

Dublin Road Improvement Project:
Cappamore Junction Upgrade Works
Part VIII Report



PLANNING AND DEVELOPMENT ACT, 2000
PLANNING AND DEVELOPMENT REGULATIONS, 2001

REPORT PREPARED PURSUANT TO THE REQUIREMENTS OF ARTICLE 83, PART 8 OF THE
PLANNING AND DEVELOPMENT REGULATIONS, 2001, AS AMENDED

Sept 2021



MHL & Associates Ltd.
Consulting Engineers



Document Control Sheet

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Project Location	Dublin Road, Limerick
Document Title	Part VIII Report
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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1 INTRODUCTION

The location of the proposed works is the junction between Dublin Road (R445) and Cappamore Road (R506) at Cappamore Junction, Limerick City, in the townland of GARRAUNYKEE (Garrán Uí Chiabhaigh) and WOODSTOWN (An Garrán Uachtarach). The site of the proposed works is along a key urban traffic route linking the M8 with Limerick City. The Dublin Road acts as a link road between the city centre and the wider region to the east. The proposed works are located within a 50km/h speed limit.

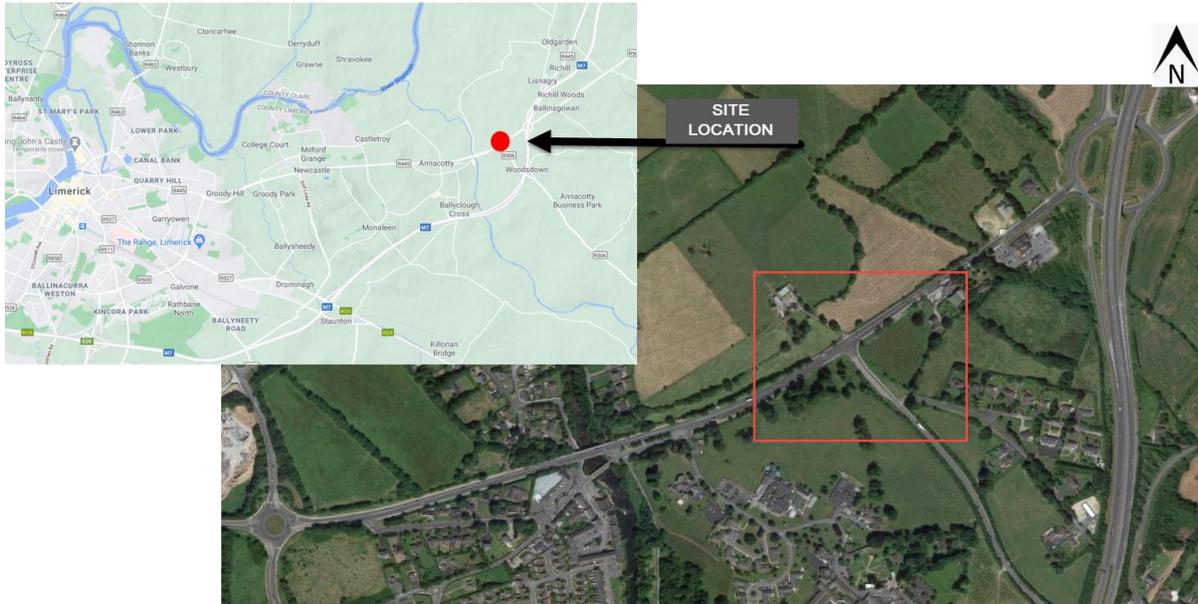


Figure 1.1 Project Location. Cappamore Junction

Limerick City & County Council proposes to carry out works which include the provision of new footpaths, new cycle lanes, new junction slip lanes, new controlled pedestrian crossings, new public lighting scheme, new surface water drainage system, improved road markings, new traffic signal control, signage and carriageway resurfacing. The proposed scheme will have the following benefits:

- The project will address peak traffic congestion through the morning and evening peaks by constructing two new slip road and reconfiguration the existing traffic signals.
- The scheme will improve road safety for all road users and in particular the safety of vulnerable road users (i.e., pedestrians, cyclists).
- The proposed new LED street lighting scheme will provide an appropriate level of lighting along the length of the scheme ensuring a safer environment for all road users.
- The proposed surface water drainage works will ensure that road surface water is adequately catered for and removed from the road surface.

The location of the proposed road improvement works is set out on the attached drawings contained in Appendix B of this Report.

2 PART VIII PLANNING PROCESS

Most developments by a Local Authority are subject to a public consultation process as set out in the Planning and Development Regulations. This process is typically referred to as the 'Part 8 Planning Process'. This procedure requires that notice of the proposed development be given in the public press and that a site notice be erected. The notice will set out where the plans and details of the proposal are available for inspection by the public, the dates for inspection and receiving submissions.

Any submissions or observations which are received by the Council are considered in the context of a Part 8 'Manager's Report' which is subsequently prepared and is presented to the Councillors for adoption. The 'Manager's Report' lists those who made a submission together with a summary of the points made in their respective submissions. The report then addresses each point which forms the Local Authority's response.

Arising from consideration of the representations, the 'Manager's Report' sets out whether or not it is proposed to proceed as originally planned or to proceed with a modified proposal. It is then a matter for the members of the Council (i.e., the Councillors) to grant planning or not.

Pursuant to the requirements of Part 8 of the Planning and Development Regulations, 2001, as amended, notice is hereby given that Limerick City & County Council proposes to carry out improvement works on the Dublin Road (R445) and Cappamore Road (R506) at Cappamore Junction.

The locations for inspecting the Part 8 Planning documentation, the relevant dates and necessary information relating to making submissions and observations to the Local Authority, is set out in the Part 8 Planning Notice. A copy of the Part 8 Planning Notice is attached in Appendix A of this report.

3 PRINCIPAL FEATURES OF THE SCHEME

Transportation and road design in urban areas is a complex issue and the needs of all road-users must be recognised and accommodated in the overall design.

On review of the existing road, it was determined that improvements to the pedestrian facilities were desirable due to the semi urban nature of the area, linking Annacotty Business Park with Limerick City. The scheme proposes to introduce new footpaths, controlled pedestrian crossings, new public lighting, new surface water drainage and carriageway resurfacing. The proposed scheme is designed to benefit all road users with a specific emphasis on vulnerable road users.

Refer to Part VIII drawings for an overview of the proposed works.

The following lists the principal features of the proposed scheme:

- Construction of new footpaths to ensure a continuous provision along Dublin Road/ Cappamore Road.
- Installation of controlled pedestrian crossings.
- Construction of new cycle lanes
- Installation of build outs at junctions.
- Installation of a new LED Public Lighting Scheme.
- Alterations to existing surface water drainage.
- Installation of new road markings and signage.
- Installation of new traffic signal aspects
- Carriageway resurfacing
- Provision of new boundary fencing/walls
- Alterations to existing boundary walls
- All necessary accommodation works

4 CONCLUSION

The proposed works are consistent with the proper planning and sustainable development of the area to which it relates.

Limerick City & County Council proposes to carry out works which include the provision of new footpaths, controlled pedestrian crossings, new public lighting and new surface water drainage system. The proposed scheme will have the following benefits:

- The scheme will improve road safety for all road users and, in particular, the safety of vulnerable road users (i.e. pedestrians) through the provision of new footpaths and pedestrian crossings.
- The proposed new LED public lighting scheme will provide an appropriate level of lighting along the length of the scheme ensuring a safer environment for all road users.
- The proposed surface water drainage works will ensure that road surface water is adequately catered for.

5 APPENDIX

6 APPENDIX A- PART VIII PLANNING NOTICE

LIMERICK CITY & COUNTY COUNCIL

PART 8 DEVELOPMENT

SITE NOTICE

In accordance with Part XI, Section 179 of the Planning & Development Acts 2000 (as amended) and Part 8, Article 81 of the Planning and Development Regulations 2001 (as amended), notice is hereby given that Limerick City & County Council proposes to carry out the following development:

Junction Improvement works on the R445 (Dublin Road) / R506 (Cappamore Road) Limerick.

The proposed works will include the construction of new footpaths, new cycle lanes, new junction slip lanes, new controlled pedestrian crossings, new public lighting scheme, new surface water drainage system, improved road markings, new traffic signal control, signage and carriageway resurfacing.

The location of the works is in the townlands of Garraunykee and Woodstown at the Cappamore Road junction with the R445, Limerick.

Limerick City & County Council has carried out an Environmental Impact Assessment (EIA) Screening Report in accordance with the requirements of Article 120(1B)(b)(i) and has determined that there is no real likelihood of significant effects on the environment. Accordingly, it has been determined that an EIA is not required in respect of this proposed development. Nonetheless, a person may, within 4 weeks beginning on the date of the publication of this notice apply to An Bord Pleanála for a screening determination. Such a submission should be addressed to the Secretary, An Bord Pleanála, 64, Marlborough Street, Dublin 1.

Limerick City & County Council has carried out an Appropriate Assessment (AA) Screening Report and has determined that a full Appropriate Assessment is not required in respect of this proposed development.

Plans and particulars of the proposed development will be available for inspection and/or purchase at a fee not exceeding the reasonable cost of making a copy, from **Friday 24th September 2021** up to and including **Friday 22nd October 2021** during public opening hours (excluding bank holidays) at the Customer Services Desk, Limerick City & County Council, Merchant's Quay, Limerick, V94 EH90 and at the Planning and Environmental Services Department, Limerick City & County Council Offices, Dooradoyle Road, Limerick, V94 WV78. Plans and particulars of the proposed development will also be available for inspection online during the above timeframes at <https://mypoint.limerick.ie>.

Submissions or observations in relation to the proposed development, dealing with proper planning and sustainable development of the area in which the development would be situated may be made in writing to the Planning and Environmental Services Department, Limerick City & County Council Offices, Dooradoyle Road, Limerick, V94 WV78, by email to planning@limerick.ie, or online at <https://mypoint.limerick.ie> on or before **4pm on Friday 5th November 2021**.

Note: Only submissions made in the above manner will be considered as valid submissions for the purposes of the Chief Executive's Report to be presented to Council.

Signed: Brian Kennedy, Director of Services
Transportation and Mobility Directorate
Limerick City & County Council, Merchant's Quay, Limerick

Date of erection of site notice: 24th September 2021

7 APPENDIX B – PROJECT DRAWINGS

DUBLIN ROAD IMPROVEMENT PROJECT: CAPPAMORE JUNCTION UPGRADE WORKS



PART VIII Planning

Client: Limerick City & County Council

Consultant : MHL & Associates Consulting Engineers



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Job No.: 20046RD
SEPTEMBER 2021

DUBLIN ROAD IMPROVEMENT PROJECT: CAPPAMORE JUNCTION UPGRADE WORKS

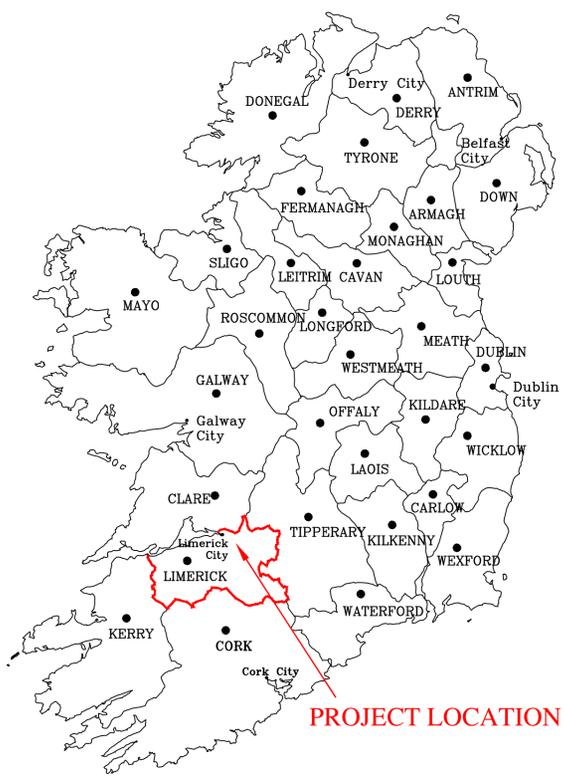
Part VIII Planning Drawing Schedule 20046RD

Drawing Reference	Rev	Drawing Title	Scale A1
DRIP-SML-P01	A	Site Location Map	As Shown @ A1
DRIP-CJPL-P01	A	Cappamore Junction Proposed Layout Plan (Sheet 1 of 5)	1:500
DRIP-CJPL-P02	A	Cappamore Junction Proposed Layout (Sheet 2 of 5)	1:200
DRIP-CJPL-P03	A	Cappamore Junction Proposed Layout (Sheet 3 of 5)	1:200
DRIP-CJPL-P04	A	Cappamore Junction Proposed Layout (Sheet 4 of 5)	1:200
DRIP-CJPL-P05	A	Cappamore Junction Proposed Layout (Sheet 5 of 5)	1:200
DRIP-CJPL-P06	A	Cappamore Junction: Project Extents	1:500
DRIP-CJPL-P07	A	Cappamore Junction: Proposed Land Acquisition Map	1:500



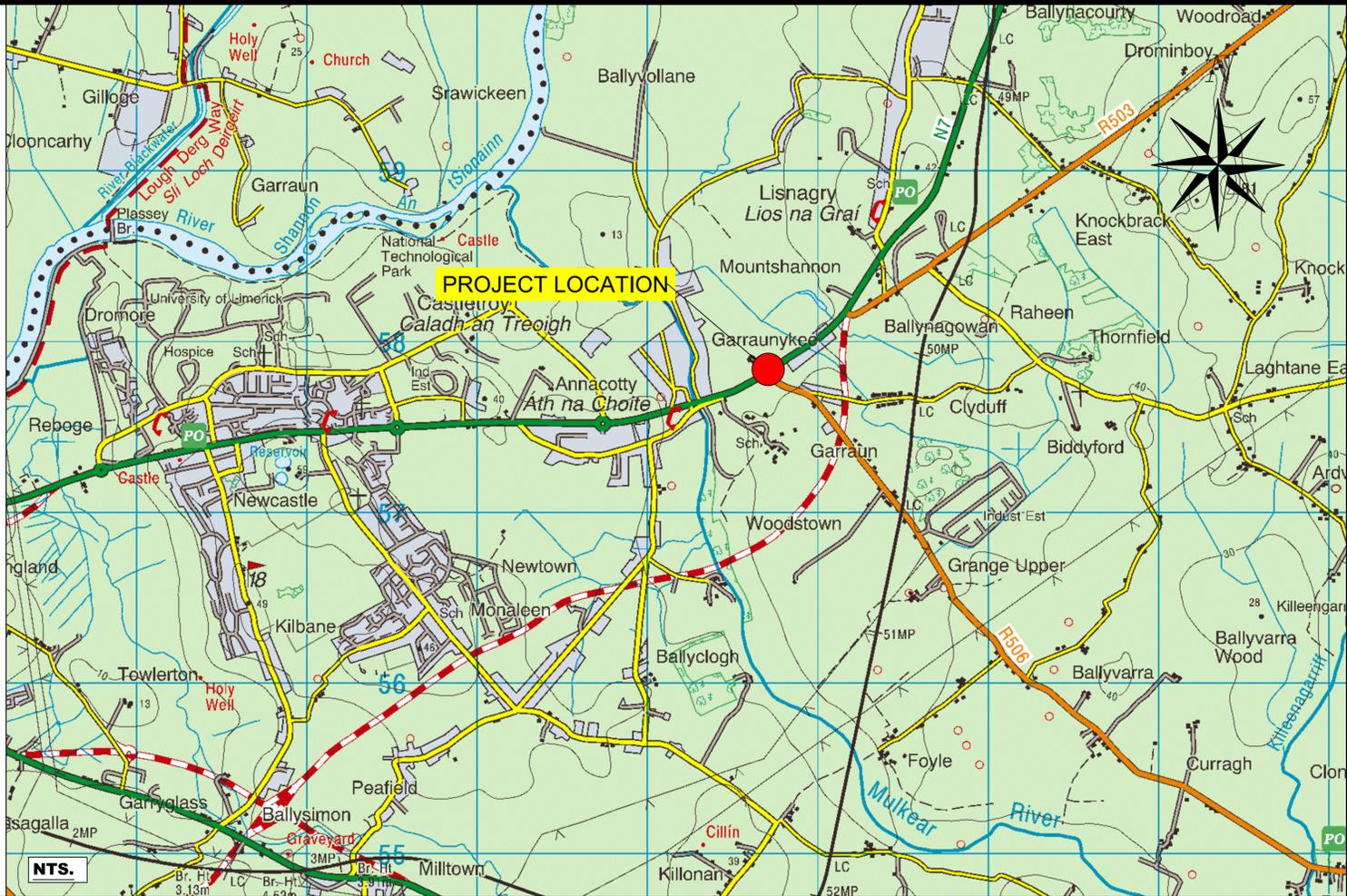


IRELAND



PROJECT LOCATION

NTS.



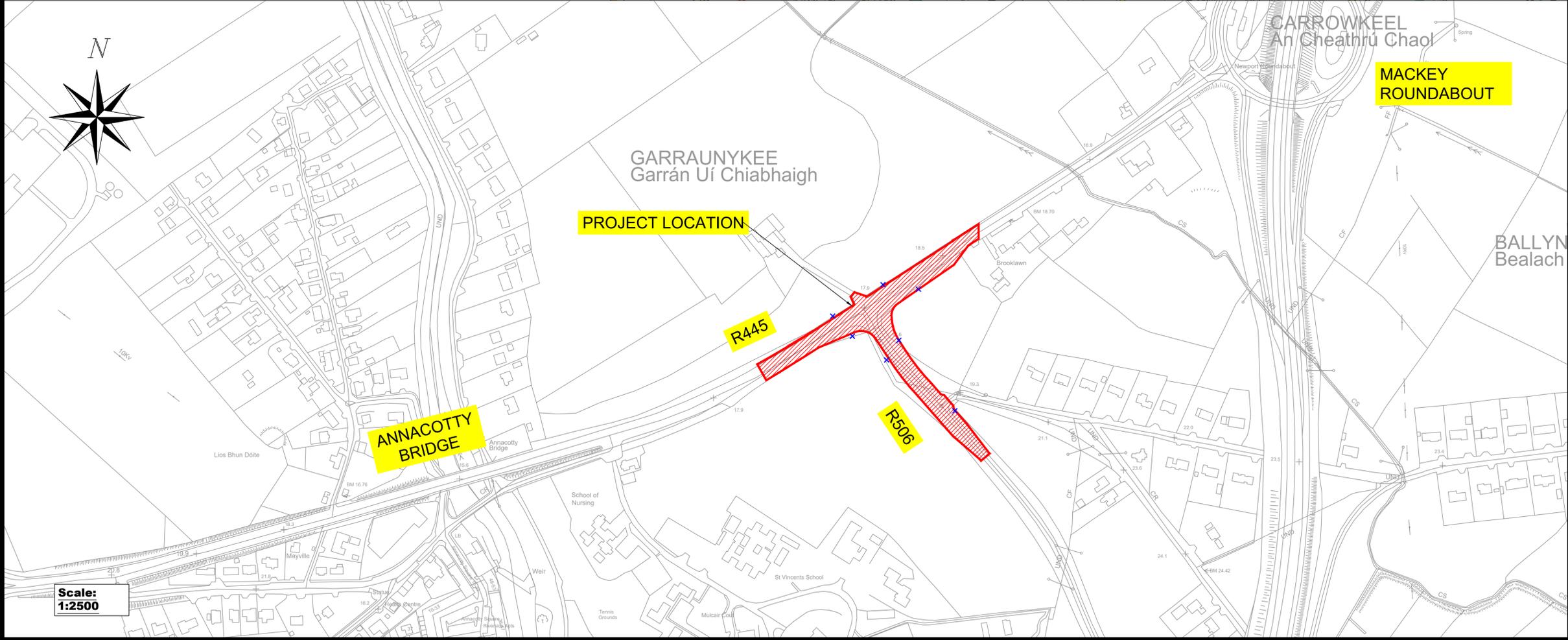
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NOTES

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THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL CONTRACT DRAWINGS, DOCUMENTS AND SPECIFICATIONS.

LEGEND

- PROPOSED AREA OF LAND ACQUISITION
- SITE NOTICE LOCATION



Scale: 1:2500

PART VIII PLANNING

Rev.	By.	Date.	Description.

A DM SEPT/21 VIII Revision
Drawing Status: PART VIII PLANNING

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DUBLIN ROAD IMPROVEMENT PROJECT:
CAPPAMORE JUNCTION UPGRADE WORKS

Drawing Title:
SITE LOCATION MAP

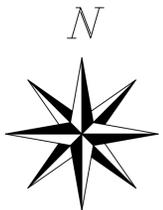


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Scale: As Shown @ A1	Date: Jun. 2021	
Job No. 20046RD	Drawing No. DRIP-SLM-PD01	Revision. A



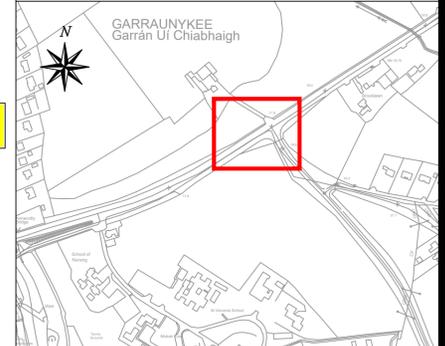
PART VIII PLANNING

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- EXISTING BOUNDARY
- EXISTING ROAD EDGE
- PROPOSED CARRIAGEWAY SURFACE
- PROPOSED FOOTPATH (2m WIDTH)
- PROPOSED CYCLE LANE (2m WIDTH)
- PROPOSED FOOTPATH LADDER CONCRETE PAVING SLAB
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- EXISTING FOOTPATH
- PROPOSED SEPARATION ISLAND
- PROPOSED RED PIGMENTED RAISED JUNCTION TABLE
- PRIMARY TRAFFIC SIGNAL ASPECT
- SECONDARY TRAFFIC SIGNAL ASPECT
- TOUCAN PED CYCLE/ SIGNAL ASPECT WITH PEDESTRIAN COUNTDOWN TIMER
- EXISTING LIGHTING COLUMN
- RELOCATED LIGHTING COLUMN



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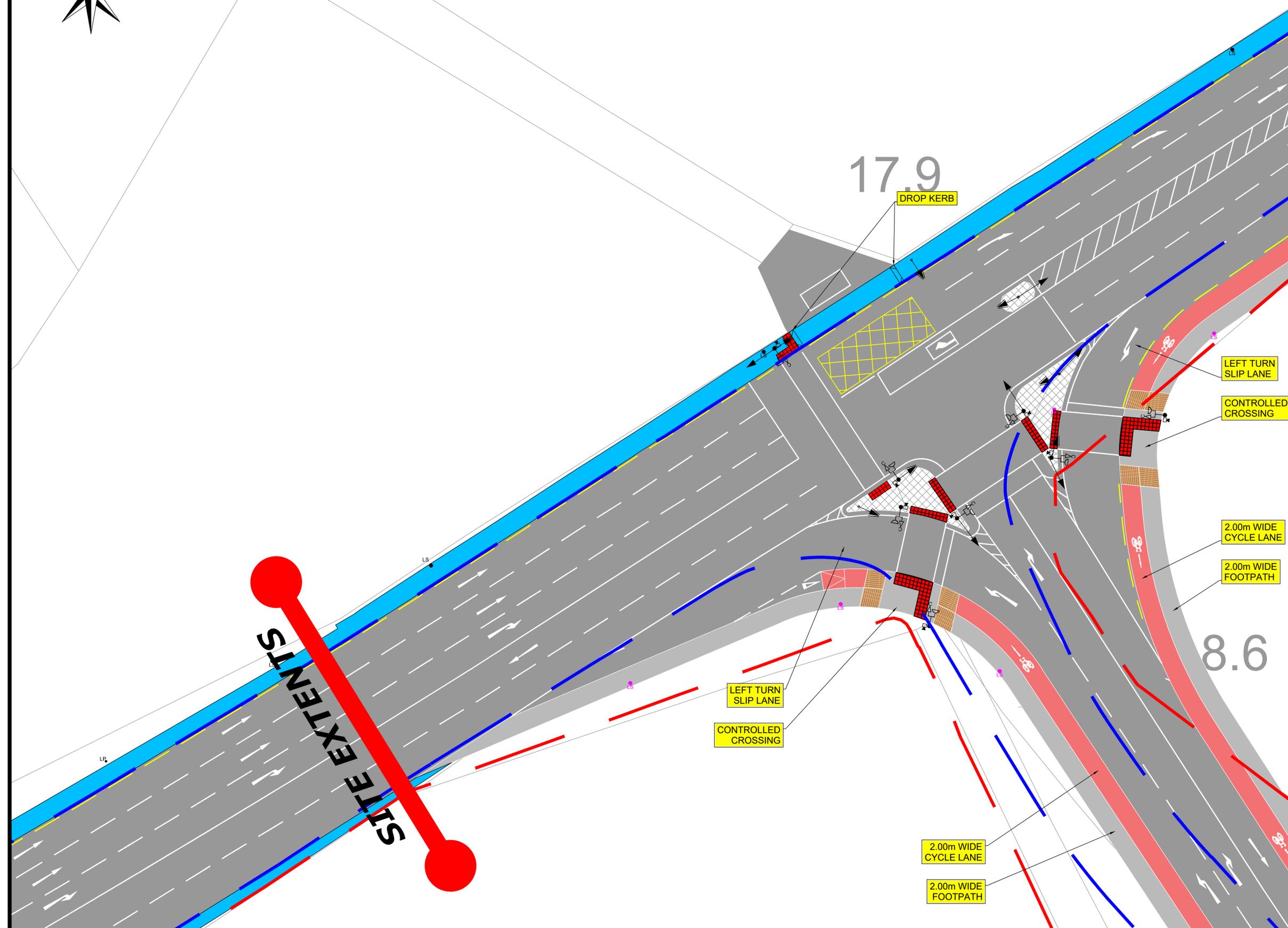
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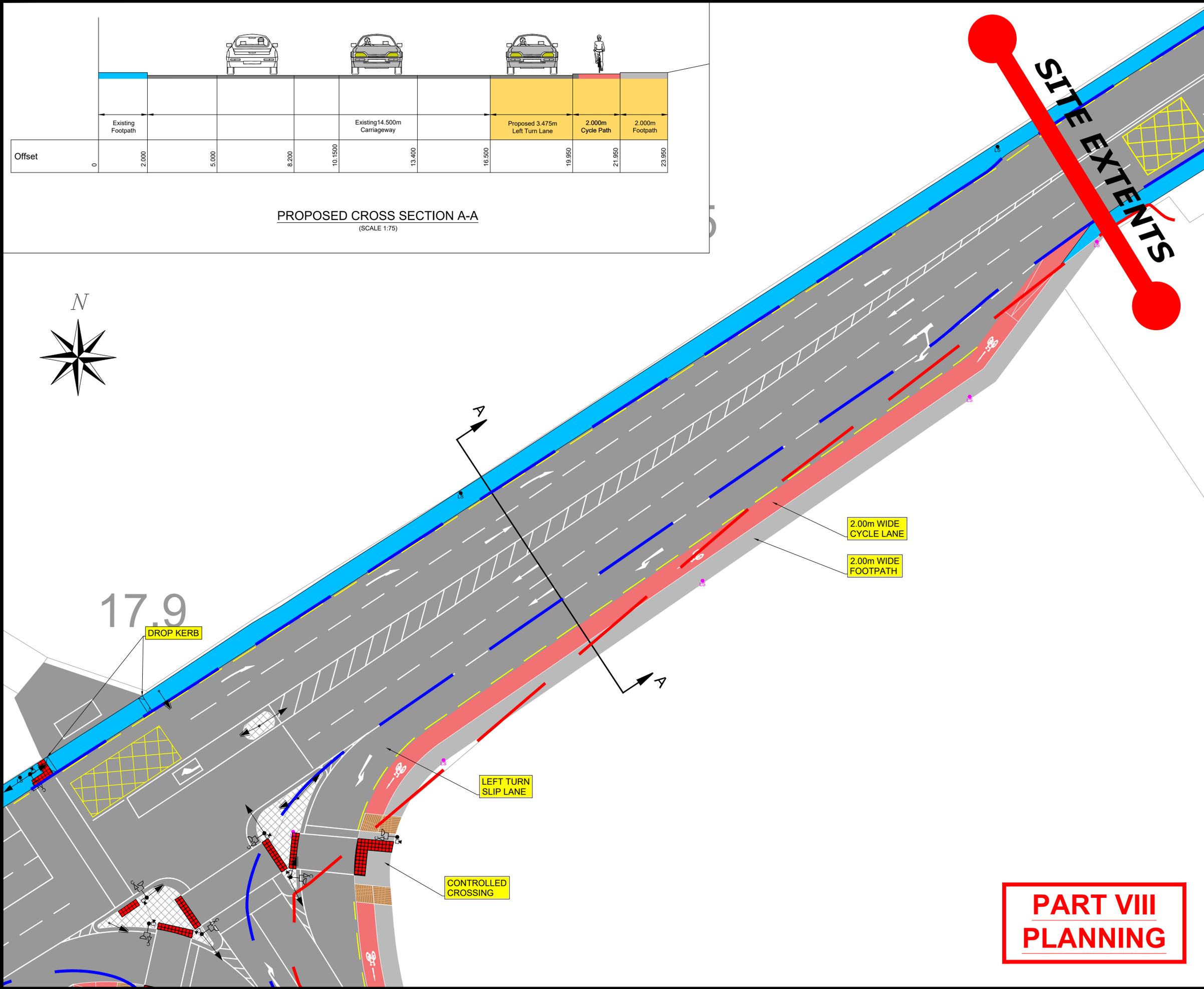
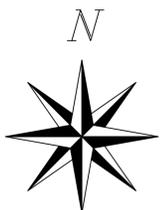
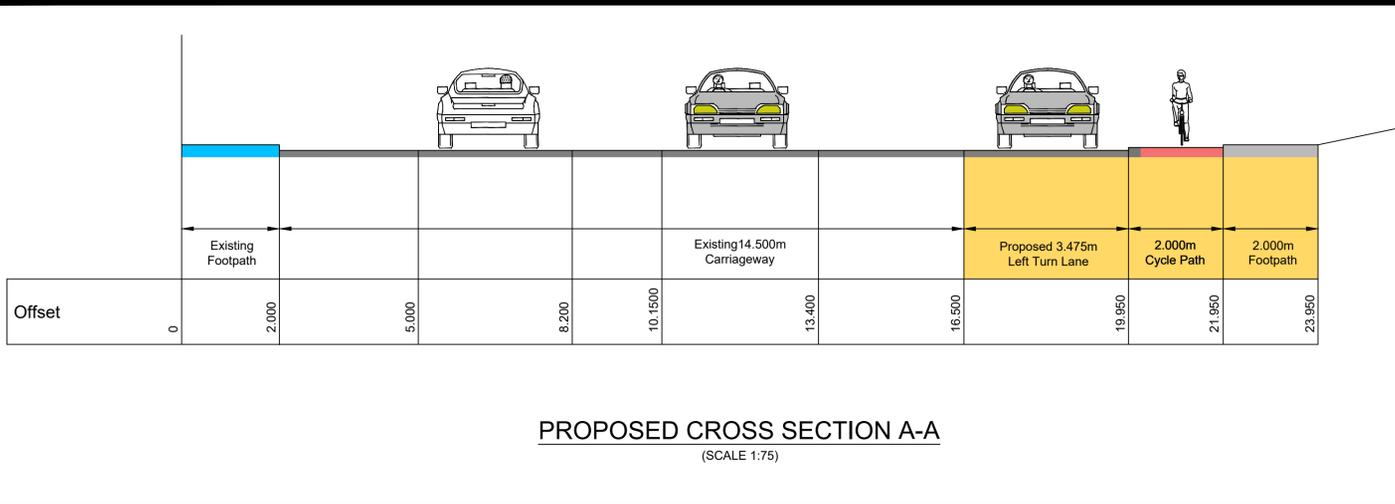
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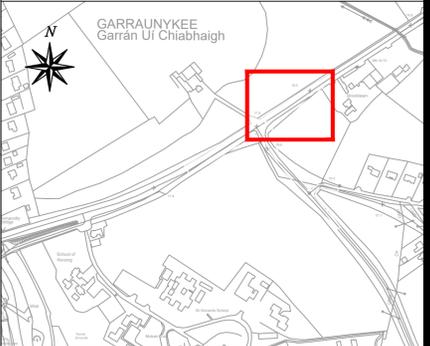
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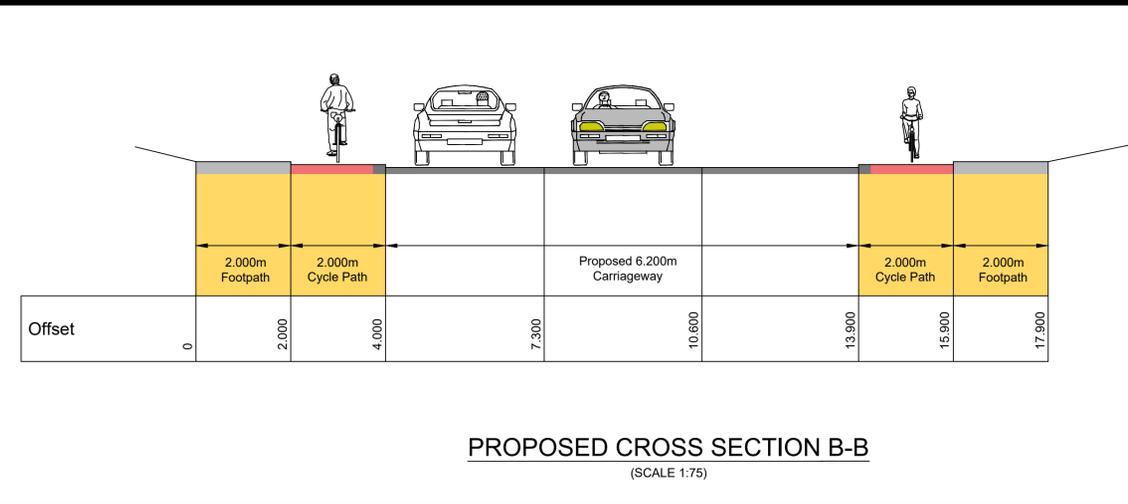
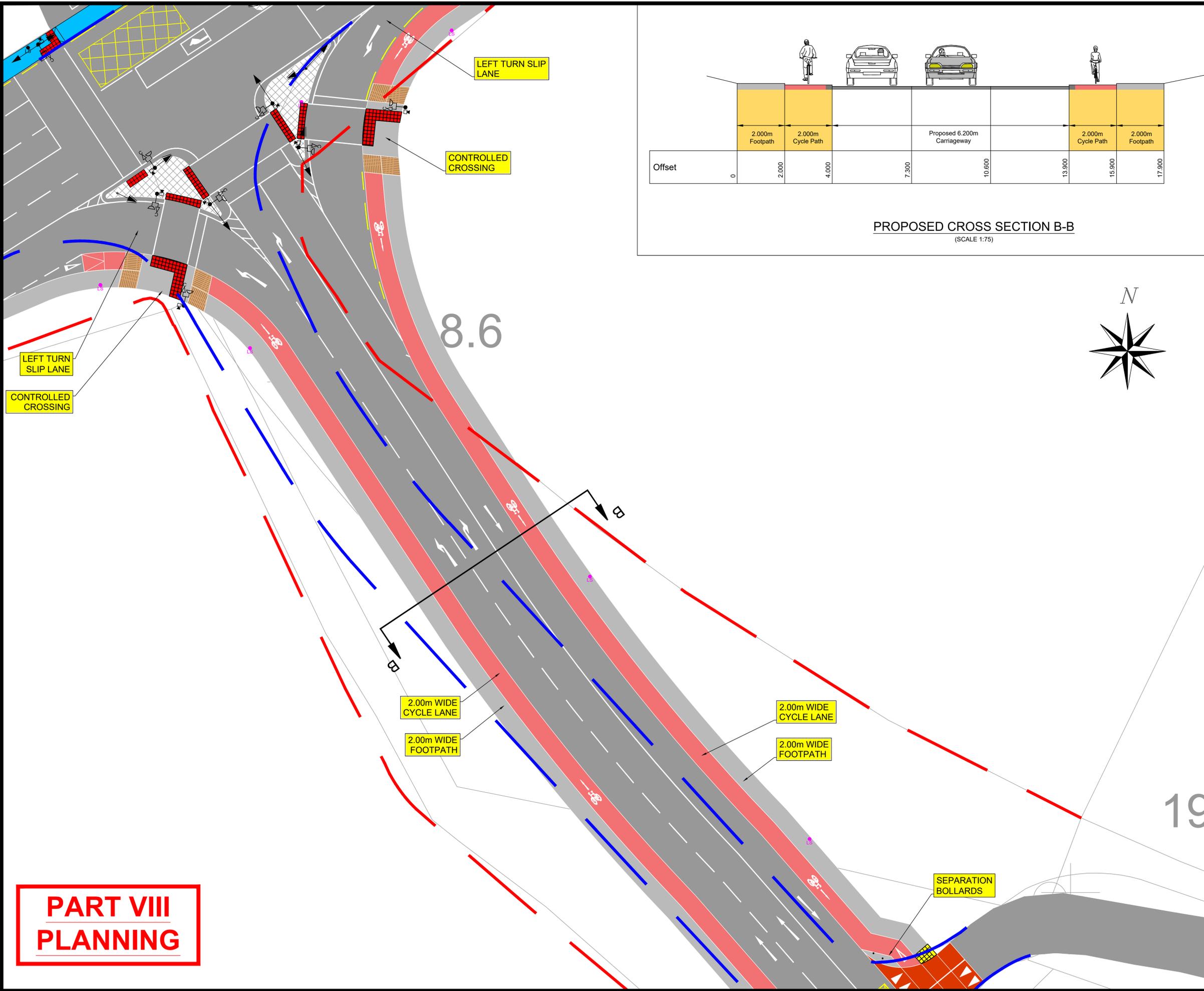
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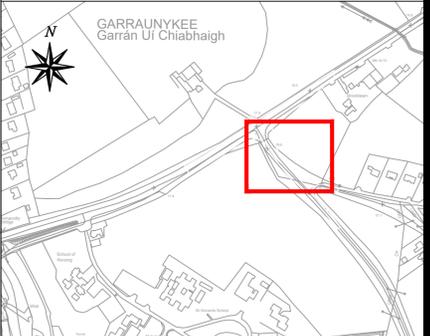
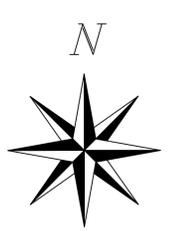
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**PART VIII
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CAPPAMORE JUNCTION UPGRADE WORKS

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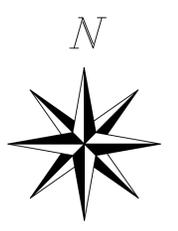
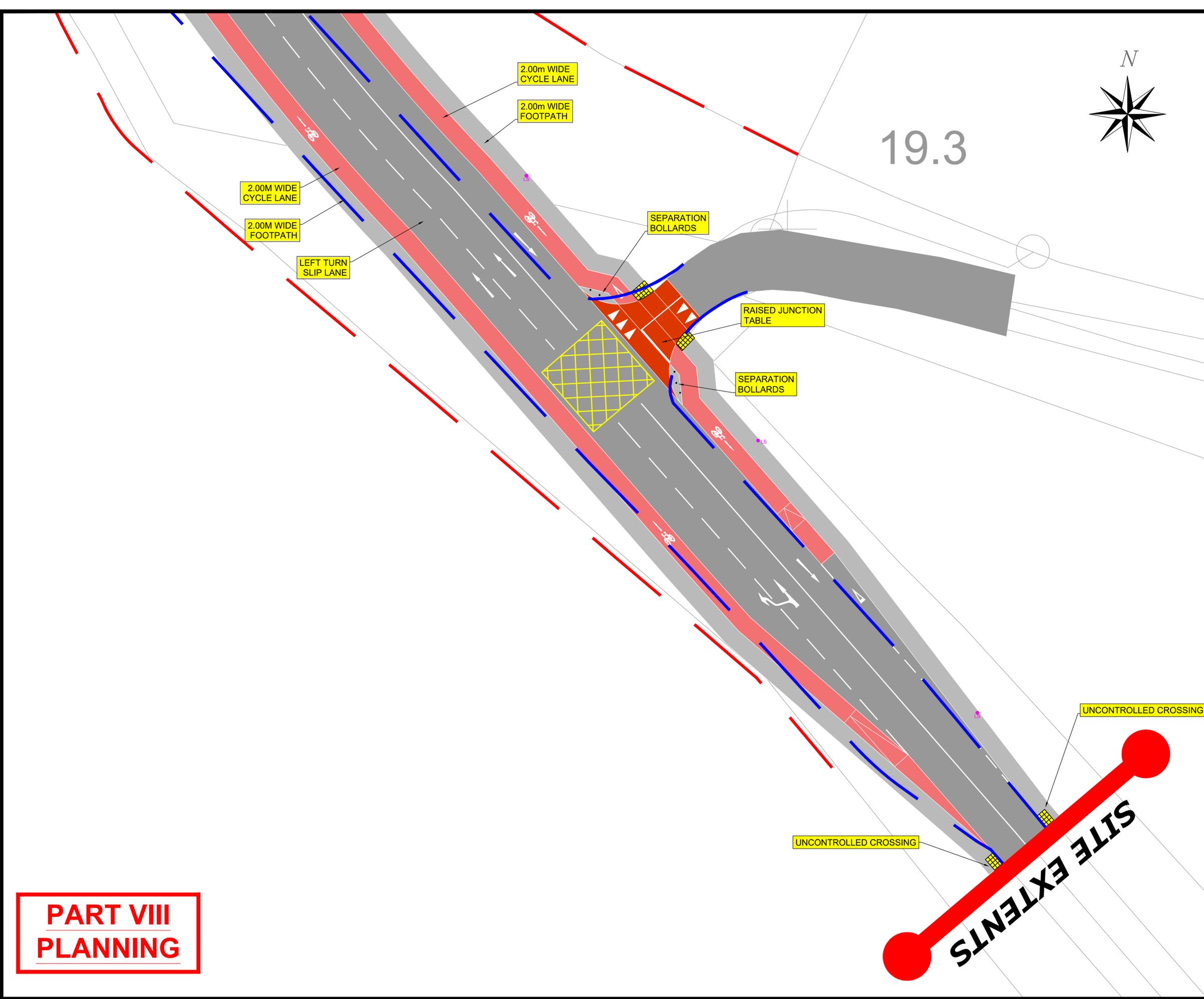
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**PART VIII
PLANNING**

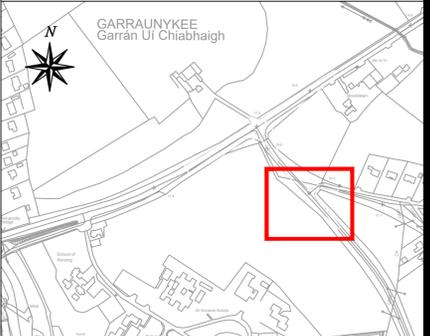


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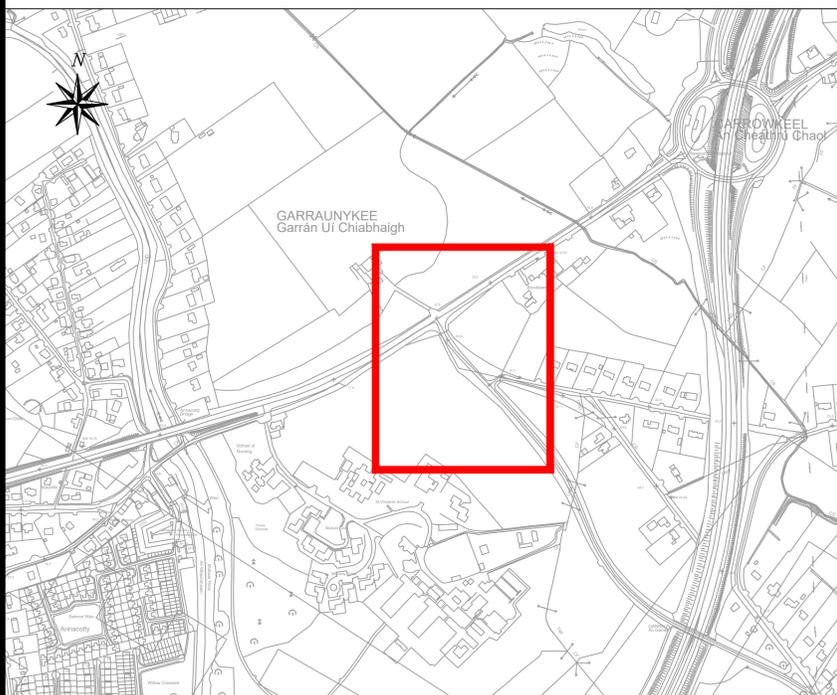
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**PART VIII
PLANNING**

SITE EXTENTS



PART VIII PLANNING



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Client:



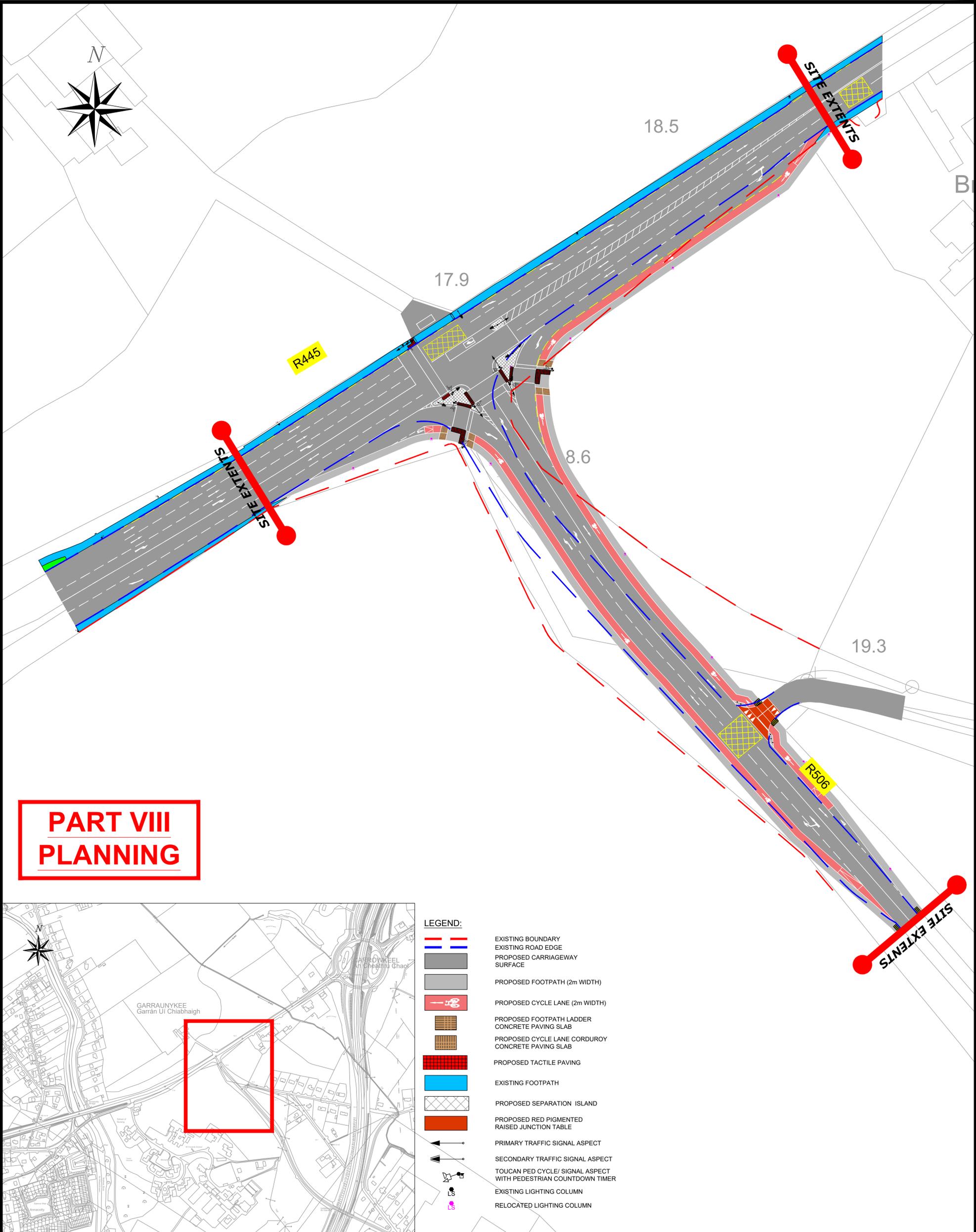
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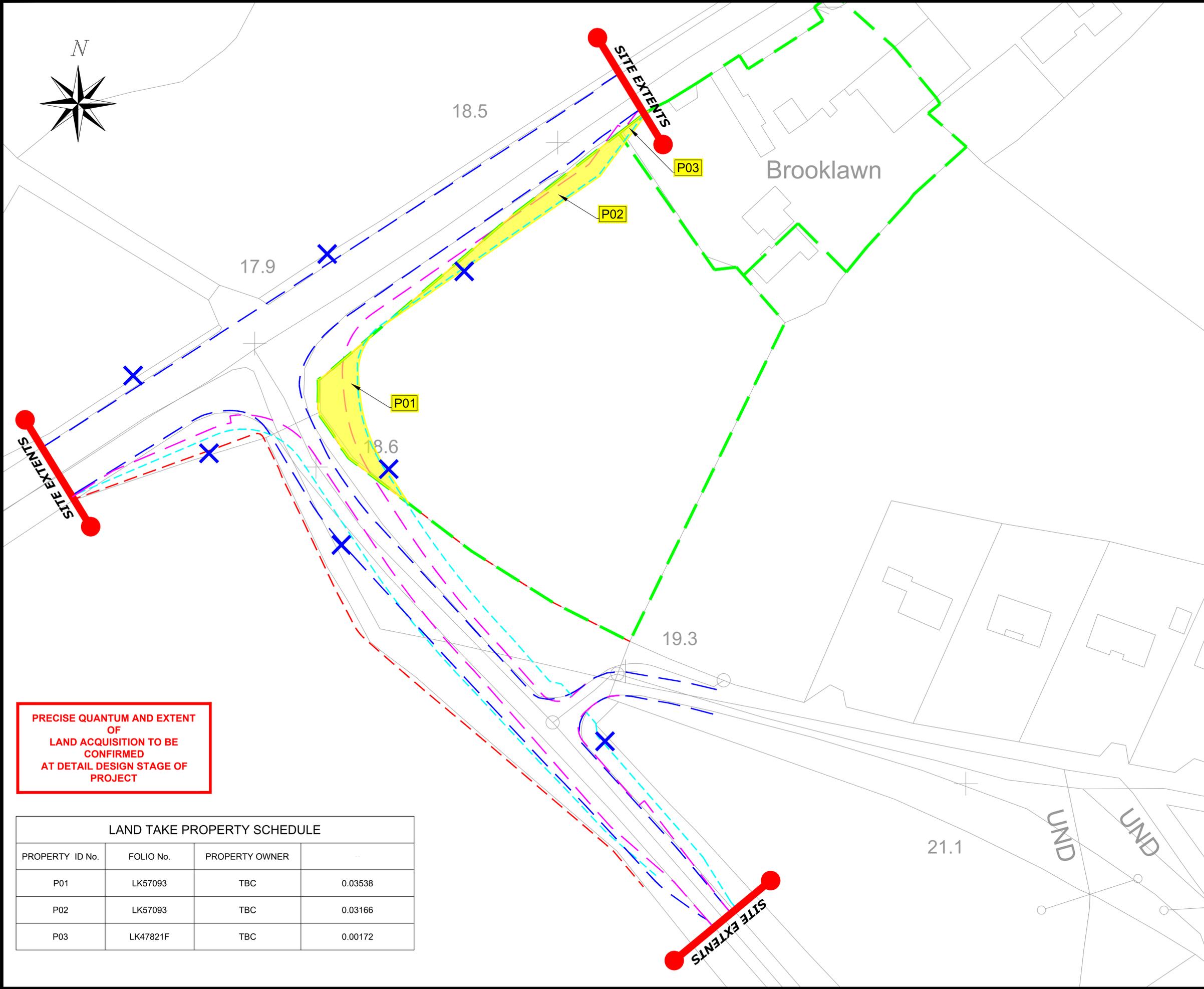
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**PRECISE QUANTUM AND EXTENT
OF
LAND ACQUISITION TO BE
CONFIRMED
AT DETAIL DESIGN STAGE OF
PROJECT**

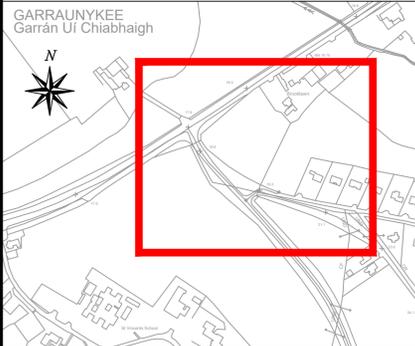
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NOTES

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LEGEND

- EXISTING BOUNDARY
- EXISTING ROAD EDGE
- PROPOSED ROAD EDGE
- PROPOSED FOOTPATH EDGE
- FOLIO EXTENTS
- PROPOSED AREA OF LAND ACQUISITION
- X SITE NOTICE LOCATION



Rev.	By.	Date.	Description.
A	DM	SEPT/21	VIII Revision

Drawing Status: PART VIII PLANNING

Project Title:
DUBLIN ROAD IMPROVEMENT PROJECT:
CAPPAMORE JUNCTION UPGRADE WORKS

Drawing Title:
CAPPAMORE JUNCTION
PROPOSED LAND ACQUISITION MAP



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8 APPENDIX C – HABITATS DIRECTIVE SCREENING REPORT

APPROPRIATE ASSESSMENT
Screening report
Cappamore Junction Improvement Scheme, Limerick

Requested By:	M.H.L. & Associates Ltd.
Prepared By:	Brendan O'Connor B.Sc. Southern Scientific Services Ltd
Date Reported:	16/06/2021
Our Reference:	20P - 153

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1. Introduction

1.1 Background

Southern Scientific Services Ltd (SSSL) was commissioned by M.H.L. & Associates Ltd. to prepare an Appropriate Assessment Screening Report, which would identify potential impacts, if any, of the proposed scheme which includes new footpaths, new cycle lanes, new junction slip lanes, new controlled pedestrian crossings, new public lighting scheme, new surface water drainage system, improved road markings, new traffic signal control, signage and carriageway resurfacing at the junction between Dublin Road (R445) and Cappamore Road (R506) at Cappamore Junction, Limerick City on nearby Natura 2000 sites.

An Appropriate Assessment (AA) is an assessment of the potential impacts of a project or plan on nearby Natura 2000 sites and the development where necessary of mitigation and /or avoidance measures to preclude negative effects. The impacts assessed must include the direct, indirect and cumulative impacts of approving the project, together with any current or proposed activities and developments impacting on the site. The potential impacts of projects/developments outside the Natura 2000 sites, but potentially impacting upon them must also be included in the assessment.

1.2 Brief Description of the Development Site

1.2.1 Outline of Project

Limerick City & County Council proposes to carry out works which include the provision of new footpaths, new cycle lanes, new junction slip lanes, new controlled pedestrian crossings, new public lighting scheme, new surface water drainage system, improved road markings, new traffic signal control, signage and carriageway resurfacing.

The proposed scheme will have the following benefits:

- The project will address peak traffic congestion through the morning and evening peaks by constructing two new slip road and reconfiguration the existing traffic signals.
- The scheme will improve road safety for all road users and in particular the safety of vulnerable road users (i.e., pedestrians, cyclists).
- The proposed new LED street lighting scheme will provide an appropriate level of lighting along the length of the scheme ensuring a safer environment for all road users.
- The proposed surface water drainage works will ensure that road surface water is adequately catered for and removed from the road surface.

1.2.2 Site Location

The location of the proposed works is the junction between Dublin Road (R445) and Cappamore Road (R506) at Cappamore Junction, Limerick City, in the townland of Garraunykee and Woodstown (see Figure 1).

The site is located within the Lower Shannon WFD Catchment. It is located within Irish National Grid square R65, with a hydraulic connection to R55. Figure 2a & 2b shows the location of the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA in relation to the development site.

Water quality in the Mulkear River adjacent to the site is classified as “Good” under the River Waterbody WFD Status 2013-2018 (EPA, 2019) (see figure 3). According to Corine Land Cover 2018 (CLC) data (Copernicus, 2020), the proposed development site is situated in an area with Artificial Surfaces with discontinuous urban fabric.



Figure 1: Site Location (EPA.ie).

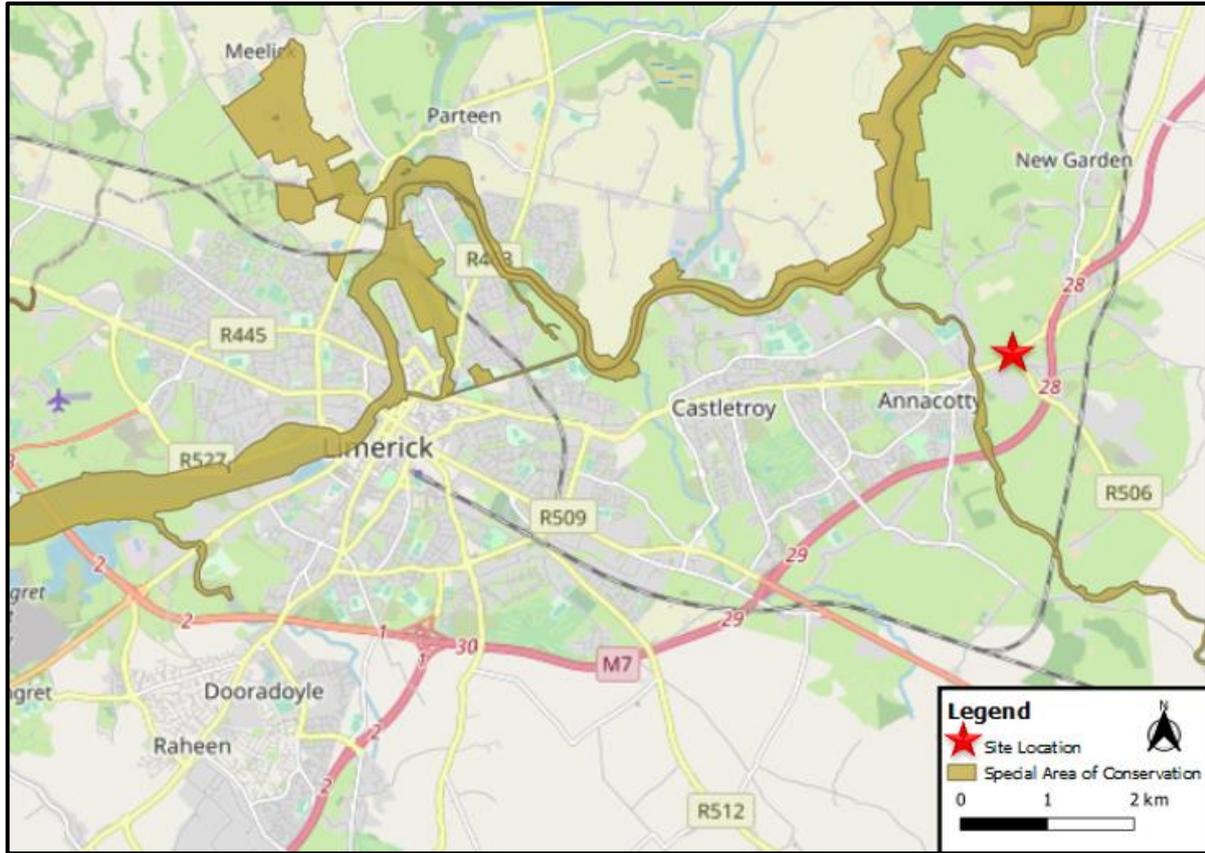


Figure 2a: Location of the site in relation to the Lower River Shannon SAC (EPA.ie).

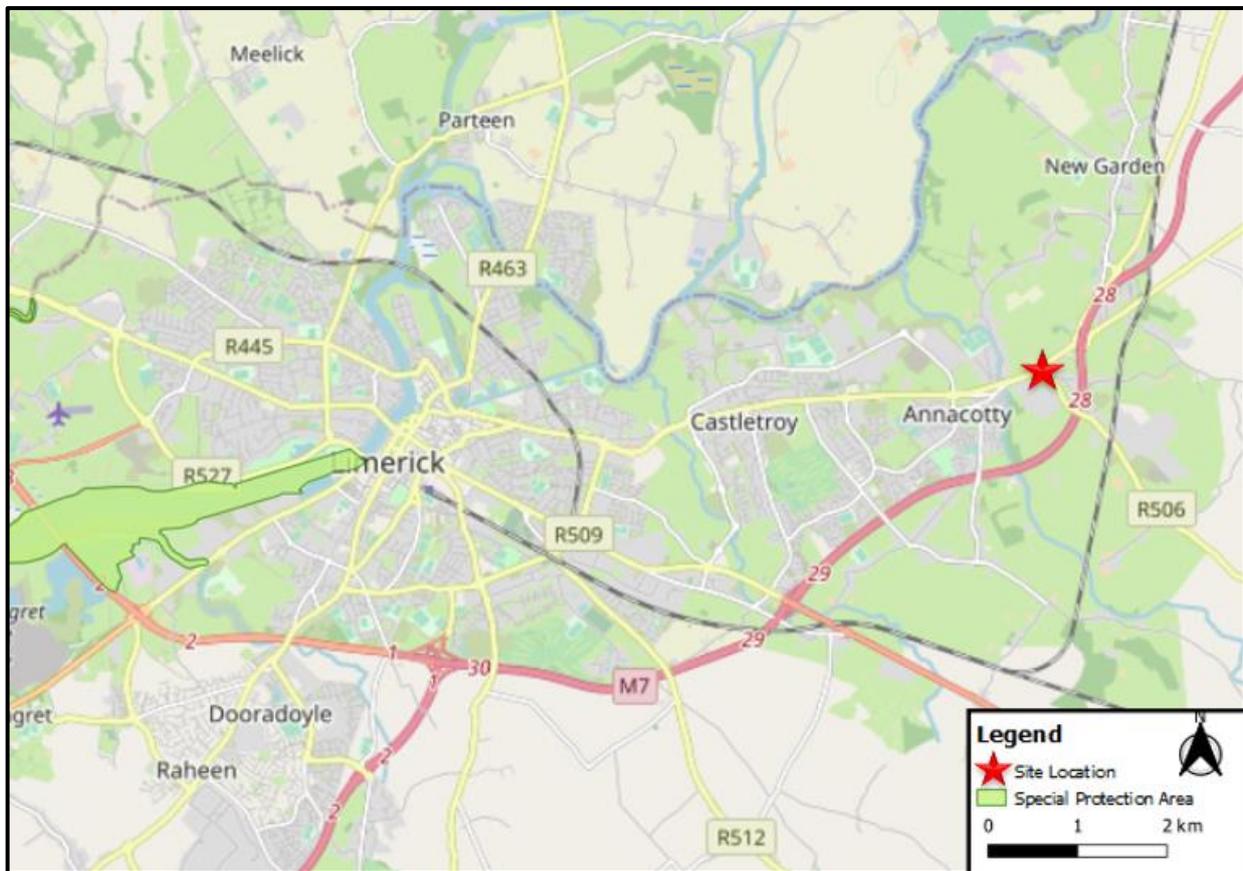


Figure 2b Location of the site in relation to the River Shannon and River Fergus Estuaries SPA (EPA.ie).

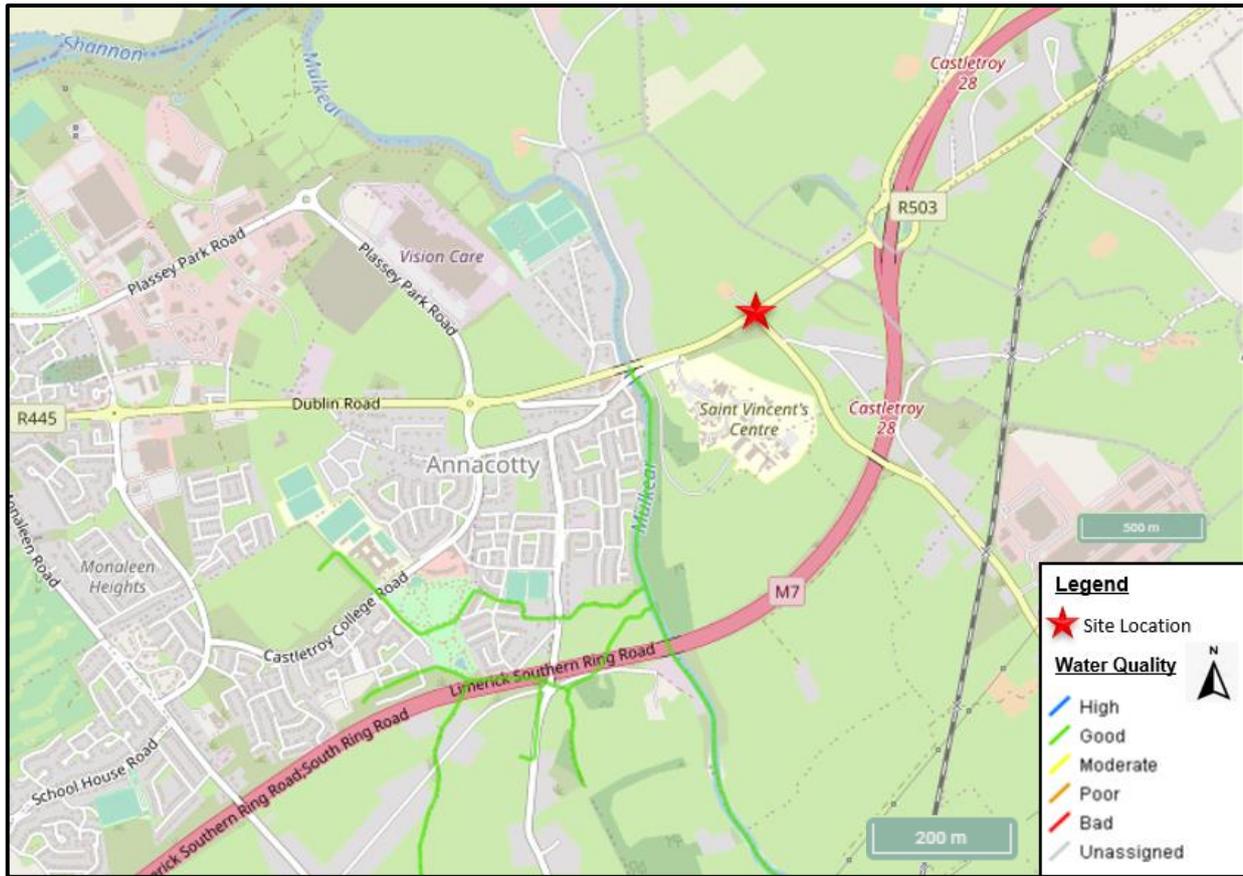


Figure 3: Location of development site in relation to nearby watercourses and their waterbody status (EPA.ie)

1.2.3 Site Description

The site of the proposed scheme is located at the existing junction of the R445 Dublin Road and the R506 Cappamore Road. It is located along a key urban traffic route linking the M8 with Limerick City. The Dublin Road acts as a link road between the city centre and the wider region to the east.

The proposed development site itself does not occur within a Natura 2000 designated site. Site photos and proposed site layout can be seen in Appendix I.

2. Methodology

2.1 Regulatory Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora – Habitats Directive – provides a legal framework for the protection of habitats and species of European importance. Articles 3 to 9 of this Council Directive provides the legislative means to protect habitats and species of community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. Natura 2000 sites are those identified as sites of community importance, namely Special Areas of Conservation (SACs), under the Habitats Directive or classified as Special Protection Areas (SPAs) under the Conservation of Wild Birds Directive (79/409/EEC).

Articles 6(3) and 6(4) of the Habitats Directive outlines the decision-making tests for projects/plans likely to affect Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

“Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site’s conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent National Authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public”.

The Commission’s methodological guidance (EC, 2002) promotes a four-stage process to complete the AA. Stages 1-2 deal with the main requirements for assessment under Article 6(3), namely, ‘AA Screening’ and ‘Natura Impact Statement’. Stage 3 may be part of Article 6(3) or may be a necessary precursor to Stage 4. Stage 4 is the main derogation step of Article 6(4). Article 6(4) of the Directive deals with alternative solutions, the test of “imperative reasons of overriding public interest” and compensatory measures.

Stage 3 and Stage 4 of the AA are carried out by the appropriate authority if deemed necessary in Stages 1 & 2.

This assessment has been undertaken in accordance with the European Commission “*Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC*” and the European Commission Guidance on “*Managing Natura 2000 Sites*”.

In complying with the obligations under Article 6(3) and following the above guidelines, this assessment has been prepared using the following structure:

Stage 1: Screening

This includes:

- Description of the proposed development/project (and if the plan/project is necessary for the management of the Natura 2000 site(s)).
- Identification of all Natura 2000 sites potentially affected by the plan/project.
- Identification and description of individual and cumulative impacts likely to result from the plan/project.
- Assessment of the significance of the impacts identified above, on site integrity.
- Exclusion of sites where it can be objectively concluded that there will be no significant effects.

Determination of the necessity or otherwise for a Natura Impact Statement (NIS).

Screening for AA examines the likely effects of a project or plan, alone and in combination with other projects or plans, upon a Natura 2000 site and considers whether it can be objectively concluded that these effects will not be significant. If it is determined during screening that the development may have a significant effect on a Natura 2000 site, then a NIS will need to be prepared.

Stage 2: Appropriate Assessment (Natura Impact Statement)

This includes:

- Description of the Natura 2000 site(s) which will be considered further in the assessment.
- Impact Prediction: description of significant impacts on the integrity of the Natura 2000 site(s) as defined by the conservation objectives and status of the site(s).
- Recommendations and mitigation measures.

2.2 Desktop Review

To carry out the AA Screening Report it was essential to gather information on the existing environment. A desktop review was performed to identify features of ecological importance

within the study area and surrounding region. Information was sourced from a number of online sources which included:

- Limerick County Council (www.limerick.ie/council)
- OSI Aerial photography and 1:50000 mapping
- National Parks and Wildlife Service (NPWS) Maps & Databases
- National Biodiversity Data Centre (NBDC) (on-line map-viewer)
- Environmental Protection Agency (EPA) water quality data
- Water Framework Directive (www.catchments.ie)

2.3 Field Survey

A site visit was carried out on the 25th of November 2020. The purpose of the visit was:

- To identify potential pathways for pollutants to enter nearby watercourses
- To identify habitats and species within and surrounding the development site

3. Appropriate Assessment Screening

3.1 Description of the Project

This proposed Scheme is to upgrade the existing infrastructure at the Dublin Road (R445) and Cappamore Road (R506) at Cappamore Junction, Limerick City. It was determined that improvements to the pedestrian facilities were desirable due to the semi urban nature of the area, linking Annacotty Business Park with Limerick City. The scheme proposes to introduce new footpaths, controlled pedestrian crossings, new public lighting, new surface water drainage and carriageway resurfacing.

The following lists the principal features of the proposed scheme:

- Construction of new footpaths to ensure a continuous provision along Dublin Road/ Cappamore Road.
- Installation of controlled pedestrian crossings.
- Construction of new cycle lanes
- Installation of build outs at junctions.
- Installation of a new LED Public Lighting Scheme.
- Alterations to existing surface water drainage.
- Installation of new road markings and signage.
- Installation of new traffic signal aspects
- Carriageway resurfacing
- Provision of new boundary fencing/walls
- Alterations to existing boundary walls
- All necessary accommodation works

3.2 Identification of Natura 2000 sites

In relation to the proposed development at the Cappamore Junction a list of all Natura 2000 sites within a 15km radius of the site was compiled. Any potential impacts associated with the development were identified and any likely significant impacts assessed. Designated Natura 2000 sites within 15km of the site and their distance to the site are shown in Table 1 and Figure 5 below.

Table 1: Designated Natura 2000 sites within 15km of the site

Designated Site	Site Code	Straight line distance and direction from development site
Lower River Shannon SAC	002165	Approx. 0.43km west
River Shannon and River Fergus Estuaries SPA	004077	Approx. 7.7km west
Slievefelim to Silvermines Mountains SPA	004165	Approx. 8km East
Glenomra Wood SAC	001013	Approx. 10.km north

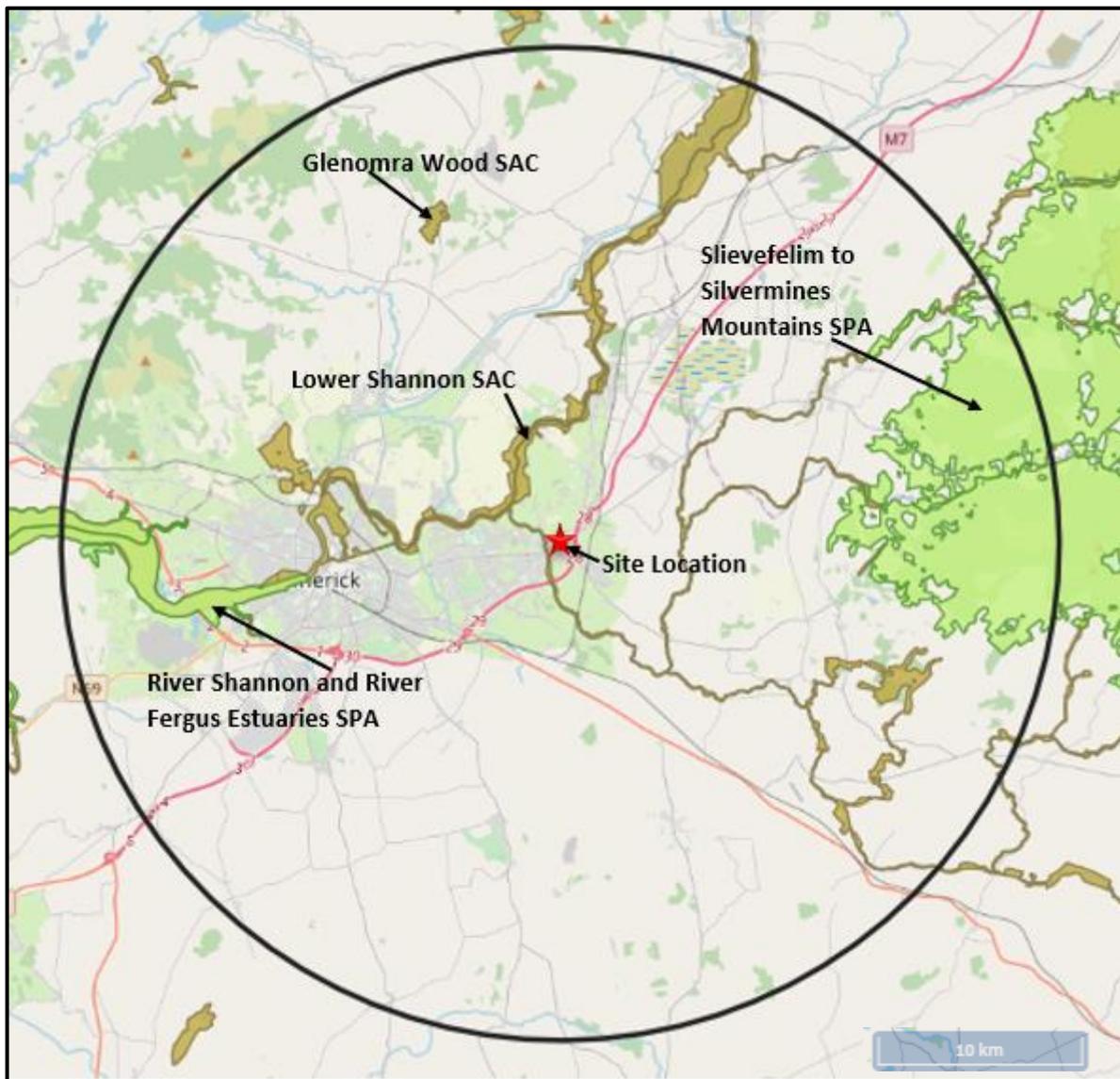


Figure 5: Natura 2000 sites (SAC- brown, SPA- green) located within a 15km radius of the proposed development site (red).

The proposed development site is sufficiently distant from, and not hydrologically linked with the Glenomra Wood SAC and Slievefelim to Silvermines Mountains SPA. Therefore, it is highly unlikely that the proposed development will impact upon their conservation objectives and so this site has been screened out and will not be discussed further.

The proposed development site is located 430m east of the Lower River Shannon SAC and 7.6km east of the River Shannon and River Fergus Estuaries SPA. Associated species within the River Shannon could be potentially impacted by the above-mentioned development as the construction phase of such projects usually creates potential for the generation of contaminated runoff.

Therefore, the Lower River Shannon SAC (Site code 002165) and River Shannon and River Fergus Estuaries SPA (Site Code 004077) are the only Natura 2000 sites considered to be potentially impacted by the development. A list of the qualifying features of conservation interest are shown in Table 2 below.

For full site synopsis and conservation objectives for the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA see Appendix II & III. Information pertaining to designated sites is from site synopses, conservation objectives, and other information available from the National Parks and Wildlife Service (NPWS) website (www.npws.ie).

Table 2: Designated sites with qualifying features of conservation interest.

Designated Site	Qualifying features of conservation interest
River Shannon SAC (002165)	<p>Habitats</p> <ul style="list-style-type: none"> [1110] Sandbanks [1130] Estuaries [1140] Tidal Mudflats and Sandflats [1150] Coastal Lagoons* [1160] Large Shallow Inlets and Bays [1170] Reefs [1220] Perennial Vegetation of Stony Banks [1230] Vegetated Sea Cliffs [1310] Salicornia Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [3260] Floating River Vegetation [6410] Molinia Meadows [91E0] Alluvial Forests* <p>Species</p> <ul style="list-style-type: none"> [1029] Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) [1095] Sea Lamprey (<i>Petromyzon marinus</i>) [1096] Brook Lamprey (<i>Lampetra planeri</i>) [1099] River Lamprey (<i>Lampetra fluviatilis</i>) [1106] Atlantic Salmon (<i>Salmo salar</i>)

Designated Site	Qualifying features of conservation interest
	[1349] Bottle-nosed Dolphin (<i>Tursiops truncatus</i>) [1355] Otter (<i>Lutra lutra</i>)
River Shannon and River Fergus Estuaries SPA (004077)	Species [A017] Cormorant (<i>Phalacrocorax carbo</i>) [A038] Whooper Swan (<i>Cygnus cygnus</i>) [A046] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A048] Shelduck (<i>Tadorna tadorna</i>) [A050] Wigeon (<i>Anas Penelope</i>) [A052] Teal (<i>Anas crecca</i>) [A054] Pintail (<i>Anas acuta</i>) [A056] Shoveler (<i>Anas clypeata</i>) [A062] Scaup (<i>Aythya marila</i>) [A137] Ringed Plover (<i>Charadrius hiaticula</i>) [A140] Golden Plover (<i>Pluvialis apricaria</i>) [A141] Grey Plover (<i>Pluvialis squatarola</i>) [A142] Lapwing (<i>Vanellus vanellus</i>) [A143] Knot (<i>Calidris canutus</i>) [A149] Dunlin (<i>Calidris alpine</i>) [A156] Black-tailed Godwit (<i>Limosa limosa</i>) [A157] Bar-tailed Godwit (<i>Limosa lapponica</i>) [A160] Curlew (<i>Numenius arquata</i>) [A162] Redshank (<i>Tringa tetanus</i>) A164 Greenshank (<i>Tringa nebularia</i>) [A179] Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A999] Wetlands

3.3 Conservation Objectives

According to the Habitat's Directive, the *conservation status of a natural habitat* will be taken as 'favourable' within its biogeographic range when:

- its natural range and areas it covers within that range are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable as defined below.

According to the Habitat's Directive, the conservation status of a species means the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations. The conservation status will be taken as 'favourable' within its biogeographic range when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Conservation objectives for Natura sites, together with other designated site information, are available on <http://www.npws.ie/protectedsites/>.

3.4 Natura 2000 sites potentially impacted by the development

The Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA are the only Natura 2000 sites considered to have been potentially impacted by the development. The nearest point to the Lower River Shannon SAC is the Mulkear River which flows approximately 470m west of the proposed development site. The Mulkear River is located within the SAC and flows in a northerly direction before joining with the River Shannon approximately 2km north west of the site. The area around the site is relatively flat, however the gradient slopes down to the Mulkear River at the slip road for Annacotty approximately 300m west of the site. Therefore, a source-pathway-receptor linkage is present, and this presents the potential for significant impacts to occur within the SAC and SPA. In addition to the north east of the site the Rich Hill stream crosses under the R445 and flows initially north westerly before turning west and entering the Mulkear River after approximately 1.1km (see Figure 6). However, there is a significant distance between the proposed site and the Mulkear River and Rich Hill stream.

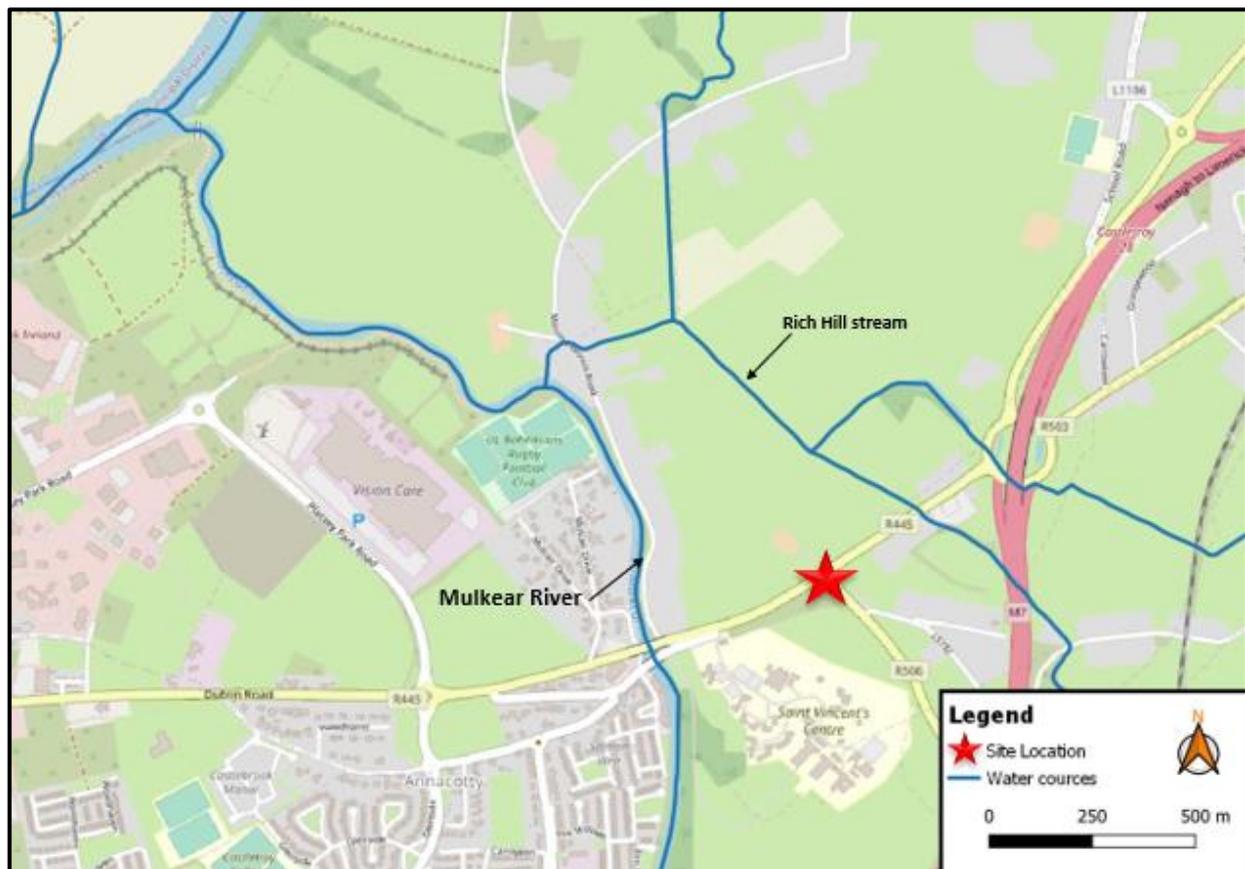


Figure 6. Showing water courses in relation to the proposed development site.

Associated species within the Mulkear river and Shannon River downstream of the site could be potentially impacted by the above-mentioned development as the construction phase of such projects creates potential for the generation of contaminated runoff from the site. Potential impacts associated with the development could arise from:

- The risk of contaminated runoff during earth moving works to facilitate construction of the slip road and footpath improvements.
- Increased activity and noise emissions during construction works.
- Use of heavy equipment, vehicles, and plant and the associated potential for hydrocarbon contamination.
- The risk of accidental spillages of fuels/oils during construction activities.

For full site synopsis for the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA see Appendix II & III.

3.5 Identification of potential impacts

Only those features of the development that have potential to impact on the integrity of the Natura 2000 site are considered. For screening purposes, the potential impacts from the proposed development are examined regarding the following:

- Potential impairment of water quality
- Habitat loss and alteration
- Habitat or species fragmentation
- Disturbance and/or displacement of protected species
- Cumulative impacts

3.5.1 Potential impairment of water quality

The Mulkear River is classified as “Good” under the Water Framework Directive (WFD 2013-2018) (see Figure 3) at the Annacotty Bridge (Station ID RS25M040590), however the water quality remains ‘Unassigned’ downstream of this point. In addition, the Rich Hill stream is ‘Unassigned’ under the Water Framework Directive (WFD 2013-2018) and at the confluence of the Mulkear and Shannon Rivers the water quality is also ‘Unassigned’ under the WFD.

With regard to this Scheme there is no direct hydrological link between the development site and the SAC or SPA. Furthermore, the separation distances which exist between the development site and the SAC boundary (approx. 410m to the west) and the nearest

watercourse (approx. 470m to the west) are considered sufficient to negate any risk of significant water quality impacts.

Generally, there is potential for water quality impacts to occur indirectly through surface water run-off during the construction of developments. However, it is considered unlikely that this development will result in any significant impacts to water quality due to the separation distance from watercourses, scale, and the specific nature and design of the work to be undertaken, as outlined above.

In addition, works will be carried out in accordance with CIRIA Guidelines – Control of Water Pollution from Construction Sites – Guide to Good Practice (2001) and Inland Fisheries Ireland – Guidelines on Protection of Fisheries during Construction Works in and adjacent to Waters (2016).

3.5.2 Habitat loss and alteration

The Lower River Shannon SAC has been designated for fourteen habitats types (see Table 2). Of these, eleven are coastal or halophytic in distribution, two are terrestrial and one is freshwater (DG of Environment, 2013). The development site is not located within a Natura 2000 site. The works will be restricted to the development site. Therefore, there will be no direct loss or alteration of any of the habitats for which the SAC or SPA have been designated. In summary, it has been objectively concluded that direct habitat loss within the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA is not likely as a result of the proposal considered in this report.

In relation to indirect habitat impacts which can occur via water quality impacts, it has been determined in section 3.5.1 above that significant water quality impacts as a result of the proposed development are not predicted or likely due to the distance from the SAC and SPA (0.5km & 8km respectively), the scale of development and the limited excavations required for the project.

It is therefore objectively concluded that significant impacts to any of the qualifying habitats for which the Lower River Shannon SAC is designated are not likely to occur and significant impacts to the Conservation Objectives of the SAC are not envisaged or likely as a result of the proposal.

3.5.3 Habitat or species fragmentation

The proposed development is located within an area with a combination of residential / commercial developments. Habitat or species fragmentation within the Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA is unlikely to occur from the proposed

development. Direct barriers to aquatic species, such as otter, salmon, trout, or lamprey, will not result from the development. It is further noted that the River Shannon and its tributaries are not designated in the Salmonid Regulations (S.I. 293 / 1988). While indirect barriers to migration can sometimes occur through silted run-off from construction activities generally, it is considered that the location, scale, and the specific nature and design of the work to be undertaken along with other mitigating factors, as outlined above, mean that significant impacts are unlikely to occur as a result of the development.

3.5.4 Disturbance and/or displacement of protected species

Given the separation distance between the River Shannon and River Fergus Estuaries SPA and the proposed development site, it is highly unlikely that protected waterfowl species will be either directly or indirectly significantly impacted as a result of the construction or operational phases of the proposed development. The proposed development is far enough removed from the SPA and of such limited nature and scale, so as not to disturb or displace the avian species for which the SPA is designated.

In relation to the Lower Shannon SAC construction works will be minimal and consist of construction of a new slip lane and footpath improvements and will neither directly nor indirectly significantly impact on protected species for which the SAC has been designated. In addition, the proposed works are temporary in nature and transient as they move along the development site. It is estimated that the work will take approximately 3 months to complete.

Based on reviews of available published distribution maps and data (www.npws.ie), Table 3 and Table 4 lists the potential habitats and species which may be potentially impacted by the proposed development.

Table 3: Potential impacts on the Lower Shannon SAC

Qualifying Interest	Observations	Potential Direct/ In-situ Impacts	Potential Indirect/ Ex-situ Impacts
[1110] Sandbanks	As this habitat is not within the 10km grid squares R65 or R55 it is concluded that the proposed development does not pose a potential risk to the quality of the habitat (NPWS, 2019a).	No	No
[1130] Estuaries	This habitat is within the 10km grid square R55. However due to the lack of a potential impact pathway, it is concluded that the proposed development does not pose a potential	No	No

Qualifying Interest	Observations	Potential Direct/ In-situ Impacts	Potential Indirect/ Ex-situ Impacts
	risk to the quality of the habitat (NPWS, 2013a).		
[1140] Tidal Mudflats and Sandflats	As above	No	No
[1150] Coastal Lagoons*	As this habitat is not within the 10km grid squares R65 or R55 it is concluded that the proposed development does not poses a potential risk to the quality of the habitat (NPWS, 2019a).	No	No
[1160] Large Shallow Inlets and Bays	As above	No	No
[1170] Reefs	As above	No	No
[1220] Perennial Vegetation of Stony Banks	As above	No	No
[1230] Vegetated Sea Cliffs	As above	No	No
[1310] Salicornia Mud	As above	No	No
[1330] Atlantic Salt Meadows	As above	No	No
[1410] Mediterranean Salt Meadows	As above	No	No
[3260] Floating River Vegetation	This habitat is within the 10km grid square R55. However due to the lack of a potential impact pathway, it is concluded that the proposed development does not pose a potential risk to the quality of the habitat (NPWS, 2013a).	No	No
[6410] Molinia Meadows	As this habitat is not within the 10km grid squares R65 or R55 it is concluded that the proposed development does not poses a potential risk to the quality of the habitat (NPWS, 2019a).	No	No
[91E0] Alluvial Forests*	As above	No	No
[1029] Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)	As this species is not within the 10km grid squares R65 or R55 it is concluded that the proposed development does not poses a potential risk to the species (NPWS, 2019b).	No	No
[1095] Sea Lamprey (<i>Petromyzon marinus</i>)	As above	No	No
[1096] Brook Lamprey (<i>Lampetra planeri</i>)	This species is within the 10km grid square R65. However due to the lack of a potential impact pathway, it is concluded that the proposed development does not pose a potential risk to this species (NPWS, 2019b).	No	No

Qualifying Interest	Observations	Potential Direct/ In-situ Impacts	Potential Indirect/ Ex-situ Impacts
[1099] River Lamprey (<i>Lampetra fluviatilis</i>)	As above	No	No
[1106] Atlantic Salmon (<i>Salmo salar</i>)	As above	No	No
[1349] Bottle-nosed Dolphin (<i>Tursiops truncatus</i>)	As this species is not within the 10km grid squares R65 or R55 it is concluded that the proposed development does not poses a potential risk to the species (NPWS, 2019b).	No	No
[1355] Otter (<i>Lutra lutra</i>)	This species is within the 10km grid square R65. However due to the lack of a potential impact pathway, it is concluded that the proposed development does not pose a potential risk to this species (NPWS, 2019b).	No	No

Table 4: Potential impacts on the River Shannon and River Fergus Estuaries SPA

Qualifying Interest	Observations	Potential Direct/ In-situ Impacts	Potential Indirect/ Ex-situ Impacts
[A017] Cormorant (<i>Phalacrocorax carbo</i>)	No potential impact pathway evident	No	No
[A038] Whooper Swan (<i>Cygnus cygnus</i>)	As above	No	No
[A046] Light-bellied Brent Goose (<i>Branta bernicla hrota</i>)	As above	No	No
[A048] Shelduck (<i>Tadorna tadorna</i>)	As above	No	No
[A050] Wigeon (<i>Anas Penelope</i>)	As above	No	No
[A052] Teal (<i>Anas crecca</i>)	As above	No	No
[A054] Pintail (<i>Anas acuta</i>)	As above	No	No
[A056] Shoveler (<i>Anas clypeata</i>)	As above	No	No
[A062] Scaup (<i>Aythya marila</i>)	As above	No	No
[A137] Ringed Plover (<i>Charadrius hiaticula</i>)	As above	No	No
[A140] Golden Plover (<i>Pluvialis apricaria</i>)	As above	No	No
[A141] Grey Plover (<i>Pluvialis squatarola</i>)	As above	No	No
[A142] Lapwing (<i>Vanellus vanellus</i>)	As above	No	No

Qualifying Interest	Observations	Potential Direct/ In-situ Impacts	Potential Indirect/ Ex-situ Impacts
[A143] Knot (<i>Calidris canutus</i>)	As above	No	No
[A149] Dunlin (<i>Calidris alpina</i>)	As above	No	No
[A156] Black-tailed Godwit (<i>Limosa limosa</i>)	As above	No	No
[A157] Bar-tailed Godwit (<i>Limosa lapponica</i>)	As above	No	No
[A160] Curlew (<i>Numenius arquata</i>)	As above	No	No
[A162] Redshank (<i>Tringa tetanus</i>)	As above	No	No
A164 Greenshank (<i>Tringa nebularia</i>)	As above	No	No
[A179] Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	As above	No	No
[A999] Wetlands	As the location of the development is c.8.0km upstream of the SPA it is concluded that the proposed development does not pose a significant risk to the water quality of the marine/estuarine SPA	No	No

3.5.5 Cumulative/In combination impacts

Activities that could potentially impact on ecological and water quality in combination with the planned development include other development/construction projects in the area, were also considered. A search was conducted in January 2021 of planning applications within the vicinity of the proposed development, using the Limerick City and County Council Planning Enquiry System. The search was limited to the five-year period preceding the date of issue of this report (due to the typical five-year lifetime of planning permission).

The in-combination effects of other project and plans have been assessed and it has been concluded that there will be no impact on Natura 2000 sites connected to the proposed development.

Potential impacts can be mitigated further by making sure that industry best practice is followed during construction activities (CIRIA, 2001). Additionally, any future plans or projects in the area should be subject to the Appropriate Assessment process. Therefore, cumulative, or in-combination impacts are unlikely to occur.

4. Screening Assessment Conclusion

This screening assessment was carried out to identify potential significant impacts, if any, arising from the planned development of a construction proposed works to provide footpath improvements and lane rearrangement at the junction of R506 and the R445 Dublin Road, known locally as the Cappamore Junction on nearby Natura 2000 sites.

The Lower Shannon SAC and River Shannon and River Fergus Estuaries SPA were considered to be the only Natura 2000 sites potentially impacted by the development. None of the threats, pressures or activities listed on the Natura 2000 Standard Data Forms for the SAC and SPA will occur either inside or outside of this site as a result of the proposed development. Due to the location, scale, duration, and nature of the development, it has been objectively concluded that significant impacts to the integrity of the following Natura 2000 sites are unlikely to occur as a result of the proposed development.

4.1 Reasons for Conclusion

- The proposed development is small in scale, the excavation requirement is limited, the works are not complex in nature and the development site will be contained and controlled.
- The proposed site is not location within any Natura 2000 site. There is no direct hydrological connection between the proposed works and any Natura 2000 site.
- Significant water quality effects on Natura 2000 sites arising as a result of the proposal are not likely.
- No direct loss or alteration of habitats in Natura 2000 sites will occur.
- No significant habitat or species fragmentation arising as a result of the proposal is likely.
- Significant cumulative/in-combination effects through interaction between the proposal and other plans, projects and activities are not likely.

5. References

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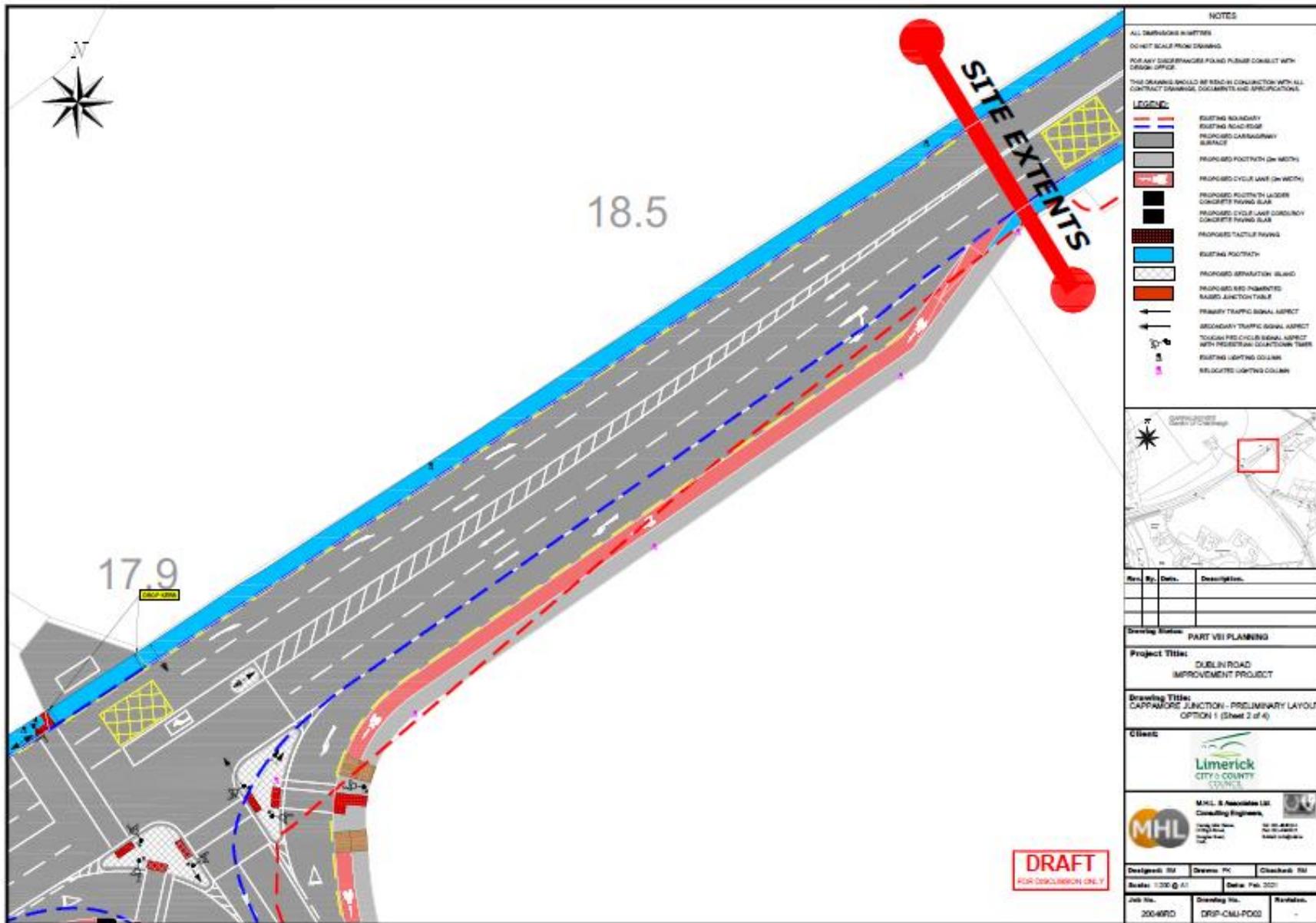
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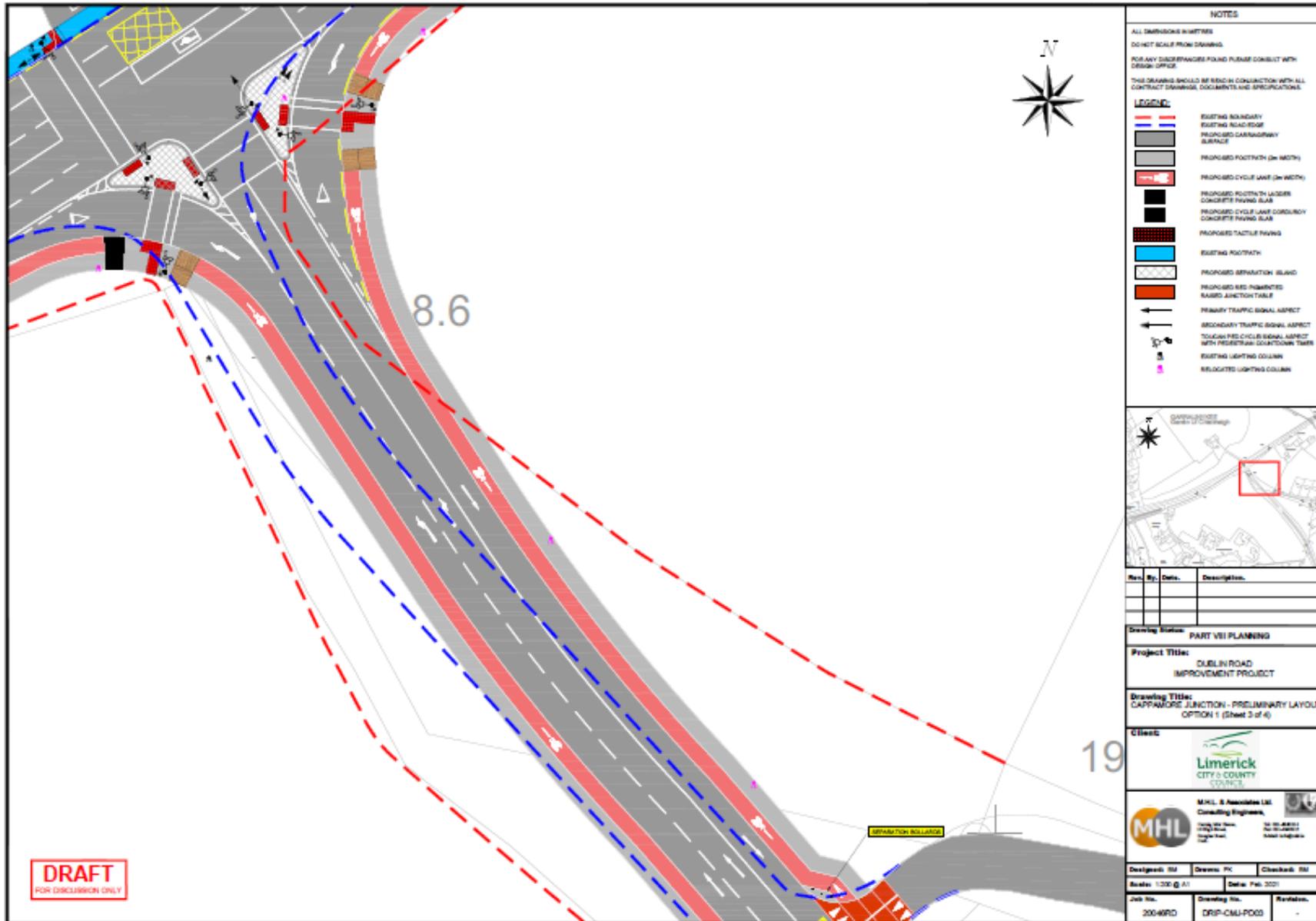
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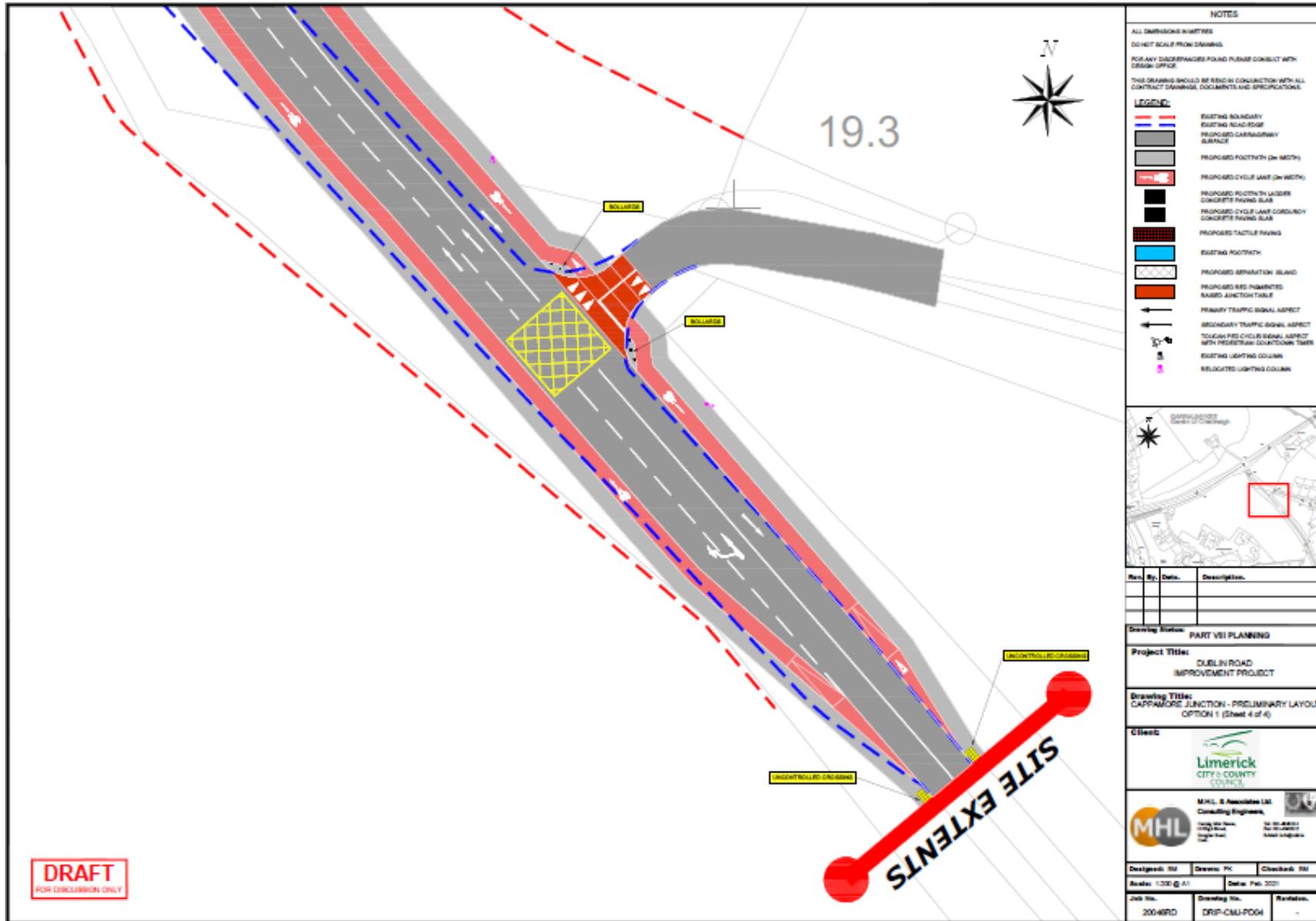
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Appendix II – Site Photos



Plate 1. Existing road boundary (looking from North along R506 to junction with R445)



Plate 2. Looking East along R445 at current Cappamore Junction (R506)



Plate 3. Looking east at parkland adjacent to junction



Plate D. Looking east along R445 towards junction with R506 in background

Appendix III

Site Name: Lower River Shannon SAC

Site Code: 002165

This very large site stretches along the Shannon valley from Killaloe in Co. Clare to Loop Head/Kerry Head, a distance of some 120 km. The site thus encompasses the Shannon, Feale, Mulkear and Fergus estuaries, the freshwater lower reaches of the River Shannon (between Killaloe and Limerick), the freshwater stretches of much of the Feale and Mulkear catchments and the marine area between Loop Head and Kerry Head. Rivers within the sub-catchment of the Feale include the Galey, Smearlagh, Oolagh, Allaughaun, Owveg, Clydagh, Caher, Breanagh and Glenacarne. Rivers within the sub-catchment of the Mulkear include the Killeenagarriff, Annagh, Newport, the Dead River, the Bilboa, Glashacloonaraveela, Gortnageragh and Cahernahallia.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

- [1110] Sandbanks
- [1130] Estuaries
- [1140] Tidal Mudflats and Sandflats
- [1150] Coastal Lagoons*
- [1160] Large Shallow Inlets and Bays
- [1170] Reefs
- [1220] Perennial Vegetation of Stony Banks
- [1230] Vegetated Sea Cliffs
- [1310] Salicornia Mud
- [1330] Atlantic Salt Meadows
- [1410] Mediterranean Salt Meadows
- [3260] Floating River Vegetation
- [6410] Molinia Meadows
- [91E0] Alluvial Forests*
- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1095] Sea Lamprey (*Petromyzon marinus*)
- [1096] Brook Lamprey (*Lampetra planeri*)
- [1099] River Lamprey (*Lampetra fluviatilis*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1349] Bottle-nosed Dolphin (*Tursiops truncatus*)
- [1355] Otter (*Lutra lutra*)

The Shannon and Fergus Rivers flow through Carboniferous limestone as far as Foynes, but west of Foynes Namurian shales and flagstones predominate (except at Kerry Head, which is formed from Old Red Sandstone). The eastern sections of the Feale catchment flow through Namurian rocks and the western stretches through Carboniferous limestone. The Mulkear flows through Lower Palaeozoic rocks in the upper reaches before passing through Namurian rocks, followed by Lower Carboniferous shales and Carboniferous limestone. The Mulkear River itself, immediately north of Pallas Green, passes through an area of Rhyolites, Tuffs and Agglomerates.

The Shannon and Fergus Estuaries form the largest estuarine complex in Ireland. They form a unit stretching from the upper tidal limits of the Shannon and Fergus Rivers to the mouth of the Shannon Estuary (considered to be a line across the narrow strait between Kilcredaun Point and Kilconly Point). Within this main unit there are several tributaries with their own 'sub-estuaries' e.g. the Deel River, Mulkear River, and Maigue River. To the west of Foynes, a number of small estuaries form indentations in the predominantly hard coastline, namely Poulmasherry Bay, Ballylongford Bay, Clonderalaw Bay and the Feale or Cashen River estuary. Both the Fergus and inner Shannon Estuaries feature vast expanses of intertidal mudflats, often

fringed with saltmarsh vegetation. The smaller estuaries also feature mudflats, but have their own unique characteristics, e.g. Poulmarsh Bay is stony and unusually rich in species and biotopes. Plant species are typically scarce on the mudflats, although there are some eelgrass (*Zostera* spp.) beds and patches of green algae (e.g. *Ulva* sp. and *Enteromorpha* sp.). The main macro-invertebrate community which has been noted from the inner Shannon and Fergus estuaries is a *MacomaScrobicularia-Nereis* community. In the transition zone between mudflats and saltmarsh, specialised colonisers of mud predominate. For example, swards of Common Cord-grass (*Spartina anglica*) frequently occur in the upper parts of the estuaries. Less common are swards of Glasswort (*Salicornia europaea* agg.). In the innermost parts of the estuaries, the tidal channels or creeks are fringed with species such as Common Reed (*Phragmites australis*) and club-rushes (*Scirpus maritimus*, *S. tabernaemontani* and *S. triquetrus*). In addition to the nationally rare Triangular Club-rush (*Scirpus triquetrus*), two scarce species are found in some of these creeks (e.g. Ballinacurra Creek): Lesser Bulrush (*Typha angustifolia*) and Summer Snowflake (*Leucojum aestivum*). Saltmarsh vegetation frequently fringes the mudflats. Over twenty areas of estuarine saltmarsh have been identified within the site, the most important of which are around the Fergus estuary and at Ringmoyle Quay. The dominant type of saltmarsh present is Atlantic salt meadow occurring over mud. Characteristic species occurring include Common Saltmarsh grass (*Puccinellia maritima*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea-milkwort (*Glaux maritima*), Sea Plantain (*Plantago maritima*), Red Fescue (*Festuca rubra*), Creeping Bent (*Agrostis stolonifera*), Saltmarsh Rush (*Juncus gerardi*), Long-bracted Sedge (*Carex extensa*), Lesser Sea-spurrey (*Spergularia marina*) and Sea Arrowgrass (*Triglochin maritima*). Areas of Mediterranean salt meadows, characterised by clumps of Sea Rush (*Juncus maritimus*) occur occasionally. Two scarce species are found on saltmarshes in the vicinity of the Fergus estuary: a type of robust saltmarsh-grass (*Puccinellia foucaudii*), sometimes placed within the species Common Saltmarsh grass (*P. maritima*) and Hard-grass (*Parapholis strigosa*).

Saltmarsh vegetation also occurs around a number of lagoons within the site, two of which have been surveyed as part of a National Inventory of Lagoons. Cloonconeen Pool (4-5 ha) is a natural sedimentary lagoon impounded by a low cobble barrier. Seawater enters by percolation through the barrier and by overwash. This lagoon represents a type which may be unique to Ireland since the substrate is composed almost entirely of peat. The adjacent shore features one of the best examples of a drowned forest in Ireland. Aquatic vegetation in the lagoon includes typical species such as Beaked Tasselweed (*Ruppia maritima*) and green algae (*Cladophora* sp.). The fauna is not diverse, but is typical of a high salinity lagoon and includes six lagoon specialists (*Hydrobia ventrosa*, *Cerastoderma glaucum*, *Lekanesphaera hookeri*, *Palaemonetes varians*, *Sigara stagnalis* and *Enochrus bicolor*). In contrast, Shannon Airport Lagoon (2 ha) is an artificial saline lake with an artificial barrier and sluiced outlet. However, it supports two Red Data Book species of stonewort (*Chara canescens* and *Chara* cf. *connivens*).

Most of the site west of Kilcredaun Point/Kilconly Point is bounded by high rocky sea cliffs. The cliffs in the outer part of the site are sparsely vegetated with lichens, Red Fescue, Sea Beet (*Beta vulgaris* subsp. *maritima*), Sea Campion (*Silene vulgaris* subsp. *maritima*), Thrift and plantains (*Plantago* spp.). A rare endemic type of sealavender, *Limonium recurvum* subsp. *pseudotranswallianum*, occurs on cliffs near Loop Head. Cliff-top vegetation usually consists of either grassland or maritime heath. The boulder clay cliffs further up the estuary tend to be more densely vegetated, with swards of Red Fescue and species such as Kidney Vetch (*Anthyllis vulneraria*) and Common Bird's-foot-trefoil (*Lotus corniculatus*). The site supports an excellent example of a large shallow inlet and bay. Littoral sediment communities in the mouth of the Shannon Estuary occur in areas that are exposed to wave action and also in areas extremely sheltered from wave action. Characteristically, exposed sediment communities are composed of coarse sand and have a sparse fauna. Species richness increases as conditions become more sheltered. All shores in the site have a zone of sand hoppers at the top, and below this each of the shores has different characteristic species giving a range of different shore types. The intertidal reefs in the Shannon Estuary are exposed or moderately exposed to wave action and subject to moderate tidal streams. Known sites are steeply sloping and show a good zonation down the shore. Well developed lichen zones and littoral reef communities offering a

high species richness in the sublittoral fringe and strong populations of the Purple Sea Urchin *Paracentrotus lividus* are found. The communities found are tolerant to sand scour and tidal streams. The infralittoral reefs range from sloping platforms with some vertical steps, to ridged bedrock with gullies of sand between the ridges, to ridged bedrock with boulders or a mixture of cobbles, gravel and sand. Kelp is very common to about 18 m. Below this it becomes rare and the community is characterised by coralline crusts and red foliose algae.

Other coastal habitats that occur within the site include stony beaches and bedrock shores (these support a typical zonation of seaweeds such as *Fucus* spp., *Ascophyllum nodosum* and kelps), shingle beaches (with species such as Sea Beet, Sea Mayweed - *Matricaria maritima*, Sea Campion and Curled Dock - *Rumex crispus*), sandbanks which are slightly covered by sea water at all times (e.g. in the area from Kerry Head to Beal Head) and sand dunes (a small area occurs at Beal Point, where Marram – *Ammophila arenaria* is the dominant species). Freshwater rivers have been included in the site, most notably the Feale and Mulkear catchments, the Shannon from Killaloe to Limerick (along with some of its tributaries, including a short stretch of the Kilmastulla River), the Fergus up as far as Ennis, and the Cloon River. These systems are very different in character: the Shannon is broad, generally slow flowing and naturally eutrophic; the Fergus is smaller and alkaline; while the narrow, fast flowing Cloon is acid in nature. The Feale and Mulkear catchments exhibit all the aspects of a river from source to mouth.

Semi-natural habitats, such as wet grassland, wet woodland and marsh occur by the rivers, but improved grassland is the most common habitat type. One grassland type of particular conservation significance, *Molinia* meadows, occurs in several parts of the site and the examples at Worldsend on the River Shannon are especially noteworthy. Here are found areas of wet meadow dominated by rushes (*Juncus* spp.) and sedges (*Carex* spp.), and supporting a diverse and species-rich vegetation, including such uncommon species as Blue-eyed Grass (*Sisyrinchium bermudiana*) and Pale Sedge (*C. pallescens*). Floating river vegetation characterised by species of water-crowfoot (*Ranunculus* spp.), pondweeds (*Potamogeton* spp.) and the moss *Fontinalis antipyretica* are present throughout the major river systems within the site. The rivers contain an interesting bryoflora with *Schistidium alpicola* var. *alpicola* recorded from in-stream boulders on the Bilboa, new to Co. Limerick. Alluvial woodland occurs on the banks of the Shannon and on islands in the vicinity of the University of Limerick. The woodland is up to 50 m wide on the banks and somewhat wider on the largest island. The most prominent woodland type is gallery woodland where White Willow (*Salix alba*) dominates the tree layer with occasional Alder (*Alnus glutinosa*). The shrub layer consists of various willow species with Rusty Willow (*Salix cinerea* ssp. *oleifolia*) and what appear to be hybrids of *S. alba* x *S. viminalis*. The herbaceous layer consists of tall perennial herbs. A fringe of bulrush (*Typha* sp.) occurs on the river side of the woodland. On slightly higher ground above the wet woodland and on the raised embankment remnants of mixed oak-ash-herald woodland occur. These are poorly developed and contain numerous exotic species but locally there are signs that it is invading open grassland. Alder is the principal tree species, with occasional Pedunculate Oak (*Quercus robur*), elm (*Ulmus glabra* and *U. procera*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) and the shrubs Guelder-rose (*Viburnum opulus*) and willows. The ground flora is species-rich. While woodland is infrequent within the site, however Cahiracon Wood contains a strip of old oak woodland. Sessile Oak (*Q. petraea*) forms the canopy, with an understorey of Hazel and Holly (*Ilex aquifolium*). Great Wood-rush (*Luzula sylvatica*) dominates the ground flora. Less common species present include Great Horsetail (*Equisetum telmateia*) and Pendulous Sedge (*Carex pendula*).

In the low hills to the south of the Slievefelim Mountains, the Cahernahallia River cuts a valley through the Upper Silurian rocks. For approximately 2 km south of Cappagh Bridge at Knockanavar, the valley sides are wooded. The woodland consists of birch (*Betula* spp.), Hazel, oak, Rowan (*Sorbus aucuparia*), some Ash (*Fraxinus excelsior*) and willow (*Salix* spp.). Most of the valley is not grazed by stock, and as a result the trees are regenerating well. The ground flora features prominent Great wood-rush and Bilberry (*Vaccinium myrtillus*), along with a typical range of

woodland herbs. Bracken (*Pteridium aquilinum*) is a feature in areas where there is more light available. The valley sides of the Bilboa and Gortnageragh Rivers, on higher ground north-east of Cappamore, support patches of semi natural broadleaf woodland dominated by Ash, Hazel, oak and birch. There is a good scrub layer with Hawthorn, willow, Holly and Blackthorn (*Prunus spinosa*) common. The herb layer in these woodlands is often open, with a typically rich mixture of woodland herbs and ferns. Moss species diversity is high. The woodlands are ungrazed. The Hazel is actively coppiced in places. There is a small area of actively regenerating cut-away raised bog at Ballyrorheen. It is situated approximately 5 km north-west of Cappamore in Co. Limerick. The bog contains some wet areas with good cover of bog mosses (*Sphagnum* spp.). Species of particular interest include Cranberry (*Vaccinium oxycoccos*) and White Sedge (*Carex curta*), along with two regionally rare mosses, including the bog moss *S. fimbriatum*. The site is being invaded by Downy Birch (*Betula pubescens*) scrub woodland. Both commercial forestry and the spread of Rhododendron (*Rhododendron ponticum*) has greatly reduced the overall value of the site.

A number of plant species that are listed in the Irish Red Data Book occur within the site, and several of these are protected under the Flora (Protection) Order, 1999. These include Triangular Club-rush (*Scirpus triquetrus*), a species which is only found in Ireland only in the Shannon Estuary, where it borders creeks in the inner estuary.

Opposite-leaved Pondweed (*Groenlandia densa*) is found in the Shannon where it passes through Limerick City, while Meadow Barley (*Hordeum secalinum*) is abundant in saltmarshes at Ringmoylan and Mantlehill. Hairy Violet (*Viola hirta*) occurs in the Askeaton/Foynes area. Golden Dock (*Rumex maritimus*) is noted as occurring in the River Fergus estuary. Finally, Bearded Stonewort (*Chara canescens*), a brackish water specialist, and Convergent Stonewort (*Chara connivens*) are both found in Shannon Airport Lagoon.

Overall, the Shannon and Fergus Estuaries support the largest numbers of wintering waterfowl in Ireland. The highest count in 1995-96 was 51,423 while in 1994-95 it was 62,701. Species listed on Annex I of the E.U. Birds Directive which contributed to these totals include: Great Northern Diver (3; 1994/95), Whooper Swan (201; 1995/96), Pale-bellied Brent Goose (246; 1995/96), Golden Plover (11,067; 1994/95) and Bartailed Godwit (476; 1995/96). In the past, three separate flocks of Greenland Whitefronted Goose were regularly found, but none were seen in 1993/94. Other wintering waders and wildfowl present include Greylag Goose (216; 1995/96), Shelduck (1,060; 1995/96), Wigeon (5,976; 1995/96), Teal (2,319; 1995-96), Mallard (528; 1995/96), Pintail (45; 1995/96), Shoveler (84; 1995/96), Tufted Duck (272; 1995/96), Scaup (121; 1995/96), Ringed Plover (240; 1995/96), Grey Plover (750; 1995/96), Lapwing (24,581; 1995/96), Knot (800; 1995/96), Dunlin (20,100; 1995/96), Snipe (719; 1995/96), Black-tailed Godwit (1,062; 1995/96), Curlew (1,504; 1995/96), Redshank (3,228; 1995/96), Greenshank (36; 1995/96) and Turnstone (107; 1995/96). A number of wintering gulls are also present, including Black-headed Gull (2,216; 1995/96), Common Gull (366; 1995/96) and Lesser Black-backed Gull (100; 1994/95).

This is the most important coastal site in Ireland for a number of the waders including Lapwing, Dunlin, Snipe and Redshank. It also provides an important staging ground for species such as Black-tailed Godwit and Greenshank. A number of species listed on Annex I of the E.U. Birds Directive breed within the site. These include Peregrine Falcon (2-3 pairs), Sandwich Tern (34 pairs on Rat Island, 1995), Common Tern (15 pairs: 2 on Sturamus Island and 13 on Rat Island, 1995), Chough (14-41 pairs, 1992) and Kingfisher. Other breeding birds of note include Kittiwake (690 pairs at Loop Head, 1987) and Guillemot (4,010 individuals at Loop Head, 1987).

There is a resident population of Bottle-nosed Dolphin in the Shannon Estuary. This is the only known resident population of this E.U. Habitats Directive Annex II species in Ireland. The population is estimated (in 2006) to be 140 ± 12 individuals. Otter, a species also listed on Annex II of this Directive, is commonly found on the site. Five species of fish listed on Annex II of the E.U. Habitats Directive are found within the site. These are Sea Lamprey (*Petromyzon marinus*), Brook Lamprey (*Lampetra planeri*), River

Lamprey (*Lampetra fluviatilis*), Twaite Shad (*Allosa fallax fallax*) and Salmon (*Salmo salar*). The three lampreys and Salmon have all been observed spawning in the lower Shannon or its tributaries. The Fergus is important in its lower reaches for spring salmon, while the Mulkear catchment excels as a grilse fishery, though spring fish are caught on the actual Mulkear River. The Feale is important for both types. Twaite Shad is not thought to spawn within the site. There are few other river systems in Ireland which contain all three species of lamprey. Two additional fish species of note, listed in the Irish Red Data Book, also occur, namely Smelt (*Osmerus eperlanus*) and Pollan (*Coregonus autumnalis pollan*). Only the former has been observed spawning in the Shannon. Freshwater Pearl Mussel (*Margaritifera margaritifera*), a species listed on Annex II of the E.U. Habitats Directive, occurs abundantly in parts of the Cloon River. There is a wide range of land uses within the site. The most common use of the terrestrial parts is grazing by cattle, and some areas have been damaged through over-grazing and poaching. Much of the land adjacent to the rivers and estuaries has been improved or reclaimed and is protected by embankments (especially along the Fergus estuary). Further, reclamation continues to pose a threat, as do flood relief works (e.g. dredging of rivers). Gravel extraction poses a major threat on the Feale.

In the past, cord-grass (*Spartina* sp.) was planted to assist in land reclamation. This has spread widely, and may oust less vigorous colonisers of mud and may also reduce the area of mudflat available to feeding birds. Domestic and industrial wastes are discharged into the Shannon, but water quality is generally satisfactory, except in the upper estuary where it reflects the sewage load from Limerick City. Analyses for trace metals suggest a relatively clean estuary with no influences of industrial discharges apparent. Further industrial development along the Shannon and water polluting operations are potential threats. Fishing is a main tourist attraction on the Shannon and there are a large number of angler associations, some with a number of beats. Fishing stands and styles have been erected in places. The River Feale is a designated Salmonid Water under the E.U. Freshwater Fish Directive. Other uses of the site include commercial angling, oyster farming, boating (including dolphin-watching trips) and shooting. Some of these may pose threats to the birds and dolphins through disturbance. Specific threats to the dolphins include underwater acoustic disturbance, entanglement in fishing gear and collisions with fast moving craft. This site is of great ecological interest as it contains a high number of habitats and species listed on Annexes I and II of the E.U. Habitats Directive, including the priority habitats lagoon and alluvial woodland, the only known resident population of Bottle-nosed Dolphin in Ireland and all three Irish lamprey species. A good number of Red Data Book species are also present, perhaps most notably the thriving populations of Triangular Club-rush. A number of species listed on Annex I of the E.U. Birds Directive are also present, either wintering or breeding. Indeed, the

Shannon and Fergus Estuaries form the largest estuarine complex in Ireland and support more wintering wildfowl and waders than any other site in the country. Most of the estuarine part of the site has been designated a Special Protection Area (SPA), under the E.U. Birds Directive, primarily to protect the large numbers of migratory birds present in winter.

SITE NAME: RIVER SHANNON AND RIVER FERGUS ESTUARIES SPA
SITE CODE: 004077

The estuaries of the River Shannon and River Fergus form the largest estuarine complex in Ireland. The site comprises the entire estuarine habitat from Limerick City westwards as far as Doonaha in Co. Clare and Dooneen Point in Co. Kerry.

The site has vast expanses of intertidal flats which contain a diverse macroinvertebrate community, e.g. *Macoma-Scrobicularia-Nereis*, which provides a rich food resource for the wintering birds. Salt marsh vegetation frequently fringes the mudflats and this provides important high tide roost areas for the wintering birds.

Elsewhere in the site the shoreline comprises stony or shingle beaches. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Cormorant, Whooper Swan, Lightbellied Brent Goose, Shelduck, Wigeon, Teal, Pintail, Shoveler, Scaup, Ringed Plover, Golden Plover, Grey Plover, Lapwing, Knot, Dunlin, Black-tailed Godwit, Bar-tailed Godwit, Curlew, Redshank, Greenshank and Black-headed Gull. It is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds.

The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds. The site is the most important coastal wetland site in the country and regularly supports in excess of 50,000 wintering waterfowl (57,133 - five year mean for the period 1995/96 to 1999/2000), a concentration easily of international importance. The site has internationally important populations of Light-bellied Brent Goose (494), Dunlin (15,131), Black-tailed Godwit (2,035) and Redshank (2,645). A further 17 species have populations of national importance, i.e. Cormorant (245), Whooper Swan (118), Shelduck (1,025), Wigeon (3,761), Teal (2,260), Pintail (62), Shoveler (107), Scaup (102), Ringed Plover (223), Golden Plover (5,664), Grey Plover (558), Lapwing (15,126), Knot (2,015), Bar-tailed Godwit (460), Curlew (2,396), Greenshank (61) and Black-headed Gull (2,681) - figures are five year mean peak counts for the period 1995/96 to 1999/2000. The site is among the most important in the country for several of these species, notably Dunlin (13 % of national total), Lapwing (6% of national total) and Redshank (9% of national total). The site also supports a nationally important breeding population of Cormorant (93 pairs in 2010). Other species that occur include Mute Swan (103), Mallard (441), Red-breasted Merganser (20), Great Crested Grebe (50), Grey Heron (38), Oystercatcher (551), Turnstone (124) and Common Gull (445) - figures are five year mean peak counts for the period 1995/96 to 1999/2000. Apart from the wintering birds, large numbers of some species also pass through the site whilst on migration in spring and/or autumn. The River Shannon and River Fergus Estuaries SPA is an internationally important site that supports an assemblage of over 20,000 wintering waterbirds. It holds internationally important populations of four species, i.e. Light-bellied Brent Goose, Dunlin, Black-tailed Godwit and Redshank. In addition, there are 17 species that have wintering populations of national importance.

The site also supports a nationally important breeding population of Cormorant. Of particular note is that three of the species which occur regularly are listed on Annex I of the E.U. Birds Directive, i.e. Whooper Swan, Golden Plover and Bar-tailed Godwit. Parts of the River Shannon and River Fergus Estuaries SPA are Wildfowl Sanctuaries.

Appendix V - Synopsis of Appropriate Assessment Report

Description of Project	<p>The client, M.H.L & Associates Ltd, proposes to provide footpath improvements and lane rearrangement at the junction of R506 and the R445 Dublin Road, known locally as the Cappamore Junction.</p>
Description of Natura 2000 site	<p>The Lower Shannon SAC and River Shannon and River Fergus Estuaries SPA are sites of great ecological interest. It is of special conservation interest for several Annex listed species of the EU Birds Directive.</p>
Description of Individual Elements of the Project likely to give rise to Impacts on the Natura 2000 Site	<ul style="list-style-type: none"> • None identified
Description of Likely Direct, Indirect or Secondary Impacts of the Project on the Natura site	<ul style="list-style-type: none"> • No potential for significant direct habitat loss/alteration, disturbance/displacement of species, negative impacts on water quality or cumulative/in combination impacts arising as a result of the proposed development.
Description of Likely Changes to the site arising as a result of: <ul style="list-style-type: none"> • Reduction of habitat area • Disturbance to key species • Habitat or species fragmentation • Reduction in species density • Changes in key indicators of conservation value 	<ul style="list-style-type: none"> • None identified
Description of Likely Impacts on the Natura 2000 site as a whole in terms of: <ul style="list-style-type: none"> • Interference with key relationships that define the structure of the site 	<ul style="list-style-type: none"> • None identified

<ul style="list-style-type: none"> • Interferences with key relationships that define the function of the site 	
<p>Indicators of Significance as a result of the identification of effects set out above in terms of:</p> <ul style="list-style-type: none"> • Loss • Fragmentation • Disruption • Disturbance • Change to Key Elements of the site (e.g. water quality etc) 	<ul style="list-style-type: none"> • None identified



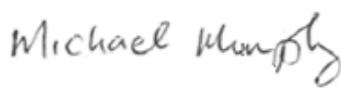
southern scientific services ltd

EIA SCREENING REPORT

M.H.L & ASSOCIATES LTD.

CAPPAMORE JUNCTION IMPROVEMENT SCHEME

LIMERICK CITY

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Revision:	00	

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1. Introduction

Limerick City & County Council proposes to undertake a Part 8 planning application for works relating to a development at the junction of Cappamore Road (R506) and the Dublin Road (R445) at the Cappamore Junction in Limerick City.

1.1 Purpose of this Report

The purpose of this Environmental Impact Assessment (EIA) Screening Report is to detail findings from a desktop review and site walkover of the development site and surrounding areas that may be affected by the proposed scheme. The assessment aims to establish the likely effects of the works on the environment and advise if an EIA is required for the proposed development/works (European Commission, 2017).

1.2 Context

Under EU Directives and Irish Legislation, an EIA is required for certain prescribed projects and is required for others which are likely to have significant impacts on the environment, by reason of their nature, extent or location. Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (commonly known as the Environmental Impact Assessment or EIA Directive), which was adopted in 1985 (with subsequent amendments) requires that certain developments be assessed for likely environmental effects in advance of consent being granted. EIA legislation sets down the types of projects that may require an Environmental Impact Assessment (EIA). Annex I of the EU Directive defines mandatory projects that require an EIA and Annex II defines projects that are assessed based on set mandatory thresholds for each of the project classes. Planning permission accompanied by an Environmental Impact Assessment Report (EIAR) may be required even in respect of projects below the threshold in cases where the drainage would have a significant effect on the environment. The key issue for the consenting authority in the context of the possible need for an EIA of a sub-threshold development is whether such development is likely to have significant effects on the environment.

'Sub-threshold projects may require an EIA depending on individual assessment in accordance with certain criteria. The guiding principle is that projects likely to have significant effects on the environment by virtue of, inter alia, their nature, size, or location should be subject to EIA. Article

4(2) of the Directive requires EU Member States to provide a statutory mechanism for deciding whether an EIA is required through either a case-by-case examination or by setting specific thresholds or criteria. This decision process is known as “screening” for EIA. The Directive also provides that, when a case-by-case examination is carried out or thresholds or criteria are set, the relevant selection criteria set out in Annex III of the Directive must be taken into account.

These criteria include:

- the characteristics of the project (including the size, the cumulative impacts with other projects, the use of natural resources, the production of waste),
- the location of the project (including the relative abundance, quality and regenerative capacity of natural resources in the area, the absorption capacity of the natural environment) and
- the characteristics of the potential impact (including the magnitude and complexity of the impact and the probability of the impact).

Directive 97/11/EC amending Directive 85/337/EEC introduced guidance for Member States in terms of deciding whether or not a development is likely to have ‘significant effects on the environment’. The criteria have been transposed into Irish legislation, in the Third Schedule to the EC EIA (Amendment) Regulations 1999 (S.I. No. 93 of 1999) and in Schedule 7 to the Planning and Development Regulations 2001 (S.I. No. 600 of 2001). The criteria as transposed in Irish legislation, are grouped under three headings:

1. Characteristics of the Proposed Development
2. Location of Proposed Development
3. Characteristics of Potential Impacts

The appropriate test to be applied therefore is whether the proposed development would have significant effects on the environment by virtue of factors such as its nature, size and location.

The Department of Environment, Heritage and Local Government Guidance Document *Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-threshold Development* (DECLG, 2003) states that “those responsible for making the decision must exercise their best professional judgment, taking account of considerations such as the nature and size of the proposed development, the environmental sensitivity of the area and the nature of the potential effects of the development. Each decision on the need for EIA must be taken on the basis of a global assessment of all these factors. In general, it is not intended that special studies or technical evaluations will be necessary for the purpose of making a decision”.

The proposed development does not exceed the threshold for the mandatory requirement for an EIA based on the nature or scale of the development, as addressed in Annex I & II (European Commission, 2015) of the EIA Directive 2014/52/EU (European Commission, 2014), and also, in Part 10 & Schedule 5 of the Planning and Development Regulations, 2001 (S.I. No. 600 of 2001).

It is therefore considered that the proposed road scheme is not one which falls within the scope of this category. It is noted that a “roadway of four or more lanes” is not proposed as part of this proposal and “an urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere” is also not proposed.

It should be noted that mandatory EIA requirements for non-road type development have also been considered and discounted in this instance. This report has been prepared to comply with this requirement and to assist the planning authority by providing the necessary information to ‘screen’ the proposal.

This EIA Screening Report has therefore been prepared to comply with an EU Directive, Irish legislation and the Local Authority requirement and so assist the planning authority by providing the necessary information to ‘screen’ the proposal.

2. EIA Screening Methodology

Directive 2014/52/EU (which amends Directive 97/11/EC and 11/92/EU) introduces the addition of Annex IIA, the information which a developer must provide to the competent authority to inform a screening determination, which includes:

1. A description of the project, including:
 - the physical characteristics of the whole project and, where relevant, of demolition works;
 - the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected.
2. A description of the aspects of the environment likely to be affected by the project.
3. A description of any likely significant effects, to the extent of the information available on such effects at that time, including:
 - residues and emissions from the production of waste, where relevant;
 - the use of natural resources, in particular soil, land, water and biodiversity.
4. The criteria of Annex III shall be considered, where relevant, when compiling the information in accordance with points 1 to 3.

The new Directive confirms that the screening information (and subsequent determination) should include and take account of any mitigation measures proposed by the developer, and the cumulative impacts of the proposed project with other existing and/or approved projects. Annex IIA provides that the Criteria set out in Annex III shall be taken into account when compiling the Annex IIA information. Annex III sets out the criteria to determine whether Annex II projects should be subject to EIA:

2.1 Characteristics of proposed projects

The characteristics of projects must be considered, with particular regard to:

- (a) the size and design of the whole project;
- (b) cumulation with other existing and/or approved projects;
- (c) the use of natural resources, in particular land, soil, water and biodiversity;
- (d) the production of waste;

- (e) pollution and nuisances;
- (f) the risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge;
- (g) the risks to human health (for example due to water contamination or air pollution).

2.2 Location of Proposed Development

The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:

- (a) the existing and approved land use;
- (b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground;
- (c) the absorption capacity of the natural environment, paying particular attention to the following areas:
 - (i) wetlands, riparian areas, river mouths;
 - (ii) coastal zones and the marine environment;
 - (iii) mountain and forest areas;
 - (iv) nature reserves and parks;
 - (v) areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC;
 - (vi) areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure;
 - (vii) densely populated areas;
 - (viii) landscapes and sites of historical, cultural, or archaeological significance.

2.3 Characteristics of Potential Impacts

The likely significant effects of projects on the environment must be considered in relation to criteria set out in points 1 and 2 of Annex III, with regard to the impact of the project on the factors specified in Article 3(1) of the EIA Directive 14/52/EU - population and human health; biodiversity; land, soil, water, air and climate; material assets, cultural heritage and the landscape; the interaction between the foregoing taking into account:

- (a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected);
- (b) the nature of the impact;
- (c) the transboundary nature of the impact;
- (d) the intensity and complexity of the impact;
- (e) the probability of the impact;
- (f) the expected onset, duration, frequency and reversibility of the impact;
- (g) the cumulation of the impact with the impact of other existing and/or approved projects;
- (h) the possibility of effectively reducing the impact.

3. Description of the Proposed Development

3.1 Site Location

The location of the proposed works is the junction between Dublin Road (R445) and Cappamore Road (R506) at Cappamore Junction, 7km east of Limerick City centre and approx. 1km east of the village of Annacotty, in the townland of Garraunykée and Woodstown. The population of Limerick City was 94,192 at the 2016 census (CS0, 2016). The proposed works is along a key urban traffic route linking the M8 with Limerick City. The Dublin Road acts as a link road between the city centre and the wider region to the east (see Figure 1).

Land use in the vicinity of the site predominantly involves agriculture, residential housing and business premises. The slope of the area around the site is predominantly flat and is approx. 20m above sea level. The underlying geology at this location is made up of Waulsortian Limestone. Subsoils in the vicinity of the site are classified as sandstone till with a sandy texture. The soil is classified as “*coarse loamy drift with siliceous stones*”. The bedrock aquifer beneath is classified as a Locally Important Aquifer - Bedrock which is Moderately Productive only in Local Zones and the groundwater vulnerability is classified as High.

3.2 Details of Proposed Development

Limerick City and County Council is seeking Part 8 Planning Approval for the following:

- new footpaths;
- new cycle lanes;
- new junction slip lanes;
- new controlled pedestrian crossings;
- new public lighting scheme;
- new surface water drainage system;
- improved road markings;
- new traffic signal control;
- signage and carriageway resurfacing (see Figure 2).

It is estimated that construction will take 3-6 months to complete. The proposal will result in habitat loss along the footprint of the works area. Widening of the road to construct footpaths and cycle lanes will require the removal of the existing tree lines and stone wall.



Figure 1: Site location map.

3.3 Best Practice Construction Approach

All construction works proposed in section 3.2 above, will be undertaken in accordance with the following:

- Inland Fisheries Ireland’s Requirements for the Protection of Fisheries Habitat during Construction and Development Works.
- CIRIA (Construction Industry Research and Information Association) Guidance Documents
 - Control of water pollution from construction sites (C532)
 - Environmental Good Practice on Site (C692)
- NRA Guidance Documents
 - Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes.
 - Guidelines for the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads
 - Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub
 - Prior to, during and Post Construction of National Road Schemes.

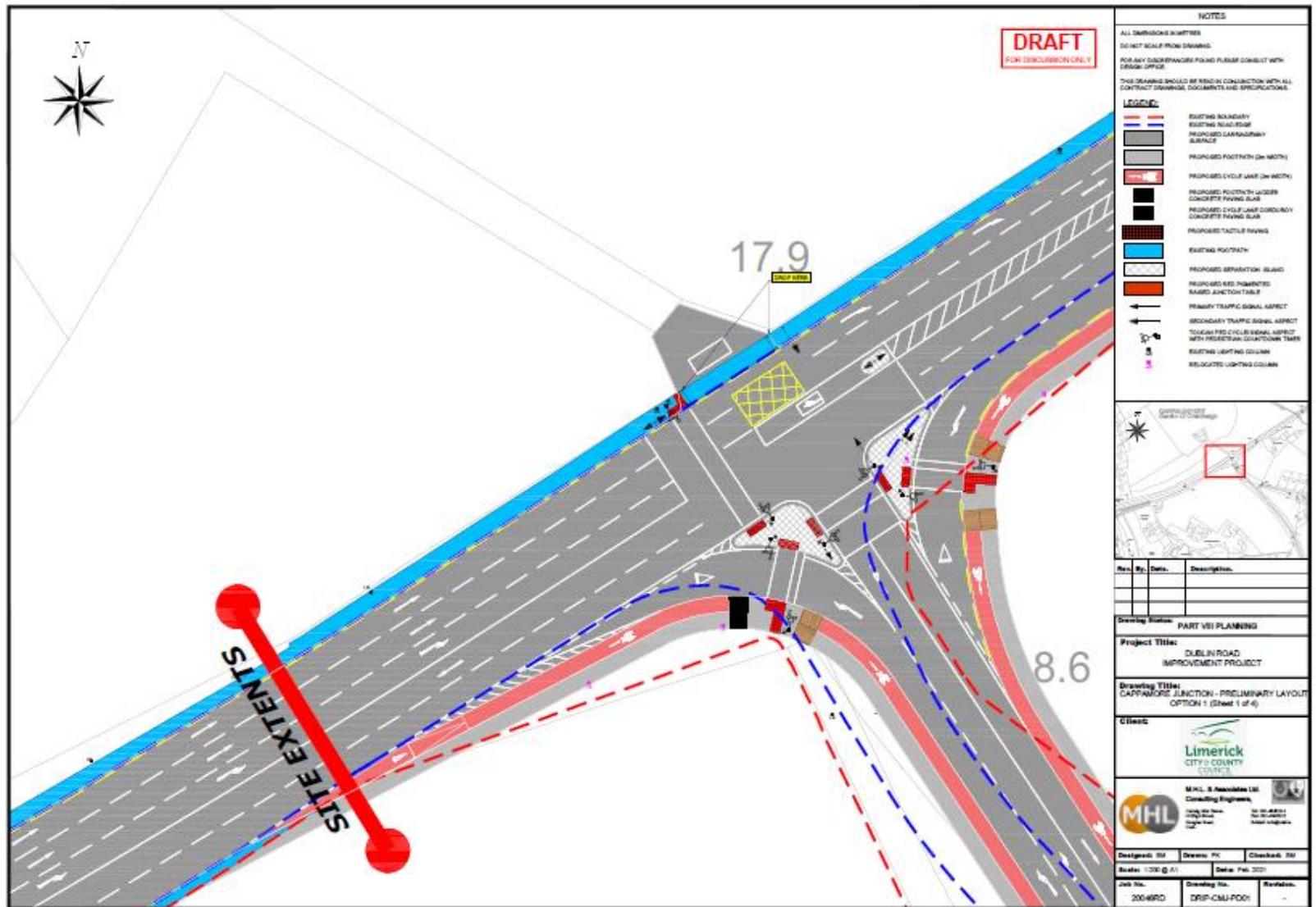


Figure 2: Site plan.

4. Potential Impacts on Receiving Environments' Sensitivities

4.1 Introduction

While the relevant thresholds for mandatory EIA are not exceeded, the development is being screened as a 'sub-threshold' project. The key issue in the context of the possible need for EIA of sub-threshold development is whether or not such development is likely to have significant effects on the environment by virtue of factors such as its nature, size and location.

In order to inform screening evaluation, consideration was firstly given to environmental sensitivities in the area and to the potential for impacts on particular aspects of the environment (Section 4.2). This section describes the aspects of the environment likely to be significantly impacted by the project and has regard to the Environmental Factors as set out in the EIA Directive as follows:

- Human beings, Population, and Human Health,
- Biodiversity (inc flora and fauna),
- Land and Soil,
- Water,
- Air and Climate,
- Material Assets, Landscape and Cultural heritage, including architectural and archaeological aspects, and
- The interrelationship between the environmental topics.

4.2 Overview of potential impacts on Receiving Environment

4.2.1 Population & Human Health

It is expected that this proposal will have a positive impact on human beings, population and human health by improving road safety and by making outdoor recreation more accessible to vulnerable road users. The proposed footpaths and cycle lane will be used for active outdoor recreational purposes and as a means of getting from A to B in a manner which is beneficial to human health and wellbeing.

Potential exists, particularly at the construction stage for an amount of nuisance associated with localised traffic disruption and noise (refer to 4.2.8). However, this will be temporary. For the most

part construction works related to this project are likely to range in the scale of works that are associated with road improvements what is proposed here is at the lower end of the scale in terms of disruption impact.

4.2.2 Biodiversity

The proposed site is located on the existing junction of the R445 and R506 is bounded by agriculture to the north, parklands to the west of the site, residential housing estates and one-off housing and agriculture to the south. The works will result in habitat change on the footprint of the proposed slip road to a habitat characteristic of a roadway (buildings and artificial surfaces BL3). Currently the proposed site is a combination of artificial surfaces (BL3) in the form of the existing junction, Stone walls (BL1), Hedgerows (WL1), Amenity grassland (GA2) and Improved grassland (GA1)(Fossitt, 2000).

The proposal will result in habitat loss along the footprint of the works area. However, based on the NRA guidelines, the habitats lost are considered to be of local importance (low ecological value) (National Roads Authority, 2009).

The Mulkear River is located 450m west of the site and is hydraulically linked to Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA but given the separation distance (0.5km & 8km respectively) it is unlikely that construction activities will have a significant effect on these protected sites. In addition, works will be carried out using best practice to minimise any potential impacts (see Section 3.3)

As with any construction project, there will be noise from the operation of machinery and plant on site during the works. This construction noise has the potential to temporarily disturb or displace species e.g., Badger (*Meles meles*). However, the works will be temporary and are not expected to result in any significant impacts to species.

A 1km grid square (R6457, see Figure 3 below) search was undertaken using the National Biodiversity Database and the following records were identified in Table 1

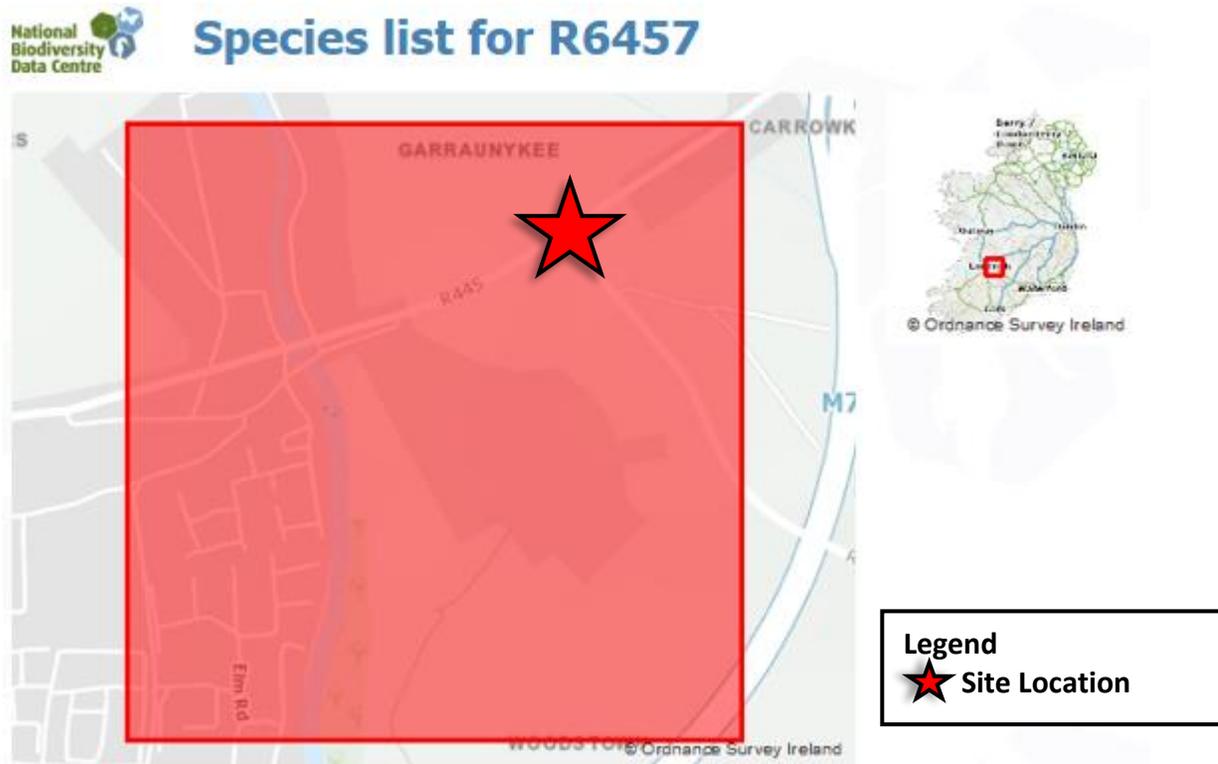


Figure 3. 1km grid square R6457. Table 1. National Biodiversity Centre database records.

Grid square	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	bony fish (Actinopterygii)	Dace (<i>Leuciscus leuciscus</i>)	1	31/12/2004	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	crustacean	Freshwater White-clawed Crayfish (<i>Austropotamobius pallipes</i>)	3	26/08/2015	River Biologists' Database (EPA)	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
Custom	flowering plant	Ash (<i>Fraxinus excelsior</i>)	1	02/10/2008	River Biologists' Database (EPA)	
Custom	flowering plant	Germander Speedwell (<i>Veronica chamaedrys</i>)	1	31/03/2019	Online Atlas of Vascular Plants 2012-2020	

Grid square	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	flowering plant	Giant Hogweed (Heracleum mantegazzianum)	12	26/07/2018	National Invasive Species Database	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	flowering plant	Indian Balsam (Impatiens glandulifera)	1	27/08/2017	Online Atlas of Vascular Plants 2012-2020	Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species Invasive Species: Invasive Species >> Regulation S.I. 477 (Ireland)
Custom	flowering plant	Ivy-leaved Toadflax (Cymbalaria muralis)	1	31/03/2019	Online Atlas of Vascular Plants 2012-2020	
Custom	flowering plant	Reed Canary-grass (Phalaris arundinacea)	1	02/10/2008	River Biologists' Database (EPA)	
Custom	flowering plant	Silver Birch (Betula pendula)	1	02/10/2008	River Biologists' Database (EPA)	
Custom	flowering plant	Winter Heliotrope (Petasites fragrans)	1	20/02/2017	Online Atlas of Vascular Plants 2012-2020	
Custom	insect - beetle (Coleoptera)	Elmis aenea	1	02/10/2008	River Biologists' Database (EPA)	
Custom	insect - beetle (Coleoptera)	Limnius volckmari	1	02/10/2008	River Biologists' Database (EPA)	
Custom	insect - dragonfly (Odonata)	Banded Demoiselle (Calopteryx splendens)	1	13/07/2019	Dragonfly Ireland 2019 to 2024	
Custom	insect - mayfly (Ephemeroptera)	Baetis rhodani	4	02/10/2008	River Biologists' Database (EPA)	
Custom	insect - mayfly (Ephemeroptera)	Ecdyonurus insignis	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Ecdyonurus venosus	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Heptagenia sulphurea	1	31/12/1996	Mayflies (Ephemeroptera) of Ireland	
Custom	insect - mayfly (Ephemeroptera)	Serratella ignita	3	02/10/2008	River Biologists' Database (EPA)	
Custom	insect - stonefly (Plecoptera)	Perla bipunctata	2	12/06/2006	Stoneflies (Plecoptera) of Ireland	
Custom	mollusc	Ancylus fluviatilis	1	02/10/2008	River Biologists' Database (EPA)	
Custom	mollusc	Freshwater Nerite (Theodoxus (Theodoxus) fluviatilis)	2	02/10/2008	River Biologists' Database (EPA)	
Custom	moss	Smaller Lattice-moss (Cinclidotus fontinaloides)	1	02/10/2008	River Biologists' Database (EPA)	Threatened Species: Least concern

Grid square	Species group	Species name	Record count	Date of last record	Title of dataset	Designation
Custom	terrestrial mammal	Daubenton's Bat (Myotis daubentonii)	27	27/08/2013	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Custom	terrestrial mammal	Eurasian Badger (Meles meles)	1	31/12/2011	Badger Setts of Ireland Database	Protected Species: Wildlife Acts
Custom	terrestrial mammal	Eurasian Red Squirrel (Sciurus vulgaris)	1	31/12/2012	Irish Squirrel Survey 2012	Protected Species: Wildlife Acts
Custom	terrestrial mammal	Lesser Horseshoe Bat (Rhinolophus hipposideros)	1	01/09/2008	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Custom	terrestrial mammal	Lesser Noctule (Nyctalus leisleri)	2	01/09/2008	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Custom	terrestrial mammal	Pine Marten (Martes martes)	1	31/12/2012	Irish Squirrel Survey 2012	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts
Custom	terrestrial mammal	Pipistrelle (Pipistrellus pipistrellus sensu lato)	1	01/09/2008	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Custom	terrestrial mammal	Soprano Pipistrelle (Pipistrellus pygmaeus)	2	19/09/2008	National Bat Database of Ireland	Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts
Custom	terrestrial mammal	West European Hedgehog (Erinaceus europaeus)	1	29/08/2013	Atlas of Mammals in Ireland 2010-2015	Protected Species: Wildlife Acts

4.2.3 Land & Soil

The proposed development will require removal of some existing stonewalls and treelines to facilitate construction of the road widening. There will be opportunities for re-use of any soil resource ‘won’, elsewhere within the works. However, in the event that there is any excess material it will be disposed of at an authorised permitted site, with the capacity to accept inert waste and C&D.

The bedrock aquifer beneath is classified as a “Locally Important Aquifer - Bedrock which is Generally Moderately Productive” (EPA, 2021). See Figure 4 for Teagasc soil map.

Construction works inevitably result in soil disturbance with potential for soil erosion. However, it is envisaged that the site will be developed with best practice controls (see Section 3.3 and Appendix I) in place so that any erosional impacts should be temporary and unlikely to be significant in nature.

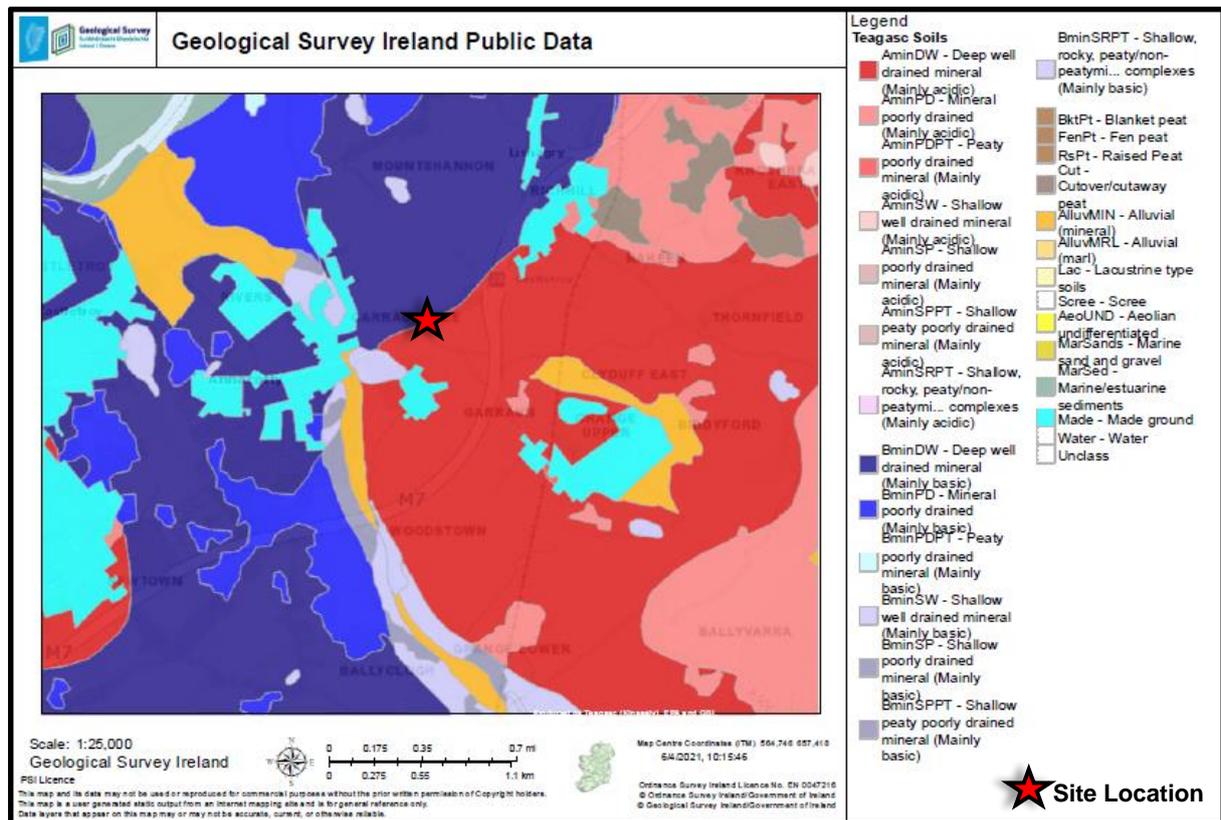


Figure 4. Description of soils adjacent to site.

4.2.4 Water

There is a potential hydrological connection between the development site and Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA which occurs downstream. However, given the lack of surface water drains located near the site this may indicate good absorption by the land. Connectivity may be predominately via sub-surface flow

and groundwater flow. The Water Framework Directive (WFD) status of the Mulkear River and its tributaries is classified as good as far as Annacotty Bridge, downstream of the weir (Station Name RS25M040590). The Mulkear River remains “unassigned” downstream of this point (see Figure 5).

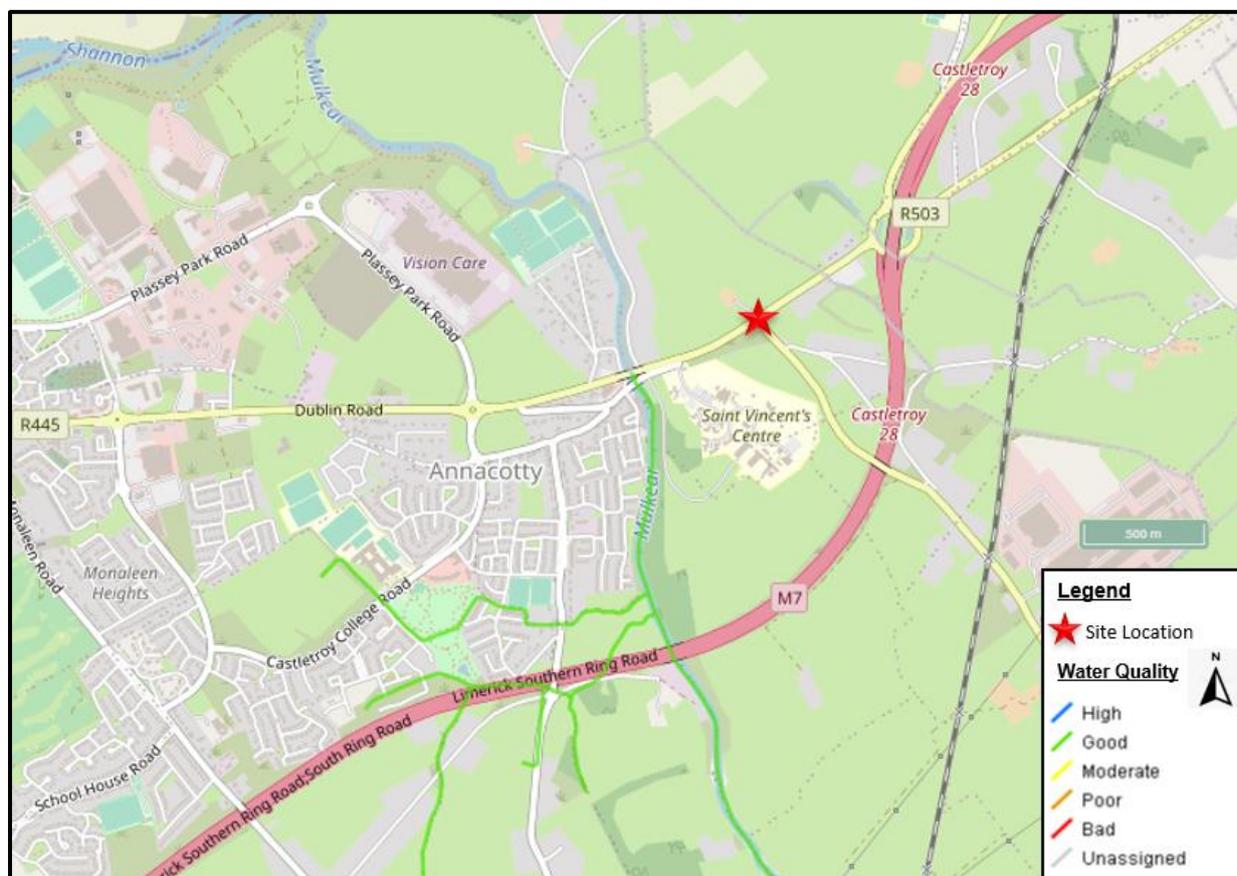


Figure 5: Location of development site in relation to nearby watercourses and their waterbody status (EPA.ie).

Key impacts during any construction project relate to the potential for pollution of watercourses / groundwater from works and or spillages. Discharges of water from the site during works could potentially release sediment and other pollutants to watercourses. However, given the absence of surface water features, transmission is predominately via groundwater flow to the river. These factors in association with best practice construction methods will minimise the potential for any significant impact on receiving waters.

Data extracted from Geological Survey Ireland (see Figure 6) indicates that the Ground Water Vulnerability is described as Moderate as is Subsoil Permeability. The Average Groundwater Recharge (mm/yr) is 327mm again described as Moderate.

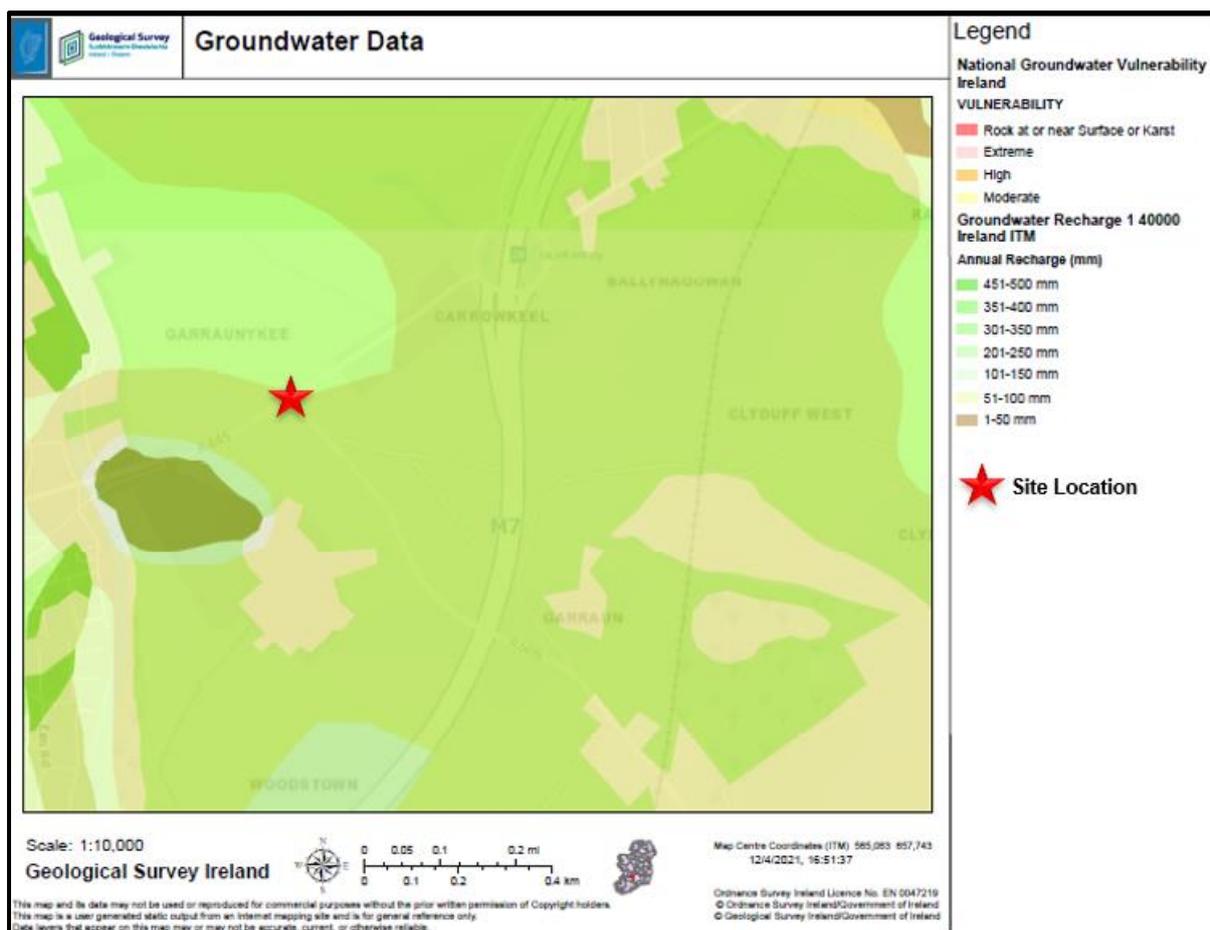


Figure 6. Groundwater data relevant to proposed site.

4.2.5 Cultural Heritage & Archaeology

No protected structures or Architectural Conservation Areas adjoin the proposed construction site or would be impacted by the proposal. The proposed road widening development will not impact on recorded archaeological sites located within the receiving environment as the original construction of the road and commercial and residential developments in the area are likely to have removed any previously existing archaeological resource. A search on the Archaeological Survey of Ireland website (National Monuments Service, 2021) indicated that there are no monuments on the site (see Figure 7). However, should any archaeological monuments be discovered during construction of the proposed development they will be reported immediately to Limerick City & County Council.

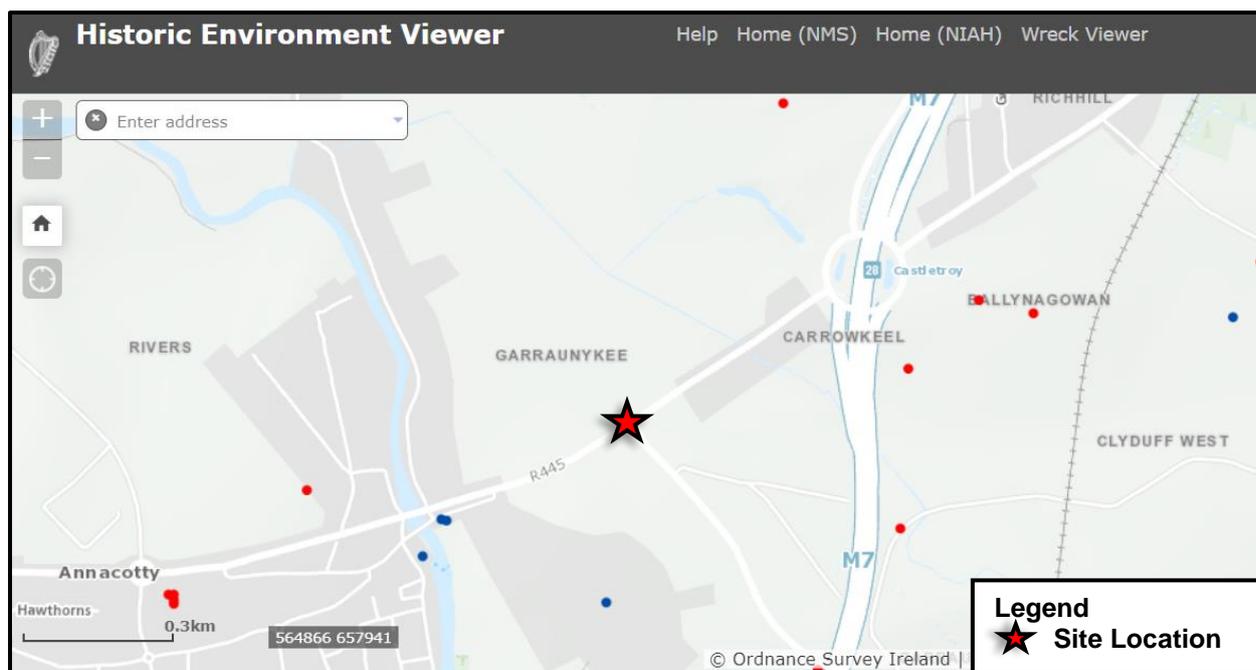


Figure 7. Map identify archaeological features associated with site (Archaeology.ie).

4.2.6 Landscape & Visual

In terms of landscape the site is located in an area that can be described as semi-urban setting. The main landcover (80%) is the existing junction of the R506 and R445. The site is surrounded by agriculture, commercial properties, residential housing estates and one-off housing. The proposed works will take place at the same level as the existing road. The works should not adversely impact on any views or prospects. The site itself is not of special landscape or visual interest (see Figure 8 & 9). The end use will be greatly benefitting the local area by producing a safe area for pedestrians and cyclists. Due to these mitigating factors, it is expected that the proposed development will assimilate into its receiving environment.



Figure 8: Looking along Cappamore Road (R506) towards Dublin Road (R445) and Cappamore Junction in the background.



Figure 9: Looking along Dublin Road (R445) towards Cappamore Road (R506) and Cappamore Junction.

4.2.7 Air and Climate

A proposal of this nature has minimal potential for air and climate related impacts.

In terms of air quality: Works of this type will have minimal potential by virtue of their scale and duration on the local air quality. Pm¹⁰, NO_x, hydrocarbons and dust-fall are the unavoidable emissions to air from construction activities. Best practice control measures will diminish these to negligible amounts (see appendix II).

In terms of Climate: Global warming emissions of CO₂ from fuel combustion will be negligible having regard to the scale and duration of the works.

4.2.8 Noise

Road traffic noise is the most significant noise source in the area. Other noise sources in the area include commercial and agricultural activities. There are many residential housing estates and one-off housing within 500m of the proposed development. However, given the small scale of the scheme and given that the construction works will be temporary it is concluded that the proposed development would not be likely to have a significant effect on the environment with respect to noise. Following the completion of works the noise levels will return to pre-development levels and possibly will result in a diminution of noise due the more efficient flow of motor traffic, cyclists and pedestrian users.

Control measures will diminish these to negligible levels (see appendix III). In addition, the current lack of safe walking and cycling facilities are most likely adding to traffic volumes and therefore noise in the area. The construction of adequate cycling and pedestrian facilities will offer residents adjacent to the site the option to walk or cycle therefore reducing noise from vehicles.

4.2.9 Material Assets

Material assets, of either human or natural origin, comprise resources that are valued and that are intrinsic to specific places. These material assets may be of value for economic or cultural reasons. The material assets of interest in the context of this assessment would include agricultural land, access roads and public utilities such as water, telecoms and electricity supply. Due to the nature of development activity there will be no significant impact on any of the material assets listed above.

It is considered that material assets in the area will be significantly improved by way of this proposal which would provide enhanced public transport and amenity infrastructure with the addition of safe walking and cycling facilities.

4.2.10 The interrelationship between the environmental topics

The greater the number of different aspects of the environment which are likely to be affected and the greater the links between the effects, the more likely significant effects may occur. Impact interrelationships/interactions relate to the reactions between impacts within a project and the interrelationship between impacts identified under one topic with impacts identified under another topic.

The consideration of impact inter-relationships and interactions provides an opportunity to consider the overall impacts of a development that might not be immediately apparent. All above receptors contribute to the distinctive character of the area.

In this instance, given the scale, location and duration impacts are not likely to have significant impacts on the receiving environment.

5. Screening of Likely Impacts

As outlined in Section 2 above the criteria for deciding whether a development is likely to have 'significant effects on the environment' are grouped under three headings:

1. Characteristics of the Proposed Development (Table 2)
2. Location of Proposed Development (Table 3)
3. Characteristics of Potential Impacts (Table 4a&4b)

The screening assessment below follows this format. The perspectives gained from the on-site walkover supplemented the desk-based appraisal for this screening study.

Table 2. Characteristics of proposed developments

Characteristics of proposed development, in particular:	Response
(a) the size and design of the whole project.	The proposed development site is approximately 0.1Ha. It consists mainly of the existing junction of the Dublin Road (R445) and Cappamore Road (R506). The road works scheme will involve the construction of a new traffic lanes, footpaths and cycle lanes.
(b) cumulation with other existing and/or approved projects.	Cumulation can occur when impacts caused by one project, which may be considered minor and insignificant, can combine with other environmental impacts already present or planned in the project area and together may become significant. The surrounding land use is a mixture of commercial, residential and agricultural activities. There are currently no other significant projects planned for the immediate area. The proposed development combines positively with the existing infrastructure and enhances the environment.
(c) the use of natural resources, in particular land, soil, water and biodiversity.	The use of natural soil and rock resources associated with the development would not cause unusual, significant, or adverse effects. Some natural resources will be required for the construction, such as crushed stone. Other materials that will be required will include tarmac, concrete and line painting compounds. There will be no requirement for water abstraction for the proposed development. A small amount of hedgerow and treeline is to be removed but is minor in the context of the surrounding environment which has an abundance and of such natural habitats.
(d) the production of waste.	There is unlikely to be any significant volumes of waste generated by the proposed development and any soil / sub soil waste arising on site would be inert in nature. Any residual waste of this material should be limited and will be removed from the site for recycling/disposal at authorised sites.
(e) pollution and nuisances.	There is a risk of nuisance and pollution during the development phase of the proposed development, but this risk will be mitigated against by standard best management practices and environmental controls which will be implemented on site and which are long-established practices known to be effective for same. The development phase of the project is likely to result in potential for dust emissions, noise emissions, and contaminated runoff (silt, hydrocarbons) due to the particular nature of the development. Furthermore, it is expected that these emissions will be regulated by the planning permission for the proposal that will also impose a range of controls on same. Having regard to the scale and

Characteristics of proposed development, in particular:	Response
	duration of the work and considering that the project will involve the implementation of best practice environmental measures and controls (see CIRIA Guidelines – Control of Water Pollution from Construction Sites – Guide to Good Practice (2001) it is concluded that proposed works are unlikely to result in pollution or nuisances of a scale to cause a significant effect on the human or natural environment.
(f) the risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge.	It is intended that a health and safety management plan will be put in place at the site to address occupational and human health and safety issues to avoid any major accidents. The contractor engaged to carry out the development work will reference Health and Safety Authority (HSA) guidelines in relation to the Project Supervisor Design Process (PSDP) for best practice. Given the nature and scale of the development it is considered that the risk of major accidents and/or disasters is unlikely with an appropriate health and safety management plan in place. The construction phase of the development will primarily involve the use of inert soil and stone materials. The proposal does not require the storage of chemicals, fuels or dangerous substances to be stored on site. A 24/7 traffic management plan will need to be developed to mitigate against any accidents Climate change may impact the potential for flooding in this area over time. However, given the separation distance from the Mulkear River the potentially vulnerability to flooding during extreme events this risk is much reduced. In addition, the closest point of the site is 5-10m above the level of the Mulkear River (based on OS map contours). It is also noted that the type of development proposed would not be considered especially vulnerable to the adverse impacts of flooding.
(g) the risks to human health	It is intended that a health and safety management plan based on HSAs PSDP, mentioned previously will be put in place at the site to address occupational and human health and safety issues. The construction phase of the development will primarily involve the removal of inert soil and stone materials and the addition of aggregate, concrete and tarmacadam. The site will be landscaped on completion. The proposal does not require the storage of chemicals, fuels or dangerous substances which could present a significant risk to human health. It is expected that adequate controls will be put in place through standard planning conditions. The effectiveness of these will be verified through a programme of monitoring e.g., noise monitoring and 24/7 traffic management.

Conclusion: No significant effects likely to arise associated with the characteristics of the proposed development.

Rationale: The works associated are minor in character and relate to upgrading the existing junction. Any impacts will be temporary and will occur during the construction phase of the scheme. Once construction has been completed there will be a net positive impact resulting from the development culminating in safer commuting options for vulnerable road users.

Table 3. Location of Proposed Development

Location of Proposed Development	Response
The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:	
(a) the existing and approved land use.	The development to which the planning application relates is located at the existing junction of the R445 and R506, Limerick. The nearest water course is the Mulkear River which occurs approx. 450m west of the site. There is an extensive buffer area between the site and the river making contamination unlikely. This consists of existing buildings and vegetated areas. Surrounding Natura 2000 sites include the Lower River Shannon SAC (Site code 002165) 0.5km and River Shannon and River Fergus Estuaries SPA (Site code 004077) 8km west of the site. The Appropriate Assessment (AA) Screening Assessment that accompanies this report has determined no likely significant effects, alone or in combination with other projects on European Sites.
(b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground.	Soil to be removed generally of limited quality. It will be used elsewhere within the project and/or disposed of at authorised sites. Regenerative capacity will be minimal as the surface of the widened roadway will be sealed. Area affected is considered to be insignificant within the context of the relative abundance of the soil, water, rock and biodiversity resources in the area.
(c) the absorption capacity of the natural environment, paying particular attention to the following areas: (i) wetlands, riparian areas, river mouths; (ii) coastal zones and the marine environment; (iii) mountain and forest areas; (iv) nature reserves and parks; (v) areas classified or protected under national legislation; Natura 2000 areas designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC;	(i) no interaction or works are proposed that will affect wetlands, riparian areas or river mouths. (ii) not applicable (iii) not applicable (iv) not applicable (v) The AA Screening Assessment that accompanies this report has determined no likely significant effects, alone or in combination with other projects on European Sites.
(vi) areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure.	From the available information there are no known areas connected to the proposed development in which the environmental quality standards have already been exceeded. All relevant environmental quality standards will be adhered to during construction works.
(vii) densely populated areas.	No negative effects are identified in relation to this criterion; positive effects relating to increased recreational use are identified.
(viii) landscapes and sites of historical, cultural or archaeological significance.	No protected structures or Architectural Conservation Areas adjoin the proposed construction site or would be impacted by the proposal.

Conclusion: No significant effects likely to arise associated with the location of the proposed development.

Rationale: The works associated are minor in character and relate to upgrading the existing junction. The Appropriate Assessment Screening Report has determined a finding of no likely significant effects on the conservation management objectives of European Sites within a 15km of the study area; additionally, works related to upgrading of existing junction are considered to result in minor to negligible impacts in terms of landscape character, cultural heritage and visual amenity. It is intended that the proposed improved cycles lanes and footpaths will have a number of positive effects.

5.1 Type and characteristics of Potential Impact

The potential significant effects of the projects on the environment must be considered in relation to the criteria set out in 1 & 2 above and having regard to the factors specified in Article 3(1) (of the 14/52/EU Directive) considering aspects of the impact as outlined in (a) to (h) below.

Article 3(1) Factors

- a) population and human health;
- b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- c) land, soil, water, air and climate;
- d) material assets, cultural heritage and the landscape;
- e) the interaction between the factors referred to in points (a) to (d).

Table 4a. Characteristics of Potential Impacts on environmental parameters

Environmental Topic	Potential Impact
Population, and Human Health	There is potential for temporary negative impacts to residents, local business and road users during the construction works, i.e., locally significant noise, air, dust and traffic disturbance. However, these impacts will not be significant. There will be positive long-term impacts on completion of the works with increased accessibility of the area for walkers and cyclists.
Biodiversity	There will be temporary impacts associated with construction phase only. Works will be carried out using Best Practice (see Section 3.3). Impacts to Lower River Shannon SAC and River Shannon and River Fergus Estuaries SPA unlikely due to separation distance.
Land and Soil	There will be permanent and minor negative impacts related to works phase, particularly in relation to areas requiring excavation and fill works. The area involved and the amount of fill material and soil required for the works is minor.
Water	Potential surface water quality impacts unlikely to arise at the construction stage due to significant separation distance from water courses. In addition,

Environmental Topic	Potential Impact
	the use of best practice methods as described previously will be employed to limit possible impacts further.
Air and Climate	There is potential for localised impacts arising from machinery such as mini diggers or excavators, etc. However, emissions during works phase will be minimized through best practice methods.
Noise and Vibration	Noise during the construction phase may result in nuisance however, noise and vibration during works phase will be minimized through best practice methods.
Cultural Heritage	It is estimated that the effects on Cultural Heritage will be minimal and insignificant because the development is situated in a location with no such vulnerability.
Landscape	The proposed development does not represent a significant change in landscape character within the existing urban character.
Interrelationship between above parameters	The interrelationships between all of the above Environmental Factors do not combine to have any significant effect and that the interrelationship between water and biodiversity have been considered in particular because of their inherent interrelationship and here too there is not seen to be any significant impact.

Conclusion: No significant effects likely to arise associated with the potential impacts on environmental parameters.

Rationale: As the preceding table shows, potential impacts relate primarily to temporary impacts at the construction stage and the implementation of the Best Practice Construction measures will provide safeguards to avoid significant impacts at this stage. There will also be positive long-term effects of the development upon completion.

Table 4b. Characteristics of potential impacts

The potential significant effects of proposed development in relation to criteria set out under Tables 2 and 3 above, and having regard in particular to:	
(a) the magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected).	Minor and localized temporary impacts are identified primarily at construction stage only and do not represent any potential for significant impact
(b) the nature of the impact.	As above.
(c) the transboundary nature of the impact.	Potential transboundary impacts are not relevant in the case of this development located as it is in Limerick city where there is not relevant boundary adjacent.
(d) the intensity and complexity of the impact.	The development works involved are of a low intensity and are not complex as road construction/maintenance project go. Therefore, no relevant issues arise in respect to the intensity of complexity.

The potential significant effects of proposed development in relation to criteria set out under Tables 2 and 3 above, and having regard in particular to:	
(e) the probability of the impact.	The design of the proposal and best practice construction measures mitigate against significant effects arising and combine to make impacts very predictable with little risk of unpredictable events or outcomes.
(f) the expected onset, duration, frequency and reversibility of the impact.	Subject to implementation and adherence to best practice measures, impacts identified will not be significant and will be temporary in nature relating to the construction phase only. Any minor negative impacts that may arise in respect of the development works will easily be reversible as part of the project.
(g) the cumulation of the impact with the impact of other existing and/or approved projects.	There are no other relevant existing or proposed projects connected to this development that will combine with the minimal impacts anticipated that this development is predicted to have. There will be no cumulation of impacts arising on any significance.
(h) the possibility of effectively reducing the impact.	The reduction of impacts will be achieved by using best practice guidelines during construction (see Section 3.3)

Conclusion: No significant effects likely to arise associated with the location of the proposed development.

Rationale: The works associated are minor in character and relate to upgrading the existing junction of the Cappamore Road (R506) and the Dublin Road (R445) at the Cappamore Junction in Limerick City. The AA Screening Report has determined a finding of no likely significant effects on the conservation management objectives of European Sites within a 15km of the study area; additionally, based on the findings of this assessment, it is considered that the proposed development works would be unlikely to have a significant effect on the environment having regard to the size, location, nature, and characteristics of the proposed development. It is thought that any potential effects can be effectively managed through the implementation of the best management practices and planning controls typically applied at such sites. The potential effects identified are not considered to be of a type or significance that would require an EIA.

6. Screening Conclusions

This screening exercise was undertaken in two stages. The first stage considered the requirement for a mandatory EIA, while the second stage considered the requirement or need for a sub-threshold EIA. As part of the sub-threshold screening exercise, the potential for impacts on environmental sensitivities were considered. It is concluded that this is a sub-threshold type project which is not likely to have a significant effect on the environment, either by itself or in combination with other plans or projects, and that an Environmental Impact Assessment is not required for the proposal.

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8. Appendices

Appendix I

CIRIA Guidelines – Control of Water Pollution from Construction Sites – Guide to Good Practice (2001)

The guidance document provides practical help for consultants and contractors on how to plan and manage construction projects to control water pollution. It has seven main chapters.

- Benefits and obligations
- Water pollution from construction
- Legislative framework
- Construction contracts
- Managing water pollution from construction
- Water management techniques
- Summary and recommendations

Appendix II – Air Quality control measures.

- **Never burn waste materials.** Doing so will cause smoke, releasing poisonous gases such as carbon monoxide into the atmosphere.
- **Adopt hybrid technology** in place of diggers and excavators with diesel engines. For example, Volvo is currently trialing a prototype hybrid excavator that runs on electric power generated from the down-swing of its boom arm.
- **Use low Sulphur diesel** to power equipment and vehicles.
- **Improve your existing equipment** by using particulate filters and catalyst converters.
- **Use water sprays or sprinklers** to control some types of dust and stop it spreading. This will be particularly beneficial during tasks such as the filling of skips or breaking down of concrete.
- **Use an on-tool extraction** to control some types of dust. This is a type of exhaust that fits onto some tools and removes dust as it is being produced.
- **Source local materials** to avoid the need for them to be transported hundreds of miles.
- **Use renewable or sustainable materials**, such as timber from sustainably managed forests.
- **Wear appropriate PPE**, such as the correct type of respiratory protective equipment (RPE) depending on the task.

Appendix III – Noise control measures.

- **Use quiet power tools and equipment** to manage noise pollution. Where possible, use modern construction equipment that has been designed specifically to produce less noise.
- **Schedule work during sociable hours** rather than when residents are likely to be sleeping. For example, between 8 to 6pm on weekdays. You could also notify local residents of the working hours and keep them updated on the project.
- **Put acoustic (movable noise) barriers in place** to manage the levels of noise pollution.
- **Ensure plant and equipment is properly maintained and operated.**
- **Switch off plant when it's not in use.**
- **Ensure employees wear the correct PPE** when required to reduce the risk of hearing loss due to excessive noise.



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