

Punch Consulting

Park Redevelopment, Woodquay,
Galway City

Quality Audit

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Quality Audit

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1 Quality Audit Report

1.1 Introduction

This report was prepared in response to a request from Mr. Aiden O'Donoghue of Punch Consulting to provide a Quality Audit of the proposed Park Redevelopment, at Woodquay, in Galway City

Quality Audits consist of a number of overlapping audits, as described in the Design Manual for Urban Roads and Streets (Ireland). Table 1-1 identifies the transport related audits undertaken by PMCE and includes a brief overview of the purpose or goal of each report.

TABLE 1-1 QUALITY AUDIT REPORT CONTENTS

Access Audit	The purpose of this Access Audit is to review the proposed Scheme to assess if it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, or disability.
Cycle Audit	The purpose of this Cycle Audit is to review the proposed Scheme to assess if it will cater comfortably for cyclists, of all ages and abilities, and that the needs of cyclists have been prioritised over vehicular traffic.
Walking Audit	The purpose of this Walking Audit is to review the proposed Scheme to assess if it can be readily and comfortably traversed by pedestrians, that the needs of pedestrians have been prioritised over cyclists & vehicles, and that footpaths are continuous and wide enough to cater for the anticipated number of pedestrians.
Road Safety Audit	The purpose of a Road Safety Audit is to identify problems that may lead to road safety collisions, material damage or personal injury, and to offer recommendations that mitigate identified safety risks.
Non-Motorised User Audit¹	The purpose of a Non-Motorised User (NMU) Audit is to review the proposed Scheme to assess if it will cater comfortably for all non-motorised road users, of all ages and abilities, and that the needs of these vulnerable road users have been prioritised over vehicular traffic.

A Quality Audit is not intended to pass or fail a design, rather it is intended as an assessment tool that highlights the strengths and weaknesses of a design.

1.2 Site Visit

A site visit was undertaken on the 18th June 2024. At the time of the site visit, the weather was dry and the ground surface was dry. Traffic volumes in the vicinity of the proposed scheme were moderate and pedestrian and cyclist volumes were moderate. Traffic speeds were considered to be generally within the posted speed limit.

1.3 Local Environment

The proposed scheme is located at Woodquay in the north of Galway City Centre, which is an urban area on the city's outskirts, approximately 500m to the northwest. The proposed scheme is located at the existing Water's Edge Garden, and is bound on its western, northern and eastern side by local roads Corrib Terrace, Waterside and Riverside, respectively, and on its southern side by the Woodquay carpark which is accessed via the R866 Regional Road (Headford Road).

Headford Road is a two-way single carriageway road running in a southwest-northeast direction over a length of 0.8km. The road is approximately 8m wide in the vicinity of the scheme with footpaths and public lighting provided on both sides of the road. Headford Road provides access to the N6 to the northeast of the proposed scheme.



¹ A separate Non-motorised User (NMU) Audit has not been prepared. For the proposed scheme, separate Access, Walking & Cycling Audits have been undertaken, and these should be referred to for findings in relation to NMUs.

The local roads which border Woodquay Park are two-way single carriageway roads with footpaths and public lighting provided on the side of the roads opposite to the park. On-street parking is provided on the eastern sides of Riverside and Corrib Terrace.

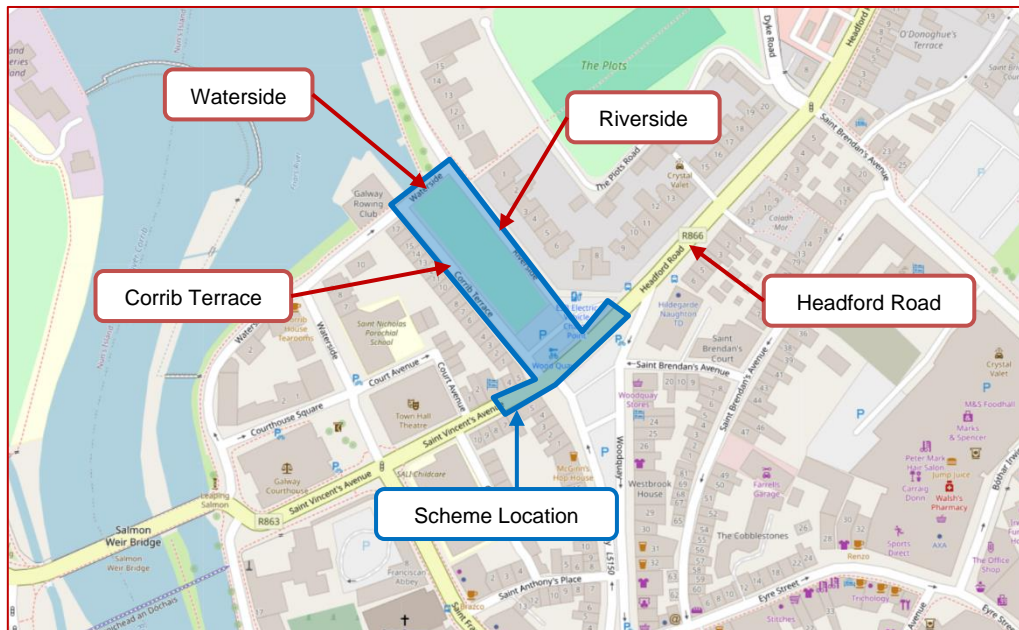


FIGURE 1.1: SITE LOCATION (SOURCE: WWW.OPENSTREETMAP.ORG)

1.3.1 Existing Pedestrian & Cycle Facilities

There are currently five benches located within the park, and a paved pedestrian link, travelling in an east-west direction through the park. There are no footpaths directly bounding the park however raised footpaths are provided on the opposite side of Waterside, Corrib Terrace and Riverside, and on both sides of Headford Road.

There are no existing dedicated cycle facilities within the vicinity of the scheme, however a Transport for Ireland (TFI) public bike station is located on the north-western side of Headford Road, adjacent to Woodquay Park (see Figure 1.2).

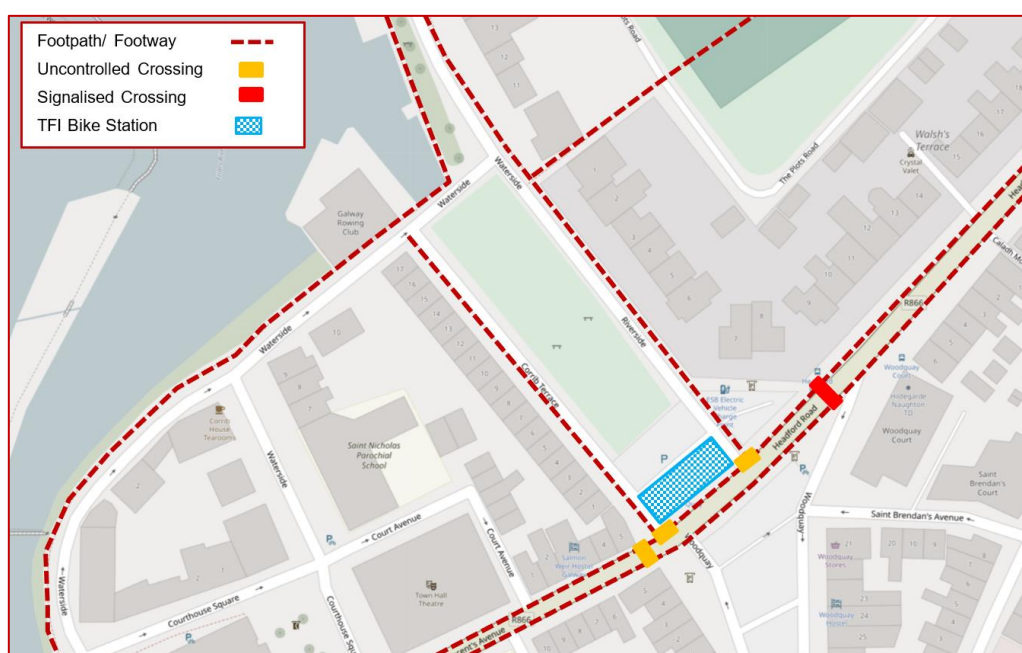


FIGURE 1.2: SURROUNDING ACTIVE TRAVEL FACILITIES

1.3.2 Public Transport

There are existing bus stops located on Headford Road, in the vicinity of the proposed scheme, which provide direct access to the local bus network. The nearest bus stops to the proposed scheme are listed in Table 1-2 including the bus routes which serve these bus stops. Figure 1.3 illustrates the location of these bus stops in relation to the proposed scheme.

TABLE 1-2: BUS ROUTES NEAR PROPOSED DEVELOPMENT

Bus Stop (Name)	Bus Stop (number)	Route No.	Proximity to the development	Travelling between	Frequency
Headford Road (Northbound)	523771	407	Within the scheme	Eyre Square - Bothar an Choiste	One bus per half hour
Headford Road (Southbound)	525411	407	Within the scheme	Bothar an Choiste - Eyre Square	One bus per half hour



FIGURE 1.3: NEARBY BUS STOPS (SOURCE: WWW.TRANSPORTFORIRELAND.IE)

In addition, the Galway (Ceannt) Train Station is located approximately 500m to the southeast of the proposed scheme and can be accessed within a 12-minute walk from the location of the park access on Headford Road. Galway Train Station provides access to regional and national destinations and provides various accessibility services, such as accessible restrooms, seatings and ramp access.

1.4 The Proposed Development

The proposed works at Woodquay Park would include:

- Extending Woodquay Park to the south and removing the existing carpark on the park's southeastern side.
- Provision of a new footpath on the park's northwestern side.
- Provision of uncontrolled pedestrian crossings on each side of the park, including a new raised table pedestrian crossing at the park's northwestern side.
- Extending the footpath on the eastern side of Riverside where it intersects Headford Road. The extended footpath would include the provision of a vehicular access lane between Riverside and an existing property, two mobility-impaired parking spaces and two EV parking spaces.
- Relocating an area of bicycle hire stands to the eastern side of the park.
- Improvement works within Woodquay Park including new pathways within the park, seating, a "Natural Play Landform" and rain gardens.

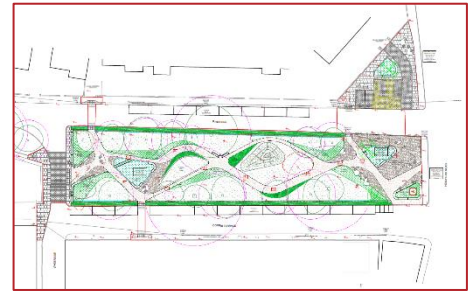














FIGURE 1.4 PROPOSED DEVELOPMENT

1.5 Summary of Individual Audit Findings

The following table summarises the issues identified by the component audits of this Quality Audit, and the Design Team's response to the issues raised.

#					Summary of Audit Issue	Design Team Response/Action
1	✓			✓	It is unclear if kerbs of an appropriate height would be provided at all locations within the scheme, in particular at mobility-impaired parking spaces and along pedestrian desire lines.	LUC Hard Landscape drawings 12357-LUC-XX-00-DR-L-0106 and 12357-LUC-XX-00-DR-L-0107 provide full details of kerbs
2	✓				Incorrect tactile paving is provided at the existing signalised pedestrian crossing on Headford Road, to the east of its junction with Riverside.	This area falls outside the project red line boundary.
3	✓			✓	The depth of tactile paving provided at various locations would not be sufficient for an in-line pedestrian crossing.	The depth of tactile paving has been increased to 1200mm (three rows)
4	✓			✓	The layout of the proposed vehicular lane providing access to an existing property is unclear and may result in mobility and visually-impaired pedestrians experiencing difficulties navigating the road layout at this location.	Although designed as a 'shared surface', the vehicular access to No.8 Riverside has been surfaced with small unit paving to distinguish from the pedestrian-only areas (flag paving). Hazard warning paving has been added to locations where pedestrians will cross the access to provide further identification that the route may be subject to very occasional traffic.
5	✓		✓	✓	The width of the paths within Woodquay Park may not be sufficient to accommodate its intended users, such as pedestrians, cyclists and wheelchair users.	Main paths are 2m wide, secondary paths have now been increased to 1.2m wide
6			✓		A bin has been indicated in a central position within the proposed footpath at the northern boundary of Woodquay Park immediately to the east of the raised table pedestrian crossing.	The bin has been moved from the footpath into the path itself

#					Summary of Audit Issue	Design Team Response/Action
7			✓	✓	No pedestrian crossings have been indicated at either end of the footpath along the northern boundary of Woodquay Park, to provide a connection across Corrib Terrace or Riverside.	Planting has been extended to block the end of the footpaths to dissuade pedestrians crossing in this area.
8			✓		No measures have been indicated to prohibit potential informal parking along Riverside at the proposed pedestrian crossings which may lead to the crossings being blocked.	Whilst not shown on Google Streetview imagery, recent improvement works to the footpath/cycle path leading from The Plots include an area of hatching to the north of Riverside to demarcate a 'no parking' zone. Double yellow line marking shown on PUNCH Road Markings & Signage drawing 231101-PUNCH-01-XX-DR-C-0462
9		✓	✓	✓	It is unclear if sufficient vertical clearance would be provided for pedestrians and cyclists beneath tree canopies within the scheme.	No cycle access is proposed within the park. LUC Tree Removals and Tree Works Plan 12357-LUC-XX-00-DR-L-0108 identifies crown lifting measures to any trees overhanging footpaths where canopy clearance would be less than 2.3m.
10				✓	Inter-visibility between drivers and pedestrians crossing Corrib Terrace from Woodquay Park may be restricted by parked cars on both sides of the crossing	Visibility analysis has been undertaken and the crossing design amended as a result. This includes the incorporation of a build-out to provide better inter-visibility between cars and pedestrians.
11				✓	Inter-visibility between drivers and all road users at the northeastern corner of Woodquay Park may be restricted by hedge planting/fencing	Hedge planting has been omitted from this corner of the park
12				✓	It is unclear if the proposed bollards would be sufficiently visible during the hours of darkness.	The specification for the bollards on LUC Hard Landscape drawings 12357-LUC-XX-00-DR-L-0106 and 12357-LUC-XX-00-DR-L-0107 has been amended to include a reflective strip to provide visibility during hours of darkness
13				✓	It is unclear if the carriageway would sufficiently shed surface water at the raised table.	Additional gulleys shown on PUNCH drainage drawing 231101-PUNCH-01-XX-DR-C-0101

#					Summary of Audit Issue	Design Team Response/Action
14				✓	It is unclear if the swept path of drivers taking up a position at the Stop line on Corrib Terrace would be accommodated due to the location of the motorcycle parking spaces.	Refer to PUNCH swept path drawings 231101-PUNCH-01-XX-DR-C-0601, 0602, 0603, 604. Parking spaces have been adjusted to ensure no clash with swept path of drivers taking up a position at the Stop line

Appendix A: Access Audit

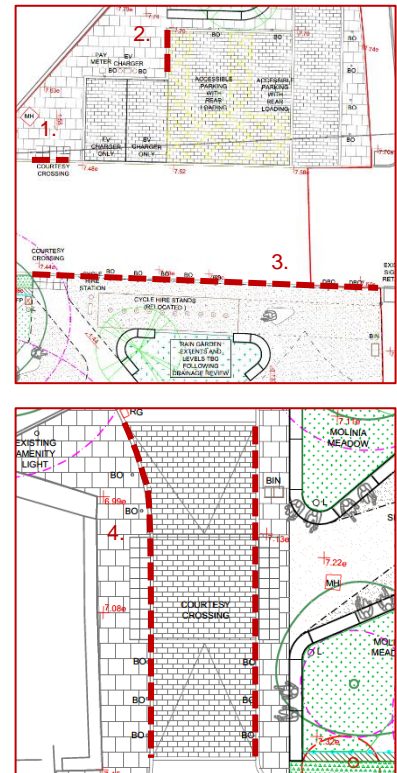
The purpose of this Access Audit is to review the proposed Scheme to assess if it can be accessed, understood, and used to the greatest extent possible by all people regardless of their age, size, or disability.

2 List of Access Issues

2.1 Kerb Heights

The proposed kerbs within the scheme have been indicated as having a varying height within the legend on the drawings provided and it is, therefore, unclear whether kerbs of an appropriate height would be provided at all locations, including the following:

1. All pedestrian crossings where the provision of kerbs with an upstand greater than 6mm may present trip hazards to pedestrians, or barriers to mobility impaired pedestrians, particularly wheelchair users.
2. Adjacent the mobility-impaired parking spaces at the southeastern corner of the scheme where the absence of a dropped kerb with an appropriate upstand could lead to mobility-impaired vehicle occupants experiencing difficulties entering/exiting their vehicle.
3. At the eastern and western boundary of Woodquay Park at its southern end, where the absence of full height kerbs, outside of pedestrian crossing points, may lead to visually-impaired pedestrians being unable to distinguish between the edge of the footpath/carriageway.
4. At the raised table, indicated at the northern boundary of Woodquay Park, where the provision of flush kerbs outside of the pedestrian crossing may lead to visually-impaired pedestrians being unable to distinguish between the edge of the footpath/carriageway.



Recommendation

Kerbs of a suitable height and type, appropriate for their location and use, should be provided throughout the scheme.

2.2 Incorrect Tactile Paving

It was noted during the site visit that the tactile paving layout at the existing signalised crossing on Headford Road, to the east of its junction with Riverside, is incorrect. This may lead to visually-impaired pedestrians misinterpreting the type of pedestrian crossing and impacting their ability to navigate the road layout.

Recommendation

Should it fall within the scope of the scheme, the tactile paving layout on both sides of this crossing should be updated to be 'L-shaped,' and red in colour, with the stem of the tactile paving located on the right-hand side and extending to the back of the footpath.



2.3 Depth of Tactile Paving at In-line Crossing

New uncontrolled pedestrian crossings have been indicated at various locations within the scheme. A number of these crossings may be considered as in-line pedestrian crossings, where pedestrians cross the road in their direction of travel, due to the alignment of the paths within Woodquay Park on their approach to the crossings.

These locations include:

1. the existing crossings at Riverside, Corrib Terrace.
3. the raised table crossing.
4. the northern crossing on Riverside.

The tactile paving indicated at these crossings is not of a sufficient depth for an in-line pedestrian crossing and this may lead to a visually-impaired pedestrian stepping over the tactile paving and inadvertently entering the carriageway.

In addition, the existing tactile paving at the crossings of Corrib Terrace and Riverside, at their junctions with Headford Road, are also not deep enough for an in-line pedestrian crossing.

Recommendation

Tactile paving at all in-line pedestrian crossings should be a minimum of 1.2m in depth.

2.4 Layout of Vehicular Access Driveway

A new access lane has been indicated at the southeastern corner of the scheme to facilitate vehicular access to an existing property at this location. It is, however, unclear if there would be a level difference between the lane and the footpath which bounds it on both sides. Should there be a level difference between these two surfaces, the absence of a pedestrian crossing along the likely pedestrian desire line, adjacent the property boundary line, may lead to mobility and visually-impaired pedestrians experiencing difficulties navigating the road layout.

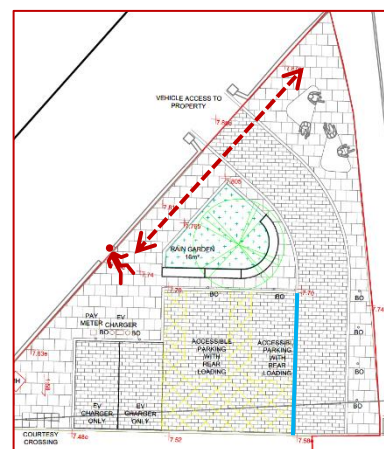
In addition, should there be a level difference, it is unclear if this kerb would extend across the southern side of the mobility-impaired parking space at this location. Should a kerb be provided across the southern side of the mobility-impaired parking space, this may result in the parking space being of an insufficient size and vehicle occupants may, therefore, experience difficulties entering/exiting their vehicle from this side.

Alternatively, should there be no level difference between the lane and the surrounding footpath, this may lead to visually-impaired pedestrians inadvertently entering the lane.

Recommendation

Should there be a level difference between the vehicular access lane and its surrounding footpath, a pedestrian crossing including tactile paving should be provided across the access and a flush kerb provided along the southern side of the mobility-impaired parking space.

Should there be no level difference, suitable measures should be provided to guide visually-impaired pedestrians through this area.



Appendix B: Walking Audit

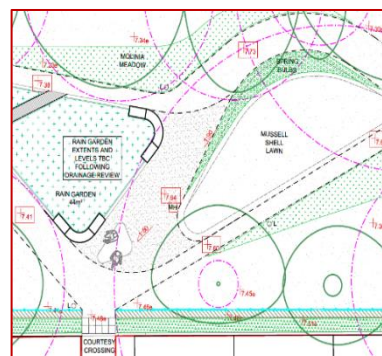
The purpose of this Walking Audit is to review the proposed Scheme to assess if it can be readily and comfortably traversed by pedestrians, that the needs of pedestrians have been prioritised over cyclists & vehicles, and that footpaths are continuous and wide enough to cater for the anticipated number of pedestrians.

3 List of Walking Issues

3.1 Width of Internal Paths

A new path network is proposed within Woodquay Park. No information in relation to the width of the paths has been provided, however, sections of the path have been measured as being approximately 1m wide. This width may lead to mobility-impaired pedestrians, particularly wheelchair users, experiencing difficulties when travelling through the park.

In addition, it is unclear if it is intended for the paths to be used by both pedestrians and cyclists. Should the path network be shared by pedestrians and cyclists, narrow paths may fail to accommodate the expected volumes of both of these road users.

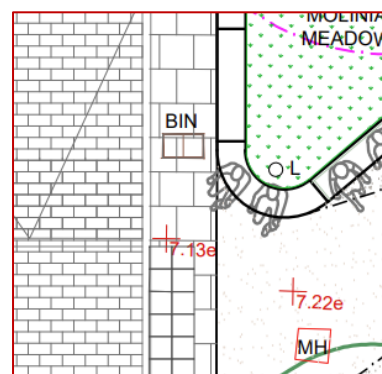


Recommendation

If the paths within Woodquay Park are intended to be shared surfaces, they should be a minimum of 2.5m wide. If these are intended to be used only by pedestrians, they should be a minimum of 1.2m wide, but preferably 1.8m wide.

3.2 Bin within Footpath

A bin has been indicated in a central position within the proposed footpath at the northern boundary of Woodquay Park immediately to the east of the raised table pedestrian crossing. The bin may obstruct the path of pedestrians travelling within the footpath.

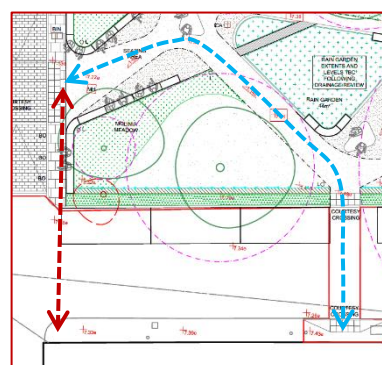


Recommendation

Relocate the bin to a location where it will not obstruct pedestrian movement.

3.3 Pedestrian Desire Line Not Catered For

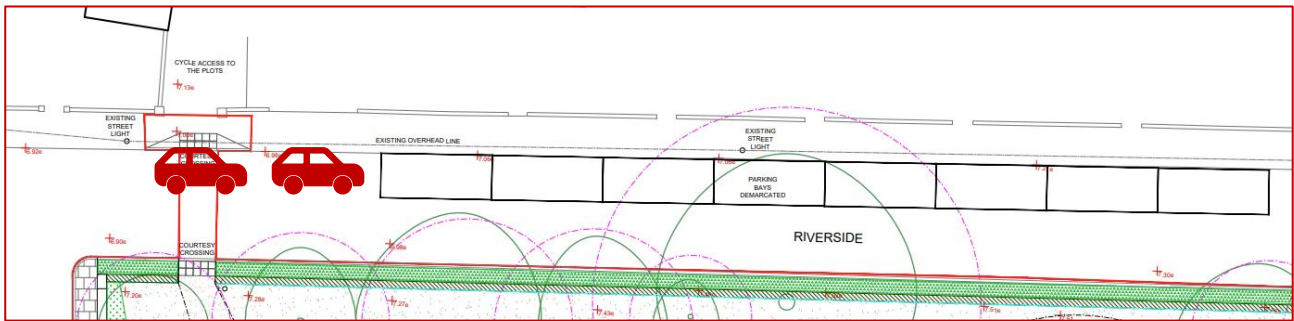
A new footpath is indicated at the northern boundary of Woodquay Park. No pedestrian crossings have been indicated at either end of the footpath to provide a connection across Corrib Terrace or Riverside, however, this would be the most direct route for pedestrians between these roads, particularly those who wish to travel south on Corrib Terrace. This may, therefore, lead to pedestrians choosing to cross Corrib Terrace or Riverside at the end of the proposed footpath, away from the proposed pedestrian crossing and where full height kerbs would likely be located. Full height kerbs along pedestrian desire lines may increase the risk of trips and falls and present barriers for elderly and mobility impaired pedestrians.



Recommendation

The pedestrian routes to the east and west at the park's northern end should be made unattractive to deter their use and thus pedestrians crossing Corrib Terrace or Riverside at these locations. This may be achieved by extending the grassed verges at either end of the footpath northwards across the proposed footpaths, or by an alternative appropriate measure.

3.4 Informal Parking at Pedestrian Crossing



A new uncontrolled pedestrian crossing has been indicated on Riverside at the northeastern corner of the park, which would link a cycle access to 'The Plots' and the proposed Woodquay Park. There are a number of on-street parking bays located along the northeastern side of Riverside, which would be demarcated. No measures, however, have been indicated at the access to 'The Plots' to prohibit informal parking at this location, outside the demarcated parking spaces. Should these formal parking spaces be occupied, drivers may park adjacent to the access where they may encroach into, or block, the crossing. If a driver were to park at this location, this would obstruct pedestrian and cyclist movement across Riverside between the park and 'The Plots.'

Recommendation

Measures (e.g. double yellow lines) should be provided at this location to prohibit informal parking.

Appendix C: Cycle Audit

The purpose of this Cycle Audit is to review the proposed Scheme to assess if it will cater comfortably for cyclists, of all ages and abilities, and that the needs of cyclists have been prioritised over vehicular traffic.

4 List of Cycle Issues

4.1 Cycle Track Headroom

Existing trees within Woodquay Park are proposed to be retained at locations where they may overhang the proposed paths and routes that may be shared by pedestrians and cyclists. No information has been provided in relation to the mounting height of these trees and it is, therefore, unclear if sufficient vertical clearance would be provided between the tree canopies and the shared path. Insufficient clearance to the tree canopies will present a hazard to cyclists, or lead to sudden avoidance manoeuvres by cyclists.

Recommendation

Trees adjacent to, or overhanging, routes shared by cyclists and pedestrians should have a vertical clearance of 2.5m.

Appendix D: Road Safety Audit

The purpose of a Road Safety Audit is to identify problems that may lead to road safety collisions, material damage or personal injury, and to offer recommendations that mitigate identified safety risks.

Punch Consulting

Park Redevelopment, Woodquay,
Galway City

Stage 1 & 2 Road Safety Audit

Punch Consulting

Park Redevelopment, Woodquay, Galway City

Stage 1 & 2 Road Safety Audit

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1 Introduction

1.1 General

This report results from a Stage 1 & 2 Road Safety Audit on the proposed Park Redevelopment, at Woodquay, in Galway City carried out at the request of Mr. Aiden O'Donoghue of Punch Consulting.

The members of the Road Safety Audit Team are independent of the design team, and include:

Mr. Alan O'Reilly

(BA, BAI, MSc, PGDip(PM), RSACert, CEng, MIEI)
Road Safety Audit Team Leader

Ms. Rebecca Farnan

(BA, MAI, MIEI)
Road Safety Audit Team Member

The Road Safety Audit took place between June and August 2024 and comprised an examination of the documents provided by the designers (see Appendix A). In addition to examining the documents supplied the Road Safety Audit Team visited the site of the proposed measures on the 18th June 2024. Weather conditions during the site visit were dry and the road surface was dry. Traffic volumes during the site visit were moderate, pedestrian and cyclist volumes were moderate and traffic speeds were considered to be generally within the posted speed limit.

Where problems are relevant to specific locations these are shown on drawing extracts within the main body of the report and their locations are shown in Appendix B. Where problems are general to the proposals sample drawing extracts are within the main body of the report, where considered necessary.

This Stage 1 & 2 Road Safety Audit has been carried out in accordance with the requirements of GE-STY-01024 - Road Safety Audit (December 2017), contained on the Transport Infrastructure Ireland (TII) Publications website.

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 and considers the perspective of all road users. 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 and minimise collision occurrence.

If any of the recommendations within this road 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 Observations are intended to be for information only. Written responses to Observations are not required.

1.2 Items Not Submitted for Auditing

Details of the following items were not submitted for audit; therefore, no specific problems have been identified at this stage relating to these design elements, however where the absence of this information has given rise to a safety concern it has been commented upon in Section 3:

- Personal Injury Collision data
- Vehicle swept paths
- Drainage
- Visibility splays

2 Project Description

The proposed site is located at Woodquay Park in the north of Galway City (see Figure 2.1). The site is bound on its western, northern and eastern side by local roads Corrib Terrace, Waterside and Riverside, respectively, and on its southern side by the Woodquay carpark which is accessed via the R866 Regional Road.

The R866 (Headford Road) is a two-way single carriageway road running in a southwest-northeast direction over a length of 0.8km. The road is approximately 8m wide in the vicinity of the development with footpaths and public lighting provided on both sides of the road. The local roads which border Woodquay Park are two-way single carriageway roads with footpaths and public lighting provided on the side of the roads opposite to the park. On-street parking is provided on the eastern side of Riverside and Corrib Terrace.

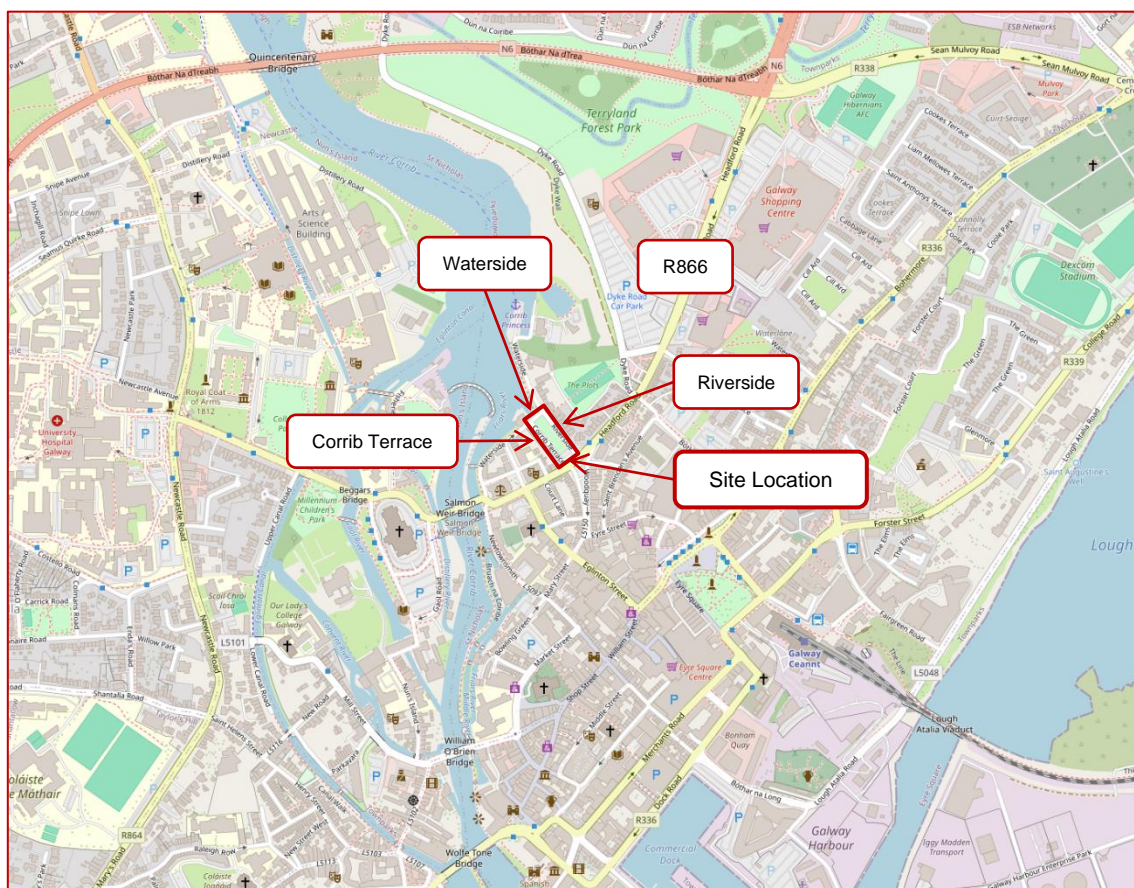


FIGURE 2.1: LOCATION PLAN (SOURCE: WWW.OPENSTREETMAP.ORG)

The proposed works at Woodquay Park would include:

- Extending Woodquay Park to the south and removing the existing carpark on the park's southeastern side.
- Provision of a new footpath on the park's northwestern side.
- Provision of uncontrolled pedestrian crossings on each side of the park, including a new raised table pedestrian crossing at the park's northwestern side.
- Extending the footpath on the eastern side of Riverside where it intersects Headford Road. The extended footpath would include the provision of a vehicular access lane between Riverside and an existing property, two mobility-impaired parking spaces and two EV parking spaces.
- Relocating an area of bicycle hire stands to the eastern side of the park.
- Improvement works within Woodquay Park including new pathways within the park, seating, a "Natural Play Landform" and rain gardens.

3 Items Arising from the Audit

3.1 General Arrangement at Woodquay Park

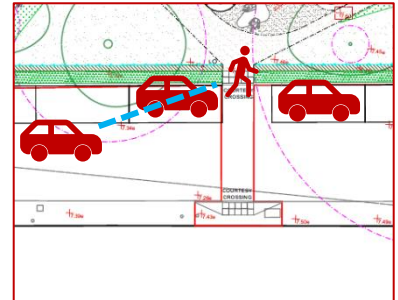
3.1.1 Inter-Visibility Restricted by Parking Spaces

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: Inter-visibility between drivers and pedestrians crossing Corrib Terrace from Woodquay Park may be restricted by parked cars on both sides of the crossing.

An uncontrolled pedestrian crossing has been indicated on Corrib Terrace. The pedestrian crossing point exiting Woodquay Park would, however, be located between two parking spaces.

Should one, or both, of these parking spaces be occupied, this may lead to the inter-visibility between approaching drivers and pedestrians waiting at the eastern side of the crossing being restricted. This may lead to a pedestrian entering the carriageway when a driver may not anticipate them to do so resulting in a subsequent risk of vehicle-pedestrian collisions.



Recommendation

The parking spaces should be removed or relocated such that sufficient inter-visibility between a driver, approaching from either direction, and a pedestrian exiting the park at the crossing is provided at this location.

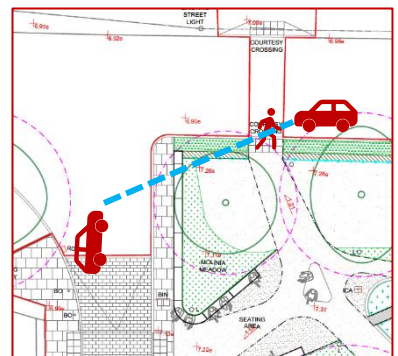
3.1.2 Inter-visibility Restricted by Hedge Line

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: Inter-visibility between drivers and all road users at the northeastern corner of Woodquay Park may be restricted by hedge planting/fencing.

A row of hedge planting, which would initially be supported by a timber post and rail fence, has been indicated around the border of Woodquay Park. A new uncontrolled pedestrian crossing has also been indicated on Riverside at the northeastern corner of the park.

Information in relation to the intended height of the hedgerow has not been provided and, should it grow too high, this may lead to inter-visibility between drivers approaching this corner from each direction, or southbound drivers and pedestrians waiting at the western side of the crossing being restricted.



This may lead to a southbound driver cutting the corner ahead of an opposing driver turning onto Riverside resulting in a subsequent risk of low-speed head-on collisions, or to a pedestrian entering the carriageway when a driver may not anticipate them to do so and a subsequent risk of vehicle-pedestrian collisions.

Recommendation

The hedgerow planting should be routinely maintained and cut to a height which provides sufficient inter-visibility between all road users at this location.

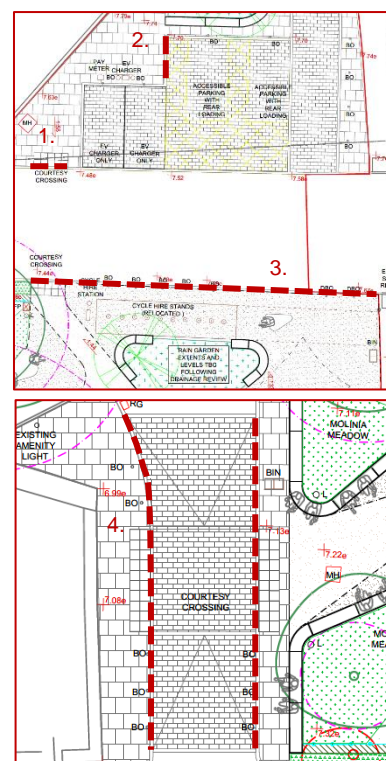
3.1.3 Kerb Heights

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: It is unclear if kerbs of an appropriate height would be provided at all locations within the scheme.

The proposed kerbs within the scheme have been indicated as having a varying height within the legend on the drawing provided and it is, therefore, unclear whether kerbs of an appropriate height would be provided at all locations, including the following:

1. All pedestrian crossings where the provision of kerbs with an upstand greater than 6mm may present trip hazards to pedestrians, or barriers to mobility impaired pedestrians, particularly wheelchair users.
2. Adjacent the mobility-impaired parking spaces at the southeastern corner of the scheme where the absence of a dropped kerb with an appropriate upstand could lead to mobility-impaired vehicle occupants experiencing difficulties entering/exiting their vehicle.
3. At the eastern and western boundary of Woodquay Park at its southern end, where the absence of full height kerbs, outside of pedestrian crossing points, may lead to visually-impaired pedestrians inadvertently entering the carriageway where there is a risk of being struck by a vehicle.
4. At the raised table, indicated at the northern boundary of Woodquay Park, where the provision of flush kerbs outside of the pedestrian crossing may lead to visually-impaired pedestrians inadvertently entering the carriageway where there is a risk of being struck by a vehicle.



Recommendation

Kerbs of a suitable height, appropriate for their location and use, should be provided throughout the scheme.

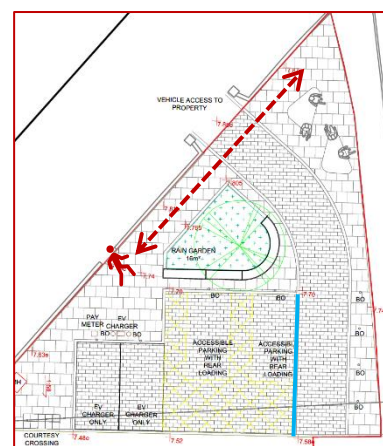
3.1.4 Layout of Vehicular Access Driveway

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: The layout of the proposed vehicular lane providing access to an existing property is unclear and may result in mobility and visually-impaired pedestrians experiencing difficulties navigating the road layout at this location.

A new access lane has been indicated at the southeastern corner of the scheme to facilitate vehicular access to an existing property at this location. It is, however, unclear if there would be a level difference between the lane and the footpath which bounds it on both sides. Should there be a level difference between these two surfaces, the absence of a pedestrian crossing along the likely pedestrian desire line, adjacent the property boundary line, may lead to mobility and visually-impaired pedestrians experiencing difficulties navigating the road layout.

In addition, should there be a level difference, it is unclear if this kerb would extend across the southern side of the mobility-impaired parking space at this location. Should a kerb be provided across the southern side of the mobility-impaired parking space, this may result in the parking space being of an insufficient size and vehicle occupants may experience difficulties entering/exiting their vehicle from this side.



Alternatively, should there be no level difference between the lane and the surrounding footpath, this may lead to visually-impaired pedestrians inadvertently entering the lane where there is a risk of being struck by a vehicle.

Recommendation

Should there be a level difference between the vehicular access lane and its surrounding footpath, a pedestrian crossing including tactile paving should be provided across the access and a flush kerb provided along the southern side of the mobility-impaired parking space.

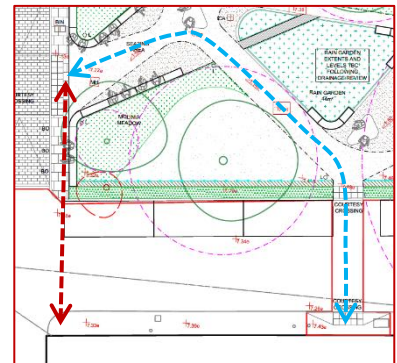
Should there be no level difference, suitable measures should be provided to guide visually-impaired pedestrians through this area.

3.1.5 Unaccommodated Pedestrian Desire Line

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: The provision of a footpath along the northern boundary of the park without associated pedestrian crossings at both ends may lead to pedestrians crossing Corrib Terrace or Riverside from this footpath where drivers may not anticipate them to do so.

A new footpath is indicated at the northern boundary of Woodquay Park. No pedestrian crossings have been indicated at either end of the footpath to provide a connection across Corrib Terrace or Riverside, however, this would be the most direct route for pedestrians between these roads, particularly those who wish to travel south on Corrib Terrace. This may, therefore, lead to pedestrians choosing to cross Corrib Terrace or Riverside at the end of the proposed footpath, away from the pedestrian crossings, where drivers may not anticipate them to do so, resulting in an increased risk of vehicle-pedestrian collisions.



Recommendation

The pedestrian routes to the east and west at the park's northern end should be made unattractive to deter their use and thus pedestrians crossing Corrib Terrace or Riverside at these locations. This may be achieved by extending the grassed verges at either end of the footpath northwards across the proposed footpaths, or by an alternative appropriate measure.

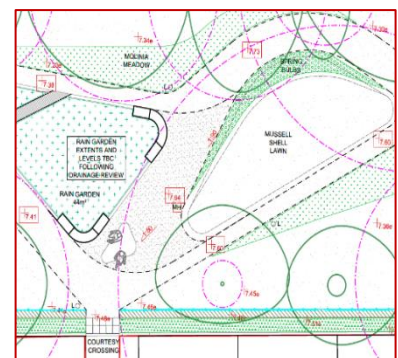
3.1.6 Width of Internal Paths

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: The width of the paths within Woodquay Park may not be sufficient to accommodate its intended users.

A new path network is proposed within Woodquay Park. No information in relation to the width of the paths has been provided, however, sections of the path have been measured as being approximately 1m wide. This width may lead to mobility-impaired pedestrians, particularly wheelchair users, experiencing difficulties when travelling through the park.

In addition, it is unclear if it is intended for the paths to be used by both pedestrians and cyclists. Should the path network be shared by pedestrians and cyclists, narrow paths may result in an increased risk of conflicts between these road users.



Recommendation

If the paths within Woodquay Park are intended to be shared surfaces, they should be a minimum of 2.5m wide. If these are intended to be used only by pedestrians, they should be a minimum of 1.2m wide, but preferably 1.8m wide.

3.1.7 Depth of Tactile Paving

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: The depth of tactile paving provided at various locations would not be sufficient for an in-line pedestrian crossing.

New uncontrolled pedestrian crossings have been indicated at various locations within the scheme. A number of these crossings may be considered as in-line pedestrian crossings, where pedestrians cross the road in their direction of travel, due to the alignment of the paths within Woodquay Park on their approach to the crossings. These locations include the raised table crossing and the northern crossing on Riverside.

The tactile paving indicated at these crossings is not of a sufficient depth for an in-line pedestrian crossing and this may lead to a visually-impaired pedestrian stepping over the tactile paving and inadvertently entering the carriageway where there is an increased risk of being struck by a vehicle.

In addition, the existing tactile paving at the crossing of Corrib Terrace and Riverside, at their junctions with Headford Road, are also not deep enough for an in-line pedestrian crossing.



Recommendation

Tactile paving at all in-line pedestrian crossings should be a minimum of 1.2m in depth.

3.1.8 Visibility of Bollards

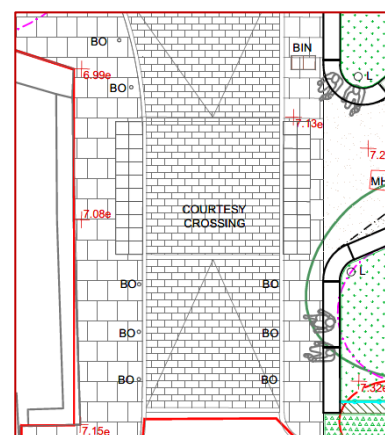
Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: It is unclear if the proposed bollards would be sufficiently visible during the hours of darkness.

A number of stainless steel bollards have been indicated within the scheme, including on the western side of Riverside and on both sides of the proposed raised table at the park's northwestern boundary. Should the bollards not include reflective measures, there is a risk that they would not be sufficiently visible during the hours of darkness.

In addition, it is unclear if the bollards would be sufficiently setback from the edge of the carriageway.

If the bollards are not sufficiently visible to approaching drivers during the hours of darkness, or should they be located too close to the edge of the carriageway, there is a risk of vehicles striking the bollards and material damage collisions.



Recommendation

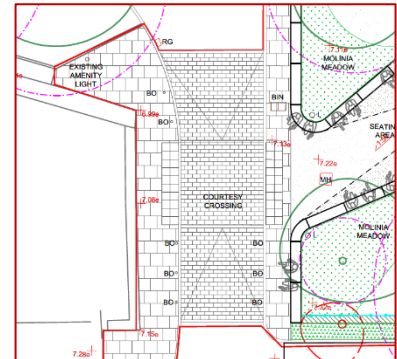
The proposed bollards should include reflective measures, such as a reflective band, and be located a minimum of 450mm from the edge of the carriageway.

3.1.9 Absence of Drainage Measures

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: It is unclear if the carriageway would sufficiently shed surface water at the raised table.

A new raised table has been indicated at the northern boundary of Woodquay Park. There appears to be an existing gully at the northeastern corner of the raised table, however no additional drainage measures appear to be proposed at this location. The existing drainage measures may fail to sufficiently shed surface water which may accumulate at the bottom of the raised table. If the carriageway is not sufficiently drained there is a risk of ponding and loss of traction resulting in the potential for loss of control type incidents, particularly during wet and icy weather conditions.



Recommendation

Sufficient drainage measures should be provided at the raised table such that the carriageway on both sides sufficiently sheds surface water.

3.1.10 Mounting Height of Trees

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: It is unclear if sufficient vertical clearance would be provided for pedestrians and cyclists beneath tree canopies within the scheme.

Existing trees within Woodquay Park are proposed to be retained at locations where they may overhang the proposed paths and routes that may be shared by pedestrians and cyclists. No information has been provided in relation to the mounting height of these trees and it is, therefore, unclear if sufficient vertical clearance would be provided between the tree canopies and the footpath/shared path. Should trees be mounted too low, tree canopies may present a hazard to pedestrians and cyclists traveling beneath them, resulting in personal injuries if collided with.

Recommendation

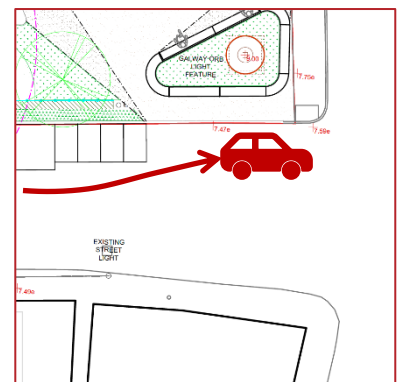
Trees which would overhang the footpath, or routes shared by pedestrians and cyclists, should be mounted at a height such that a vertical clearance of 2.3m or 2.5m, respectively, would be provided beneath them.

3.1.11 Location of Motorcycle Parking Spaces

Location: Drawing No. 12357-LUC-XX-00-DR-L-0100 (Rev. P06)

Summary: It is unclear if the swept path of drivers taking up a position at the Stop line on Corrib Terrace would be accommodated due to the location of the motorcycle parking spaces.

A row of motorcycle parking spaces has been indicated on the western side of Corrib Terrace a short distance upstream of its junction with Headford Road. Due to the location of these parking spaces, it is unclear if a driver taking up a position at the Stop line would be able to do so comfortably if these spaces were occupied. Should sufficient space not be available for these drivers, this may result in material damage collisions between vehicles and parked motorcycles.

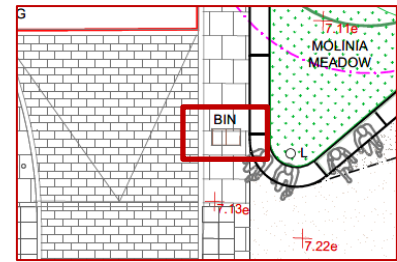


Recommendation

Confirm, via a swept path analysis, that a driver can safely position themselves at the Stop line when the motorcycle parking spaces are occupied.

4 Observations

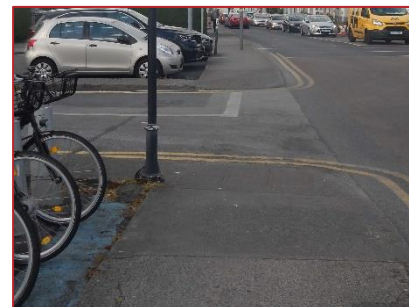
- 4.1 A bin has been indicated in a central position within the proposed footpath at the northern boundary of Woodquay Park immediately to the east of the raised table pedestrian crossing. The bin may obstruct the path of pedestrians travelling within the footpath and it should, therefore, be relocated.



- 4.2 It was noted during the site visit that the tactile paving layout at the existing signalised crossing on Headford Road, to the east of its junction with Riverside, is incorrect. This may lead to visually-impaired pedestrians misinterpreting the type of pedestrian crossing and impacting their ability to navigate the road layout. Should it fall within the scope of the scheme, the tactile paving layout on both sides of this crossing should be updated to be 'L-shaped,' and red in colour, with the stem of the tactile paving located on the right-hand side and extending to the back of the footpath.



- 4.3 The tactile paving indicated at the in-line pedestrian crossings at Riverside and Corrib Terrace, where pedestrians cross the road in their direction of travel, would be of an insufficient depth for this type of crossing. This may lead to a visually-impaired pedestrian stepping over the tactile paving and inadvertently entering the carriageway where there is an increased risk of being struck by a vehicle. Tactile paving at all in-line pedestrian crossings should be a minimum of 1.2m in depth.



5 Audit Team Statement

We certify that we have examined the drawings referred to in this report. The examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme.

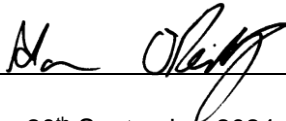
The problems identified have been noted in this report together with associated safety improvement suggestions, which we would recommend should be studied for implementation.

No one on the Road Safety Audit Team has been involved with the design of the scheme.

ROAD SAFETY AUDIT TEAM LEADER

Alan O'Reilly

Signed:




Dated:

20th September 2024

ROAD SAFETY AUDIT TEAM MEMBER

Rebecca Farnan

Signed:



Dated:

20th September 2024

6 Road Safety Audit Feedback Form

Road Safety Audit Feedback Form

Scheme: Park Redevelopment, Woodquay, Galway City

Route No.: R866, Corrib Terrace, Riverside

Audit Stage: 1 & 2 **Date Audit Completed:** 23rd August 2024

To be Completed by Designer				To be Completed by Audit Team Leader
Paragraph No. in Safety Audit Report	Problem Accepted (Yes/No)	Recommended Measure(s) Accepted (Yes/No)	Describe Alternative Measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted	Alternative Measures or Reasons Accepted by Auditors (Yes/No)
3.1.1	Y	N	Location of crossing point has been moved east to improve visibility. A build-out has been incorporated to improve inter-visibility between drivers and pedestrians	Yes
3.1.2	Y	N	Hedge planting has been removed from this location	Yes
3.1.3	Y	Y	LUC Hard Landscape drawings 12357-LUC-XX-00-DR-L-0106 and 12357-LUC-XX-00-DR-L-0107 provide full details of kerbs	
3.1.4	Y	Y	There is no level difference between surfaces. Hazard warning paving has been introduced at location indicated to raise awareness to visually-impaired	
3.1.5	Y	Y	Planting has been extended across to block the ends of the routes	
3.1.6	Y	Y	Paths are only intended to be used by pedestrians. All paths widened to 1.2m minimum. Main paths are 2.0m wide.	
3.1.7	Y	Y	Tactile paving at all in-line crossings extended to 1.2m depth	
3.1.8	Y	Y	Bollards have been repositioned 450mm away from edge of carriageway and reflective strips included within specification shown on Hard Landscape plans 12357-LUC-XX-00-DR-L-0106 and 12357-LUC-XX-00-DR-L-0107	

Road Safety Audit Feedback Form

Scheme: Park Redevelopment, Woodquay, Galway City

Route No.: R866, Corrib Terrace, Riverside

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Paragraph No. in Safety Audit Report	Problem Accepted (Yes/No)	Recommended Measure(s) Accepted (Yes/No)	Describe Alternative Measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted	Alternative Measures or Reasons Accepted by Auditors (Yes/No)
3.1.9	Y	Y	Additional gulleys shown on PUNCH drainage drawing 31101-PUNCH-01-XX-DR-C-0101	
3.1.10	Y	Y	No cycle access is proposed within the park.	
3.1.11	Y	Y	Refer to PUNCH swept path drawings 231101-PUNCH-01-XX-DR-C-0601, 0602, 0603. Parking spaces have been adjusted to ensure no clash with swept path of drivers taking up a position at the Stop line	

Signed:  **Designer** **Date** 23rd September 2024

Signed:  **Audit Team Leader** **Date** 20th September 2024

Signed:  **Employer** **Date** 23rd September 2024

Appendix A - Documents Submitted to the Road Safety Audit Team

DOCUMENT/DRAWING TITLE	DOCUMENT/DRAWING NO.	REVISION
General Arrangement Plan	12357-LUC-XX-00-DR-L-0100	P06

Appendix B – Problem Locations

