

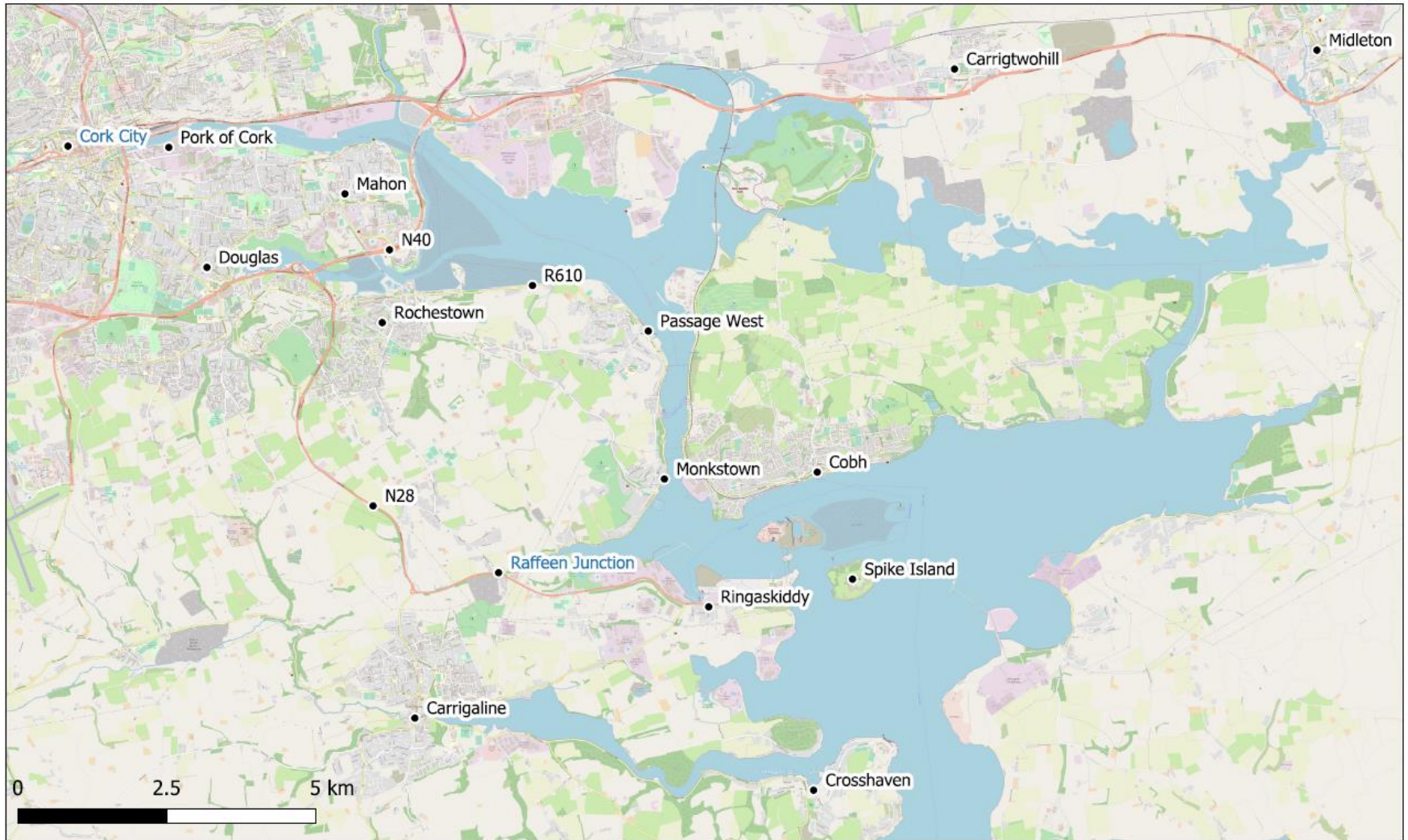


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N28 Raffeen Junction

TII Webinar – 13th Nov 2020

By Finola O Riordan
Chartered Engineer
Cork County Council



Cork Harbour Overview



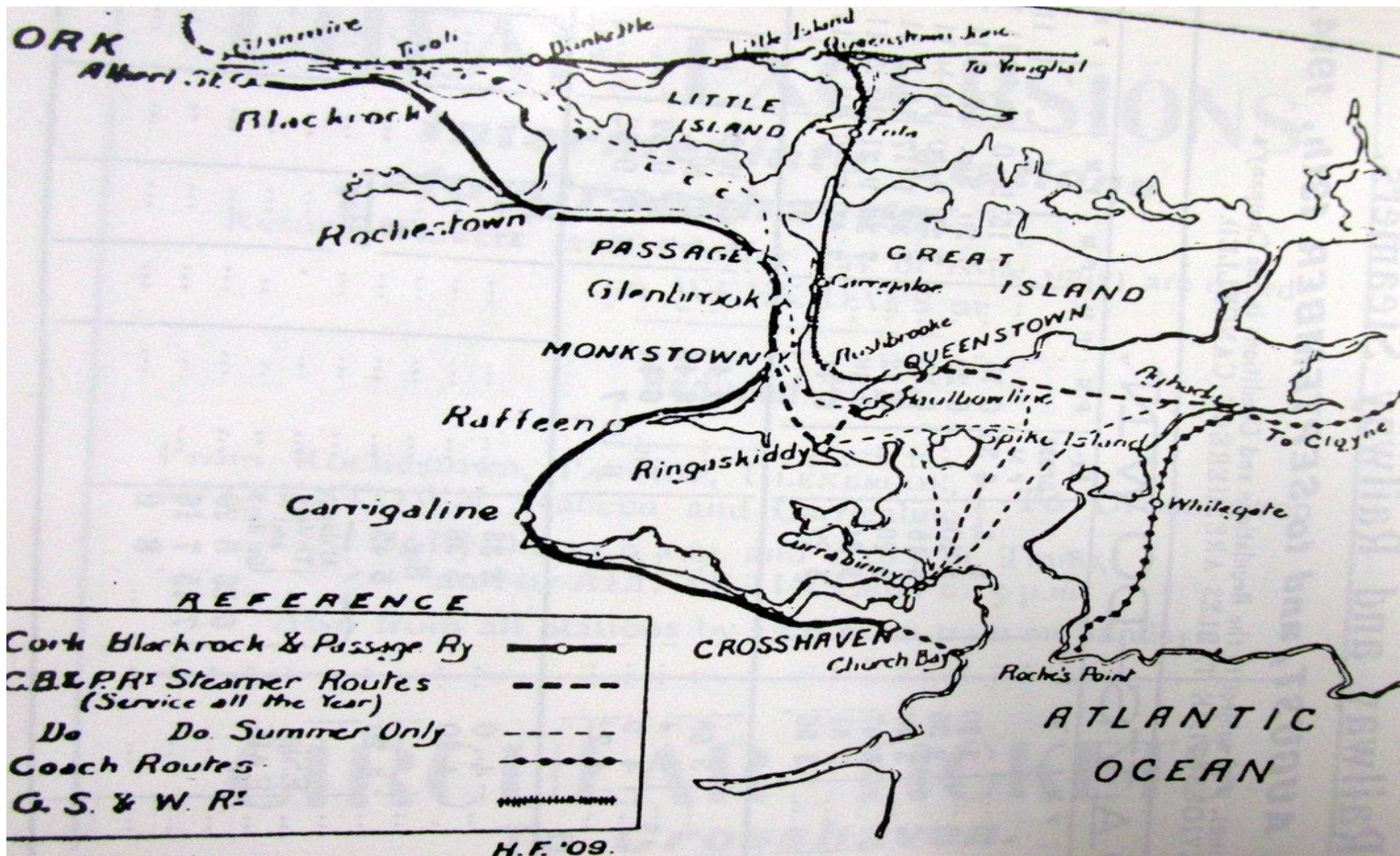
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Raffeen Junction Overview



Blackrock to Passage Railway – extended via Raffeen to Crosshaven in 1902





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Ringaskiddy Peninsula – Strategic Employment Zone

- BioMarin International Limited;
- Carbon Group;
- DePuy Ireland Unlimited Company;
- GlaxoSmithKline (Ireland) Limited;
- Hovione Limited;
- Janssen Sciences Ireland UC;
- Novartis Ringaskiddy Limited;
- Pfizer Ireland Pharmaceuticals;
- Recordati Ireland Limited;

Over 5,000 people employed

€338 million on salaries annually

€620 million combined operational budgets

€2.4 billion invested in the nine sites over the twenty years





Proposal Form for Road Safety Remedial Schemes
National Roads Authority
Form ID RSRM 2009



Local Authority Cork County Council Proposal Number _____

Name of Location N28 Junction for Rafeen; between Shannonpark Roundabout and Shanbally Village Road No NP/NS N28 / L2470

Location Type Coordinates Easting 74395 Northing 64750 Junction Bend

Mark the location on an extract from a 1/50000 scale map and attach to form. Start _____ Finish _____ Road Length _____

Improved / Unimproved Section _____ Inside / Outside Built-up Area _____

Predominant Accident Type
 Pedestrian Single Vehicle Head On
 Mixed Conflict Warrant Other

Problem Type
 Surface Layout Definition Width
 Markings Sight Distance Signs Other Specify _____

Reported Injury Accidents, Last 5yrs. (Give year, Serial no., as on top right-hand corner of C(T)68 / PC16, and brief description) and classify as F (fatal), S.I (Serious), M.I (Minor).

Year Serial No Type Description

Date	NRA Ref.	Accident Type	Lighting Condition	Surface Condition	Weather	Notes
11/02/92	1992001442	Minor Injury	Day-Poor Visibility	Wet	Wet	Private Car collision with Private Car, Head-On Conflict
11/10/96	1996006831	Serious Injury	Day-Good Visibility	Dry	Dry	Private Car collision with Other, Head-On Conflict
31/01/00	2000001908	Minor Injury	Dark-Good Lighting	Dry	Dry	Private Car collision with Van, Angle Right Turn
24/10/06	2006001339	Minor Injury	Day Poor Visibility	Other	Not Specified	Private Car collision with Pedal Cycle
17/02/93	1993001512	Serious Injury	Day-Good Visibility	Dry	Dry	2 Wheeled Motor Vehicle collision with Private Car, Angle Right Turn
28/03/98	1998002766	Serious Injury	Day-Good Visibility	Dry	Dry	2 Wheeled Motor Vehicle collision with Private Car, Head-On Right Turn
01/02/97	1997000001	Death	Day-Good Visibility	Dry	Dry	Private Car collision with Wall / Gate
08/04/93	1983002260	Minor Injury	Dark-No Lighting	Wet	Wet	Private Car collision with Private Car, Angle Right Turn
06/01/92	1992001194	Minor Injury	Day-Good Visibility	Dry	Dry	Private Car collision with Private Car, Angle Both Straight
26/10/01	2001005006	Minor Injury	Day-Good Visibility	Wet	Dry	P S V. (Bus) collision with Van
05/11/96	1996007867	Serious Injury	Dark-No Lighting	Wet	Not Specified	Private Car collision with Private Car, Angle Right Turn
28/05/06	2006001480	Minor Injury	Day-Good Visibility	Dry	Dry	Private Car collision with Pedestrian
17/02/90	1990001614	Minor Injury	Day-Poor Visibility	Wet	Wet	Private Car collision with Private Car

Any Support Information

Describe Proposed Scheme.

Provide a sketch of the proposed scheme and attach to form.

Describe how proposed scheme should Reduce Accidents

Lining, Signing incl advance warning signs, anti skid surfaces.

The proposed scheme should provide advance warning to raise the awareness of those on the N28 to the presence of the junction. It will also provide advance warning raise the awareness of those on the L2470 to the junction with the N28 and the road layout leading to the junction. Problems arise due to the layout of the minor roads leading to the junction, and due to the volume and speed of traffic on the N28 leaving fewer opportunities for traffic to emerge onto the N28.

Occasionally emerging traffic overestimates the time available to merge, particularly right turning movements onto N28, resulting in accidents.

Cost Estimates	Acquisition		Design & Stat Process	Supervision	Construction	Total
	Land	Property				
	Not Req'd	Not Req'd	€2,500	€2,000	€20,000	€24,500
Start Date			Completion Date			
NRA Office Use	Year Submitted		Approval	Technical		NRA PRS CODE
				Financial		

“The previous scheme provided advance warning to those on the N28 of the presence of the junction”



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Google



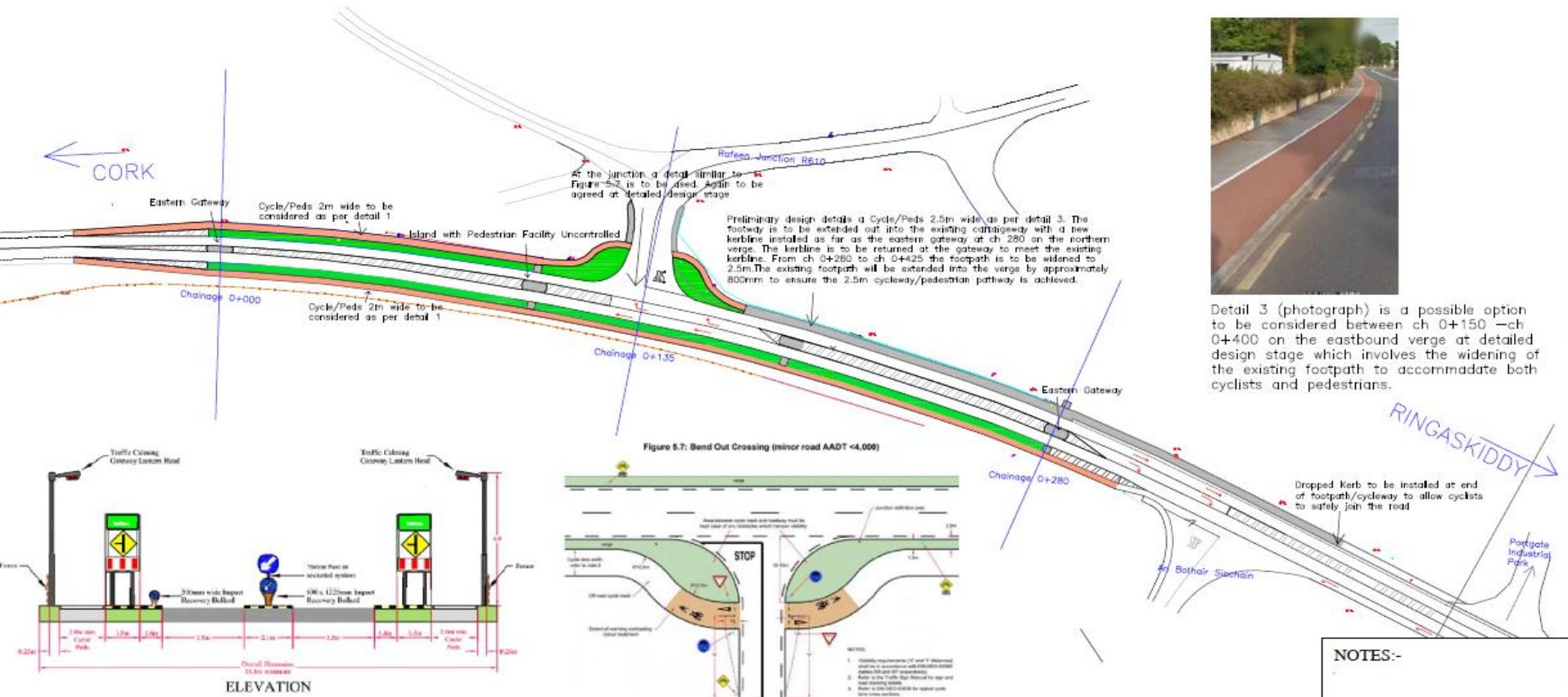
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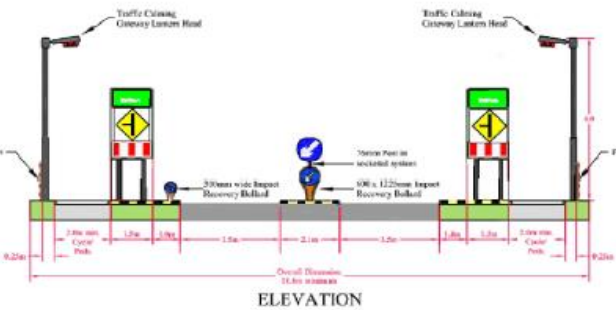


	Date	Day	Time	Severity	Surface	Collision Type
1	22-Feb-12	Wednesday		Material		Collision occurred at Junction
2	11-Jun-12	Monday		Minor		Collision occurred at Junction, angle right turn at N28/R610 Junction
3	25-Aug-12	Saturday		Material		Collision occurred at Junction
4	20/02/2013	Wednesday	Day	Material	Dry	Collision occurred at Junction
5	31/10/2013	Thursday	Day	Material	Dry	Collision occurred close to Junction
6	11/11/2013	Monday	Dark	Material	Wet	Collision occurred at Junction
7	15/04/2014	Tuesday		Minor		Side Impact at Junction
8	2014	No exact date		Material		Collision occurred at Junction
9	20/01/2016	Friday	Dark-Unlit Lighting	Minor	Dry	Rear end near junction in heavy traffic
10	03/11/2016	Thursday	Dark-Poor Lighting	Minor	Dry	Right turn onto N28 from R610. hit by Eastbound vehicle.
11	31/08/2016	Wednesday	Day-Good Visibility	Material	Dry	Right turn onto N28 from R610. M cyc overtaking through junction Eastbound.
12	19/04/2016	Wednesday	Day-Good Visibility	Material	Dry	Vehicle turning right out of R610 hit vehicle turning right into R610
13	02/05/2017	Tuesday	Day-Good Visibility	Material	Dry	Right turn onto N28 from R610. hit by Eastbound vehicle.
14	14/03/2017	Tuesday	Day-Good Visibility	Material	Dry	Right turn onto N28 from L6472 hit Eastbound vehicle.
15	17/06/2017	Saturday	Day-Good Visibility	Material	Dry	Right turn onto N28 from R610, vehicle stopped in middle of main road. Then hit by vehicle that has pulled into right turn lane to turn right into R610.
16	13/09/2017	Wednesday	Day-Good Visibility	Fatal		Collision between a cyclist and a tractor, the cyclist was killed in the collision between the Rock Road and the Raffeen Junction.

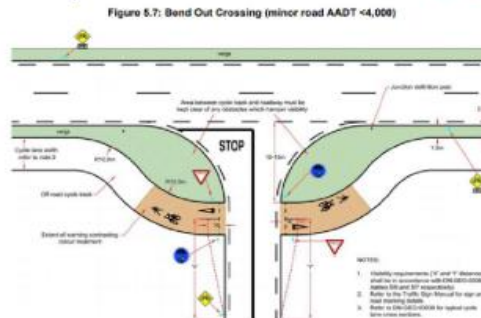
Collision History 2012 to 2017 – High collision rate noted with more than 3 collisions in the previous 3 years.



Detail 3 (photograph) is a possible option to be considered between ch 0+150 -ch 0+400 on the eastbound verge at detailed design stage which involves the widening of the existing footpath to accommodate both cyclists and pedestrians.



Detail No.1 above is a feasible option to be used between ch 0+000 at the Western gate and ch 0+280 at the Eastern Gate.

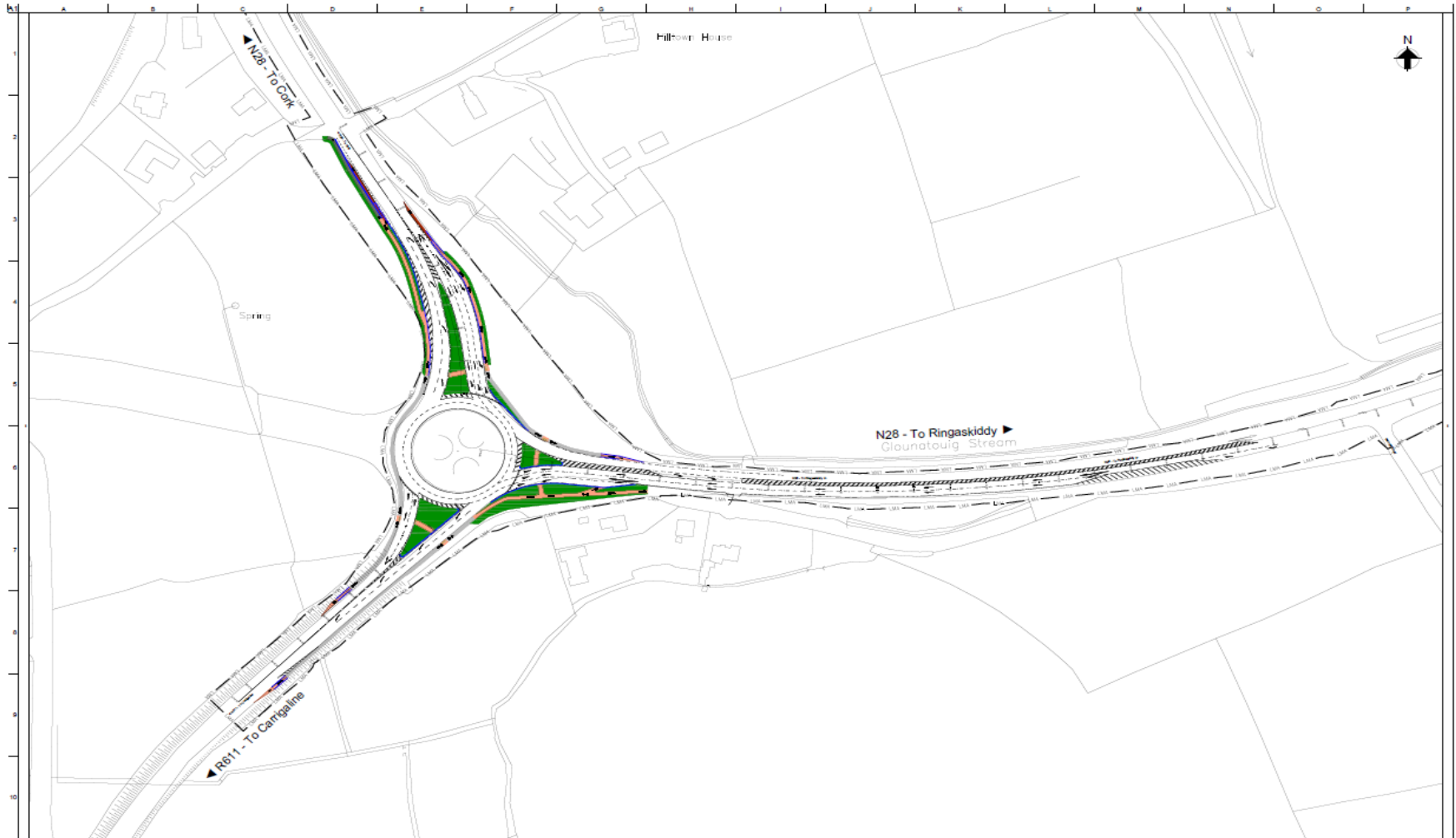


A possible option such as figure 5.7 above (minor road AADT <4,000) to be used at the Rafeen Junction

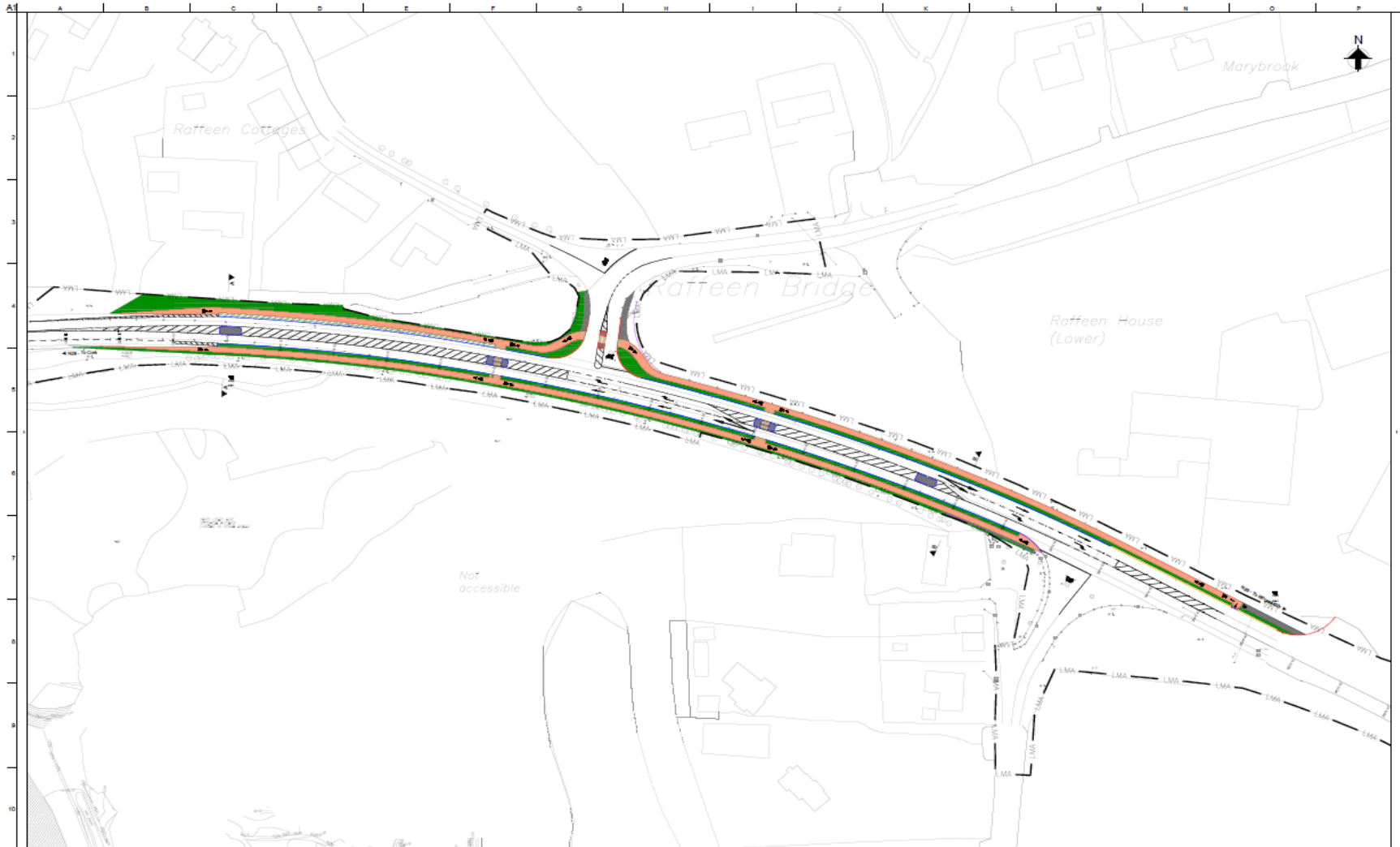
NOTES:-

LEGEND

	Existing Footpath to be widened to accommodate a red-paved cycleway/pedestrian buffer
	New Cycleway/Pedestrian buffer
	New Footpath



<table border="1"> <tr> <td>T1</td> <td>25/10/18</td> <td>DMIT</td> <td>CMcG</td> <td>T1</td> </tr> <tr> <td>Issue</td> <td>Date</td> <td>By</td> <td>Check</td> <td>Appr'd</td> </tr> </table>					T1	25/10/18	DMIT	CMcG	T1	Issue	Date	By	Check	Appr'd	<p>Cork County Council Cork County Council Cearnaí Contae Chorcaí</p>	<p>Job Title Shannonpark Roundabout & Rafteren Junction Upgrades</p> <p>Scale 1:1000 (1:2000 @ A3)</p> <p>Discipline Consulting</p>	<p>ARUP</p> <p>Arup 150, Old Quay Dublin, D08 Y080 Tel: +353 (0)1 437 2000 Fax: +353 (0)1 469 2100 www.arup.com</p>	<p>Drawing Title Shannonpark Roundabout General Arrangement Sheet 00 of 05</p> <p>Drawing Status Tender</p> <p>Job No 261418-00</p> <p>Drawing No T0100-100</p> <p>Sheet T1</p>
T1	25/10/18	DMIT	CMcG	T1														
Issue	Date	By	Check	Appr'd														



- NOTES**
- This drawing is only to be used for the Design Element identified in the title block.
 - All other information shown on the drawing is to be considered as indicative only.
 - This drawing is to be read in conjunction with all other relevant Design Drawings and Specification Appendices.
 - All existing street furniture, road signs, lighting columns, inspection chamber covers etc. to be relocated to suit road widening and resurfaced shared paths.
 - All road markings to comply with the traffic signs manual (TSM).
 - All road markings are white in colour unless noted otherwise.
 - All road markings are to be 100mm wide unless noted otherwise.
 - Lane indication arrows are to be installed in accordance with Figure 7.25 (TSM).
 - All existing road markings that coincide with proposed markings are to be removed.
 - Flexible bollards to be mounted on flexi plate sign panel.
 - All roadside furniture and proposed signpost hardware to have a minimum clearance of 0.5m from the edge of furniture to edge of kerb.
 - All signs to have a minimum headroom clearance of 2.0m as per national cycle manual (NCM).
 - Refer to Appendix 41 & 42 for details of safety barriers.
 - White or yellow uni-directional road studs at 5m spacings adjacent to hatching and road edge lines.
 - All Co-Ordinates are to ITM (Irish Transverse Mercator).

TI	251018	CMGT	CMGD	TL
Issue	Rev	By	Check	App'd

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Job Title: Shannonpark Roundabout & Rafeen Junction Upgrades
Scale: NTS
Status: Consulting

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www.arup.com

Drawing Title: Rafeen Junction General Arrangement Key Plan
Drawing Status: Tender
Drawing No: 251418-00
Revision No: T0100-200
TI



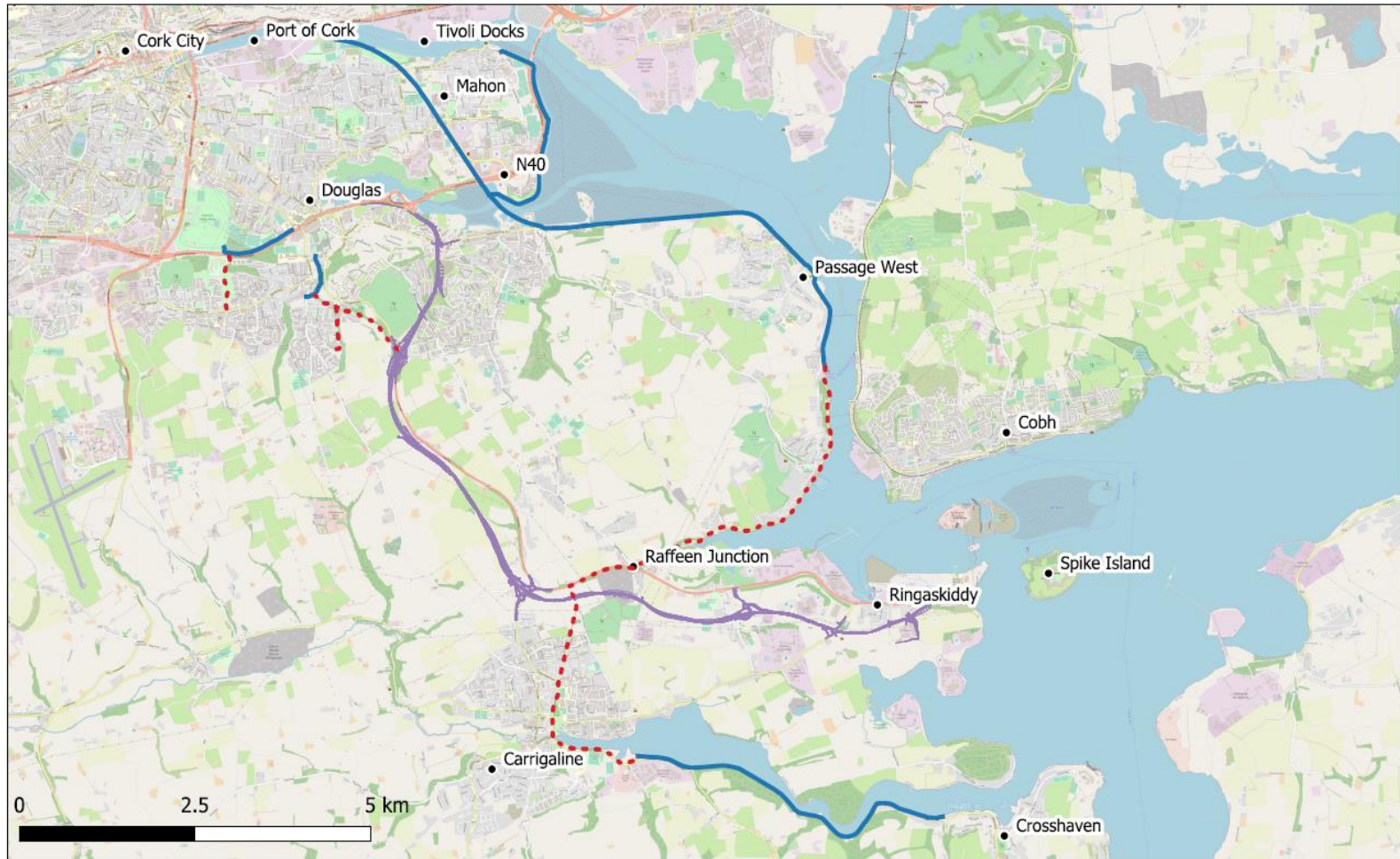
Scheme Delivery

Link in with LIHAF Scheme at Shannonpark:

- Ensure Value for Money with larger Contract;
- Shared site supervision;
- Better Traffic Management;

.....Although different funding sources





M28 Cork to Ringaskiddy Project
Proposed and Existing Greenways

Legend:

- Proposed Greenway ---
- Existing Greenway —
- M28 Cork to Ringaskiddy Project —



Road Safety Audits – Stages 1,2 & 3

Issues included:

- Speed Limit;
- Facilities for Cyclists;
- Vegetation;
- Road Markings;
- Signage.



Does it Work???

- Post-construction speeds (particularly eastbound) are reduced from the approach to the middle of the scheme
- No collisions have been recorded since the completion of the works up to May 2020.



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Costs:

Tender - €528,208.50

Final Out-turn - €623,032.60



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Thank You!