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Tipperary County Council

Templemore N62 / L3220 / Mall Junction

Quality Audit Report



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REPORT NAME Quality Audit Report

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Appendix 1 – DMURS Street Design Audit

Appendix 2 – Road Safety Audit

Appendix 3 – Walkability Audit



1.0 INTRODUCTION

This report outlines the findings of a Quality Audit carried out with respect to the proposed junction improvement works at the junction of the N62 / L3220 / Mall in Templemore, Co. Tipperary.



Figure 1-1 Site location

The audit has been carried out in accordance with the Design Manual for Urban Roads and Streets Advice Note 4 – Quality Audits. The design team has developed this Quality Audit through the design process and through a number of site visits as well as reference to other documentation including the Road Safety Audit, Feasibility and Options Report and Design Drawings.

2.0 DESCRIPTION OF PROPOSED DEVELOPMENT

The location of the proposed works are on the western approach to Templemore on the N62. The existing conditions were described in the Feasibility and Options Report as follows:

2.1 SPEED

The posted speed limit at this section of the N62 is 50km/hr. Observed speeds both from the site visit and Road Safety Audit were not observed as excessive.

2.2 TRAFFIC VOLUMES

The AADT of the route has been identified as 5000 from the 2017 NRpM.

2.3 HORIZONTAL ALIGNMENT

The N62 at this location is straight and both side roads have a straight approach to the junction at 90 degrees.

2.4 VERTICAL ALIGNMENT

All three roads forming the junction are well within vertical alignment standards.

2.5 CROSS SECTION CROSSFALL & SUPERELEVATION

2.5.1 Cross Section

The N62, a national secondary road has a cross section comprising:

- Two-way single carriage of approximately 7.0m in width, which narrows at O'Dwyer's Bridge to approximately 6.0m. On street parking is present on both sides of the carriageway east of O'Dwyer's Bridge.
- Footways are present on both side of the carriageway in the vicinity of the staggered crossroad junction. The footway width is variable between 1.8m-2.0m and narrows crossing the bridge to a width of approximately 1.2m.

Blackcastle Road is a local road with a speed limit of 50km/h, located to the north of the N62 and has a cross section comprising:

- Two-way single carriage of variable width approximately 9.0m.
- A footway of approximately 1.4m in width is present on the western side of the carriageway only.

The Mall Road is a local road with a speed limit of 50km/h, located to the south of the N62 and has a cross section comprising:

- Two-way single carriage of variable width, approximately 8.0m, with on-street parking both sides of the carriageway.
- Footways of varying width are present on both sides of the carriageway. The western footway is in poor condition.

2.5.2 Crossfall

There is 2.5% crossfall on the N62 from the Northern kerb falling south on approach to the junctions.

2.5.3 Superelevation

Not Applicable.

2.6 JUNCTIONS & ACCESSES

R62 Junction discussed in entire report not this section alone.

2.7 FACILITIES FOR VULNERABLE ROAD USERS

The crossing distance and guidance for pedestrians crossing the side roads is poor, in that there are narrow or non-existent footpaths with limited dropped kerb or tactile in place for pedestrians.

2.8 VISIBILITY & SIGHTLINES

During the site visit on street parking was observed in proximity to the N62 / Blackcastle Road / The Mall Junction, which may obstruct visibility. The existing parapet wall obstructs visibility exiting from Blackcastle Road.

The proposed development forms part of the infilling of a section of the River Mall as part of the rivers diversion. The works are centred on an existing bridge which will be rendered redundant as part of the works. The parapets of this bridge can be removed as part of the works and this provided an opportunity to improve the safety of the adjacent junction which was identified as having a safety issue under the TII Road Safety Inspection and Network Safety Analysis programmes. Figure 2-1 Accident Statistics shows the Network Safety Analysis for the junction produced by the TII.

Assessment of HD15 site N62TY_076.0			
Site Details	Collisions	Problem and Solution	Assessment Hist
Site Description Main Street Templemore. An assessment for this site was created for analysis round K and previous round.			
Site ID Local Authority Route No Chainage Length (km)	N62TY_076.0 North Tipperary, Tipperary N62 75 to 76 1		
Estimated AADT Injury Collision Rate Material Damage Collision Rate Threshold HCL	5031 72.6 0 Twice Above Rate Yes		
Collision Data			
Count of Collisions Fatal Collisions Serious Injury Collisions Minor Injury Collisions Material Damage Only Collisions	31 0 0 4 27		

Figure 2-1 Accident Statistics

The proposed works involve the following:

- Narrowing the existing road to allow for building out the footpath at the N62 / L3220 / Mall junction in order to improve visibility for traffic exiting the L3220 and Mall
- Removing the existing parapet walls to improve sightlines at the junction
- Providing appropriate pedestrian facilities and crossings at the junction
- Landscaping works at the junction
- Tie in to the existing footpaths
- Appropriate signing and lining for the junction



Figure 2-2 Proposed Scheme

3.0 QUALITY AUDIT SCOPE

The Quality Audit Report will summarise the issues raised within each individual Design Audit, identify any potential conflicts between audits and propose solutions. All solutions will be measured against the main objectives of the project and presented as a series of recommendations.

The individual Design Audits identified for this project were as follows:

- DMURS Street Design Audit
- Road Safety Audit
- Walkability Audit

4.0 DMURS STREET DESIGN AUDIT

The use of DMURS in urban areas is mandatory and the DMURS Street Design Audit is an auditing tool that can be used to ensure that the relevant issues contained within DMURS have been duly considered.

The DMURS Street Design Audit is primarily concerned with four major aspects of street design:

- Connectivity
- Self-Regulating Street Environment
- Pedestrian and Cycling Environment
- Visual Quality

The DMURS Street Design Audits consists of a series of short tables that can be used to cross check a design against the principles, approaches and standards contained within DMURS. In doing so, it should be clear that:

- The issue is relevant or not relevant.
- The issue has been considered in accordance with the principles of DMURS.
- The issue is addressed in a more detailed design audit (see Section 3.2)
- The relevant approach or standard has been applied.
- Or if not, why not, and what mitigation measures have been applied (i.e. what is the alternative solution).

The Street Design Audit for the Athboy Town Centre Project has been carried out using the template as provided from www.dmurs.ie and is shown below. The full report is in Appendix 1.

Connectivity		
Key Issues	Key DMURS Reference.	Design Response
Strategic routes/major desire lines been identified and are clearly incorporated into the design.	3.1 – Integrated Street Network 3.2.1 – Movement Function 3.3.1 – Street layouts 3.3.4 - Wayfinding	The proposal is localised at a junction on an Arterial Street. There is limited scope to provide for these requirements given these constraints.
Multiple points of access are provided to the site/place, in particular for sustainable modes.	3.3.1 – Street Layouts 3.3.3 – Retrofitting ¹	N/A
Accessibility throughout the site is maximised for pedestrians and cyclists, ensuring route choice.	3.3.1 – Street Layouts 3.3.2 – Block Sizes 3.4.1 – Vehicle Permeability	Crossing facilities should be provided on desire lines.
Through movements by private vehicles on local streets are discouraged by an appropriate level of traffic calming measures.	3.2.1 – Movement Function 3.2.3 – Place Context 3.4.1 – Vehicle Permeability	N/A

Self-Regulating Street Environment		
Key Issues	Key DMURS Reference.	Design Response
A suitable range of design speeds have been applied with regard to context and function.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.1.1 – A Balanced Approach to Speed ²	Given the location near on the approach to the town, reduced carriageway widths and junction radii should be incorporated into the design.
The street environment will facilitate the creation of a traffic calmed environment via the use of 'softer' or passive measures. ³	4.2.1 – Building Height and Street Width 4.2.2 – Street Trees 4.2.3 – Active Street Edges 4.2.4 – Signage and Line Marking 4.2.7 – Planting 4.4.2 – Carriageway Surfaces 4.4.9 - On-Street Parking Advice Note 1 – Transitions and Gateways	The scope of the project only allows for limited intervention to provide for a traffic calmed environment. Parallel parking on the main street should be maintained and landscaping provided were appropriate.
A suitable range of design standards/measures have been applied that are consistent with the applied design speeds.	4.4.1 - Carriageway Widths 4.4.4 – Forward Visibility 4.4.5 – Visibility Splays 4.4.6 – Alignment and curvature 4.4.7 – Horizontal and Vertical Deflections Advice Note 1 – Transitions and Gateways	All standards should comply with DMURS. Visibility splays should be kept clear of all obstructions including parked vehicles.

Pedestrian and Cycling Environment		
Key Issues	Key DMURS Reference.	Design Response
The built environment contributes to the creation of a safe and comfortable pedestrian environment.	4.2.1 – Building Height and Street Width 4.2.3 – Active Street Edges 4.2.5 – Street Furniture 4.4.9 - On-Street parking	Street furniture and on-street parking should be accommodated while providing adequate width for vulnerable road users.
Junctions been designed to ensure the needs of pedestrians and cyclists are prioritised ⁴ .	4.3.2 - Pedestrian Crossings 4.3.3 – Corner Radii 4.4.3 - Junction Design 4.4.7 - Horizontal and Vertical Deflections	Pedestrian crossings should be provided on desire lines and corner radii and crossing widths reduced. Junction Design should be in accordance with DMURS.
Footpaths are continuous and wide enough to cater for the anticipated number of pedestrian movements.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.5 – Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings	Footpaths should be <u>widened</u> and street furniture included as part of the design.

Pedestrian and Cycling Environment (cont)		
Key Issues	Key DMURS Reference.	Response
The particular needs of visually and mobility impaired users been identified and incorporated in the design.	4.2.5 - Street Furniture 4.3.1 - Footways, Verges and Strips 4.2.5 - Street Furniture 4.3.2 - Pedestrian Crossings 4.3.4 - Pedestrianised and Shared Surfaces	Pedestrian crossings incorporating tactile paving should be provided and Footpaths be widened as part of the design. A multi service pole exists on the existing footpath and the tactile paving needs to avoid this.
Cycling facilities will cater for cyclists of all ages and abilities. ⁵	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.3.5 - Cycle facilities.	There are no cycling facilities proposed as the scope of the project does not allow for consistent provision.

Visual Quality		
Key Issues	Key Considerations and DMURS Ref:	Design Response
The landscape plan responds to the street hierarchy and the value of the place.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.2 – Street Trees 4.2.7 – Planting Advice Note 1 – Transitions and Gateways	Landscaping should be included as part of the plan.
Street furniture is orderly placed.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.5 - Street Furniture. 4.3.1 Footways, Verges and Strips	Unnecessary signage should be removed.
The use of signage and line marking has been minimised.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.4 - Signage and Line Marking.	Double yellow lines are not required near the junction as the street has been narrowed. Only one stop sign is required at each junction.
Materials and finishes used throughout the scheme have been selected from a limited palette and respond to the value of the place?	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.6 – Materials and Finishes 4.2.8 – Historic Contexts. 4.3.2 – Pedestrian Crossings 4.4.2 – Carriageway Surfaces Advice Note 2 – Materials and Specifications	No comment

5.0 ROAD SAFETY AUDIT

The main issues from the Road Safety Audit relating to the junction improvements are highlighted below and included in Appendix 2.

5.1 ON STREET PARKING - STREETScape PARKING

A streetscape area is proposed at the junction of the N62 with the Blackcastle Road within the infilled lands. The Audit Team are concerned the wide streetscape area may give rise to vehicles parking on it. This may result in potential conflicts with pedestrian and vehicles and also give rise to junction visibility issues leading to potential collisions at the junction.

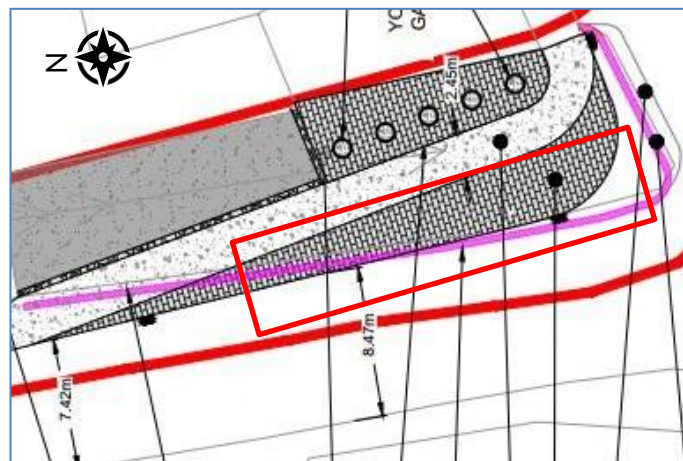


Figure 5-1 Proposed Streetscape Design at the Junction of the N62 and Blackcastle Road

Recommendation

The Design Team should provide appropriate measures to prevent vehicles parking on the paved area within the proposed design.

5.2 PEDESTRIAN DESIRE LINES

At the streetscape area at the junction of Blackcastle Road and the N62, the roadway at O'Dwyer's's Bridge is proposed to be widened and the footway set back behind the existing parapet line. The Audit Team are concerned this will affect the pedestrian desire lines crossing Blackcastle Road. In particular, the existing infrastructure (i.e. drop kerbs) on the left hand side of the junction will guide visually impaired VRUs into the road carriageway, potentially leading pedestrians stranded in the carriageway and collisions between motorised and pedestrians.



Figure 5-2 Existing Pedestrian Desire Lines across Blackcastle Road

Recommendation

The Design Team should review the pedestrian desire line based on the proposed design and ensure the design ties into the existing road infrastructure. Provisions for visually impaired road users should be provided in the design (i.e. tactile paving at road crossing).

5.3 WIDTH OF PROPOSED JUNCTION - N62 / BLACKCASTLE ROAD

The proposed design shows work only to the eastern side of the N62 / Blackcastle Road junction. The existing wide corner radius on the west side of the junction, in conjunction with the increased eastern corner radius will potentially give rise to higher vehicle speeds turning at the junction. It will also result in increased pedestrian crossing times, which will increase the risk of collisions between motorised and non-motorised road users.

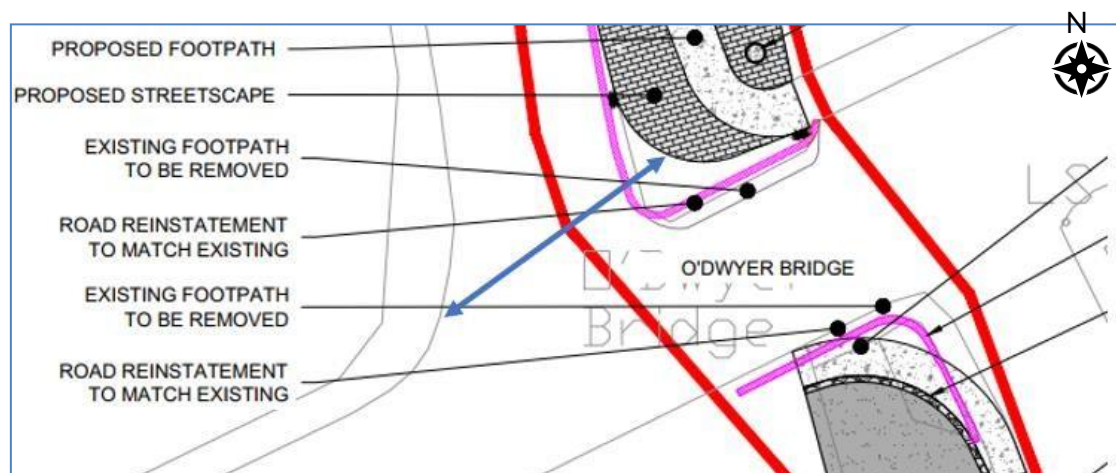


Figure 5-3 Proposed N62 / Blackcastle Road Junction Width

Recommendation

The Design Team should provide junction widths in accordance with guidance from the Design Manual for Urban Roads and Streets in accordance with the urban road speed.

5.4 JUNCTION WARNING SIGNAGE

The Audit team observed onsite the presence of warning signage on the minor road approaches to the N62 staggered junction. Warning signage is being provided on the major road approaches

in both directions at quite a distance away from the junction. Significant distance of warning signage to hazards may result in lack of awareness of drivers, believing the warning signs are no longer valid to the area. This could give rise to head on collisions, turning collisions or rear end collisions at the junction as drivers may.

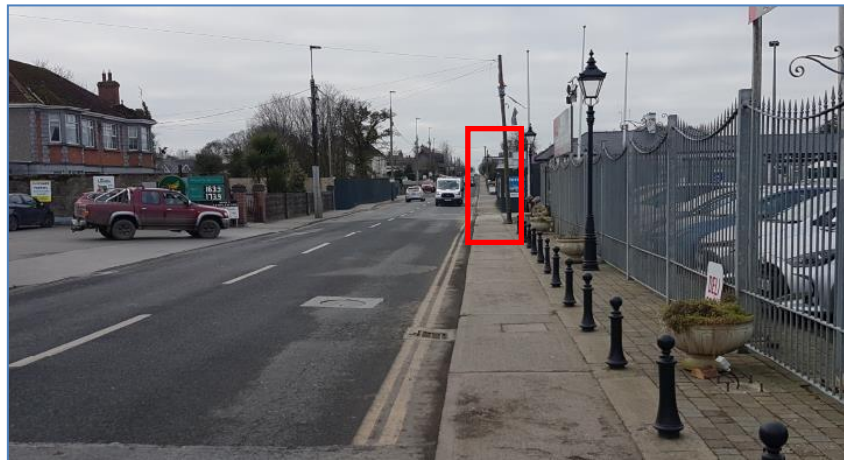


Figure 5-4 Eastbound Approach to the N62 / Blackcastle Road / The Mall Junction

Recommendation

The Design Team should provide staggered junction warning signage on the major road at suitable distances from the hazard.

5.5 TACTILE PAVING PROVISION

The Audit team noted that the proposed design does not show provision of tactile paving at the N62 / Blackcastle Road / The Mall Junction. This lack of tactile paving could lead to visually impaired road users crossing at unsafe locations leading to collisions.

Recommendation

The Design Team should provide tactile paving at pedestrian crossing points.

Faded Line Markings

The Audit team observed onsite that the existing road markings within the scheme, in particular, at the N62 / Blackcastle Road / The Mall junction and on the approaches to the junction are heavily worn. The faded line markings could lead to drivers unable to accurately determine the road layout and result in collisions with other road users.



Figure 5-5 Faded Road Markings at the N62 / Blackcastle Road / The Mall Junction and Blackcastle Road

Recommendation

Road Markings in and around the scheme should be reinstated to improve safety.

5.6 DRAINAGE ISSUES

The Audit team noted that in the vicinity of the N62 / Blackcastle Road / The Mall junction that areas of potential water ponding were observed onsite. Ponding water could lead to slip hazards for pedestrians or force pedestrians off footways and into the carriageway creating conflict points between motorised and non-motorised road users.



Figure 5-6 Area of Water Ponding on the East of the N62 / Blackcastle Road Junction

Recommendation

The Design Team should provide adequate drainage.

5.7 PARKED CARS AND PEDESTRIAN FACILITIES

The Audit Team observed parking to the east of the N62 / Blackcastle Road junction fronting Young’s Garage. The proposed footway alignment tying into the existing footway, may overlap with this area, displacing vehicles resulting in vehicles parked in closer proximity to the junction negatively impacting on visibility. Or vehicles parked on the proposed footway impeding pedestrians.



Figure 5-7 Interface of proposed footway and existing footway alignment

Recommendation

The Design Team should ensure adequate visibility is provided at the junction clear of parked vehicles.

6.0 WALKABILITY AUDIT

The design team have carried out a walkability audit on the existing scheme and have used these issues to inform the design principles of the Athboy Town Centre Project. The following issues were identified.

6.1 ON STREET PARKING - STREETSCAPE PARKING

A streetscape area is proposed at the junction of the N62 with the Blackcastle Road within the infilled lands. The Audit Team are concerned the wide streetscape area may give rise to vehicles parking on it. This may result in potential conflicts with pedestrian and vehicles and also give rise to junction visibility issues leading to potential collisions at the junction.

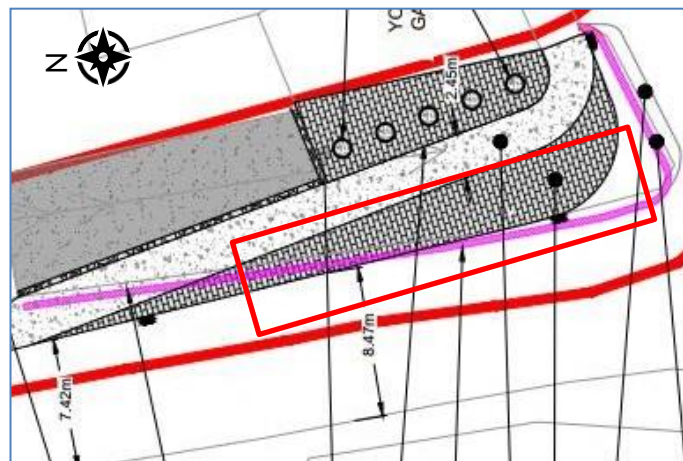


Figure 6-1 Proposed Streetscape Design at the Junction of the N62 and Blackcastle Road

Recommendation

The Design Team should provide appropriate measures to prevent vehicles parking on the paved area within the proposed design.

6.2 PEDESTRIAN DESIRE LINES

At the streetscape area at the junction of Blackcastle Road and the N62, the roadway at O'Dwyer's's Bridge is proposed to be widened and the footway set back behind the existing parapet line. The Audit Team are concerned this will affect the pedestrian desire lines crossing Blackcastle Road. In particular, the existing infrastructure (i.e. drop kerbs) on the left hand side of the junction will guide visually impaired VRUs into the road carriageway, potentially leading pedestrians stranded in the carriageway and collisions between motorised and pedestrians.



Figure 6-2 Existing Pedestrian Desire Lines across Blackcastle Road

Recommendation

The Design Team should review the pedestrian desire line based on the proposed design and ensure the design ties into the existing road infrastructure. Provisions for visually impaired road users should be provided in the design (i.e. tactile paving at road crossing).

6.3 WIDTH OF PROPOSED JUNCTION - N62 / BLACKCASTLE ROAD

The proposed design shows work only to the eastern side of the N62 / Blackcastle Road junction. The existing wide corner radius on the west side of the junction, in conjunction with the increased eastern corner radius will potentially give rise to higher vehicle speeds turning at the junction. It will also result in increased pedestrian crossing times, which will increase the risk of collisions between motorised and non-motorised road users.

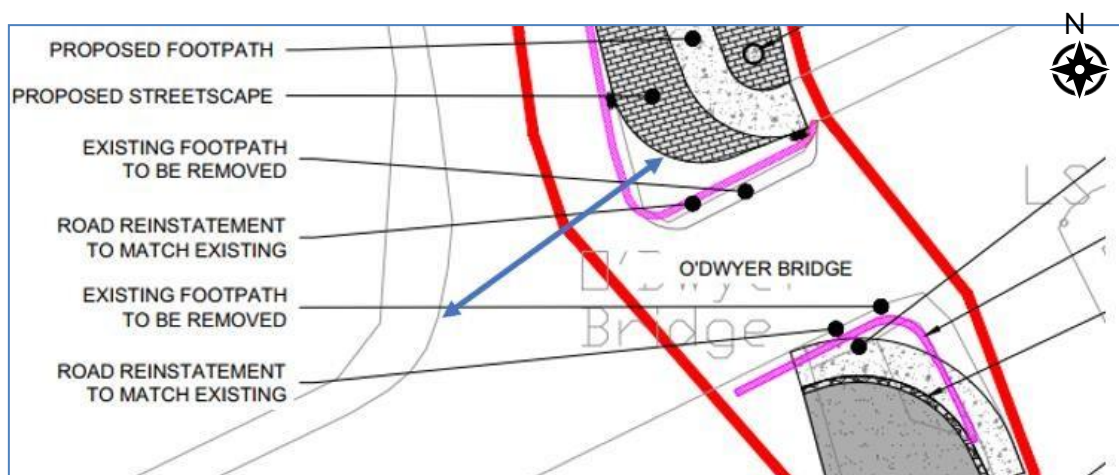


Figure 6-3 Proposed N62 / Blackcastle Road Junction Width

Recommendation

The Design Team should provide junction widths in accordance with guidance from the Design Manual for Urban Roads and Streets in accordance with the urban road speed.

6.4 TACTILE PAVING PROVISION

The Audit team noted that the proposed design does not show provision of tactile paving at the N62 / Blackcastle Road / The Mall Junction. This lack of tactile paving could lead to visually impaired road users crossing at unsafe locations leading to collisions.

Recommendation

The Design Team should provide tactile paving at pedestrian crossing points.

6.5 PARKED CARS AND PEDESTRIAN FACILITIES

The Audit Team observed parking to the east of the N62 / Blackcastle Road junction fronting Young's Garage. The proposed footway alignment tying into the existing footway, may overlap with this area, displacing vehicles resulting in vehicles parked in closer proximity to the junction negatively impacting on visibility. Or vehicles parked on the proposed footway impeding pedestrians.



Figure 6-4 Interface of proposed footway and existing footway alignment

Recommendation

The Design Team should ensure adequate visibility is provided at the junction clear of parked vehicles.

6.6 RESTRICTED FOOTPATH WIDTHS ADJACENT TO PROPOSED WORKS

The Audit Team noted during the site visit that adjacent to the scheme are areas of restricted footpath widths due to temporary and permanent fixtures.

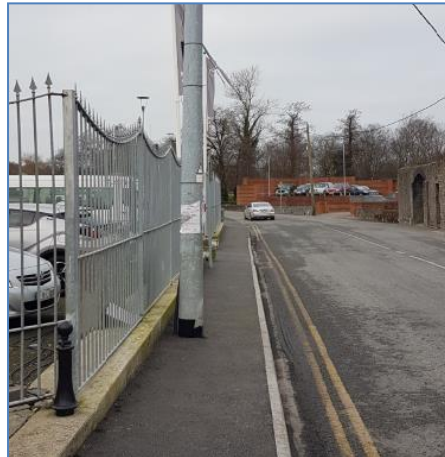


Figure 6-5 Restricted Footway Width on Blackcastle Road adjacent to scheme

6.7 TRIP HAZARDS AT DROP KERBS

The Audit Team noted during the site visit that adjacent to the scheme drop kerbs which exceed the allowable specification tolerances and deterioration of the road pavement are creating trip hazards for pedestrians.



Figure 6-6 Trip hazards at drop kerb locations

6.8 TRIP HAZARDS & PAVEMENT DETERIORATION AT UTILITY COVERS

The Road Safety Audit Team observed during the site visit that pavement deterioration was occurring at some utility covers potentially creating an issue for vehicles and trip hazard for pedestrians.



Figure 6-7 Pavement Deterioration at Utility Covers

6.9 FOOTWAY CONDITIONS

The Road Safety Audit Team observed during the site visit, significant pavement deterioration on the River Mall Road creating a significant safety and trip hazards for pedestrians.



Figure 6-8 Examples of Footway Deterioration adjacent to proposed works

6.10 PARKING ON FOOTWAYS

The Audit Team observed along The Mall Road, parking is allowed on both sides of the carriageway. On the footway adjacent to the northbound lane, existing low kerb heights are facilitating vehicles parking and blocking footways which may force VRUs (i.e. wheelchairs and pedestrians with buggies) into the carriageway. Significant footway deterioration was also observed along this side of the carriageway, which coincides with the position of parked vehicles.



Figure 6-9 Blocked Footways by parked vehicles

6.11 PEDESTRIAN CROSSING FACILITIES

The Audit Team noted during the site visit that there is limited provision for pedestrian crossing facilities on the N62. The closest pedestrian crossing facility is located approximately 300m east of the Blackcastle Road / N62 / The Mall staggered junction.



Figure 6-10 Location of Nearest Pedestrian Crossing to the Staggered Junction

Appendix 1 – DMURS Street Design Audit

Design Manual for Urban Roads and Streets

Street Design Audit

Prepared in respect of: *Templemore N62 / L3220 / Mall Junction*

Prepared by: *TOBIN Consulting Engineers*

Date: *July 2022*

Connectivity

Key Issues	Key DMURS Reference.	Design Response
Strategic routes/major desire lines been identified and are clearly incorporated into the design.	3.1 – Integrated Street Network 3.2.1 – Movement Function 3.3.1 – Street layouts 3.3.4 - Wayfinding	The proposal is localised at a junction on an Arterial Street. There is limited scope to provide for these requirements given these constraints.
Multiple points of access are provided to the site/place, in particular for sustainable modes.	3.3.1 – Street Layouts 3.3.3 – Retrofitting ¹	N/A
Accessibility throughout the site is maximised for pedestrians and cyclists, ensuring route choice.	3.3.1 – Street Layouts 3.3.2 – Block Sizes 3.4.1 – Vehicle Permeability	Crossing facilities should be provided on desire lines.
Through movements by private vehicles on local streets are discouraged by an appropriate level of traffic calming measures.	3.2.1 – Movement Function 3.2.3 – Place Context 3.4.1 – Vehicle Permeability	N/A

¹ When connecting with existing communities a detailed analysis and extensive community consultation should be carried out to identify the optimal location for connections (refer also to the NTA Permeability in Existing Urban Areas: Best Practice Guide).

Self-Regulating Street Environment

Key Issues	Key DMURS Reference.	Design Response
A suitable range of design speeds have been applied with regard to context and function.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.1.1 – A Balanced Approach to Speed ²	Given the location near on the approach to the town, reduced carriageway widths and junction radii should be incorporated into the design.
The street environment will facilitate the creation of a traffic calmed environment via the use of 'softer' or passive measures. ³	4.2.1 – Building Height and Street Width 4.2.2 – Street Trees 4.2.3 – Active Street Edges 4.2.4 – Signage and Line Marking 4.2.7 – Planting 4.4.2 – Carriageway Surfaces 4.4.9 - On-Street Parking Advice Note 1 – Transitions and Gateways	The scope of the project only allows for limited intervention to provide for a traffic calmed environment. Parallel parking on the main street should be maintained and landscaping provided were appropriate.
A suitable range of design standards/measures have been applied that are consistent with the applied design speeds.	4.4.1 - Carriageway Widths 4.4.4 – Forward Visibility 4.4.5 – Visibility Splays 4.4.6 – Alignment and curvature 4.4.7 – Horizontal and Vertical Deflections Advice Note 1 – Transitions and Gateways	All standards should comply with DMURS. Visibility splays should be kept clear of all obstructions including parked vehicles.

² Refer also to the National Speed Limit Guidelines

³ In retrofit situations a detailed analysis should be carried out to establish what measures exist, what their likely effectiveness is and level of intervention required to achieve the designed design speed.

Pedestrian and Cycling Environment

Key Issues	Key DMURS Reference.	Design Response
The built environment contributes to the creation of a safe and comfortable pedestrian environment.	4.2.1 – Building Height and Street Width 4.2.3 – Active Street Edges 4.2.5 – Street Furniture 4.4.9 - On-Street parking	Street furniture and on-street parking should be accommodated while providing adequate width for vulnerable road users.
Junctions been designed to ensure the needs of pedestrians and cyclists are prioritised ⁴ .	4.3.2 - Pedestrian Crossings 4.3.3 – Corner Radii 4.4.3 - Junction Design 4.4.7 - Horizontal and Vertical Deflections	Pedestrian crossings should be provided on desire lines and corner radii and crossing widths reduced. Junction Design should be in accordance with DMURS.
Footpaths are continuous and wide enough to cater for the anticipated number of pedestrian movements.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.5 – Street Furniture 4.3.1 - Footways, Verges and Strips 4.3.2 - Pedestrian Crossings	Footpaths should be widened and street furniture included as part of the design.

⁴ Refer also to the National Cycle Manual (2011)

Pedestrian and Cycling Environment (cont)

Key Issues	Key DMURS Reference.	Response
The particular needs of visually and mobility impaired users been identified and incorporated in the design.	4.2.5 - Street Furniture 4.3.1 - Footways, Verges and Strips 4.2.5 - Street Furniture 4.3.2 - Pedestrian Crossings 4.3.4 - Pedestrianised and Shared Surfaces	Pedestrian crossings incorporating tactile paving should be provided and Footpaths be widened as part of the design. A multi service pole exists on the existing footpath and the tactile paving needs to avoid this.
Cycling facilities will cater for cyclists of all ages and abilities. ⁵	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.3.5 - Cycle facilities.	There are no cycling facilities proposed as the scope of the project does not allow for consistent provision.

⁵ Refer also to the National Cycle Manual (2011)



Visual Quality

Key Issues	Key Considerations and DMURS Ref:	Design Response
The landscape plan responds to the street hierarchy and the value of the place.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.2 – Street Trees 4.2.7 – Planting Advice Note 1 – Transitions and Gateways	Landscaping should be included as part of the plan.
Street furniture is orderly placed.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.5 - Street Furniture. 4.3.1 Footways, Verges and Strips	Unnecessary signage should be removed.
The use of signage and line marking has been minimised.	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.4 - Signage and Line Marking.	Double yellow lines are not required near the junction as the street has been narrowed. Only one stop sign is required at each junction.
Materials and finishes used throughout the scheme have been selected from a limited palette and respond to the value of the place?	3.2.1 – Movement Function. 3.2.3 – Place Context. 4.2.6 – Materials and Finishes 4.2.8 – Historic Contexts. 4.3.2 – Pedestrian Crossings 4.4.2 – Carriageway Surfaces Advice Note 2 – Materials and Specifications	No comment

Additional Comments

The parapet walls from the redundant bridge should be removed. This should allow for the creation of an amenity area adjacent to the old river which could signify the start of the town centre.

Personnel Information

	Name	Date	Signature
Report Prepared By:	John O'Flaherty	July 2022	
Principle Designers	John O'Flaherty Theo Ingham	July 2022	

Appendix 2 – Road Safety Audit



TIPPERARY COUNTY COUNCIL
TEMPLEMORE INFILL WORKS
STAGE 1 ROAD SAFETY AUDIT

TEMPLEMORE INFILL WORKS



STAGE 1 ROAD SAFETY AUDIT

Document Control Sheet	
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Current Revision	D01
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Client Address:	Tipperary County Council Civic Offices Emmet Street, Clonmel Co. Tipperary
Project Number	11007

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Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
D01	Draft	PS	19/01/2022	RM	01/02/2022	LG	02/02/2022
D05	ISSUE	MC	01/06/2023	JOF	01/06/2023	JOF	01/06/2023
D06	ISSUE	MC	19/06/2023	JOF	19/06/2023	JOF	19/06/2023

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- Appendix A – List of Documents Examined
- Appendix B - RSA Team Approval by TII
- Appendix C – Problem Map
- Appendix D – Road Safety Audit Feedback Form



1.0 INTRODUCTION

This report describes the Stage 1 Road Safety Audit carried out for the proposed infilling of the River Mall and associated road improvement works in the town of Templemore, County Tipperary. The site location is shown in *Error! Reference source not found.*, with the scheme running north - south crossing the N62 national road.

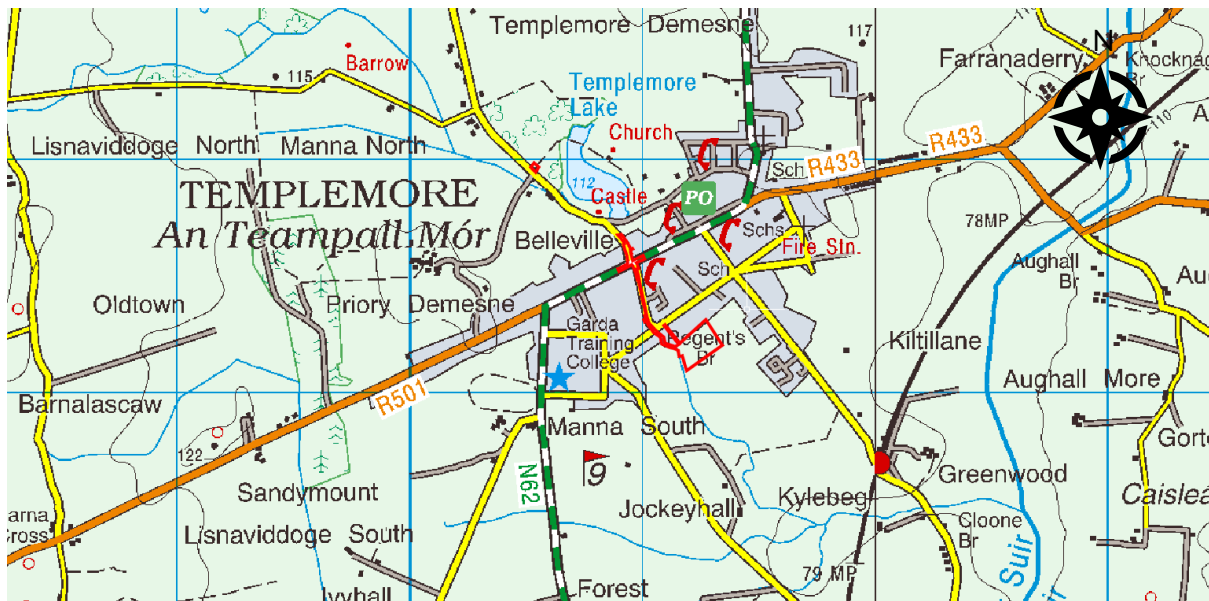


Figure 1-1 Site Location Map (Dwg. No. 11007-2000)

2.0 EXISTING ENVIRONMENT

The proposed scheme is located along the River Mall in the town of Templemore, Co. Tipperary (refer to Site Layout Map in *Error! Reference source not found.*).

The site commences approximately 210m north of the N62 at the pedestrian access to Templemore Demesne, intersects the N62 at O'Dwyer's Bridge, continues south along "The Mall" for approximately 300m and crosses into agricultural farmland at Small's Bridge terminating at a headwall to the River Mall.

The scheme is located in an urban environment within a speed limit of 50km/h.

The N62, a national secondary road has a cross section comprising:

- Two-way single carriage of approximately 7.0m in width, which narrows at O'Dwyer's Bridge to approximately 6.0m. On street parking is present on both sides of the carriageway east of O'Dwyer's Bridge.
- Footways are present on both side of the carriageway in the vicinity of the staggered crossroad junction. The footway width is variable between 1.8m-2.0m and narrows crossing the bridge to a width of approximately 1.2m.
- Road marking, signage, gullies, and street lighting are present on the N62.

Blackcastle Road is a local road with a speed limit of 50km/h, located to the north of the N62 and has a cross section comprising:

- Two-way single carriage of variable width approximately 9.0m.
- A footway of approximately 1.4m in width is present on the western side of the carriageway only.
- Road marking, signage and street lighting are present on this section of the road.
- Drainage to the western side of the carriageway is by gullies and the eastern side is by over the edge drainage directly into the River Mall.
- The Blackcastle Road intersects the N62 as a staggered crossroad junction with The Mall Road to the south of the N62.

The Mall Road is a local road with a speed limit of 50km/h, located to the south of the N62 and has a cross section comprising:

- Two-way single carriage of variable width, approximately 8.0m, with on-street parking both sides of the carriageway.
- Footways of varying width are present on both sides of the carriageway. The western footway is in poor condition.
- Road marking, signage, gullies, and street lighting are present on this section of the road.
- A number of properties have direct access to the carriageway crossing the footway.

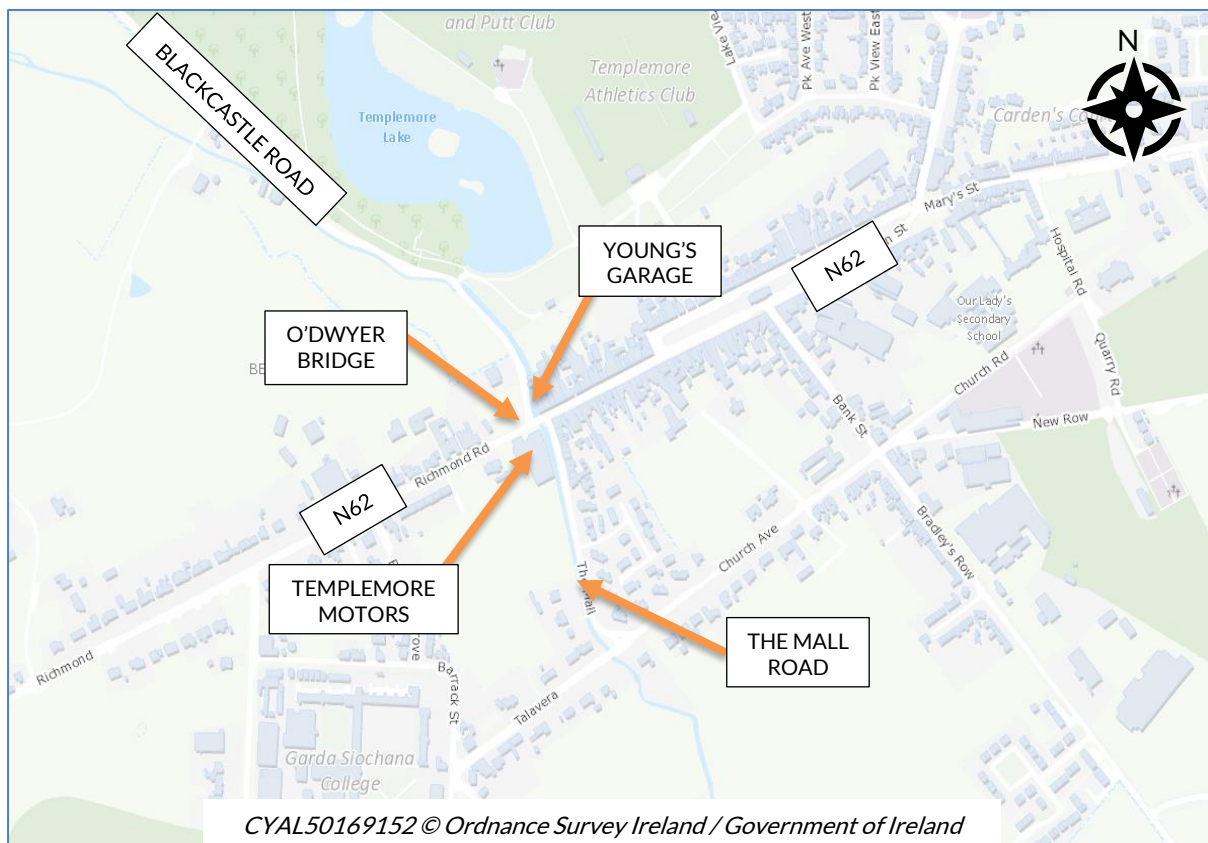


Figure 1-2 Site Layout Map

3.0 PROPOSED DEVELOPEMENT

Tipperary County Council propose to infill a section of the River Mall as part of diversion works. The resulting dry riverbed will create a new space with the proposed use as follows:

- Provision of a footpath and grass area over the infilled river from Templemore Town Park pedestrian entrance to a point 100m south in the direction of the N62, behind an existing stone wall / parapet.
- Provision of approximately 100m of new footway adjacent to the Blackcastle Road to the junction of the N62 (at Young's garage), with a footway width of 1.8m and a reduction in existing carriageway width.
- Removal of existing parapet wall to create an AC hardstanding area adjacent to Youngs garage.
- The demolition of approximately 50m of existing stone wall and bridge parapet north of the N62 to allow for the construction of a new proposed footway to match existing from O'Dwyer's Bridge.
- Provision of improvement works north of O'Dwyer's bridge for approximately 40m to include increasing corner radius, installation of aggregate bollards and hard landscaping area.

- (vi) Widening of the carriageway crossing O'Dwyer's bridge along the N62.
- (vii) The demolition of approximately 15m of existing stone wall and bridge parapet south of the N62 to allow for improvement works to include a new footway, increased corner radius and increase sight lines between The Mall Road and the N62.
- (viii) Construction of approximately 70m AC pavement over the existing channel south of the N62 and maintenance of the existing stone wall / parapet.
- (ix) Proposed vehicular access to the infilled area approximately 50m south of the N62 on The Mall Road and modification to 2 no. existing access to dwellings on the western side of The Mall Road.

4.0 Road Collision Data

5.0 Road Safety Authority Database

Road Collision Data available on the Road Safety Authority Database, within the period 2005 to 2016, along the section of proposed scheme identified 1 no. minor (single vehicle) collision recorded in 2013 as shown in **Error! Reference source not found.**

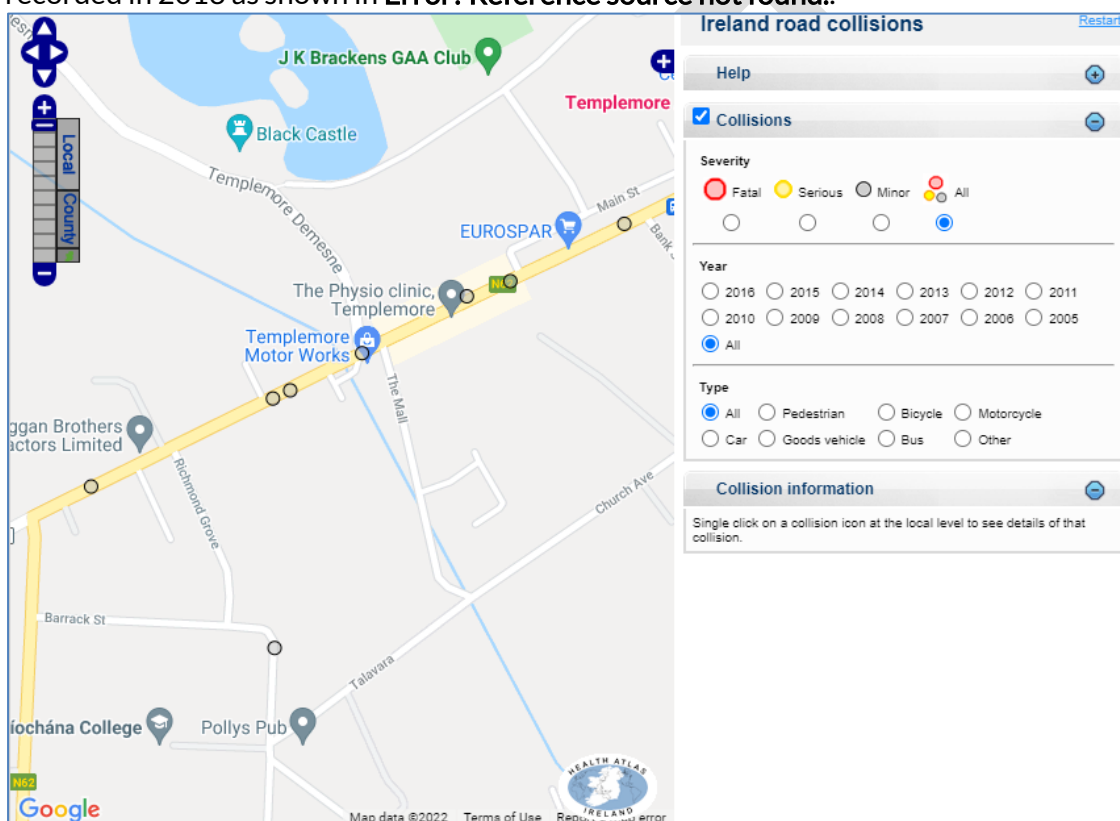


Figure 1-3 Road Collision Data 2005 - 2016 (Source: Road Safety Authority)

Note - the RSA database is not a comprehensive record of collisions and should be reviewed in conjunction with the Local Authority / Gardaí records for the site.

6.0 TII HD 15 and HD17 Site

HD15 and HD 17 Sites have been identified on the N62 in proximity to the scheme. Refer to full details in Appendix A.

The HD 15 assessment of the site (TII reference N62TY_076.0) has identified the site as a High Collision site, with a collision rate threshold twice above the average rate. The HD 15 and assessment for the scheme notes the following collisions in addition to those detailed on the Road Safety Authority website:

- 31 collisions including
 - 4 No. Minor Injury collisions
 - 27 No. Material Damage only collisions

The assessment notes the mixed nature of collisions including 2 pedestrian collisions while noting an appearance of a higher incidence of collisions during hours of darkness on the eastern section of the site.

The HD17 assessment of the site identifies 2 main issues with the existing staggered junction including the following;

- Drivers exiting the side road junction without adequate knowledge of oncoming vehicles on the main N62 road, and
- Conflicts between pedestrians and motorised vehicles given lack of existing Vulnerable Road User (VRU) facilities.

7.0 AUDIT DETAILS

The audit took place at the Galway and Dublin offices of TOBIN Consulting Engineers in January 2022. The audit comprised an examination of the documents provided by the Design Team and listed in Appendix A. In addition, a day-time site visit took place on Friday the 21st of January 2022. During the site visit the weather was dry and overcast and the road surface was dry.

The audit team members were as follows:

Audit Team Leader

- Laura Gaffney - MSc. Env. Eng., BEng (Hons) Civil Eng., CEng., MIEI, Project Engineer for Roads & Transportation, TOBIN Consulting Engineers. – TII Reference LG3386505

Audit Team Members

- Ronan Murtagh – B.A. B.A.I, CEng, MIEI. Design Engineer for Roads & Transportation, TOBIN Consulting Engineers. – TII Reference RM3414512

This Stage 1 Audit has been carried out in accordance with the relevant sections of Transport Infrastructure Ireland Publication (Standards) “Road Safety Audit” GE-STY-01024 (December 2017). The team have examined and reported only on the road safety implications of the design submitted and has not examined or verified the compliance of the design to any other criteria. However, to clearly explain a problem or a recommendation, it may be necessary to refer to another Standard or Advice Note, but such reference will not conflict with the requirements of the above Terms of Reference.

The Design Team and Employer (Client) is reminded that the Road Safety Audit Feedback Form, in Appendix D, shall be completed and returned to the Road Safety Audit Team Leader for sign off.

8.0 ITEMS RESULTING FROM THIS ROAD SAFETY AUDIT

9.0 PROBLEM 1

Guiding of Existing Road Markings

At the northern end of the scheme along the Blackcastle Road, the existing edge of carriageway road markings do not guide vehicles in the same alignment as the road centreline. The edge of carriageway road marking follows the existing boundary wall line. This may lead to vehicles being guiding into pedestrians or the culvert wall especially at times of low visibility (i.e. fog).



Figure 8-1 Road Markings and Alignment along the Blackcastle Road at the Town Park Entrance



Figure 8-2 Road Markings at Town Park Entrance Boundary Wall

Recommendation

The Design Team should provide appropriate delineation measures / boundary treatment measures and warning of the hazard.

10.0 PROBLEM 3

Interface between Pedestrian Footway and Road Carriageway

The footway alignment shifts from behind the culvert wall to online into the existing carriageway (i.e. abrupt change in alignment). The development of the footway occurs instantaneously in line of oncoming traffic without any proposed protection. Wall height may pose an issue to the visibility of small children while the sudden inclusion of a kerb without prior warning could present a significant safety hazard to drivers leading to both pedestrian and vehicular collisions.

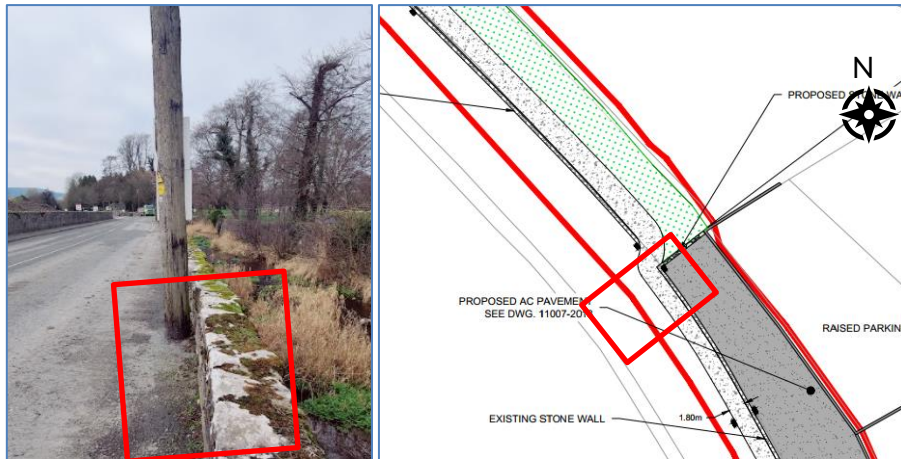


Figure 8-3 Drawing 11007-2014-D01 extract showing interface between road and proposed footway

Recommendation

The Design Team should create a safe means of access to pedestrians to move from behind the wall to the front of the wall, with adequate warning and safety provisions for both motorised and non-motorised users.

11.0 PROBLEM 4

Proposed Footway Widths

The audit team note that the proposed width is in line with the absolute minimum standard footway widths, potentially creating a passing hazard for pedestrians forcing them onto the existing carriageway creating a conflict point between vehicles and pedestrians, in particular for wheelchair users and those pushing buggies / prams.

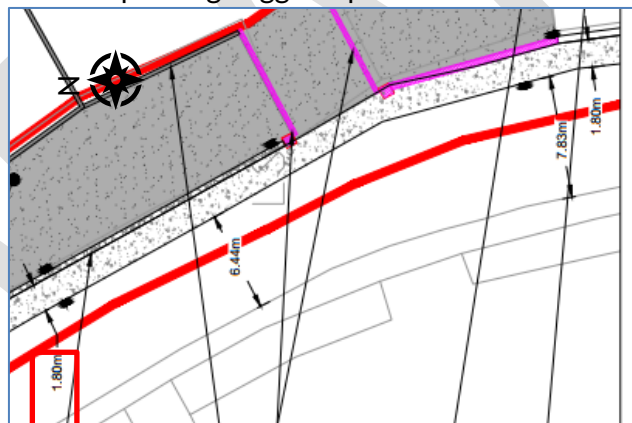


Figure 8-4 Extract of Proposed Footway widths from preliminary design drawings

Recommendation

The Design Team should ensure the footway width is adequate for passing pedestrian movements demands.

12.0 PROBLEM 5

On street Parking

Along Blackcastle Road, parking is currently permitted commencing a distance of approximately 30m north of the junction with the N62 towards the park pedestrian entrance. The auditors note that if the existing parking provision is maintained upon construction of the new footway, it will result in vehicles parked within the carriageway reducing the road width. Resulting in obstructions to two-way passing vehicular movements with unsuitable visibility to allow yielding. This may result in head on collisions and driver frustration resulting in unsafe road behaviour.



Figure 8-5 Currently Parking allowances along the Blackcastle Road just North of the N62 junction

Recommendation

The Design Team should provide appropriate parking signage in coordination with the proposed design.

13.0 PROBLEM 6

On street Parking - Streetscape Parking

A streetscape area is proposed at the junction of the N62 with the Blackcastle Road within the infilled lands. The Audit Team are concerned the wide streetscape area may give rise to vehicles parking on it. This may result in potential conflicts with pedestrian and vehicles and also give rise to junction visibility issues leading to potential collisions at the junction.

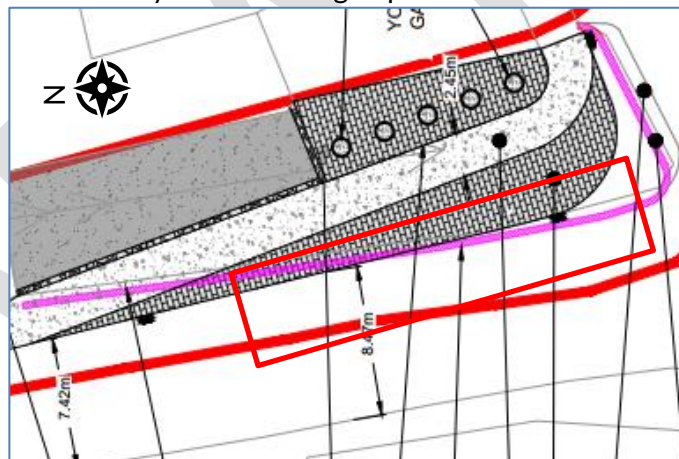


Figure 8-6 Proposed Streetscape Design at the Junction of the N62 and Blackcastle Road

Recommendation

The Design Team should provide appropriate measures to prevent vehicles parking on the paved area within the proposed design.

14.0 PROBLEM 7

Pedestrian Desire Lines

At the streetscape area at the junction of Blackcastle Road and the N62, the roadway at O'Dwyer's Bridge is proposed to be widened and the footway set back behind the existing parapet line. The Audit Team are concerned this will affect the pedestrian desire lines crossing Blackcastle Road. In particular, the existing infrastructure (i.e. drop kerbs) on the left hand side of the junction will guide visually impaired VRUs into the road carriageway, potentially leading pedestrians stranded in the carriageway and collisions between motorised and pedestrians.



Figure 8-7 Existing Pedestrian Desire Lines across Blackcastle Road

Recommendation

The Design Team should review the pedestrian desire line based on the proposed design and ensure the design ties into the existing road infrastructure. Provisions for visually impaired road users should be provided in the design (i.e. tactile paving at road crossing).

15.0 PROBLEM 8

Width of Proposed Junction – N62 / Blackcastle Road

The proposed design shows work only to the eastern side of the N62 / Blackcastle Road junction. The existing wide corner radius on the west side of the junction, in conjunction with the increased eastern corner radius will potentially give rise to higher vehicle speeds turning at the junction. It will also result in increased pedestrian crossing times, which will increase the risk of collisions between motorised and non-motorised road users.

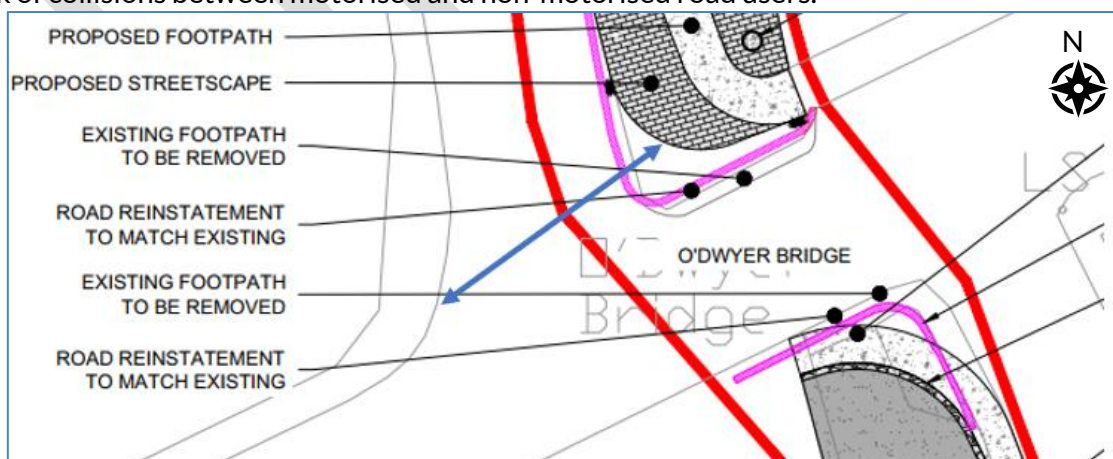


Figure 8-8 Proposed N62 / Blackcastle Road Junction Width

Recommendation

The Design Team should provide junction widths in accordance with guidance from the Design Manual for Urban Roads and Streets in accordance with the urban road speed.

16.0 PROBLEM 9

Junction Warning Signage

The Audit team observed onsite the presence of warning signage on the minor road approaches to the N62 staggered junction. Warning signage is being provided on the major road approaches in both directions at quite a distance away from the junction. Significant distance of warning signage to hazards may result in lack of awareness of drivers, believing the warning signs are no longer valid to the area. This could give rise to head on collisions, turning collisions or rear end collisions at the junction as drivers may.

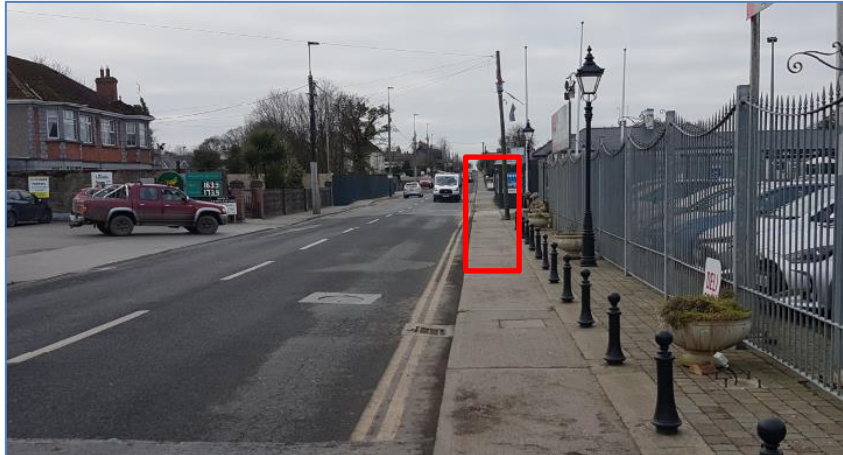


Figure 8-9 Eastbound Approach to the N62 / Blackcastle Road / The Mall Junction

Recommendation

The Design Team should provide staggered junction warning signage on the major road at suitable distances from the hazard.

17.0 PROBLEM 10

Tactile Paving Provision

The Audit team noted that the proposed design does not show provision of tactile paving at the N62 / Blackcastle Road / The Mall Junction. This lack of tactile paving could lead to visually impaired road users crossing at unsafe locations leading to collisions.

Recommendation

The Design Team should provide tactile paving at pedestrian crossing points.

18.0 PROBLEM 11

Faded Line Markings

The Audit team observed onsite that the existing road markings within the scheme, in particular, at the N62 / Blackcastle Road / The Mall junction and on the approaches to the junction are heavily worn. The faded line markings could lead to drivers unable to accurately determine the road layout and result in collisions with other road users.



Figure 8-10 Faded Road Markings at the N62 / Blackcastle Road / The Mall Junction and Blackcastle Road

Recommendation

Road Markings in and around the scheme should be reinstated to improve safety.

19.0 PROBLEM 12

Drainage Issues

The Audit team noted that in the vicinity of the N62 / Blackcastle Road / The Mall junction that areas of potential water ponding were observed onsite. Ponding water could lead to slip hazards for pedestrians or force pedestrians off footways and into the carriageway creating conflict points between motorised and non-motorised road users.



Figure 8-11 Area of Water Ponding on the East of the N62 / Blackcastle Road Junction

Recommendation

The Design Team should provide adequate drainage.

20.0 PROBLEM 13

Parked Cars and Pedestrian Facilities

The Audit Team observed parking to the east of the N62 / Blackcastle Road junction fronting Young's Garage. The proposed footway alignment tying into the existing footway, may overlap with this area, displacing vehicles resulting in vehicles parked in closer proximity to the junction negatively impacting on visibility. Or vehicles parked on the proposed footway impeding pedestrians.

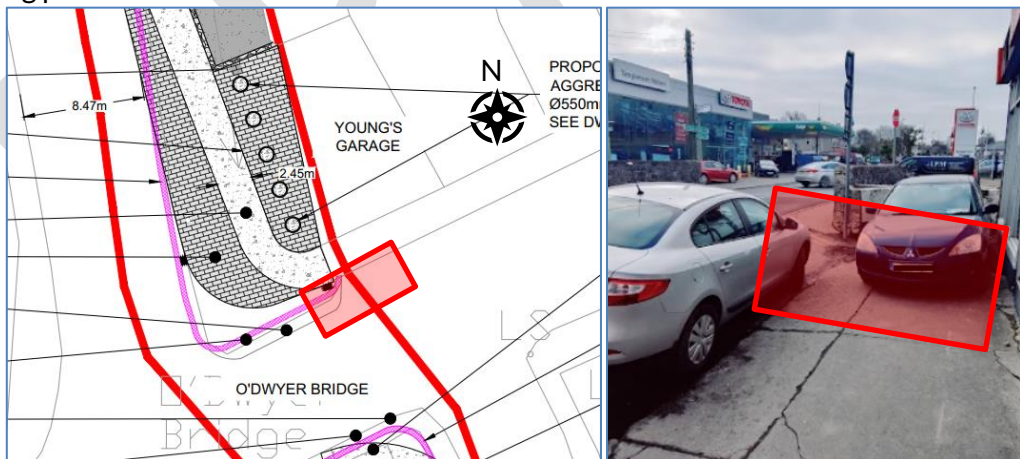


Figure 8-12 Interface of proposed footway and existing footway alignment

Recommendation

The Design Team should ensure adequate visibility is provided at the junction clear of parked vehicles.

21.0 PROBLEM 14

Footway and Pedestrian Restraints

The Audit Team observed along The Mall Road, the existing footway and culvert wall has been significantly damaged with proposed design noting that *“the existing stone wall to be repaired as required to match existing”*. Retention of the existing footway in the current state is a significant trip hazard to pedestrians.

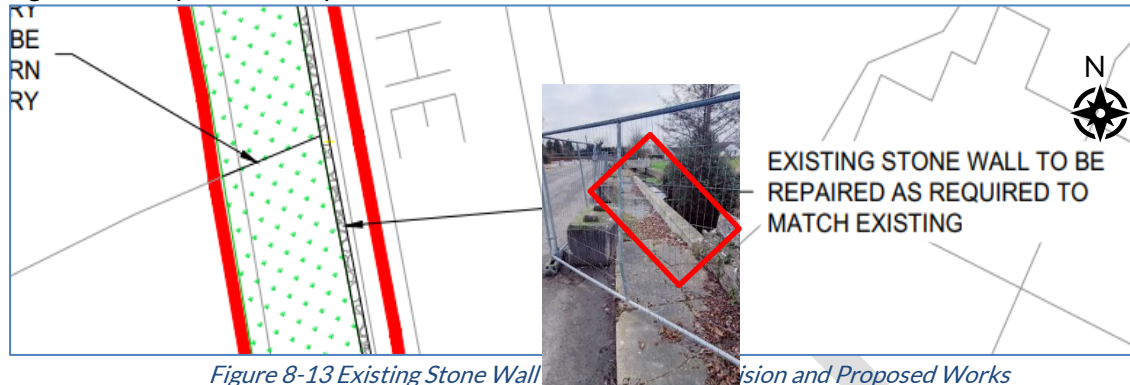


Figure 8-13 Existing Stone Wall Condition and Proposed Works

Recommendation

The footway at this location should be reinstated in combination with the wall repairs.

22.0 PROBLEM 15

Pavement Widening Works

The proposed works for the scheme include pavement widening works on the N62 at O’Dwyer’s bridge. It is likely these works will be in the line of vehicle wheel paths. As part of the typical cross section details provided, no information has been shown regarding the pavement widening build up proposed. Insufficient pavement works could result in deterioration at the pavement joint and new pavement section creating a hazard for vehicles at the junction.

Recommendation

The Designer should provide a pavement tie-in and build up to cater for the lifespan and traffic loading on the N62.

23.0 PROBLEM 16

Potential for Inconsistent Road Camber

The proposed works for the scheme include pavement widening works on the N62 at O’Dwyer’s bridge and new footpath works. There is the potential that to maintain existing tie-in levels, inconsistent camber may be applied on the national road and local side roads causing drivers to be pulled towards the road edge and the potential for vehicular and VRU collisions occurring.

Recommendation

The Designer should provide a pavement tie-in and superelevation along the road consistent with the existing cross falls and in line with the relevant design standards.

24.0 PROBLEM 17

Visibility Splays

The Audit Team has noted that no information on visibility splays has been provide to the Road Safety Audit Team. During the site visit on street parking was observed in proximity to the N62 / Blackcastle Road / The Mall Junction, which may obstruct visibility. This may result in vehicles edging into the carriageway into the path of oncoming vehicles on the mainline (i.e. N62), resulting in side on collision.

Recommendation

The Designer should ensure adequate visibility splays at junctions are provided clear of parked vehicles.

25.0 PROBLEM 18

Staggered Junction Movements

The proposed works for the scheme include pavement widening works on the N62 at O'Dwyer's bridge. The Design team note that the additional pavement widening at O'Dwyer's bridge may result in vehicles carrying out undertaking manoeuvres on vehicles moving between the two arms of the staggered junction. Absence of line marking to guide vehicles in this instance may result in rear end shunts or head on collisions.

Recommendation

The Designer should provide adequate turning pockets and delineation for vehicles manoeuvring between the Blackcastle Road / N62 and The Mall roads.

DRAFT

26.0 Observations FROM THIS ROAD SAFETY AUDIT

27.0 Observation 1 - General

Restricted Footpath Widths Adjacent to Proposed Works

The Road Safety Audit Team noted during the site visit that adjacent to the scheme are areas of restricted footpath widths due to temporary and permanent fixtures.

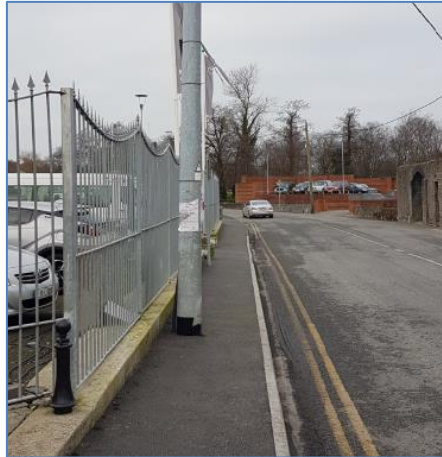


Figure 26-1 Restricted Footway Width on Blackcastle Road adjacent to scheme

28.0 Observation 2- General

Trip Hazards at Drop Kerbs

The Road Safety Audit Team noted during the site visit that adjacent to the scheme drop kerbs which exceed the allowable specification tolerances and deterioration of the road pavement are creating trip hazards for pedestrians.



Figure 26-2 Trip hazards at drop kerb locations

29.0 Observation 3- General

Trip Hazards & Pavement Deterioration at Utility Covers

The Road Safety Audit Team observed during the site visit that pavement deterioration was occurring at some utility covers potentially creating an issue for vehicles and trip hazard for pedestrians.



Figure 26-3 Pavement Deterioration at Utility Covers

30.0 Observation 4- General

Footway Conditions

The Road Safety Audit Team observed during the site visit, significant pavement deterioration on the River Mall Road creating a significant safety and trip hazards for pedestrians.



Figure 26-4 Examples of Footway Deterioration adjacent to proposed works

31.0 Observation 5- General

Parking on Footways

The Audit Team observed along The Mall Road, parking is allowed on both sides of the carriageway. On the footway adjacent to the northbound lane, existing low kerb heights are facilitating vehicles parking and blocking footways which may force VRUs (i.e. wheelchairs and pedestrians with buggies) into the carriageway. Significant footway deterioration was also observed along this side of the carriageway, which coincides with the position of parked vehicles.



Figure 26-5 Blocked Footways by parked vehicles

32.0 Observation 6- General Pedestrian Crossing Facilities

The Road Safety Audit Team noted during the site visit that there is limited provision for pedestrian crossing facilities on the N62. The closest pedestrian crossing facility is located approximately 300m east of the Blackcastle Road / N62 / The Mall staggered junction.



Figure 26-6 Location of Nearest Pedestrian Crossing to the Staggered Junction

33.0 AUDIT TEAM STATEMENT

We certify that we have examined the drawings and other information listed in Appendix A and visited the site during the day of the 21st of January 2022. We further certify that we are independent from the design team for the scheme. 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 that we have identified have been noted in the report, together with suggestions for improvement that in our opinion should be studied for implementation.

AUDIT TEAM LEADER

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TII Reference: LG3386505 Date:
Position: Project Engineer
Organisation: TOBIN Consulting Engineers
Address: Fairgreen House,
Fairgreen Road,
Galway.

AUDIT TEAM MEMBER

Name: Ronan Murtagh - B.A. B.A.I., CEng, MIEI. Signed:
TII Reference: RM3414512 Date:
Position: Senior Engineer
Organisation: TOBIN Consulting Engineers
Address: Block 10-4,
Blanchardstown Corporate Park,
Dublin 15,

Appendix A – List of Documents Examined

- Drawings

Drawing Number	Drawing Title	Scale 1 in X
11007-2000	Proposed Site Location -OS MAP- DISCOVERY SERIES SERIES 59	20000
11007-2001	Key Plan to Existing Site Layout	2000
11007-2002	Key Plan to Existing Site Layout	500
11007-2003	Key Plan to Existing Site Layout	500
11007-2004	Key Plan to Existing Site Layout	500
11007-2005	Key Plan to Existing Site Layout	500
11007-2006	Existing Site Layout (Sheet 1 of 9)	200
11007-2007	Existing Site Layout (Sheet 2 of 9)	200
11007-2008	Existing Site Layout (Sheet 3 of 9)	200
11007-2009	Existing Site Layout (Sheet 4 of 9)	200
11007-2010	Existing Site Layout (Sheet 5 of 9)	200
11007-2011	Existing Site Layout (Sheet 6 of 9)	200
11007-2012	Existing Site Layout (Sheet 7 of 9)	200
11007-2013	Existing Site Layout (Sheet 8 of 9)	200
11007-2014	Existing Site Layout (Sheet 9 of 9)	200
11007-2015	Proposed Site Layout Key Plan	2000
11007-2016	Proposed Site Layout	500
11007-2017	Proposed Site Layout	500
11007-2018	Proposed Site Layout	500
11007-2019	Proposed Site Layout	500
11007-2020	Proposed Site Layout (Sheet 1 of 9)	200
11007-2021	Proposed Site Layout (Sheet 2 of 9)	200
11007-2022	Proposed Site Layout (Sheet 3 of 9)	200
11007-2023	Proposed Site Layout (Sheet 4 of 9)	200
11007-2024	Proposed Site Layout (Sheet 5 of 9)	200
11007-2025	Proposed Site Layout (Sheet 6 of 9)	200
11007-2026	Proposed Site Layout (Sheet 7 of 9)	200
11007-2027	Proposed Site Layout (Sheet 8 of 9)	200
11007-2028	Proposed Site Layout (Sheet 9 of 9)	200
11007-2029	Typical Details	NTS
11007-2030	Typical Cross Section Details	As Shown

- Documents
 - HD 15 Report Round L N62TY_076.0 Main Street Templemore
 - HD 17 RSI Information Templemore Belleville The Mall junction

DRAFT

Assessment of HD15 site N62TY_076.0

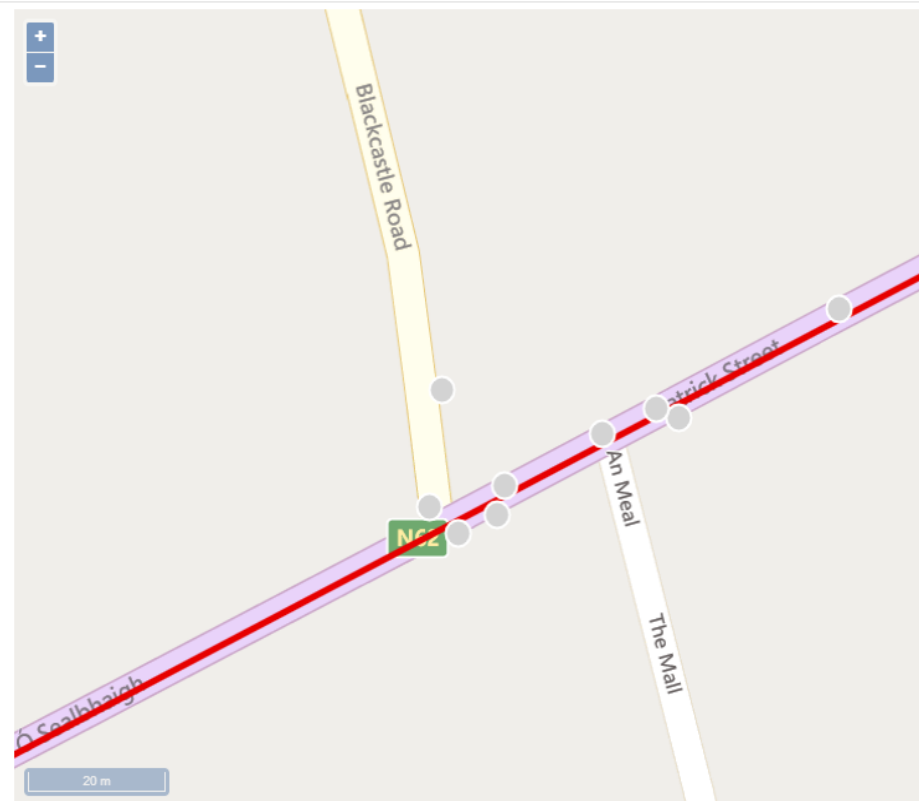
- Site Details
- Collisions
- Problem and Solution
- Assessment History
- Past Assessment History

Site Description
Main Street Templemore.
An assessment for this site was created for analysis round K and previous round.

Site ID	N62TY_076.0
Local Authority	North Tipperary, Tipperary
Route No	N62
Chainage	75 to 76
Length (km)	1
Estimated AADT	5031
Injury Collision Rate	72.6
Material Damage Collision Rate	0
Threshold	Twice Above Rate
HCL	Yes

Collision Data

Count of Collisions	31
Fatal Collisions	0
Serious Injury Collisions	0
Minor Injury Collisions	4
Material Damage Only Collisions	27



Assessment of HD15 site N62TY_076.0

Site Details

Collisions

Problem and Solution

Assessment History

Past Assessment History

General Collision Pattern

- Pedestrians
 Head On
 Single Vehicle
 Mixed

Collision Pattern Description

The collisions are mixed along the length. There are two pedestrian collisions, one of which occurred on a pedestrian crossing. There are some apparent clusters along the length, one, at the junction of Mary Street and at the other at the junction of The Mall /Kitillane Street. At the junction with the Mall/Kitillan Street 8 of the material damage collisions happened there in the last 2 years. There appears to be a higher incidence of collisions that have occurred during the hours of darkness on the Eastern section of the site.

Problem Types

- Layout
 Surface
 Definition
 Sight Distance
 Width
 Marking
 Signs

Problem Description

The main pattern appears to involve drivers exiting the junctions. The road layout from the north is wide on approach and may be conducive to inappropriate speeds.

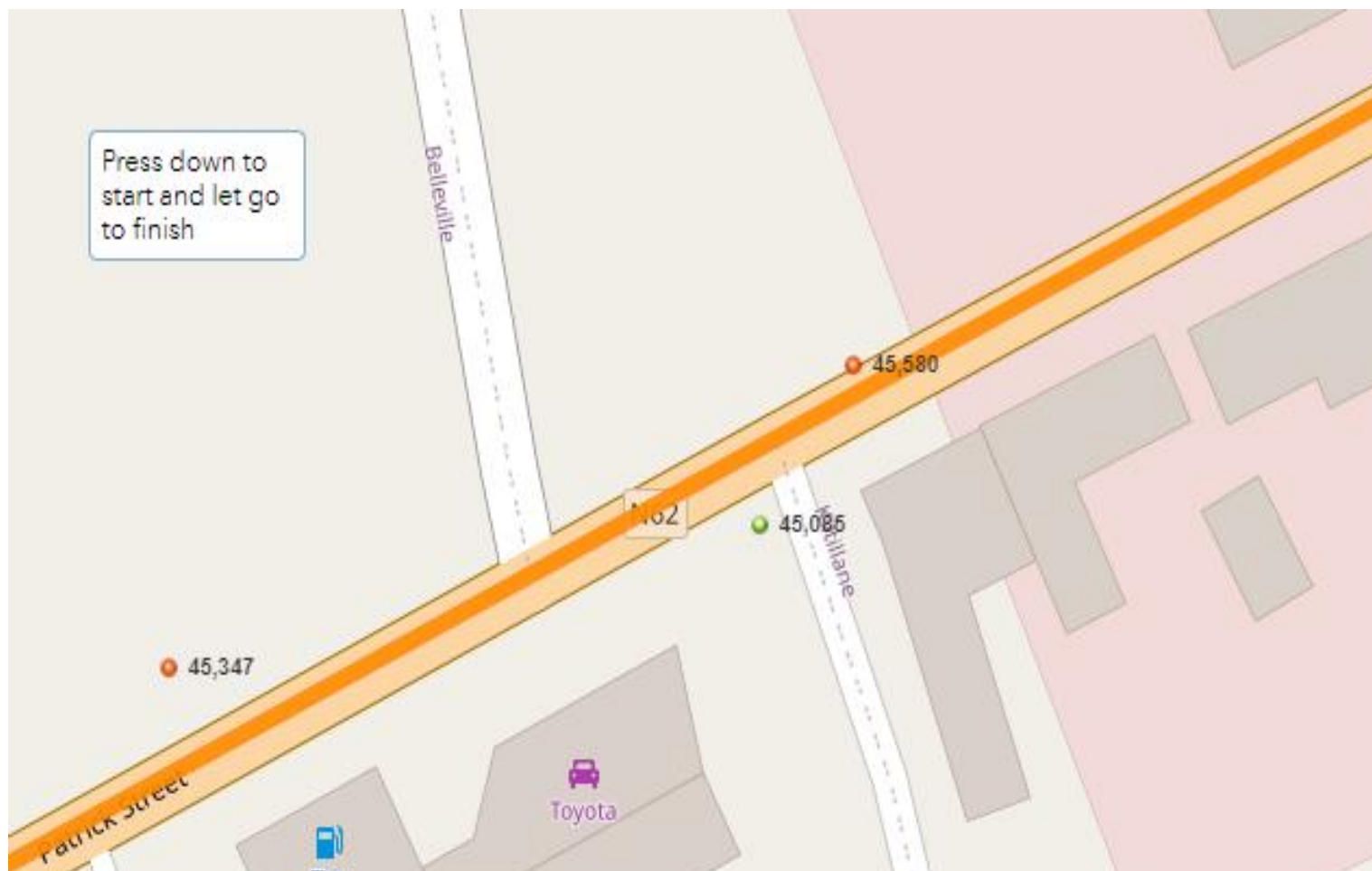
Solution Types

- Engineering
 Education
 Enforcement

Solution Description

Assess the location to establish if there are any feasible engineering solutions that would reduce the incidence of collisions. Assess lighting to establish if it meets current standard. Review layout along length to bring in line with current guidance.





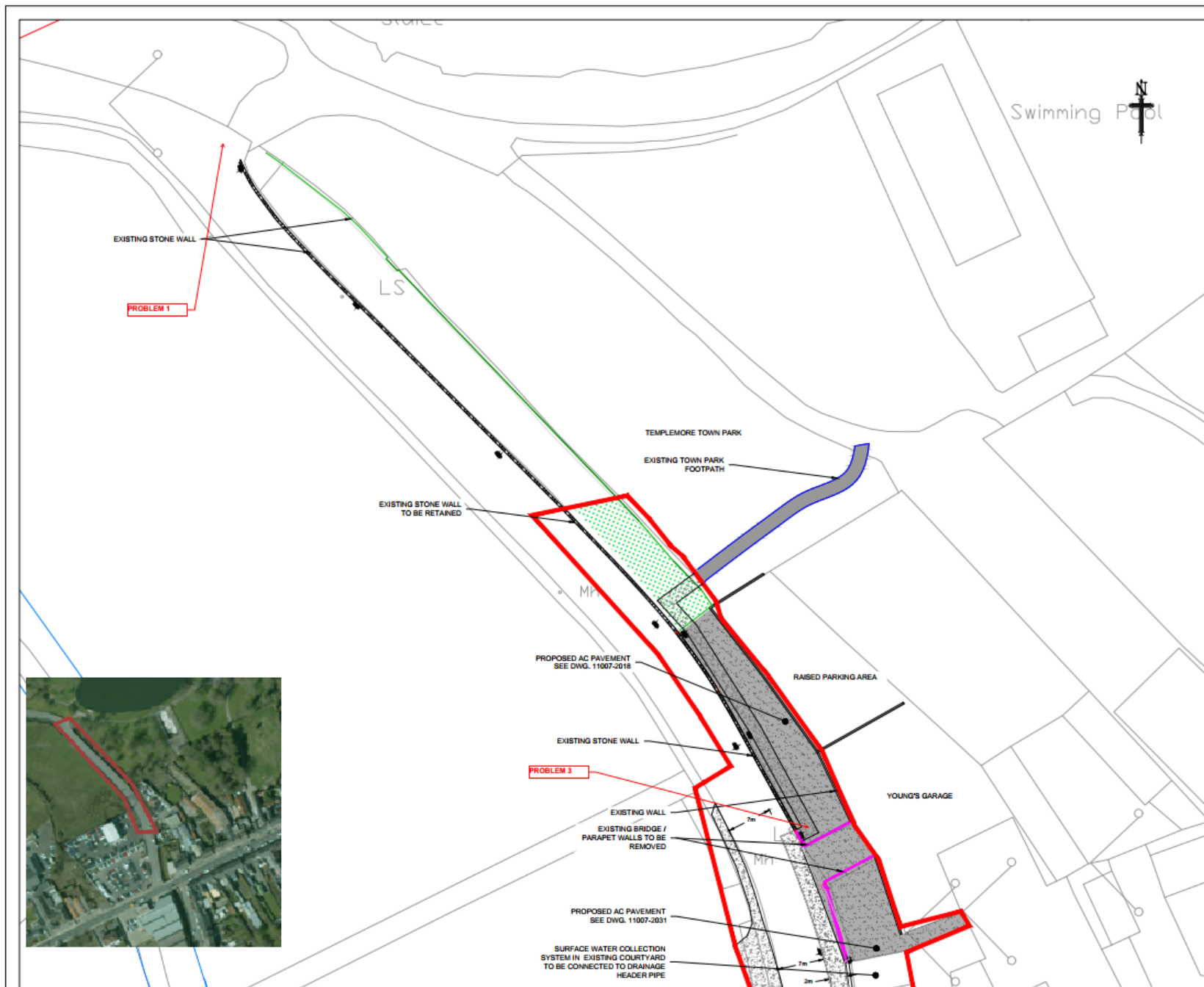
TAG_ID	MAINLINE ISSUE	SEVERITY	LIKELIHOOD RISK	BROAD SOLUTION	FEASIBILITY_STAGE SOLUTION	SKETCH	COST
45085 M	Drivers may exit junction without adequate knowledge of oncoming vehicles on the main road.	21	7 Level 3	Minor Alignment - Landtake Required	Provide adequate sight distance to the left by relocating objects obscuring view of oncoming traffic	N	20000
45347 M	Conflict between pedestrians and motorised vehicles	15	7 Level 3	VRU Provision	Review layout of junction and provide for vulnerable road users	N	2000
45580 M	Conflict between pedestrians and motorised vehicles	15	7 Level 3	VRU Provision	Review layout of junction and provide for vulnerable road users	N	2000

Appendix B - RSA Team Approval by TII

DRAFT

Appendix C – Problem Map

DRAFT



LEGEND

- PROPOSED RED LINE BOUNDARY
- ▨ PROPOSED FOOTPATH
- ▨ PROPOSED TOPSOIL / GRASS
- ▨ PROPOSED HARDSTAND / AC PAVEMENT
- ▨ PROPOSED STONE WALL
- ▨ EXISTING STONE WALL
- ▨ EXISTING WALL TO BE DEMOLISHED
- ▨ PROPOSED GULLY CONNECTED TO PROPOSED HEADER PIPE

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD, THE GEOGRAPHIC COORDINATE SYSTEM 83 TO IRISH TRANSVERSE MERIDIAN (TM08)
5. EXISTING BRIDGE STRUCTURES MAY CONTAIN UTILITY SERVICES WHICH WILL REQUIRE DIVERSION PRIOR TO DEMOLITION OF EXISTING STRUCTURES

Rev.	Date	Description	By	Chkd
001	06/23	DRAFT	N.A.	P.C.
002	08/23	DRAFT	N.A.	P.C.

Client

 Conhamas Coras Thredbair Anraí
 Tipperary County Council

Project
 Templemore Infill Works

Title
 Proposed Landscape Works
 (Sheet 1 of 4)

Scale 1:250

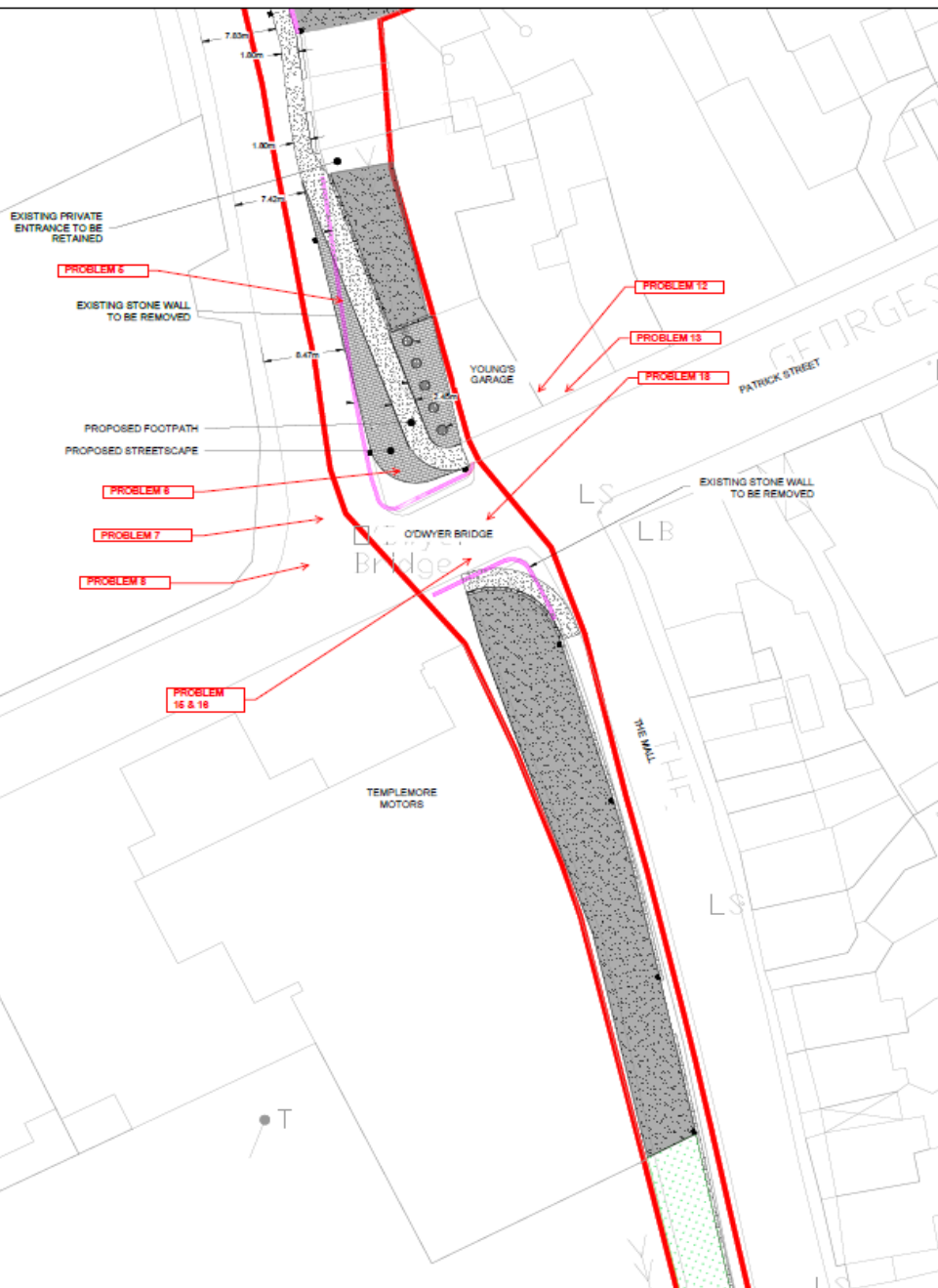
Prepared by: B.M.	Checked P.C.	Date 06/23
Project Director: BLOWNES		
Drawing Status: DRAFT		

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Drawing No. **11007-2036** Issue **D04**

GENERAL PROBLEMS APPLICABLE THROUGHOUT THE SCHEME:

- PROBLEM 4
- PROBLEM 9
- PROBLEM 10
- PROBLEM 11
- PROBLEM 17



LOCATION

LEGEND

- PROPOSED RED LINE BOUNDARY
- ▭ PROPOSED TOPSOIL / GRASS
- ▭ PROPOSED HARDSTAND / AC PAVEMENT
- ▭ PROPOSED FOOTPATH
- ▭ PROPOSED STONE WALL
- ▭ EXISTING STONE WALL
- ▭ PROPOSED STREETSCAPE
- ▭ EXISTING WALL TO BE DEMOLISHED
- PROPOSED GULLY CONNECTED TO PROPOSED HEADER PIPE

NOTES

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD. THE GEOGRAPHIC COORDINATE SYSTEM IS TO IRISH TRANSVERSE MERCATOR (TM)
5. EXISTING BRIDGE STRUCTURES MAY CONTAIN UTILITY SERVICES WHICH WILL REQUIRE DIVERSION PRIOR TO DEMOLITION OF EXISTING STRUCTURES

Rev.	Date	Description	By	Check
001	Sep' 11	Amended per comments	S.M.	P.C.
000	Aug' 11	DRAFT	S.M.	P.C.

Client
 Coonahoe Corrib Traditional Area
 Tipperary County Council

Project
Templemore Infill Works

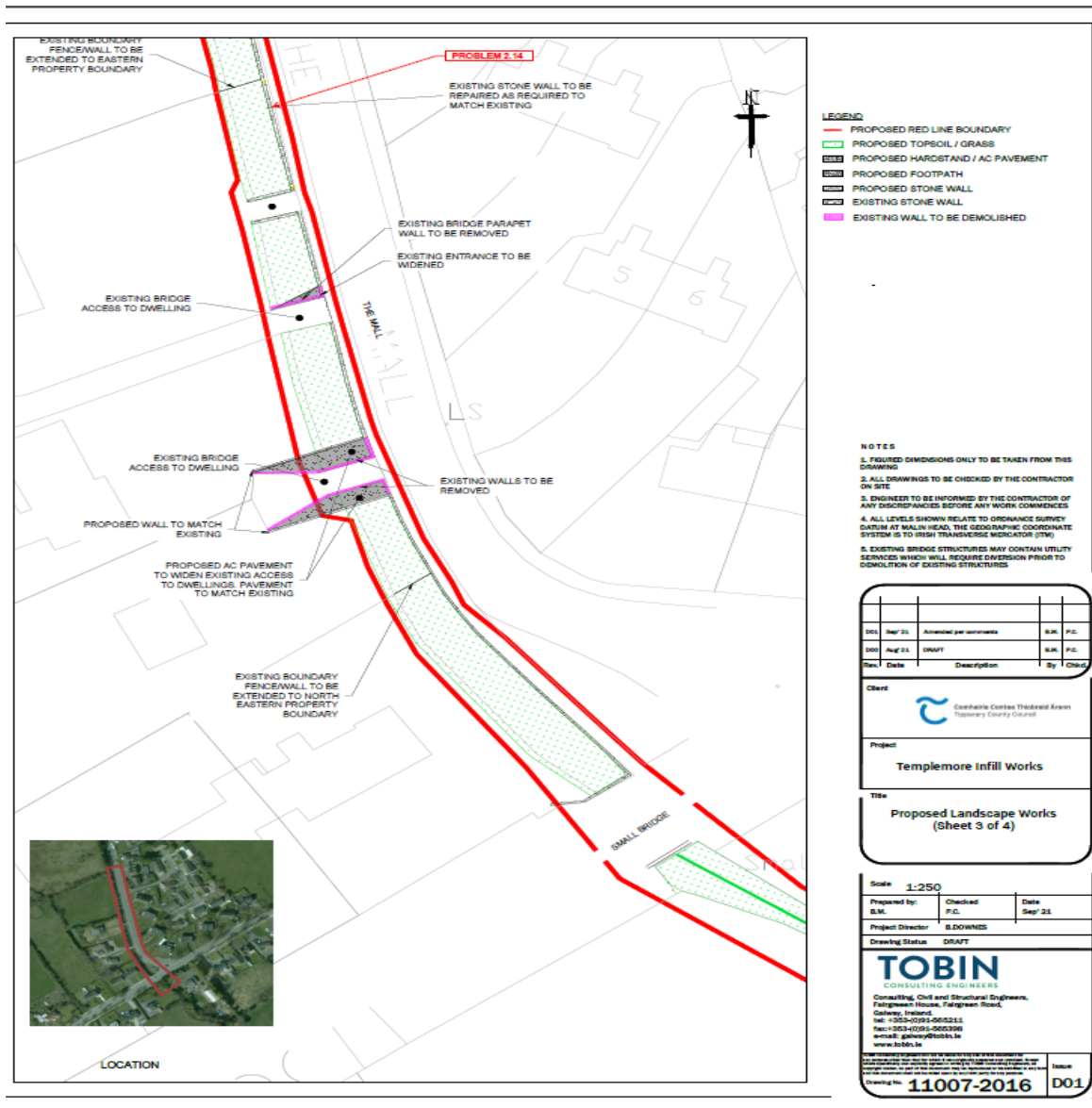
Title
**Proposed Landscape Works
 (Sheet 2 of 4)**

Scale **1:250**

Prepared by	Checked	Date
S.M.	P.C.	Sep' 11
Project Director S.DOWNES		
Drawing Status DRAFT		

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- LEGEND**
- PROPOSED RED LINE BOUNDARY
 - ▨ PROPOSED TOPSOIL / GRASS
 - ▨ PROPOSED HARDSTAND / AC PAVEMENT
 - ▨ PROPOSED FOOTPATH
 - ▨ PROPOSED STONE WALL
 - ▨ EXISTING STONE WALL
 - ▨ EXISTING WALL TO BE DEMOLISHED

- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
 2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
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 4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD, THE GEOGRAPHIC COORDINATE SYSTEM IS TO IRISH TRANSVERSE MERCATOR (ITM)
 5. EXISTING BRIDGE STRUCTURES MAY CONTAIN UTILITY SERVICES WHICH WILL REQUIRE DIVERSION PRIOR TO DEMOLITION OF EXISTING STRUCTURES

Rev.	Date	Description	By	Check
001	Sep 21	Amended per comments	B.M.	P.C.
000	Aug 21	DRAFT	B.M.	P.C.

Client
 Coimbra Corrib Thredwell Area Temporary County Council

Project
 Templemore Infill Works

Title
 Proposed Landscape Works (Sheet 3 of 4)

Scale 1:250

Prepared by:	Checked:	Date
B.M.	P.C.	Sep 21

Project Director B.DOWNS

Drawing Status DRAFT

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Drawing No. 11007-2016 **Issue** D01

Appendix D – Road Safety Audit Feedback Form

DRAFT

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Appendix 3 – Walkability Audit



Tipperary County Council
Templemore N62 / L3220 / Mall Junction
Walking Audit Report

PROJECT NAME Templemore N62 / L3220 / Mall Junction

REPORT NAME Walking Audit Report

Document Control Sheet	
Document Reference	QA01
Report Status	FOR APPROVAL
Report Date	July 2022
Current Revision	REV A
Client:	Tipperary County Council
Client Address:	Nenagh, Co. Tipperary
Project Number	7452

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Revision	Description	Author:	Date	Reviewed By:	Date	Authorised by:	Date
A	Issue	JOF	25/07/2022	DK	25/07/2022	MMcD	25/07/2022

TOBIN Consulting Engineers

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1.0 INTRODUCTION

TOBIN Consulting Engineers has been appointed by Tipperary City Council to prepare a Walking Audit as part of the proposed upgrade of the N62 / L3220 / Mall Junction in Templemore.

1.1 OBJECTIVES

The purpose of this report is to inform Tipperary City Council of the existing pedestrian conditions and to inform future improvements to the existing roads and streets by the relevant bodies.

A walkability audit provides a practical, low-cost method of capturing the existing conditions of a specified walking route in relation to its walkability. The Audit process will enable the identification of a priority list of recommendations for the route.

1.2 REFERENCE DOCUMENTS

The following reference documents we referred to in this study:

- Design Manual for Urban Roads and Streets (DMURS, 2019);
- NTA's Safe Routes to School Design Guide (Version1, July 2021);
- Traffic Signs Manual – Road Markings (August 2019);
- Traffic Signs Manual – Warning Signs (August 2019);
- The Treatment of Transition Zones to Towns and Villages on National Roads (TII, July 2021); and

1.3 STUDY AREA



2.0 FINDINGS FROM THE WALKABILITY AUDIT

The Design Team have carried out an audit on Walkability on the existing scheme and have used these issues to inform the design principles of the Templemore Junction. The issues identified in the area of Walkability are outlined below and have been included in Appendix B to this report

2.1 ON STREET PARKING - STREETScape PARKING

A streetscape area is proposed at the junction of the N62 with the Blackcastle Road within the infilled lands. The Audit Team are concerned the wide streetscape area may give rise to vehicles parking on it. This may result in potential conflicts with pedestrian and vehicles and also give rise to junction visibility issues leading to potential collisions at the junction.

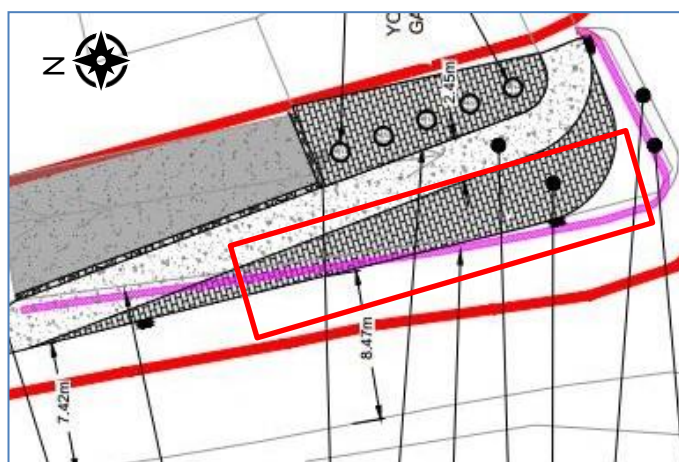


Figure 2-1 Proposed Streetscape Design at the Junction of the N62 and Blackcastle Road

Recommendation

The Design Team should provide appropriate measures to prevent vehicles parking on the paved area within the proposed design.

2.2 PEDESTRIAN DESIRE LINES

At the streetscape area at the junction of Blackcastle Road and the N62, the roadway at O'Dwyer's's Bridge is proposed to be widened and the footway set back behind the existing parapet line. The Audit Team are concerned this will affect the pedestrian desire lines crossing Blackcastle Road. In particular, the existing infrastructure (i.e. drop kerbs) on the left hand side of the junction will guide visually impaired VRUs into the road carriageway, potentially leading pedestrians stranded in the carriageway and collisions between motorised and pedestrians.



Figure 2-2 Existing Pedestrian Desire Lines across Blackcastle Road

Recommendation

The Design Team should review the pedestrian desire line based on the proposed design and ensure the design ties into the existing road infrastructure. Provisions for visually impaired road users should be provided in the design (i.e. tactile paving at road crossing).

2.3 WIDTH OF PROPOSED JUNCTION - N62 / BLACKCASTLE ROAD

The proposed design shows work only to the eastern side of the N62 / Blackcastle Road junction. The existing wide corner radius on the west side of the junction, in conjunction with the increased eastern corner radius will potentially give rise to higher vehicle speeds turning at the junction. It will also result in increased pedestrian crossing times, which will increase the risk of collisions between motorised and non-motorised road users.

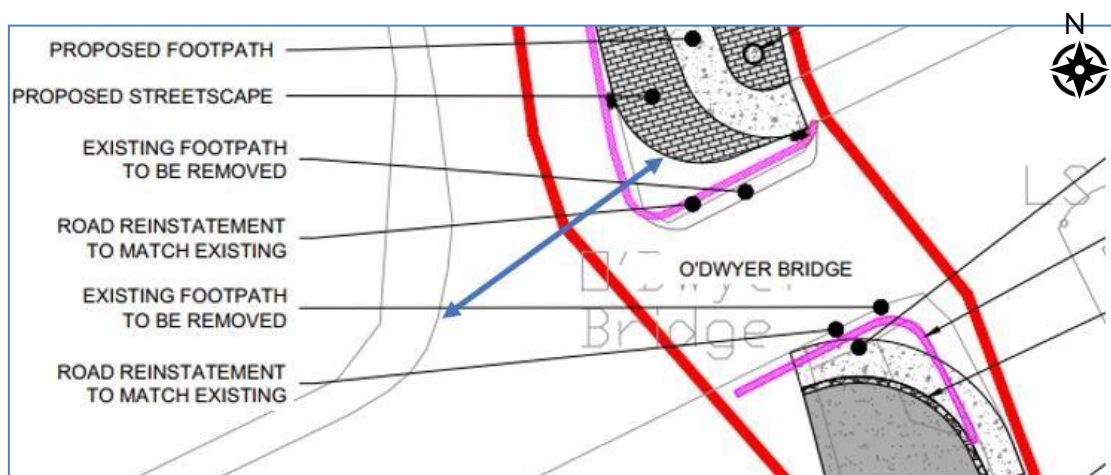


Figure 2-3 Proposed N62 / Blackcastle Road Junction Width

Recommendation

The Design Team should provide junction widths in accordance with guidance from the Design Manual for Urban Roads and Streets in accordance with the urban road speed.

2.4 TACTILE PAVING PROVISION

The Audit team noted that the proposed design does not show provision of tactile paving at the N62 / Blackcastle Road / The Mall Junction. This lack of tactile paving could lead to visually impaired road users crossing at unsafe locations leading to collisions.

Recommendation

The Design Team should provide tactile paving at pedestrian crossing points.

2.5 PARKED CARS AND PEDESTRIAN FACILITIES

The Audit Team observed parking to the east of the N62 / Blackcastle Road junction fronting Young's Garage. The proposed footway alignment tying into the existing footway, may overlap with this area, displacing vehicles resulting in vehicles parked in closer proximity to the junction negatively impacting on visibility. Or vehicles parked on the proposed footway impeding pedestrians.

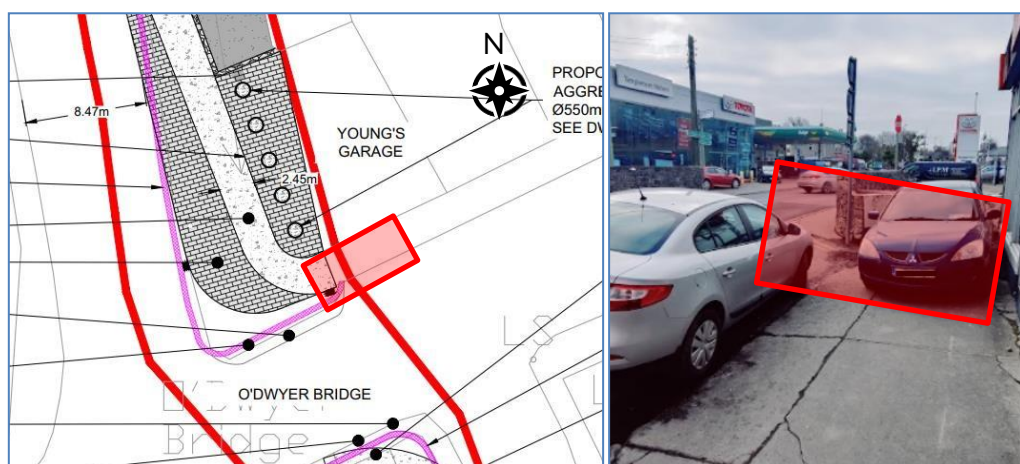


Figure 2-4 Interface of proposed footway and existing footway alignment

Recommendation

The Design Team should ensure adequate visibility is provided at the junction clear of parked vehicles.

2.6 RESTRICTED FOOTPATH WIDTHS ADJACENT TO PROPOSED WORKS

The Audit Team noted during the site visit that adjacent to the scheme are areas of restricted footpath widths due to temporary and permanent fixtures.

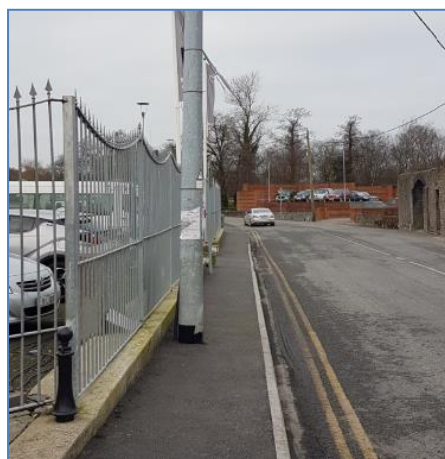


Figure 2-5 Restricted Footway Width on Blackcastle Road adjacent to scheme

2.7 TRIP HAZARDS AT DROP KERBS

The Audit Team noted during the site visit that adjacent to the scheme drop kerbs which exceed the allowable specification tolerances and deterioration of the road pavement are creating trip hazards for pedestrians.



Figure 2-6 Trip hazards at drop kerb locations

2.8 TRIP HAZARDS & PAVEMENT DETERIORATION AT UTILITY COVERS

The Road Safety Audit Team observed during the site visit that pavement deterioration was occurring at some utility covers potentially creating an issue for vehicles and trip hazard for pedestrians.



Figure 2-7 Pavement Deterioration at Utility Covers

2.9 FOOTWAY CONDITIONS

The Road Safety Audit Team observed during the site visit, significant pavement deterioration on the River Mall Road creating a significant safety and trip hazards for pedestrians.



Figure 2-8 Examples of Footway Deterioration adjacent to proposed works

2.10 PARKING ON FOOTWAYS

The Audit Team observed along The Mall Road, parking is allowed on both sides of the carriageway. On the footway adjacent to the northbound lane, existing low kerb heights are facilitating vehicles parking and blocking footways which may force VRUs (i.e. wheelchairs and pedestrians with buggies) into the carriageway. Significant footway deterioration was also observed along this side of the carriageway, which coincides with the position of parked vehicles.

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