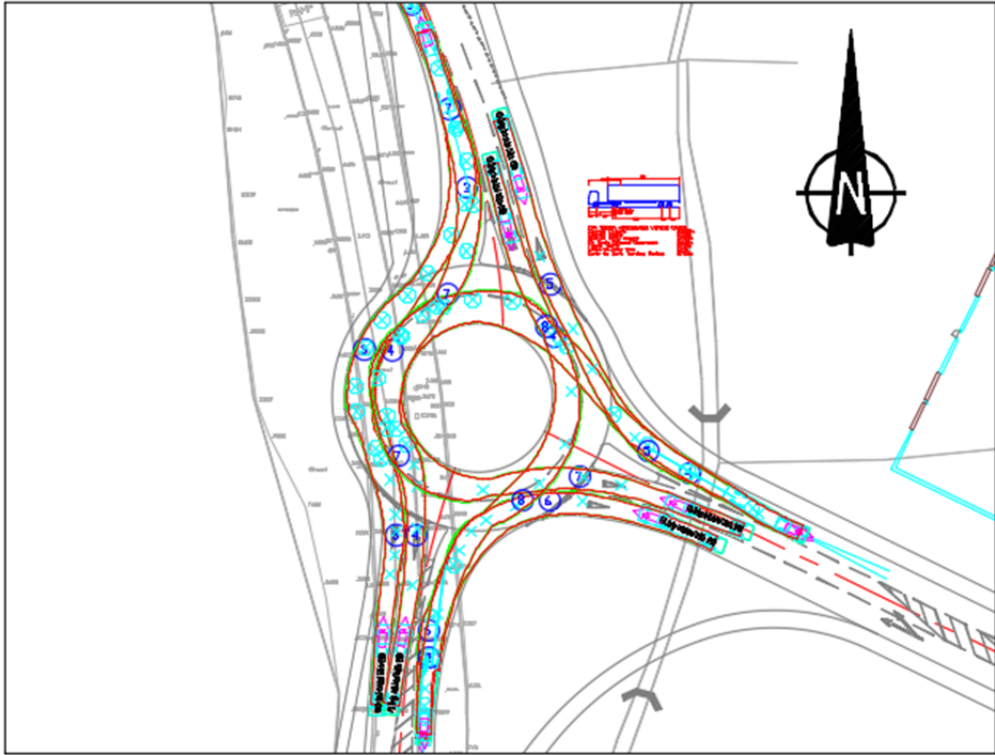


Figure RPS3.1: Roundabout Vehicle Tracking

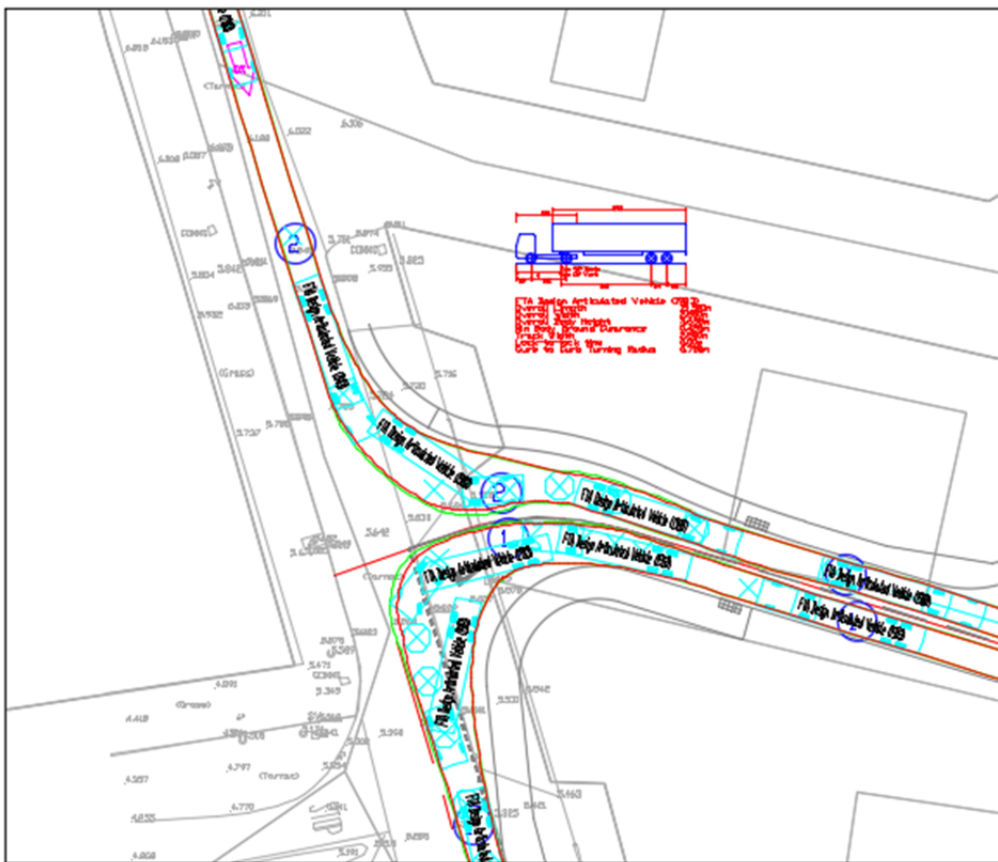


Figure RPS3.2: Middle Access Junction

PROBLEM 3.1.5

Location: *Proposed New Priority Junction on Main Port Access Road*

Summary: *Proposed Pedestrian Crossing Outside Desire Lines*

The pedestrian crossing located close to the proposed new priority junction on the main port access road (see Figure 3.3) appears to be well outside pedestrian desire lines for the majority of users and will potentially not be used by most pedestrians. This may potentially result in pedestrians or other non-motorised users crossing the carriageway at inappropriate locations and coming into conflict with passing traffic.

Recommendation

It is recommended that the design team ensures that there is appropriate continuity of pedestrian facilities at this junction along pedestrian desire lines.

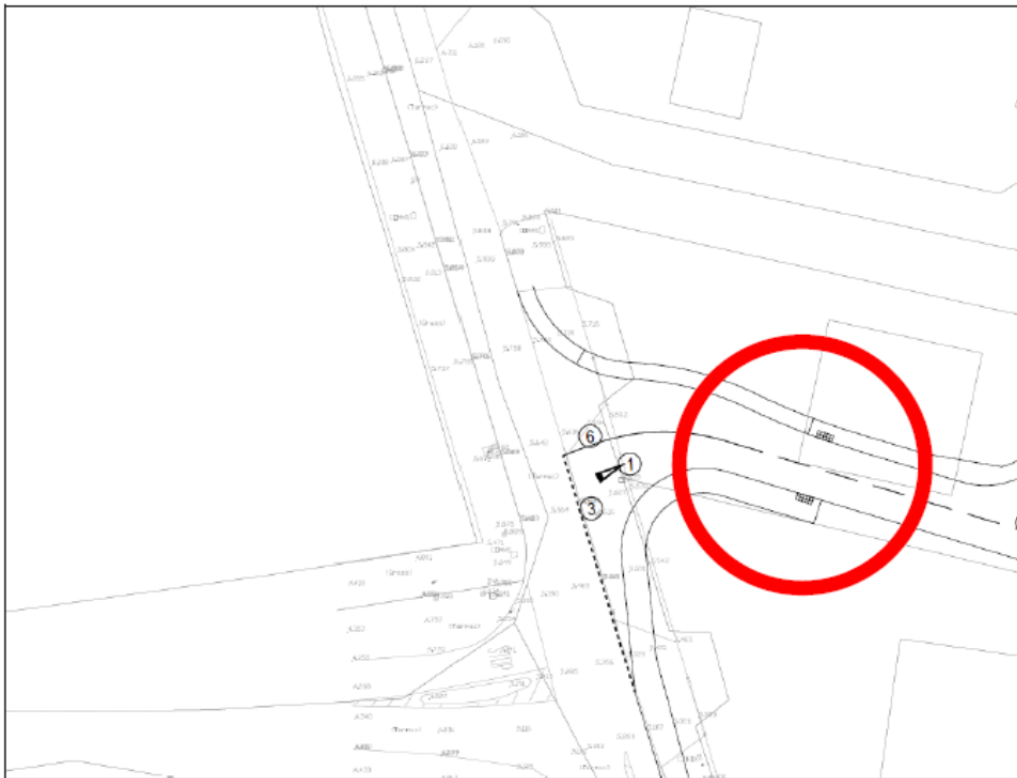


Figure 3.3: Proposed Uncontrolled Pedestrian Crossing in Vicinity of New Priority Junction on Main Port Access Road (Source: RPS drawing Proposed Road Markings – Sheet 1 of 4, ref: H0548-RPS-XX-00-DR-HE-110-02)

RPS Designers Response:

There is no footway on the existing port access road to the north of the proposed middle access junction, please see Figure RPS3.3 below which illustrates the footway and verge provision in this locality. There is therefore no pedestrian desire line which would result in pedestrians or other non-motorised users crossing the carriageway at this point.

The pedestrian crossing which is to be provided as shown crossing shown in Fig 3.3 is intended for pedestrians and non-motorised users travelling along the proposed footway from the roundabout and with a desire to access the Durnish Lands development.

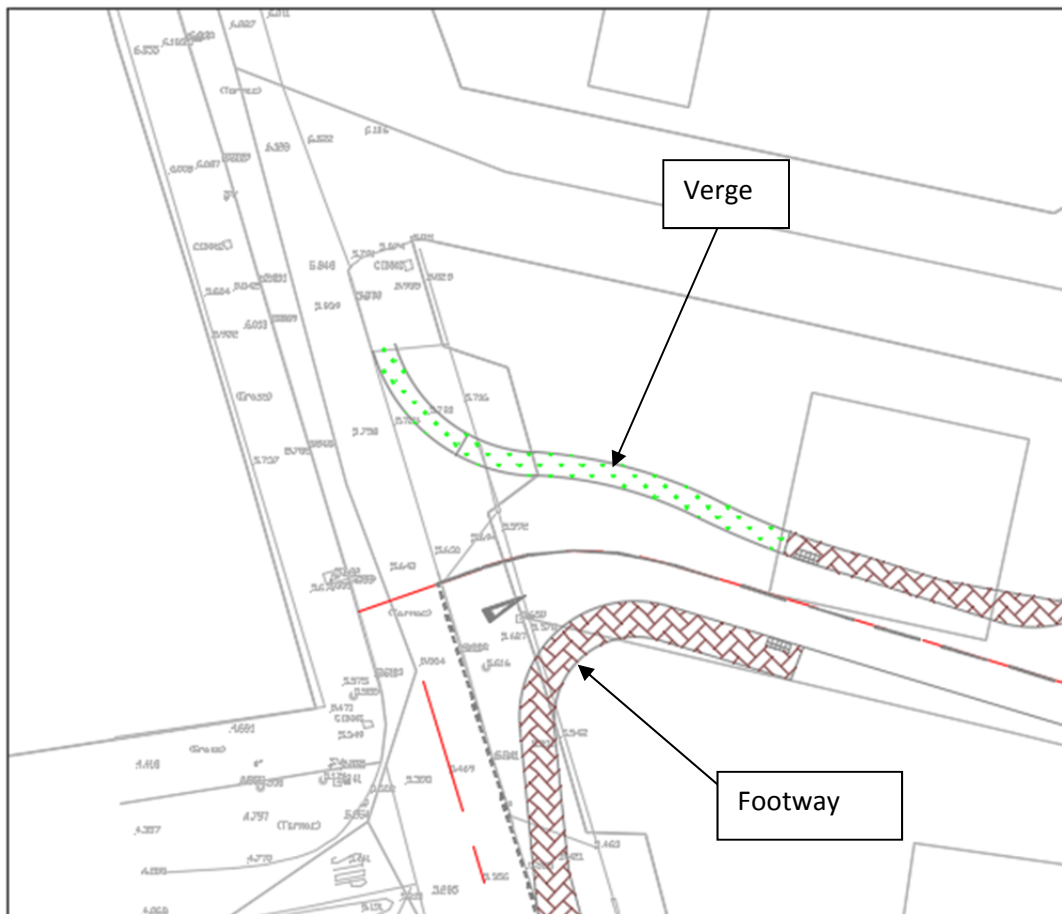


Figure RPS3.3: Middle Access Junction Verge and Footway Provision

PROBLEM 3.1.6

Location: Throughout the extents of the proposals

Summary: Pedestrian Facilities

The information provided for audit does not clearly indicate the extent, configuration and tie-in details of the proposed pedestrian facilities. Inadequate or inappropriate pedestrian facilities along pedestrian desire lines may potentially result in pedestrians or other non-motorised users entering the carriageway at inappropriate locations and coming into conflict with passing traffic

Recommendation

It is recommended that the design team ensures that there are appropriate pedestrian facilities throughout the scheme along pedestrian desire lines, and which appropriately tie-in to existing pedestrian facilities.

RPS Designers Response:

The design will be developed at detailed design stage, at which time the design team will ensure that there appropriate pedestrian facilities throughout the scheme along desire lines. This will mainly include the provision of tactile paving at all crossing points within the scheme extents. This provision can be assessed as part of a Stage 2 Road Safety Audit.

PROBLEM 3.1.7

Location: *Throughout the extents of the proposals*

Summary: *Signage*

The information provided for audit does not show details of signage. An inappropriate level of signage may lead to road users failing to yield where required and potentially coming into conflict with other road users.

Recommendation

It is recommended that the design team ensures that appropriate signage is included and subject to the RSA process.

RPS Designers Response:

The scheme signage design will be developed at detailed design stage at which time it can be assessed as part of a Stage 2 Road Safety Audit.

PROBLEM 3.1.8

Location: *Throughout the extents of the proposals*

Summary: *Drainage*

The information provided for audit does not show details of drainage. Without appropriate drainage the proposed road surface may pond with the potential to cause skid or slip accidents.

Recommendation

It is recommended that the design team ensures that appropriate drainage is included and subject to the RSA process.

RPS Designers Response:

This drainage design will be developed at detailed design stage at which time it can be assessed as part of a Stage 2 Road Safety Audit.

3 COMMENTS

It is recommended that a Stage 2 Road Safety Audit be undertaken at detailed design stage.

RPS Designers Response:

Agreed.

4 CONCLUSION

RPS shall implement the changes in accordance with comments made by the audit team and the responses above within the detailed design stage. There are some recommendations which RPS believe are not necessary due to the nature of the operation of the private port and the reasons for these have been given.

Signed for **RPS Consulting Engineers**

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