

N19 SHANNON AIRPORT ACCESS ROAD IMPROVEMENT SCHEME

PHASE 3 ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT



October 2022 Rev 02











PROJECT NAME: N19 Shannon Airport Access Road Improvement Scheme

DOCUMENT NAME: EIA Scoping Report





REVISION CONTROL SHEET

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Comments on the Project and proposed scope of the EIAR can be submitted by email to info@shannonaccess.ie or returned by post to Project Management Office, Clare County Council, Áras Contae an Chláir, Buttermarket Building, Drumbiggle Road, Ennis, County Clare, V95RR72. We ask all consultees to submit responses by the 13th December 2022 to provide adequate time to consider all responses.

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1 INTRODUCTION

1.1 General

1.1.1 Introduction

Clare County Council (the "Applicant") in partnership with Transport Infrastructure Ireland (TII) proposes to carry out the planning and design for the N19 Shannon Airport Access Road Improvement Scheme (the "Project"). The Project shall provide a high-quality road improvement scheme on the N19 National Primary Road between Drumgeely Roundabout and Knockbeagh Point Roundabout on approach to Shannon International Airport. The Project shall comprise of Design Manual for Urban Roads and Streets (DMURS) cross section including 2 no. bus lanes and 2 no. traffic lanes with a segregated pedestrian/cycle facility. The basis for the selection of this DMURS cross section was informed by the option selection process including extensive consultation with the public and key stakeholders.

Fehily Timoney Clandillon has been appointed as Designer for the project and will prepare an Environmental Impact Assessment Report (EIAR) in support of the planning application. The EIAR will be prepared in accordance with the requirements of Section 50(1)(c) of the Roads Act, 1993-2021 and the EIA Directive 2014/52/EU. The requirements of the EIA Directive 2014/52/EU has been transposed into Irish law through the Roads Act, 1993-2021 as amended by the Planning and Development Acts 2000-2021.

Under Article 8 of the Roads Regulations 1994 (S.I. No. 119 of 1994) a statement of the likely effects on the environment of any proposed road development should be carried out for a road development that involves:

The construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be 8 km or more in length in a rural area or 500m or more in length in an urban area.'

Clare County Council intends to submit a planning application to An Bord Pleanála for the Project accompanied by an EIAR.

Drawing Nos N19-SAARS-SK-LA-0001 to 0009 show the proposed Scheme General Arrangement and are included in Appendix 1 of this report.

1.1.2 The Applicant

Clare County Council in partnership with Transport Infrastructure Ireland is conducting the planning and design of the Project. In this instance Clare County Council is 'the Applicant' seeking consent for the proposed development.

1.1.3 Purpose of the Report

This Scoping Report provides details regarding the proposed development and the subject site, including the site selection process. It also sets out the proposed scope of work for the EIAR.

The purpose of the EIA scoping process is to identify the key points and issues which are likely to be important during the environmental impact assessment (EIA) and to eliminate those that are not.

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It does this by identifying sources or causes of potential environmental effects, the pathways by which the effects can happen, and the sensitive receptors, which are likely to be affected. It defines the appropriate level of detail for the information to be provided in the EIAR. In essence, the primary focus of scoping is to define the most appropriate assessment of significant effects related to the proposed development.

This scoping report will be distributed to a range of stakeholders who are considered to have appropriate expertise and relevant prior experience of the factors involved, knowledge of the characteristics of the project type and of the sensitivities likely to be present in the receiving environment as well as local knowledge and interest in the area. The scoping report will also be made available to individual stakeholders and the public on request.

A full list of the consultees who were issued this scoping report is included in Appendix 2 of this document. This list includes the prescribed bodies that will be consulted at the formal consultation stage of the planning process, i.e., following submission of the planning application to An Bord Pleanála.

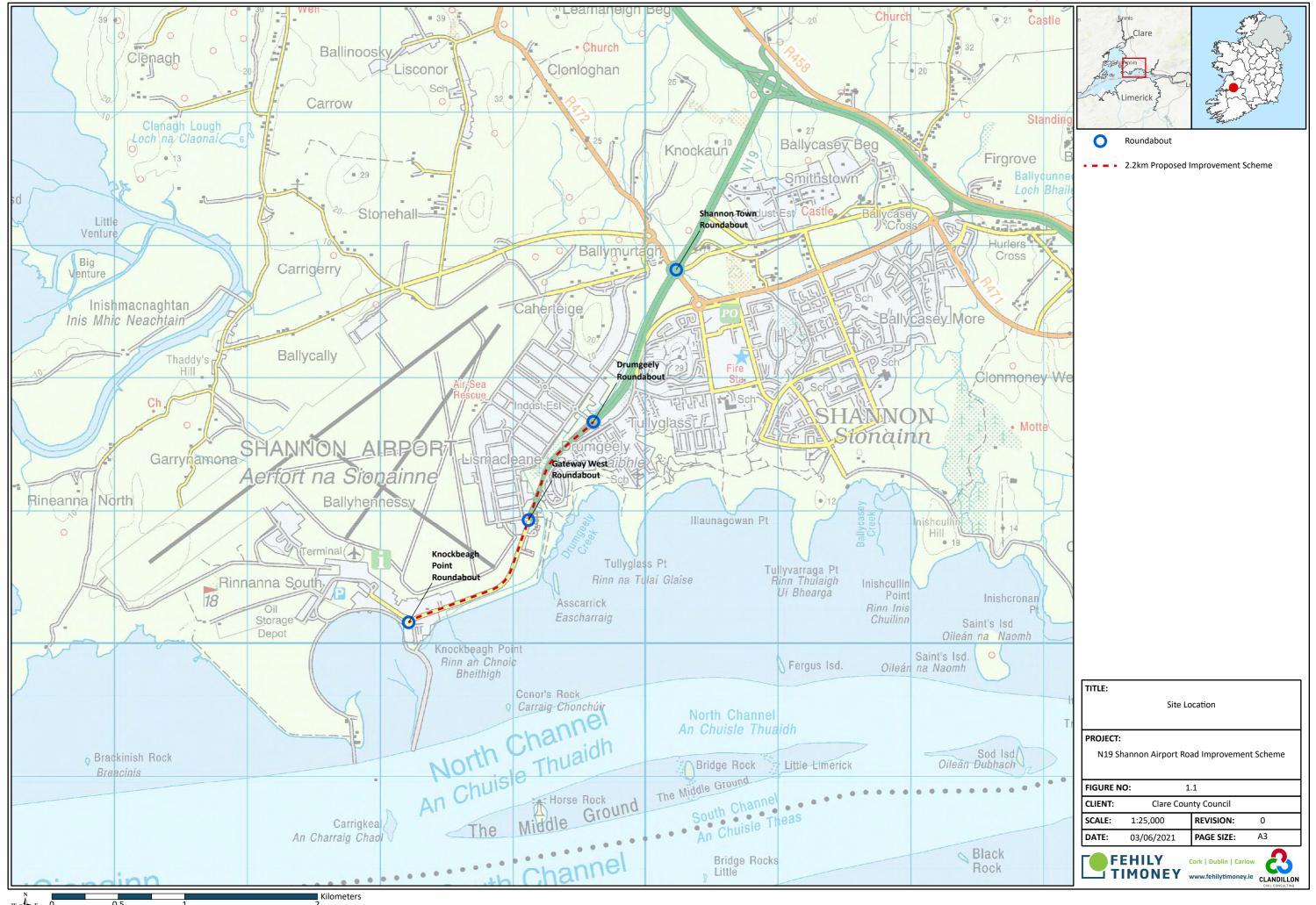
As part of the delivery of the Project through the planning and design phases (TII Project Management Guidelines Phases 1 to 4 inclusive) in accordance with the TII Project Appraisal Guidelines for National Roads, there has been consultation with relevant stakeholders to date including public consultation on route options to inform the Phase 2 options selection. Information gathered by the Project Team during the consultation in Phase 2 is included in this Scoping Report (Phase 3).

All consultation received as part of this scoping process will be considered in the preparation of the EIAR to accompany the planning application.

This report has been prepared in line with the following guidance documents:

- Environmental Impact Assessment of Projects Guidance on Scoping (EU, 2017) (1)
- Environmental Impact Assessment of National Road Schemes A Practical Guide, (NRA, 2008) (2)

The location of the Project is shown in Figure 1.1.



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1.2 Environmental Impact Assessment and the Function of the EIAR

The European Union Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment, requires member states to ensure that a competent authority carries out an assessment of the environmental impacts of certain types of projects, as listed in the Directive, prior to development consent being given for the project.

The EIA Directive requires that, "in order to ensure a high level of protection of the environment and human health, screening procedures and EIA assessments should take account of the impact of the whole project in question, including where relevant, its subsurface and underground, during the construction, operational and, where relevant demolition phases".

The Requirement for the EIA of various types of development are transposed into Irish legislation under the:

- Planning and Development Act and the Planning and Development (Amendment) Regulations 2001-2021. Schedule 5, Part 1 of the Planning Regulations includes a list of projects which are subject to EIA based on their type. Part 2 of the same schedule includes a list of projects which by reason of scale also fall into the EIA category. The Project does not fall under those projects listed in Part 1 or Part 2 of the Regulations.
- European Union (Roads Act 1993) (Environmental Impact Assessment)(Amendment) Regulations 2019. Section 5 amends Section 50 of the Roads Act 1993-2021 in respect of road developments that shall be the subject of an EIA. Article 8 of the Roads Regulations 1994 (S.I. No. 119 of 1994) prescribes road development that shall be subject to an EIA.

The purpose of an EIAR is to provide a detailed description of the proposed development and outline potential impacts associated with the construction, operation, and decommissioning of the project. Where adverse impacts are identified, mitigation measures are proposed, and the residual impacts described.

An EIA is required for the proposed development under the Roads Act and its amending legislation as detailed below.

The Roads Act 1993 states:

50.—(1) (a) A road authority shall prepare a statement of the likely effects on the environment (hereinafter referred to as an "environmental impact statement") of any proposed road development consisting of—

(iii) any prescribed type of proposed road development consisting of the construction of a proposed public road or the improvement of an existing public road.

As per (iii) above The Roads Regulations, 1994 S.I No. 119 of 1994 Part V, Article 8 states:

The prescribed types of proposed road development for the purpose of subsection (1)(a)(iii) of section 50 of the Act shall be:

(a) the construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be eight kilometres or more in length in a rural area, or 500 metres or more in length in an urban area.

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The proposed development is the upgrade of a 4 lane 2.2 km national road within the environs of Shannon Town. The proposed development consists of:

- 1.2 km in an urban zone from Knockbeagh Point to SFZ Gateway West Access
- 1 km in a semi urban zone from SFZ Gateway West Access to Drumgeely Roundabout

The 2.2 km road will be upgraded to DMURS standard under the proposed scheme. As a portion of the scheme falls under the prescribed type of development requiring EIA, i.e., in an urban area, an EIAR is mandatory for the Project.

1.3 Contributors to the EIAR Scoping Report

This Scoping Report has been prepared by Fehily Timoney & Clandillon (FTC) including a team of specialist subconsultants on behalf of Clare County Council. Fehily Timoney and Company is a planning, environmental and engineering consultancy based in Cork, Dublin and Carlow, specialising in civil and environmental engineering, environmental science and planning. FT is well established as a leading consultancy in roads and public infrastructure development in Ireland. Clandillon Civil Consulting is a civil engineering consultancy specialising in design, construction management and environmental services.

FTC will be preparing the Environmental Impact Assessment Report for submission to the planning authority as described in Section 1.2 above.

Specialist contributors to the EIAR shall include:

- AWN Consulting Air Quality Impact assessment
- AWN Consulting Climate impact assessment
- Macroworks Landscape and Visual impact assessment
- Rubicon Heritage Archaeology and Cultural Heritage impact assessment
- RPS Traffic and Transportation

1.4 Consultation

As mentioned above, considerable consultation was carried out with relevant stakeholders during Phase 2 Options selection where feedback was sought on five options under consideration for the N19 Shannon Airport Access Road Improvement which are discussed further in Section 3.

Following feedback, a preferred option was selected which is now being brought forward to the environmental design phase to prepare the planning application including the discussion of the potential significant impacts on the environment in the EIAR. This current phase of consultation is referred to as preapplication consultation, where stakeholders are provided with the proposed development and asked for opinion on both the proposed development and the proposed layout and content of the EIAR.

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This pre-application consultation is reflected in the completed design and EIAR. Formal/mandatory consultation will be carried out by the planning authority following lodgment of the planning application. The planning authority will consider the consultation responses received as part of their deliberation on the planning application.

Comments on the Project and proposed scope of the EIAR can be submitted by email to info@shannonaccess.ie or returned by post to Project Management Office, Clare County Council, Áras Contae an Chláir, Buttermarket Building, Drumbiggle Road, Ennis, County Clare, V95RR72. We ask all consultees to submit responses by the 13th December 2022 to provide adequate time to consider all responses.

The responses from this consultation will inform the ongoing design process in addition to informing the scope of the environmental assessments.

1.4.1 Community and Stakeholder Consultation to Date

1.4.1.1 Consultation 1 – Constraints and Preliminary Route Options

A public consultation period ran from the 13th of November 2020 to the 20th of December 2020 to facilitate public participation and commentary on the 'Constraints and Preliminary Route Options' phase of the scheme development.

Due to Covid-19 restrictions, Clare County Council was conducted an online public consultation platform and displays of the project material at Clare County Council's offices in Shannon and Ennis, Shannon International Airport and the Mid-West National Road Design Office.

The following Public Bodies were also notified:

- An Taisce
- Bat Conservation Ireland
- Birdwatch Ireland
- Bus Eireann
- Commission for Regulation of Utilities,
 Water and Energy
- Department of Communications, Climate
 Action and Environment
- Department of Culture, Heritage and the Gaeltacht
- Department of Defence
- Department of Housing, Local Government and Heritage
- Department of Transport

- Failte Ireland
- Geological Survey of Ireland
- Health Service Executive
- Inland Fisheries Ireland
- Irish Aviation Authority
- Irish Rail
- National Transport Authority
- Office Public Works
- Shannon Commercial Properties
- Shannon International Airport
- Southern Regional Assembly
- Teagasc
- The Arts Council
- The Heritage Council

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Six responses were received directly from Public Bodies within the consultation period.

For the public, feedback was facilitated through submission of an online questionnaire on the project website, via email and by post.

An interactive map illustrating the Preliminary Route Options and copies of all of the relevant consultation material were provided online at www.shannonaccess.ie as follows.

- Consultation Material:
 - Public Consultation No. 1 Brochure
 - Study Area and Preliminary Route Options
- Constraints Drawings
 - Biodiversity
 - Hydrology
 - Landscape and Visuals
 - Archaeology
 - Receptors
 - Quaternary Geology

In total eleven submissions were received during the public consultation period.

Seven submissions were made from members of the public. Six agreed that a scheme was required while one indicated it was not.

One public body, the Waste Policy and Resource Efficiency Division (a division of the Department of Environment, Climate and Communications Department of Environment, Climate and Communications) made an online submission.

Three group submissions were received on behalf of Clare Public Participation Network with NCPD, Shannon Chamber and Shannon Group.

Of the 11 submissions received one questioned the need for any scheme, two expressed a preference for a specific option and the rest did not express any preference.

Seven of the submissions filled in the questionnaire which asked how important provided statements were in relation to the scheme (ranking 1 to 9 with 9 being least important).

Based on the results of the submitted questionnaire the four most important aspects of the proposed scheme are:

- 1. Improvements in traffic conditions & capacity
- 2. Safety Improvements
- 3. Access to Airport and Shannon Free Zone
- 4. Improvements in cycling & pedestrian facilities

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The feedback received from this public consultation process was considered by the Project Team in advance of finalising the Stage 1 assessment of options.

1.4.1.2 Public Display of Preferred Option

A Public Display of the Preferred Option took place between Monday 22nd November 2021 and Monday 6th December 2021 informing the public and stakeholders of the Preferred Option developed for the project, the work undertaken to date and the programme for advancement of the project.

Due to Covid-19 restrictions an online consultation platform was developed and made live on the project's dedicated website www.shannonaccess.ie by Clare County Council.

In the dedicated public consultation section of the project website, the following documents were available to view:

- Information Boards
- Maps of the Preferred Option
- Interactive Webmap
- Project Brochure
- An online feedback facility

Public notification was undertaken through the following methods:

- Newsletter updates published on the project website www.shannonaccess.ie on the 16th and 22nd November 2021.
- Newsletter updates published on the Clare County Council website on the 16th and 22nd November 2021.
- Clare County Council twitter notifications posted on the 22nd, 25th and 29th November 2021, and on the 2nd and 6th December 2021.
- Shannon Airport twitter notification posted on the 30th November 2021.
- Shannon Commercial Properties twitter notification posted on the 30th November 2021.
- Internal notifications issued by Shannon Airport and Shannon Commercial Properties (now one entity known as Shannon Airport Group)
- Newspaper advertisements in the Clare Champion on the 19th and 26th November 2021
- Newspaper advertisements in the Clare Echo on the 18th and 25th November 2021.
- Radio advertisements on Clare FM on the 23rd, 24th, 25th and 29th November and on the 3rd December 2021 3 times daily (am / lunch / pm).

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1.4.2 Stakeholder Body Notification

Notifications were issued to the following stakeholders advising of the public display:

- An Garda Siochána
- An Taisce
- Bat Conservation Ireland
- Birdwatch Ireland
- Bus Eireann
- Clare County Council
- Commission for Regulation of Utilities, Water and Energy
- Department of Communications, Climate Action and Environment
- Department of Culture, Heritage and the Gaeltacht - Development Applications Unit
- Department of Defence
- Department of Enterprise, Trade and Employment
- Department of Housing, Local Government and Heritage
- Department of Tourism Culture, Arts, Gaeltacht, Sport and Media
- Department of Transport
- EIR
- Electricity Supply Board
- Environmental Protection Agency Office of Evidence and Assessment
- Failte Ireland
- Future Mobility Campus Ireland
- Gas Networks Ireland
- Geological Survey of Ireland
- Health & Safety Authority
- Health Service Executive
- Inland Fisheries Ireland
- Irish Aviation Authority
- Irish Rail
- Irish Water
- Motorway Maintenance and Renewals Contract (MaRC) Consulting Engineers
- National Parks and Wildlife Services
- National Transport Authority

- Office of Public Works
- RPS team working on the Shannon Town & Environs Flood Relief Scheme
- Shannon Chamber
- Shannon Commercial Properties
- Shannon International Airport
- Southern Regional Assembly
- Teagasc
- The Arts Council
- The Heritage Council
- Transport Infrastructure Ireland



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1.4.3 Feedback Received

Feedback on the Public Display of the Preferred Option was received from 12 respondents, including:

- Elected Representatives
- General Public
- Public Bodies
 - Chief Fire Officer Clare County Council
 - o Inland Fisheries Ireland
 - o Geological Survey Ireland
 - National Transport Authority
 - Department of Housing, Local Government and Heritage
- Group Submissions
 - Shannon Chamber
 - o Shannon Group.

The feedback received can be summarised as relating to the following issues:-

- access to Drumgeely Hill
- form of upgraded junctions at Drumgeely Roundabout and Shannon Free Zone West
- detailed design considerations for bus and active travel measures
- N19 route alignment
- the role of existing accesses along the N19, and the potential for additional access provision, within the upgraded N19.

All feedback has been acknowledged by the Project Team.

1.4.4 Actions Taken Forward

The following actions are being addressed because of the feedback received:

- 1. The Project Team is consulting with IFI in Phase 3 to discuss the watercourse crossings.
- 2. The Project Team will continue liaison with Department of Housing, Local Government and Heritage (NPWS) and Geological Survey Ireland in Phase 3.
- 3. The Project Team is preparing responses to the feedback received from the following: -
 - Shannon Chamber
 - National Transport Authority
 - Shannon Group
- 4. The N19 Project Team is liaising with the Shannon Flood Relief project team which is at option selection stage currently.
- 5. Ongoing consultation with Shannon Airport Group.

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All feedback received will be considered in the further development of the scheme.

1.4.5 Future Consultation

The project website, shannonaccess.ie will continue to be operated to provide updates to the public as the project progresses.

Formal consultation will be conducted by An Bord Pleanála during the evaluation of the planning application.

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STRATEGIC PLANNING CONTEXT

2.1 Overview

This section summarises relevant policy at national, regional and local levels, as it relates to the proposed N19 Shannon Airport Access Road Improvement Scheme.

2.2 European Policy Context

Ireland's transport infrastructure contributes to one Trans-European Transport Network (TEN-T) Corridor. The North Sea - Mediterranean Corridor includes infrastructure on the island of Ireland, with particular focus on port and airports and the road and rail connections to them, in support of the EU policy aim of improved transport connectivity across Europe. In developing the Comprehensive network within Ireland, the Irish government has a duty under EU law to consider a range of issues including disaster resilience, safety, accessibility for all users and quality of service.

There are two levels of TEN-T network – Core and Comprehensive. Shannon International Airport is designated as part of the Comprehensive network. The N19 is not part of the comprehensive network, but under Regulation (EU) No 1315/2013 of the European Parliament and Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network¹ there are two articles which are supportive of the proposed development:

Article 26 - Priorities for air transport infrastructure development states that "in the promotion of projects of common interest related to air transport infrastructure, and …priority shall be given to the following", of which (c) is relevant to the N19.

(c) "improving multimodal interconnections between airports and infrastructure of other transport modes"

Article 10 - General priorities states that "in the development of the comprehensive network, general priority shall be given to measures that are necessary for a list of items of which (b) is relevant to the N19. (b) "ensuring optimal integration of the transport modes and interoperability within transport modes"

The current interpretation of is that the N19 as the short connection between Shannon International Airport that is part of the Comprehensive network and the N18/M18 which is part of the Comprehensive network, is not considered part of the Comprehensive network. The regulation provides support to the improvement of the N19 under multimodal connections and integration.

2.3 National Policy Context

2.3.1 National Investment Framework for Transportation in Ireland (NIFTI), 2021

The Department of Transport published its new high-level strategic framework for prioritising future investment in the land transport network in December 2021. The framework establishes high-level investment priorities to efficiently and effectively address key transport challenges to ensure that transport investment is aligned with and supports Government's overarching spatial and climate change objectives, as articulated in the National Planning Framework and Climate Action Plan.

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¹ Referred to as the Ten-T Regulations 2014

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The National Investment Framework for Transport in Ireland (NIFTI) (Department of Transport, 2021) (3) sets out a modal hierarchy as follows:

- 1) Active Travel
- 2) Public Transport
- 3) Private Vehicles

The proposed improvement on the N19 has been developed in consideration of the modal hierarchy set out above.

NIFTO also identifies several key transport challenges, some of which are referred to below, which are relevant to the development of the N19 scheme:

- Increasing sustainable mode share to reduce emissions and address urban congestion.
- Safeguarding accessibility for rural Ireland by protecting and renewing existing infrastructure.
- Ensuring the future capacity of key strategic links to Ireland's international gateways.

2.3.2 Smarter Travel, 'A New Transport Policy for Ireland' 2009 - 2020

Smarter Travel, A Sustainable Transport Future (Department of Transport, 2009) (4) sets out Ireland's transport policy for the period 2009-2020. Although the policy horizon envisaged at the time of publication ended in 2020 the targets outlined in the report remain applicable and valid. The document contains 5 Key Goals/Targets and 49 Key Actions, including:

Key Goals

- to reduce overall travel demand
- to maximise the efficiency of the transport network
- to reduce reliance on fossil fuels
- to reduce transport emissions
- to improve accessibility to transport

Key Actions

Action 4

The delivery of public transport, cycling and promotion of more sustainable travel patterns generally in many existing urban centres can only be achieved through retrofitting. We will require local authorities to prepare plans to retrofit areas towards creating sustainable neighbourhoods so that walking and cycling can be the best options for local trips, for example to reach local facilities such as shops and schools.

The Government is committed to creating a culture of walking in Ireland. In that context, there is strong convergence between walking as a tourism asset and walking as recreational activity for residents. This in turn complements a culture of walking as a mode of everyday transport, by encouraging people to walk as a matter of routine.

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We will ensure that urban walking networks are strengthened by increasing opportunities for walking and removing constraints as part of planning for more attractive public realms, including providing safe pedestrian routes.

Action 23

We will ensure improved road priority for walking and cycling access to key public transport interchanges and ports and in the case of airports for cycling.

The path to sustainability is thus seen in terms of balance between the use of different modes. Motorised modes are to have reduced environmental impact, and be more accessible, whilst having lower demand because local walking journeys will be a greater share of the total.

Within this context, the policy affirms the importance of aviation to Ireland:

"As an island nation with an open economy, aviation provides a key transport link for us. Connectivity and access through international and regional airports are vital for our tourism industry, which generated €4.9 billion revenue in 2007 from foreign visitors and employs some 322,000 people in the tourism and hospitality sector. Only 1% of our goods are exported by air but the value of these represents 17% of the national total of exports. Furthermore, the Government has supported the development of a network of regional airports to assist balanced regional development. We have also made significant investment to improve accessibility to our offshore islands...

.. We will ensure good connectivity between airports and public transport services".

2.3.3 National Sustainable Mobility Policy (2022)

The National Sustainable Mobility Policy (NSMP)(Department of Transport, 2022) (5) sets out a strategic framework to 2030 for active travel and public transport to support Ireland overall requirement to achieve a 51% reduction in carbon emission by 2030.

The primary, overarching targets that underpin the goals of the policy are:

- to deliver at least 500,000 additional daily active travel and public transport journeys
- a 10% reduction in kilometres driven by fossil fuelled cars by 2030 in line with metric for transport set out in the Climate Action Plan 2021

This policy builds on and replaces existing active travel and public transport policy as set out in the 2009 policy documents – Smarter Travel (4).

The policy defines sustainable mobility as 'Connecting people and places in a sustainable way by supporting, safe, accessible, comfortable and affordable journeys to and from home, work education, shops and leisure, travel by cleaner and greener public transport, a shift away from the private car to greater use of active travel and public transport'.

It highlights the benefits of Sustainable Mobility under four categories as follows:

- Environmental
 - o Reduces greenhouse gas emissions
 - Improves Air Quality
 - Reduces noise pollution

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- Social
 - o Reduces levels of social isolation
 - Supports connected and liveable communities
 - Enables equitable access to services and amenities
- Economic
 - Allows more efficient movement of people
 - Provides access to employment
 - Reduces traffic congestion
- Health and Well-Being
 - o Increases physical activity levels through active travel
 - Creates safer roads and streets

The guiding principles and goals of the policy are presented in Table 2-1.

Table 2-1: NSMP Principles and Goals

Principles	Goals	
Safe and Green Mobility	1.	Improve mobility safety.
,	2.	Decarbonise public transport
	3.	Expand availability of sustainable mobility in metropolitan areas.
	4.	Expand availability of sustainable mobility in regional and rural areas.
	5.	Encourage people to choose sustainable mobility over the private car.
People Focused Mobility	6.	Take a whole of journey approach to mobility, promoting inclusive access for all.
	7.	Design infrastructure according to Universal Design Principles and the Hierarchy of Road Users model.
	8.	Promote sustainable mobility through research and citizen engagement.
Better Integrated	9.	Better integrate land use and transport planning at all levels.
Mobility	10.	Promote smart and integrated mobility through innovative technologies and development of appropriate regulation.

2.3.4 Climate Action Plan 2021

The Climate Action Plan 2021 (Government of Ireland, 2021) (6) sets out a plan to achieve a 51% reduction in overall greenhouse gas emissions by 2030 with the aim of reaching net-zero emissions by no later than 2050. The Plan notes that "without significant changes in travel patterns, modal share, and technology, a growth in current transport activity and demand will further diminish our national competitiveness, quality of life, and decarbonisation goals".

The Plan further notes that "transport accounts for approximately 20% of Ireland's greenhouse gas (GHG) emissions. Road transport is responsible for 96% of those GHG emissions and is also directly responsible for a range of air pollutants that negatively impact both human health and the environment".

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To meet the required level of emissions reduction, by 2030 the Climate Action Plan sets out the following transport related targets:

- Provide for an additional 500,000 daily public transport and active travel journeys.
- Develop the required infrastructural, regulatory, engagement, planning, innovation and financial supports for improved system, travel, vehicle, and demand efficiencies.
- Increase the fleet of EVs and low emitting vehicles (LEVs) on the road to 945,000, comprising of:
 - o 845,000 electric passenger cars
 - o 95,000 electric vans
 - 3,500 low emitting trucks
 - o 1,500 electric buses
 - o an expanded electrified rail network
- Raise the blend proportion of biofuels to B20 in diesel and E10 in petrol.
- Reduce ICE (Internal Combustion Engine) kilometres by c. 10% compared to present day levels.
- Undertake a programme of work which will review progress and further refine measures that will seek to deliver the additional c. 0.9 MtCO2 reduction by 2030 in a fair and equitable manner.

2.3.5 National Planning Framework – Project Ireland 2040

The National Planning Framework -Project Ireland 2040 (DHPLG, 2018) (7) is an overarching blueprint, intended to give a clear strategy for where and how the country is to be developed, built and connected over the next decade. The National Planning Framework was published in February 2018.

Although not specifically mentioning the N19 the plan refers to Shannon Airport as a key element of the Southern Region stating:

- "Shannon Airport has an established role as a key travel and enterprise hub for the region, with potential for further growth.
- Provision of a Citywide public transport network, with enhanced accessibility from the City Centre to the National Technology Park, UL and Shannon Airport".

The Plan outlines Key Future Growth enablers for Limerick including:

The 'National Strategic Outcome 4' of the Plan refers to Shannon as one of the main Airports, which it describes as "key infrastructure for national and regional development".

2.3.6 National Development Plan 2021 - 2030

The National Development Plan (DPER, 2021) (8) will drive Ireland's long term economic, environmental, and social progress across all parts of the country over the next decade. The plan is fully integrated with the new approach to spatial planning in Ireland in the National Planning Framework. The Plan refers to supporting investment at Shannon Airport stating, "Cork and Shannon Airports will continue to be supported in their roles as key tourism and business gateways for their regions, particularly with regard to the development of niche markets".

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The Plan also refers to the development of Shannon Airport Group commercial property portfolio in a selection of investments for the Southern Region.

2.3.7 Our Journey Towards Vision Zero Road Safety Strategy 2021-2030

The current policy framework for road safety is set out in the Our Journey Towards Vision Zero Road Safety Strategy 2021 – 2030 (RSA, 2021) (9). This document sets outs targets to be achieved in terms of road safety in Ireland as well as policy to achieve these targets.

The primary target of this strategy is to:

- reduce deaths on Ireland's roads by 50% from 144 to 72 or lower by 2030
- reduce serious injuries on Ireland's roads by 50% from 1,259 to 630 or lower by 2030

The Strategy includes three phases of action plans:

- Phase 1 2021-2024
- Phase 2 2025-2027
- Phase 3 2028-2030

Phase 1 2021-2024 targets of this strategy are to:

- reduce deaths on Ireland's roads by 15% from 144 to 122 or lower by 2024
- reduce serious injuries on Ireland's roads by 10% from 1,259 to 1,133 or lower by 2024

2.3.8 Design Manual for Urban Roads and Streets (DMURS)

The Design Manual for Urban Roads and Streets (DMURS) (Government of Ireland, 2019) (10) is a national design standard. As described in Chapter 4 the proposed road improvement scheme was designed in accordance with the DMURS with TII's approval. Section 1.3 of the DMURS states that the manual was introduced 'as a key step in implementing the policies on promoting the use of more sustainable transportation proposed in Smarter Travel (Department of Transport, 2009) and the policies on sustainable living contained in the Guidelines on Sustainable Residential Development in Urban Areas (DEHLG, 2009) (11).'

DMURS advocates the internationally recognised 'pedestrian first' Hierarchy of Road Users model to encourage more sustainable travel patterns. This Hierarchy of Road Users prioritises pedestrians followed by cyclists.

2.3.9 National Aviation Policy for Ireland, 2015

This policy framework for Irish aviation (Department of Transport, 2015) (12) states that "The Government recognizes the importance of aviation to Ireland and is committed to creating an environment in which the industry can maximise its potential for the benefit of the wider economy".

It notes that Shannon Airport handles around one-sixth of all Irish air cargo and air mail.

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It references the International Aviation Services Centre (IASC), a business unit of the Shannon Group, and states a policy aim:

"It is intended that IASC will build on the aviation related activities already located at the airport and the Shannon Free Zone area to become an aerospace industry cluster".

The policy makes a commitment that "Access to the airports will be taken into account during the development of surface transport programmes, in line with the Department's Strategic Framework for Investment in Land Transport which proposed the prioritization of improved connections to key seaports and airports".

2.4 **Regional Policy Context**

Regional Spatial & Economic Strategy for the Southern Region 2020 – 2030 2.4.1

Under the National Planning Framework, the South-West, South-East and Mid-West regions of Ireland are combined into a Southern region covering broadly one-third of the State. The RSES (Southern Regional Assembly, 2020) (13)provides the framework through which the NPF vision will be implemented in this region. The RSES identifies four levels of settlement in the region, of which the highest level is Metropolitan Areas. The geographically specific content of the RSES within these Metropolitan Areas is set out in Metropolitan Area Strategic Plans (MASPs) which from Volume 2 of the RSES.

The Limerick-Shannon MASP addresses the infrastructure need of the Shannon area as follows:

- Public transport improvements to Shannon International Airport and Shannon Town. Shannon Airport benefits from regular Bus Éireann services to Galway, however currently only five of these services per day are direct expressway services and do not coincide with flight times, creating a disincentive to use public transport to and from the Airport. Moreover, there are currently no direct public bus services providing connectivity between Cork and Shannon. Enhanced public transport connectivity from cities such as Galway, Cork and Limerick is particularly important to assist the continued growth of the Airport and the sustainable development of Shannon town.
- Rail link an infrastructural safeguard has been incorporated into the existing Clare County Development Plan and Local Area Plan for a rail line to be provided to Shannon town and International Airport.
- Road Access Investment is required in improving and upgrading the existing road access from the motorway to Shannon International Airport.

2.4.2 Revised Draft Limerick Shannon Metropolitan Area Transport Strategy (LSMATS)

The National Transport Authority (NTA) published a Draft Limerick-Shannon Metropolitan Area Transport Strategy (LSMATS) in September 2020 (14) and the public consultation process ran in Autumn 2020. The Revised Draft Strategy written submissions or observations ran until June 2022. The strategy is currently being finalised.

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LSMATS Outline

LSMATS is a regional-level (Tier 2) plan and is directly informed by National Level Tier-1 policies. The most important and recent of these are the National Planning Framework 2040 (NPF) (7) and the National Development Plan 2018-2027 (NDP) (8).

The National Planning Framework 2040 (NPF) (7) envisages that the Limerick-Shannon Metropolitan Area (LSMA) will become the growth engine of the Mid-West Region with projected growth of at least 50% during the period up to 2040. This projected population, employment and education growth brings with it opportunities for the development of the LSMA.

This projected population and associated economic growth will also result in a significant increase in the demand for travel. This demand needs to be managed and planned for carefully to safeguard and enhance the LSMA's attractiveness to live, work, visit and invest in.

In common with the other regional metropolitan areas of Cork, Galway and Waterford, there is a legacy of car dependency in the LSMA. This has contributed to a wide range of economic, environmental, and social issues including longer commutes, declining urban centres, poor public health, reduced air quality and noise pollution.

To mitigate this, land use and transport planning will be far more closely aligned. This will discourage the use of the private car, particularly for short trips, to fundamentally change how people, move around the LSMA. This requires a more efficient use of valuable street and road space and a prioritisation of walking, cycling and public transport.

LSMATS will deliver an integrated transport network that addresses the needs of all modes of transport to support planned growth up to 2040 in a compact and sustainable manner.

The Strategy represents a coherent transport planning policy framework and implementation plan around which other agencies involved in land use planning, environmental protection and the delivery of other infrastructure and services such as housing, utilities and community facilities can align their plans and investment priorities.

The Strategy has been developed to be scalable and flexible enough to meet changes in population and employment growth and is subject to periodic review, every 6 years.

N19 Shannon Airport Access Road Improvement Scheme

Within the documentation the N19 Shannon Airport Access Road Improvement Scheme is not reviewed but the delivery of the N19 is included in the 'Implementation Plan' tables in the Roads and Streets Section as part of the Short-Term deliverables (up to 2026).

Shannon Airport and Shannon Free Zone

Within the documentation Shannon Airport and Shannon Free Zone are considered strategic and major employers and key strategies and outcomes of the plan are as follows:

- Maximise the potential of the existing transport infrastructure including the InterCity rail network,
 Shannon Airport, the Port of Foynes and Ennis as a connecting hub.
- Provision of a Citywide public transport network, with enhanced accessibility from the City Centre to the National Technology Park, UL and Shannon Airport.

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- Develop a primary pedestrian network throughout Limerick City, Shannon, and other Metropolitan towns; included is the route from Shannon town centre to Shannon Free Zone.
- Part of the envisaged cycling network is the Inter-Urban Cycle Network which includes Limerick City Centre to Shannon.
- Connectivity to Shannon will be significantly improved over the lifetime of the Strategy. Existing bus services will be enhanced with some new additional services, including:
 - Limerick City Centre Shannon Town Centre Shannon Free Zone Shannon Airport (Express service)
 - Limerick City Centre Cratloe Bunratty –Shannon Town Centre Shannon Free Zone –
 Shannon Airport
 - Sixmilebridge railway station Shannon (Shuttle service)
 - Shannon Ennis
 - The potential for enhanced direct services from Shannon to Cork and Galway will be examined.
- In relation to Nation Roads the objectives are:
 - o Retain and protect the strategic function of the National Road network.
 - o Reduce peak time congestion on the N18/N19 network at Shannon.

2.5 Local Policy Context

Clare County Council commenced the review of the County Development Plan in September 2020 to prepare a new Clare County Development Plan 2023-2029. The preparation of the new plan is a two-year statutory process. During the preparation of the EIAR, Clare County Council shall keep the EIAR team updated on the publication of the new plan.

2.5.1 Clare County Development Plan 2017 – 2023 (As Varied)

The County Development Plan (CDP) (15) includes specific objectives:

- Objective CDP6.4 to "facilitate the improvement/upgrade (as necessary) of key infrastructural resources within the airport, the airport lands and the N19 providing access to the area".
- Objective CDP8.15) to "safeguard the route of the proposed Shannon Rail Link and permit development where it is demonstrated it will not inhibit the future development of the selected route as a rail link".

2.5.1.1 Clare CDP – Climate Change

An overarching goal of the Clare CDP is as follows:

Goal XVII A County Clare that "is resilient to climate change, manages flood risk, facilitates a low carbon future, supports energy efficiency and conservation and enables the decarbonisation of our lifestyles and economy".

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The CDP also states that 'Climate change considerations have been integrated throughout the preparation of the Plan...'

The CDP defines the following relevant climate related strategic aims and policy objectives:

• Strategic Aims:

- To work in coordination with relevant stakeholders to secure the development of low carbon residential and business properties in the Plan area
- To ensure that future development is considered and managed having regard to the risk of flooding.
- o To minimise the level of flood risk to people, businesses, infrastructure, and the environment.
- To ensure that the potential effects of climate change are a key consideration in the location and design of new developments.
- To ensure that the potential risk of flooding is fully assessed and taken into consideration in the identification of future development lands in the Plan area.

Policy Objectives:

- o CDP18.1 Development Plan Objective: Climate Change Adaptation
- CDP18.2 Development Plan Objective: Climate Change
- o CDP18.3 Development Plan Objective: Development of a Low Carbon Economy

2.5.2 Draft Clare County Development Plan 2023 - 2029

Clare County Council is currently preparing a new Clare County Development Plan 2023-2029 (16) which went on Public Display in December 2021. The Draft CDP also includes specific objectives relevant to the proposed development.

- CDP6.6 It is an objective of Clare County Council:
 - To facilitate the future development and expansion of Shannon International Airport and its continued role as a driver of economic, social and tourism growth in the Region whilst recognising the need to support actions to transition to a low carbon future.
 - To facilitate the development of enhanced freight cargo facilities at Shannon International Airport.
 - To facilitate the improvement/upgrade (as necessary) of key infrastructural resources within the Airport, to the airport lands, and to the N19 providing access to the area as well as improved sustainable transport links between Shannon International Airport, Limerick City Centre, the Technological University of the Shannon: Midlands Midwest, the South Clare/UL Economic SDZ and the National Technology Park at Limerick.
- CDP11.7 It is an objective of Clare County Council:
 - To work in conjunction with the NTA, Irish Rail and other relevant stakeholders to carry out a review of the existing feasibility study as it applies to the Shannon Rail Link infrastructural safeguard extending from Hurlers Cross to Shannon International Airport taking account of and being informed by the N19 National Road upgrade.
 - To facilitate a proposed Shannon Rail Link which does not inhibit the N19 National Road Upgrade.

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 CDP11.11 - It is an objective of Clare County Council to advocate for and support improved road connectivity and, in particular, to advocate for an upgrade/extension of the N19 to Shannon International Airport.

The draft CDP also includes several strategic aims of relevance to and are supported by the proposed development, as follows:

- 'To safeguard the strategic transport function of the motorway and national road network and associated junctions in order to cater for the safe and efficient movement of inter-urban and interregional traffic'
- To maximise the return from the economic assets of the County including Ennis, the Limerick-Shannon Metropolitan Area, Shannon International Airport....'

Within the draft CDP, Clare County Council refers to the 'five locations where exceptional circumstances allow for the exceptions to the general policy to be considered for developments of strategic importance'. The 'N19 National Road between Shannon Town Roundabout and Knockbeg point' was identified as one of those locations.

In section '11.2.11 Shannon International Airport' of the draft CDP it is stated that "The Council will support the upgrade of the N19 national road during the lifetime of this Plan".

The draft CDP states that "The delivery of the N19 National Road Upgrade is a priority of Clare County Council and should take precedence over other infrastructural projects along its route delivering on the significant exchequer investment already made in scheme planning and design".

2.5.2.1 Development Management Guidelines

In addition to the relevant policies and objectives, the CDP also includes a number of Development Management Guidelines which applicants 'should have regard to when making a planning application'. Clare County Council shall follow these guidelines in the preparation of the planning application to An Bord Pleanála under the headings of:

- A.1.1 Pre-Planning Consultations
- A.1.4 Sustainable Urban Drainage Schemes (SUDS)
- A1.6 Environmental Impact Assessment (EIA)
- A1.7 Habitat Directive Assessment
- A.1.8 Archaeological Potential
- A1.9 Transportation A1.9.1 Roads, Cycle Routes and Footpaths
- A.1.9 Transportation A1.9.4 Traffic Impact Assessments (TIA), Road Safety Audits and Road Safety Impact Assessments

2.5.3 Shannon Town and Environs Local Area Plan (As Amended) 2012 – 2018 (as Amended)

On the 12th June 2017 the elected members of Clare County Council resolved to defer the making of a new Shannon Local Area Plan (17) for a period not exceeding 5 years i.e. up to September 2022.

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Key objectives from this plan are as follows:

- Local Area Plan Objective 2.2 To increase interaction between the N19, the town, the free zone, the airport and the estuary.
- Local Area Plan Objective 3.7 To promote the continuous sustainable improvement of the competitiveness of Shannon Free Zone in the short, medium and long term through cost effective improvement in infrastructure and in the design and quality of existing and new buildings and of infrastructure.
- Local Area Plan Objective 4.4 To reserve a corridor that will facilitate the future provision of a rail link to serve Shannon Airport.
- Local Area Plan Objective 11.3 To connect the component elements of the town through the delivery
 of an integrated Green Infrastructure network, i.e., the town centre with the residential areas, the
 Industrial Zone, the Airport, and the Estuary.
- Local Area Plan Objective 11.9 To outline and implement a cycling strategy for the Plan area, which builds on and connects the existing cycle network, providing high amenity, accessible corridors linking the town centre with the Industrial Zone, Airport, and residential neighbourhoods, and offering an alternative and efficient modal choice other than the private car.

2.6 Policy Conclusion

European policy recognises the international significance of Shannon International Airport as part of the Comprehensive network.

A key objective of the proposed scheme is to provide high-quality connectivity between Shannon International Airport and the Comprehensive TEN-T network (M19/N18), along with improving the quality, efficiency and reliability of ground transport to and from the airport.

The National Investment Framework for Transport in Ireland (NIFTI) (3) sets outs the modal hierarchy of 1) Active Travel; 2) Public Transport; and 3) Private Vehicles. Smarter Travel (4), the National Sustainable Mobility Policy (5) and Climate Action Plan 2021 (6) each have shared aims and objectives to reduce reliance on fossil fuels and to increase sustainable modes of transport.

Shannon Airport is identified as part the National Development Plan (NDP) 2021 – 2030 (8), which refers to support for investment at the airport. The National Planning Framework (NPF) recognises Shannon Airport as a key travel and enterprise hub and supports the provision of enhanced accessibility from the City Centre to Shannon Airport.

National planning policy recognises the national and regional economic significance of Shannon International Airport and supports investment to facilitate the airport fulfilling its role as a business gateway and encouraging foreign direct investment in the SFZ.

National sustainability policy envisages a continuing role for aviation, with improved access to airports by cycle and by public transport, with many local commuting journeys switching to cycling and walking.

The development of an improvement/upgrade of the N19 providing access to Shannon International Airport is an objective of the Clare County Development Plan. The promotion of walking and cycling in the vicinity of Shannon Airport and Shannon Free Zone plays an intrinsic part of the overall Green Infrastructure Strategy contained in the Shannon Town and Environs Local Area Plan.

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Within the draft LSMATS (14) documentation the N19 Shannon Airport Access Road Improvement Scheme is included in the 'Implementation Plan' tables in the Roads and Streets Section as part of the Short-Term deliverables (up to 2026).

2.7 Project Specific Need

The 'Need for the Scheme' is defined by the identified deficiencies, and operational and safety issues of the existing road infrastructure in combination with the aims of European, National, Regional and Local strategic policy. These identified deficiencies and relevant strategic policy then inform the Scheme Objectives.

In terms of identified deficiencies, when compared with current design standards, the existing section of N19 between Drumgeely Roundabout and Knockbeagh Point Roundabout presents significant infrastructural, operational and safety deficiencies, and are summarised below:

1. Safety and Journey Time Reliability

Collision Occurrence/Safety –Two different safety concerns have been considered as drivers for the scheme -

- a. VRUs and the absence of cycling facilities and the below standard pedestrian facilities.
- b. The concerns raised by An Garda Síochaná, Emergency Services and Clare County Council on behalf of the Major Emergency Management Committee regarding the existing road being considered a safety issue in the event of a Major Emergency Incident main issue was width of road and concerns regarding access being blocked.

Journey Reliability – The role of Shannon Airport as an emergency diversion airport within the Air Traffic control system means that there is a potentially life-critical need for reliable journeys along the N19 during an emergency. In the event of an airside incident, priority access by emergency vehicles to the airport (and by ambulance from the airport to University Hospital Limerick) is vital. Although emergency vehicle access has not been an issue in the past, in the event of a potential future airside emergency coinciding with a traffic accident or traffic congestion on the single lane section of the N19, emergency vehicles may encounter delays when accessing the airport.

2. Active Travel and Public Transport Requirements

The existing N19 does not have formal dedicated facilities for cyclists and facilities for pedestrians require significant improvement to meet current design standards. Gaps in street lighting are evident on approach to the Airport, presenting significant safety and security concerns for vulnerable road users.

The existing network of active travel routes in Clare and the wider Region requires additional pathways and connections to create a more comprehensive network to encourage modal shift. In addition, it is noted that Clare County Council is developing proposals (currently at TII Phase 0 - Scope Pre-Appraisal) for greenway projects in the wider Shannon to Bunratty / Sixmilebridge region.

The expansion plans of Shannon Airport and Shannon Free Zone West will result in a significant increase in employee numbers using the N19 to access their place of work. LSMATS states that additional public transport demand to these areas will require an increase in the frequency of bus services.

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3. Supporting Prosperity of the Mid-West Region

Shannon Airport Group have extensive future development plans laid out in their masterplan to be delivered in three phases

- The scheme addresses the only remaining sub-standard section of the N19 serving Shannon International Airport. Shannon International Airport is one of the most important pieces of public infrastructure in the region and plays a significant role in international connectivity and increasing prosperity to the region, including tourism and exports.
- Shannon Airport maintains U.S. Custom and Border Protection (CBP), which offers huge potential for future growth at this airport. Improved connectivity and access to the Airport are critical to supporting rapid, timely and cost-effective transport connectivity.
- o Shannon Free Zone hosts the largest concentration of US companies outside of Dublin and is rapidly growing year on year. A three phase multi-million-euro Shannon Commercial Properties investment in state-of-the-art property solutions at the Shannon Free Zone (SFZ) is to currently in its second phase. A €40 Million Phase 1 is completed, and Phase 2 is in progress with funding committed for over 850,000 sq. ft. development planned to be delivered through 2019 to 2024. Phase 3 of the master plan is planned to follow and be delivered through 2025 to 2028. Improved connectivity to SFZ is essential to assist this planned economic growth.
- The growing economy in this region and major expansion of both Shannon International Airport and SFZ is likely to result in significant traffic growth in future years.
- This section of the N19 is not consistent with the adjacent National Road Network in terms of quality and layout and provides a poor national and international perception on arrival to one of the prime areas in the Mid-West region for indigenous and international investment.
- 4. Existing Road Layout and Condition There are a high number of direct accesses, particularly on the approach to the Knockbeagh Point Roundabout. Junction layouts, including pedestrian crossing facilities, are poor and the existing road does not comply with current design standards in terms of geometric parameters.
 - The road pavement surface consists of three different material types over five distinct sections comprising hot rolled asphalt, stone mastic asphalt and concrete. There are clear indications of surface failure/distress on several sections of the existing route. Poor ground conditions have contributed to sever cracking of both concrete and bituminous surfaces. Signing & line marking, public lighting and drainage are also considered to be of poor quality. The section of the existing N19 from SFZ Gateway to Knockbeagh Point Roundabout was the subject of an intervention by the Motorway Maintenance and Renewals Contract (MMaRC) Contractor in October 2020 where the existing concrete road, which showed signs of uplifting and joint distress was overlaid with a steel mesh reinforced bitumen overlay. This intervention was designed as a short-term solution until permanent N19 scheme is developed.
- 5. Traffic Capacity This section of the N19 serves two major trip destinations Shannon Airport and the Shannon Free Zone (West) business park. Future traffic modelling indicates that there is a significant problem with forecast peak hour congestion at junctions, caused by "tidal" flow of commuter traffic to and from the Shannon Free Zone. There is some tidality in flows to and from the Airport, but Airport-related employment tends to have a wider range of start and finish times.
- 6. Autonomous Vehicle Testing Future Modal Campus Ireland (FMCI) plans to implement autonomous vehicle testing on the section of the N19 under consideration. This section of road will need to provide a safe testing ground during the initial testing phase.

With the existing infrastructural, operational and safety deficiencies outlined above, the need for an improvement to this section of the N19 has been identified to meet the future demands on the route in a safe and efficient manner.

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SITE SELECTION OPTION APPRAISAL

3.1 Summary of the Process

At Phase 1 Concept & Feasibility stage, in response to the agreed objectives of the scheme, a wide-ranging list of options for solving the issues was identified, across all modes of transport. A high-level exercise was undertaken to score the likely performance of each option against each objective. Based on these results, some of the options were sifted out, and the remainder carried forward to Phase 2 Option Selection.

At Phase 2, the three-stage procedure outlined in Project Appraisal Guidelines (PAG) /Project Management Guidelines (PMG) was followed:

- 1) Stage 1 An initial set of options designated A to E was appraised against various aspects of Economy, Engineering and Environment criteria.
- 2) Stage 2 In the light of these findings, and of public and stakeholder consultation results, shortlisted hybrid options designated 1 to 4 were subjected to a more detailed appraisal against the Common Appraisal Framework criteria (Economy, Environment, Safety, Accessibility/Inclusion, Integration, and Physical Activity).
- 3) Stage 3 The highest-scoring option was adopted as the Emerging Preferred scheme, with an overview of the total impacts of this scheme presented as a Project Appraisal Balance Sheet.

The site selection options appraisal determined Option 4 to be the preferred option. It is this option that is being brought forward for design and preparation of the planning application in Phase 3.

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PROJECT DESCRIPTION

4.1 **Development Description**

4.1.1 **Existing Development**

The N19 National Primary Road extends from M18 junction 9 to Knockbeagh Point Roundabout, approximately 5km. The route provides access to Shannon International Airport and the Shannon Free Zone industrial area, and a northern access to Shannon Town.

The N19 has five intermediate junctions:

- A left-in left-out junction for southbound traffic, providing access to Shannon Free Zone (East).
- A 5-arm junction "Shannon Town roundabout" where the N19 is crossed by the R472.
- Two roundabouts giving access to Shannon Free Zone (West), at Drumgeely and Gateway West.
- A priority junction giving access to the western end of Shannon Town.

The route is good-quality dual carriageway between the M18 and the Drumgeely roundabout, and singlecarriageway of mixed quality between Drumgeely roundabout and Knockbeagh Point. The section of the N19 National Primary Road under consideration in this project extends from Drumgeely Roundabout to Knockbeagh Point Roundabout.

It is 2.2 km and comprises primarily of single carriageway cross section with a couple of stretches that are divided on the approach to roundabouts. The existing surface comprises a combination of bituminous and concrete surfaces and much of the pavement has exceeded its design life. Dedicated off-road cycle facilities are not provided and facilities for pedestrians require significant improvement to meet current design standards.

Gaps in street lighting are evident on approach to the Airport presenting significant safety concerns for vulnerable road users. The existing road does not comply with current design standards in terms of geometric parameters and facilities for vulnerable road users. This combines with the various deficiencies listed in contributing to a poor level of service on this strategic route.

4.1.2 Proposed Development / Project

An application for approval to use DMURS as the adopted standard for the design of the road cross section, the junction design and the geometric/alignment design was accepted by TII. All other road elements, including drainage, VRS, structures etc. shall be designed in accordance with TII Publications standards.

The section of the N19 under consideration is semi-urban in nature as it is bounded by numerous residential apartment complexes at Drumgeely Hill, a large employment centre in the Shannon Free Zone West as well as numerous airport service industries closer to Knockbeagh Point roundabout.

Shannon Airport Group has extensive future development plans laid out in their masterplan to be delivered in three phases – phase 1 is complete, phase 2 is in development and phase 3, which covers this section of road and consists mainly of redevelopment of the existing extensive disused carpark.

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During Phase 2 of the project development, TII emphasized the importance of incorporating high quality Active Travel measures and safety improvements for all road users as fundamental criteria in ensuring the scheme gains statutory and business case approval. Latest guidance and policy suggest that urban junctions should be designed giving priority to vulnerable road users over motor vehicles and to allow for all pedestrian / cyclist movements at crossings points.

This led to the development of a new option for appraisal with the existing N19 upgraded as a 13m Single Carriageway to DMURS Standards consisting of two 3.25m bus lanes and two 3.25m traffic lanes

The access road is 2.2 km long online upgrade to Design Manual for Urban Roads and Streets (DMURS) design standards, with junction improvements and accompanying full-standard pedestrian/cycleway along the route with bus lanes on behalf of Clare County Council. The scheme is at Stage 3 Design and Environmental Evaluation of the Transport Infrastructure Ireland (TII) project management process. Following Phase 2 Option Selection, the Preferred Option (Refer Drawing Numbers N19-SAARS-SK-LA-0001 to 0009 in Appendix 1) consists of:

- Upgrade of the N19 between Knockbeagh Point Roundabout and Drumgeely Roundabout with the incorporation of a bus lane in each direction.
- A shared footpath and cycle route from Knockbeagh Point Roundabout travelling along the right-hand (east) side of the existing N19 until it turns into Drumgeely Road where it continues and terminates at Drumgeely junction and provides access to the estate, the Shannon Town Road footpath and cycling network and to the existing pedestrian bridge over the N19 which links into Shannon Free Zone. Traffic control crossings are proposed to be provided crossing the N19 at Knockbeagh Point Roundabout, the SFZ Gateway West Access and at Drumgeely Roundabout. Additional crossings are to be provided on the minor roads.
- The upgrade of the Drumgeely Junction from its existing roundabout layout to a signalised junction to improve its function and safety for cyclists/pedestrians and movements from Shannon Town to the Shannon Free Zone West (SFZW). The upgrade will include two right turn lanes from the N19 east into SFZW and a dedicated right turn from N19 West into Shannon Town via the Drumgeely Road.
- The upgrade of the existing SFZ Gateway West junction from a roundabout junction to a signalised junctions to improve its function and safety for cyclists/pedestrians. The upgrade will incorporate access to a potential future development site to the south of the N19 and closure of two other access from this site onto the N19
- The addition of a signalised cyclist pedestrian crossing on the north-eastern arm of Knockbeagh Point Roundabout
- The provision of 8 new bus stops and bus shelters together with additional footpath links to the proposed cycleway and pedestrian facility and existing paths.
- Replacement of 2 No. existing Culverts on the Urlan-beg Stream crossing under the N19.
- All associated ancillary works such as drainage, earthworks, pavement, kerbing, signage and lighting, landscaping.

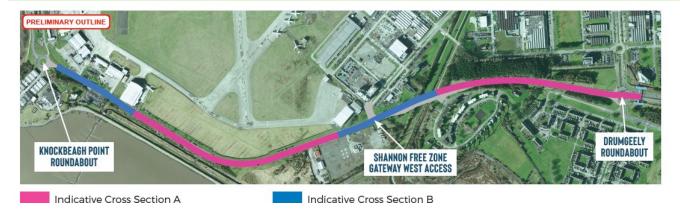
Figure 4-1 shows the preferred option route and indicative cross sections.

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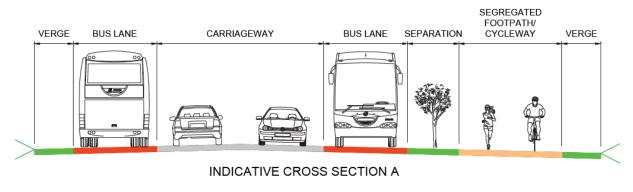
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Indicative Cross Sections of the Preferred Option



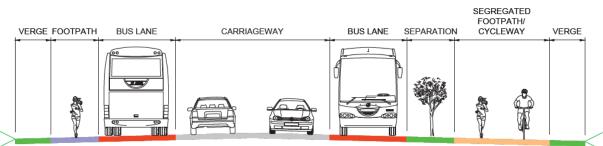


Figure 4-1: **Preferred Option and Indicative Cross Sections**

INDICATIVE CROSS SECTION B

The approach taken to use DMURS through the full length of the scheme was based on the following:

- a) Within road design a key safety consideration is providing the road user with as consistent a design as possible so that the road user is comfortable and not presented with an ongoing change in crosssection. This scheme is only 2.2km long and the provision of multiple cross-sections over this length of road would not be recommended.
- Another key consideration in the provision of a consistent road cross-section is that Shannon b) International Airport is a Gateway to Ireland and the Southwest Region and will be used by overseas visitors who will not be aware of Ireland's various road types. To avoid confusion, it would be preferrable not to present multiple cross-sections over short lengths but an as consistent as possible road cross-section over the scheme.

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- c) Sustainable Transport and Active Travel are fundamental design principles and the importance of prioritising the safety and comfort of vulnerable road users over motor vehicle throughput at junctions is important. This suggests a consistent lower speed limit, a cross-section with bus lanes and compact junction design is critical for all road user safety and to provide drivers with the correct visual layout to enforce this approach.
- d) The 13m cross-section was chosen to provide bus lanes and assist in modal transfer and to allow for the development of an enhanced bus service as development takes place particularly based on feedback from the NTA and Stakeholders regarding the students attending the catering college and the young age of employees in the growing high-tech businesses. The existing bus services use a number of routes, some along the N19, others through Shannon Town, Drumgeely Village and Shannon Free Zone.
 - The provision of the bus lanes over the full length of the scheme will maintain the same cross-section and lane distribution and will facilitate the provision of an enhanced bus service as development occurs as is proposed in LSMATS.
- e) The provision of dedicated bus lanes allows for greater flexibility during an emergency incident at the airport whereby the emergency services will have the use of four lanes for traffic management and the exclusive use of two bus lanes for emergency vehicles responding to a major incident in the airport.
- f) As part of FMCI plans to implement autonomous vehicle testing on the section of the N19 under consideration, it is felt a four-lane carriageway incorporating bus lanes may allow for greater flexibility and safer operation during the initial testing phase.

The proposed road has the following characteristics:

- The design speed is 60km/hr.
- The cross- section consists of two bus lanes of 3.25m width and two traffic lanes of 3.25m width.
- The existing junctions are designed to DMURS with priority given to Active Travel.
- A 4m wide cyclist/pedestrian shared facility is provided on the estuary side of the road designed to the NTA National Cycling Manual.
- The number of accesses is to be minimised as much as possible in consultation with the relevant landowners.

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STRUCTURE AND SCOPE OF THE EIAR

5.1 Content of the EIAR – Statutory Requirements

The EIAR will be prepared in accordance with the requirements of Section 50(1)(c) of the Roads Act, 1993-2021 and the Directive 2011/92/EU of the European Parliament as amended by EIA Directive 2014/52/EU. The requirements of the EIA Directive 2014/52/EU has been transposed into Irish law through the Roads Act, 1993-2021 as amended by the Planning and Development Acts 2000-2021. Schedule 6 of the Planning and Development Regulations 2001, as amended, and Annex IV of the EIA Directive, as amended set out the contents of an EIAR.

The purpose of the EIAR is to provide in particular:

- a) a description of the project comprising information on the site, design, size and other relevant features of the project
- b) a description of the likely potential significant effects of the project on the environment
- c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment
- d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment
- e) a non-technical summary of the information referred to in points (a) to (d)
- f) any additional information relevant to the specific characteristics of the project proposed

The EIAR will identify, describe, and assess the direct and indirect significant effects of the project on the following factors:

- a) population and human health
- b) biodiversity, with particular attention to protected species and habitats
- 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)

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5.2 EIAR Methodology

5.2.1 General

The Environmental Protection Agency (EPA), National Roads Authority (NRA) and the European Commission (EC) have published guidelines on the preparation of environmental impact assessment reports, namely:

- Environmental Impact Assessment of National Road Schemes A Practical Guide, NRA, 2008 (2);
- Environmental Impact Assessment of Projects Guidance on Scoping (European Commission (EC), 2018) (1);
- Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (EC, 2017) (18);
- Guidance on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) (19).

The EIAR team will have regard to these guidelines in the preparation of the EIAR. Further detail on the proposed assessment methodologies is included in each of the chapter sections within this scoping report.

Where other chapter specific guidance exists consideration will also be given to these as required and deemed appropriate by the chapter author.

There are two different EIAR structures which are commonly used and which the EPA guidelines accept as equally valid. The structure, which the EIAR team proposes to use for the EIAR for the proposed road improvement scheme project, is the grouped format structure.

Using this structure there is a separate chapter for each topic, e.g., air quality and climate, biodiversity, etc. The description of the existing environment, the proposed development and the potential impacts, mitigation measures and residual impacts are grouped in the chapter. The grouped format makes it easy to investigate topics of interest and facilitates cross-reference to specialist studies.

Given the need to ensure that the EIAR is readily accessible to the general public, as well as to the statutory authorities, the EIAR team has proposed to structure the EIAR as described below:

Volume 1: Non-Technical Summary

Volume 2: Main EIAR
Chapter 1: Introduction

Chapter 2: Need for the Proposed Development

Chapter 3: Alternatives

Chapter 4: Description of the Existing and Proposed Development

Chapter 5: Planning and Policy Context
 Chapter 5: Scoping and Consultation
 Chapter 7: Traffic and Transportation
 Chapter 8: Population and Human Health

Chapter 9: Air Quality
Chapter 10: Climate

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Chapter 11: Noise and Vibration

Chapter 12: Biodiversity

Chapter 13: Soils, Geology and Hydrogeology

Chapter 14: Surface Water and Hydrology

Chapter 16: Archaeological, Architectural and Cultural Heritage
Chapter 15: Material Assets to include Materials Management

Chapter 17: Landscape and Visual Impact

Chapter 18: Inter-relationship and Interactions

Chapter 19: Schedule of Commitments

Volume 3: Drawings
Volume 4: Appendices

5.2.2 EIAR Chapter Structure

The broad methodology framework used in each chapter will include the following:

- Introduction
- Assessment Methodology
- Existing Environment
- Potential Impacts
 - 'Do Nothing' Impacts
 - o Construction Phase Impacts
 - Operational Phase Impacts
 - Cumulative Impacts
 - Major Accidents and Natural Disasters
- Mitigation Measures
 - Construction Phase Mitigation
 - o Operational Phase Mitigation
- Residual Impacts.

5.2.2.1 Introduction

This section introduces the environmental topic to be assessed and the areas to be examined within the assessment.

5.2.2.2 Assessment Methodology

Specific topic related methodologies are outlined in this section. This will include the methodology used in describing the existing environment and undertaking the impact assessment. It is important that the methodology is documented so that the reader understands how the assessment was undertaken. This can also be used as a reference if future studies are required

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5.2.2.3 Existing Environment

An accurate description of the existing environment is necessary to predict the likely significant impacts of a new development. Existing baseline environmental monitoring data can also be used as a valuable reference for the assessment of actual impacts from a development once it is in operation.

To describe the existing environment, desktop reviews of existing data sources will be undertaken for each specialist area relying on published reference reports and datasets to ensure the objectivity of the assessment. Desktop studies will also be supplemented by specialised field walkovers or studies to confirm the accuracy of the desktop study and to gather more baseline environmental information for incorporation into the EIAR.

The existing environment will be evaluated to highlight the character of the existing environment that is distinctive and what the significance of this is. The significance of a specific environment can be derived from legislation, national policies, local plans and policies, guidelines, or professional judgements. The sensitivity of the environment will also be described.

5.2.2.4 Potential Impacts

In this section, individual specialists predict how the receiving environment will interact with the proposed development. The full extent of the proposed development's effects and emissions before the proposed mitigation measures are introduced is outlined. Impacts from both the construction and operation phases of the proposed development are outlined. Interactions and cumulative impacts with other environmental topics are also included in this evaluation.

The evaluation of the significance of the impact is also undertaken. For most chapters pre-existing standardised criteria for the significance of impacts will be used in accordance with the guidelines set out in the EPA (2017) Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports. Such criteria can include Irish legislation, international standards, European Commission and EPA guidelines or good practice guidelines. Where appropriate criteria do not exist the assessment methodology section states the criteria used to evaluate the significance.

5.2.2.5 Mitigation Measures

If significant impacts are anticipated mitigation measures will be devised to minimise impacts on the environment. Mitigation measures by avoidance, by reduction and by remedy can be outlined.

5.2.2.6 Residual Impacts

The assessment identifies the likely impact that will occur after the proposed mitigation measures have been put in place. These impacts are described in detail and assessment of their significance undertaken.

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6 ENVIRONMENTAL ISSUES TO BE ADDRESSED IN THE EIAR

The following section discusses the general contents of each chapter of the EIAR as listed in Section 5.2.1:

6.1 Chapter 1: Introduction

The Introduction Chapter will set out the context of the EIAR including an introduction to the applicant and a short description of the proposed development. The requirements for Environmental Impact Assessment will be addressed along with the EIAR methodology, structure, and outline of cumulative projects. Contributors to the EIAR will also be detailed in this Chapter along with the relevant expertise. It is proposed to use the methodology for the assessment of significant effects-evaluation criteria as per the guidance (EPA, 2022) and this will be described in this Chapter, and cross referenced from other impact assessment chapters as relevant. Where there is a topic specific methodology, it will be described within the relevant chapter. This will avoid repetition.

6.2 Chapter 2: Need for the Proposed Development

Chapter 2 will set out the context of the proposed development which will discuss the need for the proposed project regarding national, regional, and local transportation and infrastructure requirements.

6.3 Chapter 3: Alternative Considered

The reasonable alternatives, which were considered, when developing the overall configuration of the proposed road improvement scheme will be described and the technology options for the project will be outlined in this chapter.

A robust scheme options selection and options appraisal process was undertaken as part of Phase 1 and Phase 2 of the project respectively.

The environmental and plan-led considerations considered in the selection of the preferred alternatives will be outlined here.

6.4 Chapter 4: Description of the Existing and Proposed Development

This chapter will provide a detailed description of the existing development and the proposed development including the following:

- Existing Development
- Proposed Development Layout
- Scheme Objectives

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- Development Components, including all infrastructure
- Description of the Proposed Road
- Temporary Site Facilities and Works (construction compounds, accommodation works etc)
- Access and Transportation
- Site Drainage
- Construction Phase Management and Methodologies
- Operational Phase

A Construction and Environmental Management Plan (CEMP) will be prepared and presented as an Appendix to the EIAR. The control measures that will be implemented to manage the risk of soil and water pollution, emissions of dust and noise, construction waste management and traffic impacts will be explained within this document.

6.5 Chapter 5: Planning and Policy Context

The policy context will be discussed in this chapter. Chapter 5 will summarise International, European, National and Local Infrastructure and Planning Policy, in the context of the proposed project.

6.6 Chapter 6: Scoping and Consultation

This chapter describes the consultation process and EIAR scoping that was undertaken to identify key impacts from the proposed development to be included in the EIAR. It presents the issues that arose through the consultation process and how these issues were addressed in the preparation of the EIAR

6.7 Chapter 7: Traffic and Transportation

6.7.1 Aspects to be Addressed

The traffic impact assessment will address the traffic impacts on the road network during the construction and operation of the Project.

6.7.2 <u>Assessment Methodology</u>

A traffic impact assessment will be conducted in accordance with the Traffic and Transport Assessment (TTA) Guidelines, (TII, 2014) (20).

The methodology for the traffic impact assessment will include a review of the traffic volumes and impacts which will be generated by the construction, operation and decommissioning of the road improvement scheme. The likely traffic that will be generated by each phase of the project is estimated to identify potential disruptions to existing road users within the study area.

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Based on the project construction methodologies, an estimate of the number of vehicles generated as a result of the project is calculated and the potential for impacts on existing public road links and junctions is considered and assessed. These estimates are used to assess the impact on the road network in numerical terms in the form of annual average daily vehicle trips (AADT).

The potential for soiling or damage to public road infrastructure through poor construction practices as well as potential health and safety hazards through poor traffic management are also identified. The effects of the project on the existing road network are then considered and described in terms of quality, duration and significance. Mitigation measures are then proposed followed by identification of residual impacts.

The assessment uses a combination of field surveys, data counters, desktop studies and consultation.

The following guidance shall be used during the assessment of traffic and transport (non-exhaustive list):

- Traffic and Transport Assessment Guidelines, (NRA, 2014) (21)
- TII Project Appraisal Guidelines for National Roads Unit 5.3 Travel Demand Projections, (TII, 2019) (22)
- Guidelines on The Information to Be Contained in Environmental Impact Assessment Reports, EPA, 2022) (19)
- Project Appraisal Guidelines for National Roads: Estimating AADT on National Roads, (TII, 2016) (23)
- Geometric Design of Junctions (priority junctions, direct accesses, roundabouts, grade separated, and compact grade separated junctions) DN-GEO-03060 (TII, 2017) (24)
- Guidance on the preparation of the Environmental Impact Assessment Report, (European Commission, 2017) (18)
- Clare County Development Plan (15)

Traffic count data shall be obtained from open-source TII traffic counter information, consultation with Clare County Council Roads Department and private traffic count data where required.

There is a permanent traffic counter on the N19, with data available from February 2019 onwards. As shown in Figure 6.1, this records traffic levels on the section between the Shannon Town and Drumgeely roundabouts. Project specific traffic surveys have been conducted for traffic modelling.

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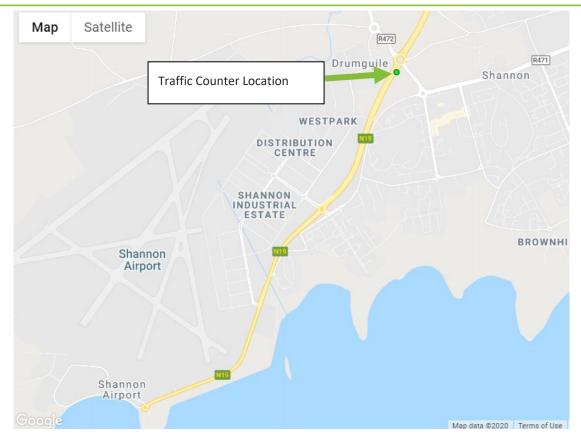


Figure 6-1: Location of permanent counter

The traffic generated by the construction workforce, by the transport of materials and equipment as well as future maintenance-related activities will be predicted. The traffic distribution pattern on the local road network during construction will be examined and impacts determined. Recommendations will be made to mitigate any potential traffic impacts on the road network.

Transport Infrastructure Ireland (TII) shall be consulted through the EIAR scoping process. Clare County Council Roads Department engineers shall also be consulted.

Site access points shall be designed in accordance with TII and County Development Plan requirements for direct access geometric design and visibility sightlines.

Cumulative traffic impacts will be considered at design stage and will be assessed in the EIAR with respect to other planned developments in the area.

6.7.3 Receiving Environment

The assessment area is bisected by the existing N19 National Primary road and contains a number of junctions and local accesses. This section suffers from deficiencies including poor quality pavement, poor signing & lining, sub-standard public lighting, poor drainage, high volume of accesses, poor junction layouts and sub-standard pedestrian facilities. These deficiencies contribute to a poor level of service on this strategic route.

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Plate 6-1: Section of Existing N19

This section of the N19 National Primary Road is the only public access serving Shannon International Airport and has posted Speed Limits which vary from 40km/h, 50km/h and 60km/h over various sections and overtaking opportunities in both directions are infrequent and short in length. The carriageway cross section varies in width and does not provide the recommended edge treatment from Table 6 of TII DN-GEO-03031. Travelling west from Drumgeely Roundabout the road cross section begins to narrow from dual to single carriageway and remains single carriageway for the remainder of its length as far as Knockbeagh Point Roundabout. Some of the existing pedestrian facilities are not in accordance with standards and do not incorporate the required facilities for the safe crossing of pedestrians. Footpath widths are as low as 0.9 meters at some locations. The traffic lights, required to facilitate pedestrian crossings, located east of Shannon Free Zone are not operational. Existing street lighting is showing signs of deterioration and requires upgrading to comply with current lighting standards.

No street lighting is in place for approximately 0.5 km south of the security station on approach to the airport. This presents a significant safety risk for pedestrians using the adjacent footpaths. Much of the Road Signage and Road Markings are showing signs of deterioration and require upgrading to comply with current design standards.

Within the study area the N19 has three main junctions:

- Two roundabouts giving access to Shannon Free Zone (West), at Drumgeely and Gateway West.
- One roundabout at Knockbeagh Point providing access to Shannon Airport.

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Plate 6-2: Drumgeely Roundabout

TII's published estimate of 2019 AADT flow at the location of the permanent traffic counter (as per Figure 6-1) site is 12,680 vehicles per day, with 3.1% heavy vehicles.

6.7.3.1 Existing Traffic Volumes

Traffic counts were carried out on the section between the Drumgeely Roundabout and the Gateway West roundabout over 14 days in November/December 2017. These show an average daily flow of approximately 8279 vehicles per day AADT, with 6% heavy vehicles.

A similar count on the section between the Knockbeagh Point roundabout and the Gateway West roundabout gives an estimated 4243 vehicles per day AADT.

These figures have been updated and will be presented in Chapter 6 of the EIAR.

It is noted that airport passenger-related trips are seasonal. Shannon International Airport have confirmed that the busiest period of their year is in late August. November would be a relatively quiet month.

Traffic to and from the airport also tends to be concentrated into short periods of the day, before and after the arrival and departure of large passenger aircraft, and before and after changes of shift. So that the intensity of use of the N19 is higher than if traffic were evenly spread across the day, as would be the case on many routes.

6.7.4 Potential Impacts

Please note that in all sections of this report where potential impacts are identified, the context of potential impacts is discussed in the absence of mitigation measures.

The greatest potential for traffic impact in the absence of mitigation is from the proposed road improvement scheme is during the construction phase.

There will likely be temporary disruption to existing traffic flows on the N19 and surrounding road network to facilitate construction. Traffic management restrictions may also be required.

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Other traffic related potential impacts such as noise and air quality will be assessed in the respective chapters of the EIAR.

Potential positive impacts include improvements to overall road condition, increased facilitation of active travel options along road section.

6.8 Chapter 8: Population and Human Health

6.8.1 Aspects to be Addressed

The Population and Human Health Chapter of the EIAR will assess the likely significant effects of the proposed development on Population and Human Health with a particular reference to the following:

Population

The potential impacts of the proposed road improvement scheme on population trends and statistics (density, age) will be addressed in this chapter.

Human Health & Safety

The potential impacts on human health from the proposed road improvement scheme will be assessed in terms of potential effects on human health and safety. Other relevant technical topics of the EIAR will be crossed referenced in this Chapter as required.

Socio-economic Activity

The potential impacts of the proposed road improvement scheme on employment and economic activities of the region and locality.

Land-use

The assessment will address the potential impacts of the proposed development on existing and proposed land use.

Recreation, Amenity and Tourism

The assessment will address the potential impacts of the proposed road improvement scheme on residential amenity, recreational facilities and activities and tourism of the region.

6.8.2 Assessment Methodology

The potential impacts will be assessed as per the methodology for the assessment of significant effects-evaluation criteria in guidance (EPA, 2022) (19) and Health in Environmental Impact Assessment, A Primer for a Proportionate Approach (IEMA, 2017) (25) and Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (EU, 2017) (18).

Population

With the purpose of analysing population trends and statistics on the proposed area, population data from the Central Statistics Office will be obtained for the study area defined by electoral division. Population data will be sourced from the CSO which will be analysed against population trends within the area defined by electoral division which includes the section of the N19 proposed for development.

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Human Health & Safety

The assessment will contain a desk study review of the potential impacts of the construction and operational phases using available data.

Socio-economic Activity

Data from the Central Statistics Office will be used to define the socio-economic baseline. Desktop research and consultation will provide an indication of economic activity in the study area. The potential positive and negative impacts of the proposed development on employment and economic activity both directly and indirectly, will be assessed.

Land-use

The land uses in the area, which could potentially be affected by the proposed development, will be described using Corine 2018 land cover data which classifies landcover nationwide, site walkover data and desktop research.

Recreation, Amenity and Tourism

Areas of amenity and recreation in addition to heritage and culture in the study area will be identified. Residential amenities and recreational facilities, such as walking paths, sports facilities, will be recorded and potential impacts assessed. There is an overlap here with Chapter 15 Material Assets which will identify community property such as infrastructural amenity. Potential impacts on tourism will be considered due to the location of the proposed development adjacent and at the gateway to Shannon International Airport.

An assessment will then be conducted for each element of the proposed road improvement scheme to ascertain any potential impacts that may arise which could directly or indirectly affect recreational activity or an amenity. This assessment will be prepared giving cognisance to other disciplines such as cultural heritage and archaeology, hydrology and biodiversity.

Proposed recreation, amenity and tourism facilities and improvements as part of the road improvement scheme will be discussed in this section and included as part of the assessment.

6.8.3 Receiving Environment

The project site is located in County Clare, east of Shannon Town. The closest residential area to the existing and proposed development is Drumgeely Hill.

There are approximately 1,350 dwellings within 1km of the project. These are entirely located to the east of the study area. Other dwellings in proximity to the proposed scheme are located on Fergus Road and are between 90m and 60m from the N19 corridor.

Lands zoned for new residential development are not located within proximity to the sturdy area. Furthermore, the proposed works will not require the demolition of existing residential properties. Therefore, it is unlikely that the N19 upgrade project will negatively impact on population trends in the settlement of Shannon.

The main economic activities located in the N19 study area includes enterprise, business and light industry associated with the Shannon Free Zone West, and airport related activity both of which are located on the western and northern side of the N19.

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The Shannon Free Zone is one of Ireland's leading international business parks and is considered a significant employment centre for the region. It is home to a range of manufacturing, distribution and office-based business consisting of over 150 companies and providing for approximately 9,000 jobs. The Shannon Free Zone is home to the largest agglomeration of American companies in Ireland outside of Dublin.

Shannon Airport is the key driver for economic activity in the Shannon area. The airport operates 365 days a year and is the third busiest in Ireland. The airport is strategically placed to cater for transatlantic flights and has the longest runway in Ireland, able to accommodate the largest commercial jets. In 2019 the airport handled approximately 1.6 million passengers. The routes are mostly Transatlantic, Great Britain and European services.

Figure 15-1 illustrates the commercial receptors located within 1km of the N19 upgrade works (Eircode data). The figure demonstrates the significant amount of commercial business located within the Shannon Free Zone, north of the proposed development. A significant number of businesses are also located to the west of the study area at Knockbeg Point. Shannon Town is northeast of the proposed development with residential, commercial and light industrial on the western side of the town.

Shannon is a significant airport for tourism as it is located on the Wild Atlantic Way. Major tourism attractions in proximity to Shannon include:

- Bunratty Castle
- Dromore Castle
- Craggaunowen
- Atlantic Air Adventures Aviation Museum
- Shannon Golf Club

6.8.4 Potential Impacts

Population

The potential impacts arising from the proposed development on population numbers and density during construction and operation will be assessed.

Human Health & Safety

The potential affects arising from the proposed development which can impact on human health and human safety during construction and operation will be considered in this chapter.

Socio-Economics

The proposed development may have an impact on the local economy through job creation and local authority commercial rate payments. These will be developed in full and considered in the EIAR.

Land Use

The proposed development will require land take for expansion of the existing road section. The current land uses will remain other than within this land take. Full details will be contained in this chapter of the EIAR.

Recreation, Amenity and Tourism

The potential impact of the proposed development on the receiving environment for recreation, amenity and tourism will be assessed in this chapter in relation to the construction and operation phases.

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Where relevant cross-refences to the Landscape and Visual Impact assessment chapter will be included to avoid repetition of information. There is potential for disruption to access routes and walking paths, however any disruption will be mitigated where possible by maintaining access for people throughout or rerouting paths, and where this is not possible, in minimising the impact, clearly communicating the timing and scope of works to the local community. This section will also cross reference other technical chapters of the EIAR, for example, to determine potential impact on cultural heritage assets and to determine potential visual impact to tourism or recreation assets during the operational phase. The potential for improvements to recreation and amenity in the area will also be considered arising from the active travel element of the proposed development.

6.9 Chapter 9: Air Quality

6.9.1 Aspects to be Addressed

The assessment will address the potential impacts on air quality due to construction, and operation of the proposed development.

6.9.2 Assessment Methodology

The air quality assessment will be prepared in accordance with following guidance:

- Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes (TII, 2011) (26) and guidance listed in Section 5.2.1;
- Guidance on the assessment of dust from demolition and construction (Institute of Air Quality Management (IAQM, 2014) (27);
- Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance (IAQM, 2011) (28).

Air quality monitoring conducted by the EPA at a number of locations in the vicinity of the project will be reviewed and levels compared with the air quality standards.

The Guidelines (26) state that the local air quality assessment should focus on NO_2 and PM_{10} , as these are the pollutants of greatest concern with respect to road traffic conditions. A review of data from representative Zone D locations in Ireland can be used to provide an indication of the prevailing air quality conditions within the study area.

For the purposes of assessing the impact on air quality of emissions generated by construction traffic, the methodology described in the Design Manual for Roads and Bridges (DMRB) (Volume 11, Section 3 Air Quality, UKHA, 2007) (29) will be used. Parameters to be assessed will include oxides of nitrogen, particulates PM10 and PM2.5, carbon monoxide and benzene.

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6.9.3 Receiving Environment

As part of the implementation of the Framework Directive on Air Quality (1996/62/EC), four air quality zones have been defined in Ireland for air quality management and assessment purposes. In terms of air monitoring, the study area is categorised as Zone D (rural areas and towns with a population of less than 15,000).

The existing environment of the study area is a mixture of rural and industry in nature. The land use is predominately residential to the northeast boundary of the scheme. These residential receptors are within the most northern 2km the constraints area, to the east of the current alignment. Industrial facilities associated with Shannon Airport are located to the northwestern end of the scheme, to the south west the land is associated with the runway of Shannon Airport. To the southeast of the scheme the alignment runs parallel with the Shannon Estuary, which is a SAC due to sensitive ecological receptors.

Upon review, the area with the greatest potential for impact is Drumgeely Hill, this is due to the change in road alignments in proximity to these locations. These sensitive receptors include residential apartment buildings in addition to Tullyvarraga Playschool.

6.9.4 Potential Impacts

The construction phase of the proposed road improvement scheme has the potential to generate dust emissions, which could give rise to nuisance for local residents. To assess the impacts of construction dust emissions, the approach and assessment criteria outlined in the Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes (National Roads Authority, 2011) and EPA Guidelines will be used.

Construction plant and equipment, and the traffic generated by the construction process, have the potential to give rise to emissions of oxides of nitrogen, benzene and particulates, which could impact on local air quality.

The operation of the road has the potential to impact on air quality, but that will be considered in relation to the existing development and potential positive impacts relating to improved pedestrian, cycling and public transport options.

Pollution from traffic sources increases at low traffic speeds and during congested traffic conditions. An improvement in the road infrastructure is likely to improve traffic flow, relative to the current alignment. In addition, the number of receptors directly impacted by the proposed routes will either maintain or reduce compared to the current alignment.

The preferred option consists of an on-line upgrade of the existing the N19 between Drumgeely Roundabout and Knockbeagh Point Roundabout, to meet current design standards and a 60km/hr. speed limit throughout. The realignment at this location results in the proposed route option having fewer sensitive residential receptors within 50m of the road centreline and therefore is predicted to have a beneficial impact. This option will also provide upgrades to cycleway and footpath facilities which encourage a modal shift from private cars.

There are designated ecologically sensitive sites within 200 m of the proposed route option and therefore there is the potential for impact if there is a significant change to traffic flows (>5%). A review of the change in traffic indicates that the change in AADT is less than 5% and therefore the potential impact on sensitive ecology is negligible.

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6.10 Chapter 10: Climate

6.10.1 Aspects to be Addressed

The impact of the construction phase and operational phases of the proposed development on climate will be assessed in this chapter.

The assessment will measure the potential GHG emissions as a result of the construction and operation of the proposed development compared to the baseline scenario. It will also consider the potential impacts to receptors of the proposed development from climate change.

6.10.2 Assessment Methodology

This assessment will seek to quantify the difference in GHG emissions between the proposed development and the baseline scenario (the do nothing scenario).

The embodied construction emissions for the proposed development will be calculated using the TII Carbon Assessment Tool (Version 2.1) (TII 2021).

An appropriate validated traffic model shall be used to estimate operational road user GHG emissions. Where road links meet one or more of the following criteria, they can be defined as being 'affected' by a proposed development and will be included in the assessment:

- A change of more than 10% in AADT;
- A change of more than 10% to the number of heavy-duty vehicles; and
- A change in daily average speed of more than 20km/hr.

Where there is a potentially significant impact on the proposed development receptors due to climate change, a risk assessment will be carried out. The risk assessment assesses the likelihood and consequence of the impact occurring to each receptor, leading to the evaluation of the significance of the impact.

The assessment will rely upon the following guidance documents:

- TII 2022/23 guidance (not yet published)
- Assessing Greenhouse Gas Emissions and Evaluating their Significance (IEMA 2022) (30)
- TII Carbon Assessment Tool (Version 2.1) (TII, 2021)
- Environmental Appraisal Module (NTA)
- LA 114 Climate (UKHA 2019) (31)

6.10.3 Receiving Environment

As per Section 6.12, there are sensitive ecosystems adjacent to the existing N19. There are is no cycling infrastructure and limited pedestrian facilities. There are no dedicated bus lanes on the existing section of road. The existing and proposed development are in an area which is vulnerable to climate change and to extreme storm events.

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6.10.4 Potential Impacts

The potential impacts of carbon used during the construction of the scheme, the GHG emissions during construction and operation and the vulnerability of the proposed development to climate change will be assessed. The TII Carbon Assessment Tool is designed to account for the climatic impact from road projects in Ireland. It will facilitate the measurement of GHG impacts of construction activities by calculating the embodied carbon of the construction material and the GHG impacts relating to transport to site. The assessment will be based on the proposed design of the scheme taking account of proposed construction materials, earthworks and landscaping.

As referenced above new guidance from TII is pending and it is proposed to use that guidance for the preparation of this chapter.

6.11 Chapter 11: Noise and Vibration

6.11.1 Aspects to be Addressed

The chapter will address noise and vibration impacts from the construction and operation of the Project.

6.11.2 Assessment Methodology

The noise and vibration assessment will be undertaken in accordance with:

Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes, (NRA, 2014) (32), Noise Action Plan (2018, Clare County Council) (33) and guidance as referenced in Section 5.2.1. Reference will also be made to LA111 Noise and Vibration, Design Manual for Roads and Bridges, Rev 2 (UKHA, 2020) (34).

The noise assessment will be carried out on each phase of the Project:

- Construction phase. Construction noise will be predicted using BS5228: Code of Practice for control of Noise and Vibration on Construction sites Part 1:Noise. This will be assessed with construction noise criteria in NRA Good Practice Guidance (32). In addition, potential construction vibration impacts from the temporary works will be assessed based on guidance in BS5228: Code of Practice for control of Noise and Vibration on Construction sites Part 2:Vibration and the criteria within the NRA Good Practice Guidance (32).
- Operational phase will be predicted using the UK Calculation of Road Traffic Noise Calculation HMSO
 1988 prediction methodology, taking into consideration guidance within the good practice guide.
 Predicted noise will be assessed noise design goal set out in the NRA Good Practice Guide (32),
 detailed below. Where the design goal is exceeded, mitigation measures will be outlined to achieve
 the design target.

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6.11.3 Receiving Environment

Most noise sensitive locations are located in the housing estate south of the existing N19. Locating the proposed route as far north as possible, away from the existing residential locations is recommended. At the most eastern end of the scheme, at the N19/R742 roundabout, there are residential properties both to the north and south so there is no benefit in moving the alignment northwards at this location.

The existing noise within the study area comprises noise from flight movements and ground operations at Shannon Airport. Road traffic noise is also a major noise source including noise from the N19 and local road traffic noise within the housing and industrial estates.

Within the housing estates, the noise level reduces with distance from the N19.

Existing vibration sources are due to vibration from traffic on the N19. The vibration level is not anticipated to be at a level that would cause disturbance to residents or structural damage.

6.11.4 Potential Impacts

The levels of noise from the Project will depend on the traffic volumes and speed. Requirements for mitigation will be assessed using the criteria outlined in the TIIs "Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes, 2014". The TII guidelines propose a design goal of 60dB(A) Lden (free field residential facade criterion) for new national road schemes.

The TII guidelines outline criteria to determine the requirement for mitigation measures at noise sensitive locations. The TII guidelines state.... 'Mitigation measures are deemed necessary when whenever all of the following three conditions are satisfied:

- (a) the combined expected maximum traffic noise level, i.e. the relevant noise level, from the Project together with other traffic in the vicinity is greater than the design goal;
- (b) the relevant noise level is at least 1dB more than the expected traffic noise level without the Project in place; and
- (c) the contribution to the increase in the relevant noise level from the Project is at least 1dB.

The proposed road improvement has the potential to adversely impact on noise sensitive locations through increased in traffic speed potentially increasing noise emissions along the section of the road.

6.12 Chapter 12: Biodiversity

This chapter of the EIAR will address the terrestrial and freshwater aquatic habitats and species, including those of conservation concern within and in close proximity to the proposed development; tree felling and any required replanting.

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In particular, the assessment will focus on:

- European sites i.e. Special Areas of Conservation designated under the EU Habitats Directive (Council Directive 92/43/EEC) and Special Protection Areas designated under the EU Birds Directive (Directive 2009/147 EC), within the Zone of Influence of the proposed sites and routes. Potential pathways for significant effects to European sites shall also be considered.
- Other designated sites such as Natural Heritage Areas, proposed Natural Heritage Areas, Nature Reserves and Refuges for Fauna or Flora.
- Ecologically important habitats including habitats listed in Annex I of the Habitats Directive.
- Species protected under the Wildlife Acts along with Annex II and IV of the Habitats Directive.
- Aquatic species and habitat linked hydrologically to the proposed development
- Rare and protected flora including species listed under the Flora Protection Order (2015).
- Invasive species particularly those listed in schedule III of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011,
- Habitats that can be considered as corridors and 'stepping stones' for the purposes of article 10 of the Habitats Directive.
- Red data book species.
- Biodiversity in general.

6.12.1 Assessment Methodology

Desk studies will be undertaken in which ecological databases, such as those of the National Parks and Wildlife Service (NPWS), EPA and NBDC will be consulted. The NPWS, Inland Fisheries Ireland and the main environmental non-governmental organisations will be consulted including Bat Conservation Ireland.

Habitats shall be appraised and evaluated according to their occurrence as protected habitats under Annex I of the EU Habitats Directive (92/43/EEC) and for their capacity to support rare, threatened and endangered species. The methodology used to assess the impact on habitats is based on Environmental Assessment and Construction Guidelines (NRA, 2009 (35)), Guidelines for Ecological Impact Assessment, (CIEEM, 2018 (36)) and the guidelines (EPA, 2022 (19)) guidelines. The habitat mapping exercise will have regard to the Best Practice Guidance for Habitat Survey and Mapping (Smith *et al.*, 2011 (37)) published by the Heritage Council. In addition to habitat identification, each habitat will be assessed for its ecological significance, based on the site evaluation guidance(NRA, 2009 (38)). Cognisance has been paid to NRA guidelines and include (39)(NRA, 2009a (NRA, 2008a (40)) and (NRA, 2008 (41)).

Given the downstream hydrological connection from the project's location, including connection to the Shannon Estuary Lower and River Shannon SAC (002165) surveys for opposite leave pondweed in drains were completed by RPS in 2022. No opposite leaved pondweed was recorded within the vicinity of the works.

Six species of bat protected under Annex IV of the Habitats Directive and Wildlife Acts and of Least Concern have been recorded within 10km of the constraints study area during the options appraisal phase but none within 2km of the constraints area which is a greater area than that of the proposed development route.

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Preliminary roost assessments for bats was carried out in August 2021 and May 2022. No structures or trees along the route were suitable for roosting bats. The existing route is heavily artificially lit, which would likely limit the suitability of commuting and foraging habitats along the route for light sensitive bats.

European Otter, Irish hare, Pine marten, Eurasian badger, Irish stoat, red deer and hedgehog have all been recorded within 2 – 10km of the constraints study area. A terrestrial mammal survey was completed in August 2021. Rabbit droppings were recorded along the grassland adjacent to the existing road. No other mammal signs were recorded.

Four Annex I (Birds Directive) species, six red listed species (and protected under the Wildlife Acts) and fourteen amber listed species (and protected under the Wildlife Acts) have been recorded within 2km of the constraints study area. Noise, vibration and overall disturbance will need to be fully considered in relation to any mobile bird species that might use habitats within or nearby to the constraints area (especially Shannon Airport Lagoon). Winter Irish wetland bird surveys were carried out in 2021/22. Nine red listed species and 13 amber listed species were recorded within Shannon estuary, 14 of which are special conservation interest of River Shannon and River Fergus Estuaries SPA. Four amber listed species and one red listed species were recorded during the breeding bird transects along the route.

Habitat surveys were completed during August 2021. No annex I habitats were recorded along the route. The third schedule invasive plant Giant-rhubarb was recorded in proximity to the proposed route.

During ecological surveys of the site, other species of fauna were recorded and considered in the ecological appraisal.

6.12.2 Potential Impacts

This chapter of the EIAR will address the nationally designated sites, terrestrial and freshwater (aquatic) habitats and species, including those of conservation concern on and in close proximity to the proposed development.

The ecological evaluation of the site and its' biodiversity will be assessed. Once the value of the identified ecological receptors (features and resources) is determined, the next step will be to assess the potential impact and resulting effect of the proposed development on the identified key ecological receptors.

This will be carried out with regard to the criteria outlined in the relevant guidance. The impacts will be assessed under a number of parameters such as magnitude, extent, timing, frequency, duration and reversibility. The impact significance criteria detailed in the EPA guidelines (EPA, 2022) will be used where applicable.

Potential impacts in the absence of mitigation that will be considered at design sage of the proposed development on Biodiversity include:

- Direct loss of habitat due to the footprint of the area.
- Damage to adjacent habitats during construction which could potentially be affected by construction activity.
- Impacts during construction on the hydrology of water dependant habitats.
- Impacts on water quality both at a local level and regional level due to pollution run-off whether during or post construction.

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- Impacts on aquatic species during construction or due to pollution events etc.
- Disturbance to local wildlife, including loss of habitat, disturbance, and displacement.
- Damage to or habitat loss of important wildlife corridors or stepping stones during construction. Fragmentation of same at a larger more regional level because of habitat loss.
- The introduction of alien invasive species during construction.
- Potential Impacts on the conservation status or constituent parts of designated sites.
- Potential impacts associated with tree felling and any required replanting on designated sites, habitats, and biodiversity.

Potential impacts on European (Natura 2000) sites because of the proposed development will be assessed though the appropriate assessment process.

6.12.3 Appropriate Assessment

An Appropriate Assessment Screening Report and likely a Natura Impact Statement (NIS) will be prepared in respect of the proposed development, so as to enable the competent authorities to carry out an Appropriate Assessment as required by Article 6(3) of Council Directive 92/43/EEC ("the Habitats Directive") and section 177U of the Planning and Development Act 2000, as amended ("the 2000 Act"). The potential impact to European sites due to tree felling and any proposed replanting shall also be considered.

Where negative effects on a European site cannot be discounted during the Screening for Appropriate Assessment, a Natura Impact Statement will be prepared. The NIS will be a detailed, targeted assessment of the nature and potential significance of direct and indirect impacts arising from the proposed project to assessed if the project will not adversely affect the integrity of a European site.

European sites, as defined in the 2000 Act, comprise both Special Protection Areas (SPAs) for birds and candidate Special Areas of Conservation (cSACs) for habitats and other species, and are designated by Member States pursuant to the requirements of Council Directive 79/409/EEC, now Directive 2009/147/EU, on the conservation of wild birds ("the Birds Directive") and the Habitats Directive, respectively.

There are 12 European sites located within 15 km of the section of the N19 under consideration. Of these, 12 are SACs and one is an SPA.

- Lower River Shannon SAC (002165) located c. 0.002km
- River Shannon and River Fergus Estuaries SPA (004077) located c.0.002km
- Lough Gash Turlough SAC (000051) located c.5.4km
- Askeaton Fen Complex SAC (002279) located c.6.3km
- Curraghchase Woods SAC (000174) located c.8.2km
- Ratty River Cave SAC (002316) located c.10km
- Barrigone cSAC (000432) located c.12.2km
- Poulnagordon Cave (Quin) SAC (000064) located c.12.3km
- Newhall and Edenvale Complex SAC (002091) located c.12.9km
- Knockanira House SAC (002318,) located c.13.7km

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- Kilkishen House SAC (002319) located c.13.9km
- Old Domestic Building (Keevagh) SAC (002010) located c.14.1km

Two existing culvert water crossings hydrologically link the N19 to the Shannon Estuary designated as River Shannon and River Fergus SPA (004077), Lower River Shannon cSAC (site code: 002165) and Fergus Estuary and Inner Shannon, North Shore pNHA.

In addition, there are no NHAs and 12 pNHAs within 10km of the constraints area:

- Fergus Estuary and Inner Shannon, North Shore pNHA (site code: 002048) c.0.16km
- Inner Shannon Estuary South Shore pNHA (site code 000435) c.2.8km
- Lough Gash Turlough pNHA (site code: 000051) c5.4km
- Ballycar Lough pNHA (site code: 000015) c.6.3km
- Fin Lough(Clare) pNHA (site code: 001010) c.6.7km
- Rosroe Lough pNHA (site code: 002054) c.6.9km
- Dramore Beach and Loughs pNHA (site code: 001030) c.7.2km
- Carragchase Woods pNHA (site code: 000174) c8.3km
- Dromoland Lough pNHA (site code: 001008) 8.8km
- Garrannon Wood pNHA (site code: 001012) c.9.4km
- Fort Fergus (Ballynacally) pNHA (site code: 000035) 9.4km

For each European Site, the qualifying interests or special conservation interests of each European site will be identified, and the potential effects summarised.

Potential effects on species or habitats will be evaluated with respect to the scale, extent and nature of the effect, for example the area of habitat affected, changes in hydrodynamics, the percentage reduction in species density, potential changes in species distribution. The duration of the effect will be determined in terms of the duration of the works and the amount of time required for the species and / or habitat to be replaced or to recover from the effects. Information on the main alternatives studied by the developer and why they were excluded will also be provided within the AA process.

During the AA process, mitigation measures can be developed to reduce / avoid effects on European Sites.

Due to hydrological links and proximity (0km) to River Shannon and River Fergus SPA (004077) and Lower River Shannon SAC (site code: 002165), a Natura Impact Statement is likely to be required.

6.13 Chapter 13: Soils, Geology and Hydrogeology

6.13.1 Aspects to be addressed

The assessment will address soils, subsoils and bedrock geology underlying the proposed development as well as hydrogeology.

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6.13.2 Assessment Methodology

The methodology for the soils and geology assessment will be in accordance with the Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements, (Institute of Geologists of Ireland, 2013) (42) and Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009) (43).

An initial desktop study of the soils, bedrock and hydrogeological conditions will be undertaken with information published by Geological Survey of Ireland, and other referenced sources of information, as appropriate. In addition, borehole information is available for several sites in and around the Study Area, giving general information on depth to bedrock and bedrock type. A Geophysical Survey undertaken in 2018 along the existing airport access road will also be used.

Desktop assessments will include:

- A review of the characteristics of the entire project area (ground and groundwater conditions, topography, vegetation cover/condition across the project area)
- Identification of past and present land use of the project area (peat harvesting, forestry etc.) and their current impact on the existing ground and groundwater conditions

A programme of Geotechnical Investigation (GI) was completed in October – November 2021 and April – May 2022.

The GI programme comprised:

- 26 no. trial pits
- 13 no. slit trenches
- 4 no. cable percussion boreholes
- 6 no. cable percussion boreholes with rotary core follow-on drilling
- 18 no. cone penetration tests
- 19 no. dynamic probe tests

6.13.3 Receiving Environment

6.13.3.1 Geomorphology

The geomorphology of the area around Shannon Airport has been affected by the last two glaciation events. The main geomorphological features are a series of drumlins typically running NNE-SSW, present mainly to the north and east of the study area. The majority of the area around the airport comprises flat to gently undulating sediments, part of a coastal plain. This is characterised by the presence of alluvial and estuarine sediments.

Due to the overall low-lying, flat to gently sloping topography over the entire study area, landslide geohazards are not expected to be a major constraint. No landslide scars have been noted from the reviewed aerial photographs.

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Unconsolidated, soft alluvial sediments, present throughout the study area, are likely to impose settlement problems on earthworks.

6.13.3.2 Solid Geology

The study area is underlain by bedrock from the Ballysteen Formation, which is described as a fossiliferous dark-grey muddy Limestone and the Walsortian Limestone, a pale grey fossiliferous micritic Limestone. To the northeast of Shannon Airport three other formations are present: the Ballymartin Formation, a Limestone and dark grey calcareous Shale, the Lower Limestone Shale, which comprises Sandstone, mudstone and thin limestone and the Old Red Sandstone, a red conglomerate, sandstone and mudstone which comprises red mudstones, siltstones and sandstones, and poorly sorted, polymict pebble conglomerates and breccias.

From the available ground investigation data, depth to bedrock ranges from 5 to 15m bgl.

Ballysteen Formation

The Ballysteen Formation is a Lower Carboniferous limestone comprising dark grey bioclastic wackestone, packstone and grainstone and shale-parted limestones, roughly divided into a lower and upper unit. The lower unit is generally an argillaceous wackestone. The upper unit is typically more argillaceous with the presence of black calcareous mudstones.

Walsortian Limestone

The Walsortian Limestone is typically described as a massive, unbedded, pale to dark grey calcilutites and biomicritic wackestones, with crinoid fragments, frequently with sparry cavities.

6.13.3.3 Subsoils and Soils Deposits

The majority of the scheme is underlain by Made Ground, with an area of marine/estuarine sediments to the east of the existing N19.

The superficial deposits within the scheme area include estuarine and alluvial deposits, glacial till derived from limestone and Made Ground. The Made Ground is characterised as both 'Urban' and 'Airport.'

6.13.3.4 Hydrogeology

The main hydraulic unit for groundwater flow across the entire Study Area is the bedrock, which is classified as locally important and moderately productive in local zones. No sand or gravel aquifers have been identified within or in the vicinity of the Study Area.

Aquifer vulnerability of the Study Area ranges from extreme (rock near surface) to low.

No karst features are noted within the Study Area. The nearest known karst features are found in Ennis, approximately 16km to the north. However, the Ballysteen Formation is known to be karstified in areas, and as such the presence of unidentified karst features cannot be excluded.

No Source Protection Zone (SPZ) reports have been produced for locations within the Study Area, boreholes and springs have been identified.

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Where the water table would be lowered as a result of excavation, the potential effects on local wells should be assessed. The lowering of the water table could reduce or eliminate the well yield.

6.13.4 Potential Impacts

The potential impacts of the development of the road improvement scheme on the land, soils and geology are:

- The excavation and removal of soil and interference with any existing drainage has the potential for direct permanent effect that, without mitigation, could alter the existing hydrogeological balance.
- Excavations have the potential to increase erosion and sediment release that could also have additional impacts on water quality due to sedimentation of water courses.
- Soil compaction may occur due to movement of construction and maintenance traffic.
- Removal of sub soils may result in the exposure of the underlying rock to sources of contamination and may increase the vulnerability of the aquifer, whether or not the rock is exposed.
- Chemical pollution may occur as a result of an accidental spillage or leakage of chemicals, runoff from vehicle washing facilities, unset concrete, storage of fuels or refuelling activities, etc. Chemical pollutants may enter the groundwater and have implications for ecology and any wells in the area, particularly those located down-gradient of the project.
- Sanitary waste arising from temporary construction compounds could lead to contamination of groundwater.

6.14 Chapter 14: Surface Water and Hydrology

6.14.1 Aspects to be Addressed

The assessment will address impacts on hydrology and water quality associated with the Project.

6.14.2 Assessment Methodology

The Hydrology and Water Quality assessment will be carried out in accordance with:

- Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes (NRA, 2009) (43)
- Information to be contained in Environmental Impact Assessment Reports (EPA, 2022) (19)
- Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report (EU, 2017) (18)
- Environmental Impact Assessment of National Roads Schemes A Practical Guide (NRA, 2008) (2)
- The Planning System and Flood Risk Management Guidelines for Planning Authorities, (DoEHLG/OPW, 2009) (44)
- CIS Guidance Document 36, Advise Note 19 (UK Planning Inspectorate, 2017) (45)
- WFD Checklist Tool (JASPERS, 2018) (46).

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It is noted that Irish guidance on water framework directive assessments is due in 2022, and if available will be used in place of or in tandem with UK Planning Inspectorate, 2017 (45) and JASPERS, 2018 (46).

Site visits have been undertaken to establish the constraints relating to hydrology and to acquire a basic knowledge of water management on the site, along with consultation with Shannon Airport Group regarding drainage from the airport flowing into the shared drainage network. The information gained on these site visits and from this key stakeholder is providing input into the design layout to mitigate potential impacts to hydrology or water quality.

The desk study will involve setting out the principles for surface water management and treatment. The study will consist of a review of existing baseline data including water quality data from the EPA, River Basin Management Plans and flood risk data from the OPW. The review will include the County Development Plan and consideration of the policies and objectives of the Plan in relation to surface water and flooding. A Flood Risk Assessment will be prepared and a Water Framework Directive Assessment. The Project Team is engaging with the team working on the proposed Shannon Town and Environs Flood Relief Scheme (STFRS) who are working towards a planning application respect of this project. This will ensure that crossing structures have sufficient flow capacity to convey flows generated from extreme storm events.

Any concerns expressed by consultees such as Inland Fisheries Ireland, NPWS, OPW and the local authority, relating to hydrology and drainage, will be addressed.

There are two existing water crossings via culvert under the N19. At this point in the design, it is likely that the design team will be required to extend the length of the culverts for the widening of the N19 and the culverts will be widened to maintain the existing sofit level. The design team is engaging with both OPW and the design team for the STFRS with regards to culvert sizing. IFI has also been consulted and more consultation will take place following preliminary design. A section 50 application will be prepared for submission to the OPW in accordance with the OPW guidance (47).

The following will also be included as part of the assessment for Hydrology and Water Quality:

- site specific flood risk assessment
- identification of potential impacts of the proposed development on hydrology (hydrodynamics and flooding)
- identification of the potential cumulative hydrological impacts of the proposed development with any proposed developments, industries, infrastructure etc.
- consideration of outfall drainage from proposed development into the Shannon Estuary (European Sites)
- identification of mitigation measures for flooding and pollution of receiving waters
- water framework directive assessment
- identification of opportunities to improve water quality and hydrological environment
- identification of residual impacts

6.14.3 <u>Receiving Environment</u>

The development area is located within Hydrometric Area No. HA 27, Shannon Estuary North, of the Irish River Network System and within sub catchment Ballygireen_SC_010.

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The Urlan Beg_010 waterbody which drains a total area of 39.6 km². Urlan Beg_010 waterbody has a Poor Status². The national road N19 within the study area is traversed by the Urlan Beg Stream and Clonloghan Stream, both of which are the Urlan Beg-010 waterbody which drain into the Upper Shannon Estuary. The two streams both arise locally, with one tributary crossing the M18. The Urlan Beg Stream flows along the west side of the Shannon Free Zone. The Clonloghan Stream flows between the Shannon Free Zone and the national road N19 before crossing under the N19 and discharging to the Estuary north of Drumgeely Hill.

The Urlan Beg Stream has two tributaries, the Leamaneigh More Stream and Lisconor Steam. The Leamaneigh More Stream joins the Urlan Beg Stream approximately 850m northwest of the junction of motorway road M18 and national road N19 before crossing under the N19 and discharging to the Estuary south of Drumgeely Hill.

There also is a drainage channel which crosses under the N19 (culvert) and runs parallel to the coast before outfalling near the southern end of the proposed development. This is known as the Airport Drainage Channel. The streams and the drainage channel in the study area are canalised and are currently low value for fisheries and biodiversity. The design team together with the hydrologist and ecologists will examine opportunities for improvement in consultation with IFI and NPWS.

The Upper Shannon Estuary waterbody is classified as At Risk¹.

6.14.4 Potential Impacts

The assessment will address the potential for construction and operational impacts on water quality in the receiving watercourses.

The main potential impact from the proposed development in the absence of mitigation measures is the potential increase in runoff and sedimentation of watercourses during the construction phase. Rainfall runoff containing silt could potentially lead to siltation and consequent physical effects on flora and fauna in aquatic habitats. The Shannon Estuary receiving waterbody is in SAC and SPA, and the proposed development is hydraulically linked, therefore there is potential for impact on the qualifying interests of the sites. This will be assessed through the appropriate assessment process (refer Section 6.12.3).

Sediment has the potential to arise from:

- excavations if left exposed, spoil heaps could lead to an increase in silt-laden run-off draining off site
- open trenches adjacent to a watercourse, this could lead to an increase in the concentration of suspended solids in the watercourse
- upgrade or alteration of existing water crossings.

In addition, possible impacts on water quality during construction activity include:

- concrete operations could contaminate receiving waters
- runoff from vehicle washing facilities could lead to contamination of receiving waters
- refuelling activities could result in fuel spillages.
- risk of flooding during construction or operation.

N19SAAR-FTC-EN-ZZ-RP-EN-0003

https://www.catchments.ie/data/#/subcatchment/27/27 11? k=5kx7iy accessed 21-10-22

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During the operational phase of the road, potential impacts on water quality in the absence of mitigation could arise from road run-off, firefighting in an emergency event or from vehicular accidents involving chemical or hazardous liquid bulk products. Construction and operation of the additional lanes and active travel routes may increase the flood risk if additional flows due to change of surface area are not addressed. The drainage design will implement SuDS system attenuation to mitigate flood risk and potential impacts to water quality.

Negative impacts caused by small barriers, e.g., culverts, can reduce the ecological status of the water body as assigned under the Water Framework Directive (48), accordingly mitigation measures will be incorporated into the design of the culvert replacements for the existing stream crossings.

There will be interaction between the biodiversity chapter and this chapter in relation to potential impacts and appropriate mitigation.

6.15 Chapter 15: Material Assets including Materials Management

6.15.1 Aspects to be Addressed

This chapter of the EIAR will assess the potential impacts on material assets of the project area during construction and operation and the management of materials and wastes generated from the Project. The material assets to be considered as part of the assessment include:

- built services
 - utilities
- existing built environment/property
 - residential
 - o commercial/industrial
 - community property
 - infrastructural amenity
 - Shannon International Airport
- development land
 - lands zoned for development
 - o sites with planning permission
- materials management
 - waste prevention
 - o material reuse
 - o waste management

There is no agricultural land within the proposed land take, nor adjoining and therefore it has been scoped out of the proposed assessment. Land use will be considered in Chapter 8 Population and Human Health and Chapter 17 Landscape and Visual Impact.

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Materials management will be addressed in cut, fill balances and planning for prevention of waste, reuse and recycling of materials and storage and handling. The Project will include some demolition works during the construction phase and it is proposed to plan for maximum waste prevention through reuse.

6.15.2 Assessment Methodology

The potential impacts will be assessed as per the methodology for the assessment of significant effects-evaluation criteria in the guidance (EPA, 2022 (19)).

6.15.3 Receiving Environment

6.15.3.1 Existing Services

The following services are located within the Project area. The design team is collating information on location of all services to determine locations and any interface with the Project:

- electricity supply Electricity Supply Board (stations, substations and underground cables)
- gas distribution Gas Networks Ireland (underground distribution network)
- telecom Eir (cabinets, underground cables and fibre-optic cables)
- water supply and wastewater disposal Irish Water
- utilities servicing Shannon Airport Group

6.15.3.2 Existing Built Environment

Shannon International Airport

Shannon International Airport is located to the south and west of the N19. The airport infrastructure includes Terminal Buildings, hangers, parking facilities, runways, fuel farm, internal services and utility connections. There is a requirement to ensure 3m clearance from the existing boundary fence line to moving or stationary vehicles.

Shannon Free Zone

Shannon Free Zone is a Business Park located to the west of the N19. Shannon Free Zone is a world-renowned business park at the edge of Shannon Airport. Located on 600 acres, over 200 buildings house more than 150 companies, making it one of Ireland's largest multi-sectoral business parks and home to the largest concentration of American companies in Ireland outside of Dublin.

Existing and future phased development in Shannon Free Zone (SFZ) West has the potential to impact on traffic. The SFZ West phased development plan is as follows:

- Phase 1 Development (2014 2018) = 650,000 sq. ft. commercial / industrial buildings (Completed)
- Phase 2 Development (2019 2023) = 650,000 sq. ft. commercial / industrial buildings (Commenced)
- Phase 3 Development (2024 2028) = 700,000 sq. ft. commercial / industrial buildings

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The apartment blocks at Drumgeely Hill

There are a series of apartment blocks located to the east of the N19 at Drumgeely Hill at a higher elevation to the existing road with a steep local access out on to the N19 and an alternative access through Shannon Town.

Direct Accesses for Business

There are various individual businesses with direct access off the existing N19 particularly along the later section of the scheme just east of Knockbeagh Point Roundabout. All of these accesses contribute to reduced safety and reduced service level along the route.

Security Hut

There is a security hut located on the N19 in the centre of the existing road. This was used by An Garda Síochána as required. Discussions have taken place with An Garda Síochána. The security hut is no longer required and will not be replaced as part of the proposed development.

Walking Path

There is a walking route (estuary trail) to the south of the existing N19.

Embankments

There are flood mitigation embankments along the estuary to the south of the existing N19.

6.15.4 Potential Impacts

There may be temporary partial disruption to services and utilities where modification to existing utilities are required or access to business/commercial and residential areas is affected by traffic management measures and construction activities.

Any large infrastructure project has the potential to generate waste of different types but it is an objective of the Project to plan for waste prevention and reuse to minimise waste generation. It is proposed to plan for materials management within the design and to document it within the EIAR. Where waste is generated, it will be managed in accordance with waste management legislation.

Potential waste material could be generated from two main sources:

- Surplus excavated materials resulting from earthwork excavations and general site clearance (including potential demolition works). Where excavated material is deemed unacceptable for re-use, it will be necessary to remove off-site for disposal or for processing at a waste permitted or licensed facility. To mitigate waste generation, the reuse potential of all materials will be considered prior to excavation.
- Wastes generated from general construction activities including waste oils from plant and machinery, general waste from site office accommodation, etc. This will be transferred off site by a waste collector with a waste collection permit and transferred to an authorised facility.

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There may be surplus material used for surcharging. The design team will seek to identify reuse for this material to prevent it becoming a waste by planning for its reuse within the project design.

6.16 Chapter 16: Archaeological, Architectural and Cultural Heritage

6.16.1 Aspects to be Addressed

The assessment will address features and sites of archaeological, architectural and cultural heritage significance. The purpose of the study will be to assess the significance of the receiving cultural heritage environment and to identify and evaluate the magnitude of the impact of the proposed road improvement scheme on the sensitivity of each cultural heritage feature within this environment and on the broader historic character of the landscape. Measures will be proposed to mitigate effects (where possible) so as to allow a fully informed decision to be made by the adjudicating authority.

6.16.2 <u>Assessment Methodology</u>

The assessment will comprise a desk study and field walkover survey and will be based on EPA guidelines and relevant national and international best practice guidelines including:

- EPA, 2022 (19)
- Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes (NRA, 2005) (49)
- Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes (NRA, 2005) (50)
- Frameworks and Principles for the Protection of the Archaeological Heritage (DAHGI, 1999) (51)
- Architectural Heritage Guidelines (DoEHLG, 2004) (52)

6.16.2.1 Desk Study

A review of the following information will be carried out to inform the cultural heritage assessment report:

- information obtained from public and statutory consultees, for example nationwide surveys such as the Record of Monuments and Places (RMP) (including National Monuments in State Care, NIAH, RPS and landscape characterisation
- designated archaeological landscapes
- Record of Protected Structures and Architectural Conservation Areas (ACA's) in the Clare County Development Plan (as varied)
- National Inventory of Architectural Heritage (NIAH) building survey sites, NIAH historic gardens and designed landscapes survey sites
- artefactual material held in the National Museum of Ireland Archives National Museum of Ireland
- published and key references appropriate to the road improvement project including material from local interest groups and historical and archaeological societies.

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 collation of information from similar or other infrastructure projects in proximity to the proposed road improvement scheme, for example EIARs, SEAs, conservation plans, archaeological test assessments and excavations (including the Database of Irish Excavations) Cartographic sources

- place names folklore/traditions
- other documentary sources
- aerial photographs and imagery to be used in combination with historic mapping to map potential cultural heritage assets

6.16.2.2 Field Survey

At design stage the assessment will include a field assessment of the road section, the survey will confirm the location of recorded cultural heritage sites and will record their baseline condition; as well as the archaeological potential of all areas within the road improvement scheme project area and areas likely to be affected by the proposed development works. Fieldwork will also identify any unrecorded features of architectural or cultural heritage merit and will assess if they will be impacted by the development.

An archaeological geophysical survey of select areas with potential to be impacted by the development will be conducted. The archaeological geophysical survey comprises resistivity survey. At the point of writing, Rubicon has applied for a licence to carry out this survey,

Fieldwork will also seek to identify previously unrecorded roadside cultural heritage features (such as milestones, water pumps and stone bridges etc.) and structures.

6.16.3 Receiving Environment

A preliminary desk study conducted as part of a constraints assessment for the proposed road improvement scheme identified a total of 22 site of archaeological, architectural or cultural heritage significance within the Constraints Study Area. None of these sites are National Monuments or Sites Subject to a Preservation Order, Recorded Monuments (RMPs), Protected Structures (PS) or sites included in the NIAH. The identified sites comprise 10 townland boundaries and 12 unregistered cultural heritage sites. The unregistered cultural heritage sites include five vernacular buildings or building clusters, four embankments related to historic coastal defences, two wells and the site of a former navigation beacon for the Shannon Estuary.

Further investigation of three of these identified features will be carried out in the archaeo-geophysical survey.

6.16.4 Potential Impacts

There are no Protected Structures, Architectural Conservation Areas (ACAs), sites listed in the National Inventory of Architectural Heritage (NIAH) or unregistered cultural heritage sites comprising extant remains that could be classified as built heritage within the study area and therefore the Project is unlikely to have any impact on Architectural Heritage receptors.

The Project will extend through two areas of archaeological potential.

These are two of the few remaining areas of unimproved and undeveloped greenfield along this section of the N19 road, so would have a higher potential to preserve sub-surface archaeological features. Ground reduction for the option could impact on such features if present.

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6.17 Chapter 17: Landscape and Visual Impact

6.17.1 Aspects to be Addressed

The landscape and visual assessment report will appraise the existing landscape character and visual context of the project area and its wider setting in order to assess the likely landscape and visual impacts arising from the proposed development.

A suitable, bespoke study area will be proposed following further detailed analysis of the project.

6.17.2 Assessment Methodology

The LVIA Methodology can be summarised as undertaking the following key tasks:

- desktop study of the project area in relation to its overall wider context
- visit to the project area and its environs
- visit to assess landscape and visual impacts
- defining the baseline general landscape character, setting, and condition in relation to the proposed development.
- engagement with relevant landscape and visual planning designations with the study area as outlined in the Clare County Development.
- identification of quality and types of views in the areas
- understanding the extent of the visual envelope, i.e. the potential area of visibility of the project area in the surrounding landscape;
- identification and evaluation of key components of the proposed development
- assessment of potential landscape and visual impacts
- assessment of potential cumulative impacts with proposed/existing developments in the area
- consideration of mitigation and enhancement measures.

The LVIA methodology is guided by the following guidance:

- EPA, 2022 (19)
- Guidelines for Landscape and Visual Impact Assessment, 3rd Ed. (LI, and IEMA, 2013) (53).
- Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects - Overarching Technical Document PE-ENV-01101 (TII, 2020) (54).
- Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Proposed National Roads - Standard PE-ENV-01102 (TII, 2020) (55).
- Project Appraisal Guidelines for National Roads Unit 7.0 Multi Criteria Analysis PE-PAG-02031 (TII, 2016) (56).
- A Guide to Landscape Treatments for National Road Schemes in Ireland (NRA, 2006) (57).

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- Guidelines on the Implementation of Landscape Treatments on National Road Schemes in Ireland (NRA, 2011) (58).
- Design Manual for Roads and Bridges Volume 11, Section 3 for Stage Two Assessment (UK DMRB, 1994) (59).

6.17.3 Receiving Environment

6.17.3.1 General Description

The proposed development is situated in south County Clare on the north shore of the River Shannon flanked by Shannon International Airport with associated industrial and business areas to the west, and the settlement of Shannon to the east. The study area runs from Knockbeagh Point in the south to the junction of the N19 Shannon access Road and the R472 regional road in the north and passes through portions of the townlands of Rineanna South, Drumgeely, and Lismacleane.

6.17.3.2 Landform and Drainage

Topography in the study area is low lying and largely flat, ranging 0m to no greater than 30m Above Ordnance Datum (AOD). The most elevated locations are Tullyglass Hill 28m AOD, Drumgeely Hill 13m AOD, and Westpark Business Campus 26m AOD.

The Clonloghan watercourse has been canalised and flows through the study area from north to south before entering the River Shannon while a short section of the canalised Urlan Beg watercourse flows through the southern portion of the study area (Both of these watercourses are associated with the Special Protection Area - River Shannon and River Fergus Estuaries SPA, the Special Area of Conservation – Lower River Shannon SAC and proposed Natural Heritage Area - Fergus Estuary and Inner Shannon, North Shore pNHA). The coastal area to the south of Tullyglass at Drumgeely Creek and the area to the west of Knockbeagh Point are Saltmarsh wetlands.

6.17.3.3 Vegetation and Land Use

The northern end of the Project area is largely comprised of artificial surfaces including a combination of discontinuous urban fabric, industrial, commercial and transport units interspersed by a number of Open Spaces. Open Spaces are not necessarily publicly accessible, and some currently contain coniferous planting.

6.17.3.4 Landscape Character and Designations

A Landscape Character Assessment has been prepared for County Clare and this is incorporated into the current CDP (15). This identifies 26 separate Landscape Character Types (LCT). The proposed Project passes through the LCT 1: 'Built-up Areas' (URBAN) and LCT 10: 'Flat Estuarine Farmland and Islands' (FEF). The LCTs are then amalgamated into 21 Landscape Character Areas (LCA) and the majority of the proposed Project occurs within LCA 10: 'Sixmilebridge Farmland' while the southwestern extents fall within LCA 14: 'Fergus Estuary'.

Using the LCAs from the Landscape Character Assessment as a basis, Clare County Council has identified three types of landscape for the purposes of developing and implementing landscape policy. These include 'Settled Landscapes', 'Working Landscapes' and 'Heritage Landscapes'.

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Map 13a of the Clare CDP and Map C in Volume 2 of same (15), identifies where these various landscapes occur. The proposed development area occurs predominantly within the Working Landscape, but also includes a sliver of Heritage Landscape situated along the coast. The Working Landscapes are divided in to the 'Western Corridor Working Landscape' and the 'Shannon Estuary Working Landscape' with the latter being the one relevant to the proposed Project.

6.17.4 Potential Impacts

In the European Landscape Convention, landscape is defined as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors'. The term "landscape" is thus defined as a zone or area as perceived by local people or visitors, whose visual features and character are the result of the action of natural and/or cultural factors. Recognition is given to the fact that landscapes evolve through time and are the result natural and human activities.

Landscape and visual impact assessment has two separate, but closely related aspects. The first is visual impact, i.e., the extent to which the proposed development in the landscape can be seen. The second is landscape character impact, i.e., effects of the proposed development on the fabric or structure of the landscape as perceived by people. Landscape character is derived from the appearance of the land and takes account of natural and man-made features such as topography, landform, vegetation, land use and built environment and their interaction to create specific patterns that are distinctive to particular localities.

The Project involves a new section of road passing within an area zoned as Open Space in the LAP which is located to the northwest of the existing N19 on the opposite side to Drumgeely Hill. This Open Space contains a conifer woodland, and this option would likely require the removal of some trees within the woodland, resulting in a notable change to the character and consequently represents a potential significant impact on this landscape component.

There is the potential for significant visual impacts on residents on Drumgeely Hill:

- potential likely significant effect on landscape component 'Open Space zoning'
- potential likely significant visual effect on residents
- likely PAG Unit 7.0 Impact significance level: Moderate Negative (56)

Key to the development of the project will be the need for clear communication of the scale and extent of the proposed project. Clear and concise mapping of the existing areas of landscape and visual sensitivity together with photomontages and of the proposed will be essential in demonstrating the nature and extent of the development.

Assessment of the visual impact of the proposed scheme on the landscape will be based on the visual presence of the road improvements, their aesthetic impact on the landscape context and the significance of the impact. The assessment will examine potential landscape and visual impact of the proposed road improvement on designated landscape, properties, roads, recreation and tourism areas, including;

- Direct effects on landscape features, views, routes and areas described in the County Development Plans and Landscape Character Assessments.
- Potential changes to landscape and townscape character referring to the County Landscape Character
 Assessments noting subtle effects that contribute to the experience of more intangible landscape

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characteristics. Landscape types, significance/value, sensitivity and capacity for change will be examined

- Effects on designated landscapes, views, conservation sites (including any notable archaeological sites) and other special areas of interest.
- Effects during construction and operation.

6.18 Chapter 18: Inter-relationship and Interactions

This chapter will identify potential interrelationships and interactions between environmental aspects addressed in this EIAR i.e., interactions between one environmental aspect and another environmental aspect which can result in an environmental impact. The previous chapters will have described the potential impact of the proposed development under a variety of different topic headings.

The purpose of this Chapter is to take a more holistic view of the inter-relations and interactions between different aspects of the project and topics discussed in other chapters. This ensures that there is adequate coverage in this EIAR of the potential for the development to cause overall effects and cumulative impacts. This process examines whether interactions between the different effects themselves may cause impacts that are greater than those discussed individually. As such, this chapter responds to the requirement of the legislation governing the EIA process for the cumulative effects and the inter-relationship or interaction between the various topics to be fully considered and described.

6.19 Chapter 19: Schedule of Commitments

This chapter of the EIAR will summarise the construction phase and operational phase mitigation measures contained within the EIAR for the proposed development.

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7 BIBLIOGRAPHY

- 1. **EU.** Environmental Impact Assessment of Projects, Guidance on Scoping. 2017.
- 2. NRA. Environmental Impact Assessment of National Road Schemes A Practical Guide. 2008.
- 3. Department, of Transport. National Investment Framework for Transport in Ireland (NIFTI). 2021.
- 4. Department of Transport. Smarter Travel, A Sustainable Transport Future. 2009.
- 5. Department, of Transport. National Sustainable Mobility Policy. 2022.
- 6. Government, of Ireland. Climate Action Plan 2021. 2021 updated 2022.
- 7. **Department of Housing, Planning and Local Government.** *National Planning Framework -Project Ireland* 2040 . 2018.
- 8. Reform, Departnment of Public Expenditure and. National Development Plan 2021-2030. 2021.
- 9. RSA. Our Journey Towards Vision Zero Road Safety Strategy. s.l.: Department of Trasnport, 2021.
- 10. **Government, of Ireland.** *The Design Manual for Urban Roads and Streets.* 2019.
- 11. **Department of Heritage, Environment and Local Government.** *Guidelines on Sustainable Residential Development in Urban Areas.* 2009.
- 12. Transport, Department of. National Aviation Policy. 2015 updated 2022.
- 13. **Regional, Assembly Southern.** *Regional Spatial & Economic Strategy for the Southern Region 2020 2030.* 2020.
- 14. NTA. Draft Limerick-Shannon Metropolitan Area Transport Strategy (LSMATS). 2020.
- 15. CCCa. Clare County Development Plan 2017 2023 (As Varied). 2017.
- 16. CCC. draft Clare County Development Plan 2023-2029. 2021.
- 17. CCCb. Shannon Town and Environs Local Area Plan (As Amended) 2012 2018 (as Amended). 2017.
- 18. Environmental Impact Assessment of Projects Guidance on the preparation of the Environmental Impact Assessment Report . **EU.** 2017.
- 19. EPA. Guidelines on Information to be Contained in an Environmental Impact Assessment Report. 2022.
- 20. TII. Traffic and Transport Assessment (TTA) Guidelines. 2014.
- 21. NRA. Traffic and Transport Assessment Guidelines. 2014.
- 22. TII. TII Project Appraisal Guidelines for National Roads Unit 5.3 Travel Demand Projections. 2019.
- 23. TII—. Project Appraisal Guidelines for National Roads: Estimating AADT on National Roads. 2016.
- 24. TII. Geometric Design of Junctions DN-GEO-03060. 2017.
- 25. **IEMA.** Health in Environmental Impact Assessment, A Primer for a Proportionate Approach. 2017.
- 26. **TII.** Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes. 2011.
- 27. **IAQM.** Guidance on the assessment of dust from demolition and construction (Institute of Air Quality Management. 2014.
- 28. IAQM. Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance. 2011.
- 29. **UK, Highways Agency.** Design Manual for Roads and Bridges (DMRB) (Volume 11, Section 3 Air Quality. 2007.
- 30. **IEMA.** Assessing Greenhouse Gas Emissions and Evaluating their Significance. 2022.
- 31. Highways, Agency UK. LA 114 Climate. 2019.

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- 32. **NRA.** Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes. 2014.
- 33. CCC. Noise Action Plan. 2018.
- 34. Highways, Agency UK. LA111 Noise and Vibration, Design Manual for Roads and Bridges. 2020.
- 35. **NRA.** Environmental Assessment and Construction Guidelines . 2009.
- 36. CIEEM. Guidelines for Ecological Impact Assessment. 2018.
- 37. Best Practice Guidance for Habitat Survey and Mapping. al., Smith et. 2011.
- 38. Site Evaluation Scheme . NRA. 2009.
- 39. Guidelines for Assessment of Ecological Impacts of National Road Schemes . NRA. 2009.
- 40. Guidelines for the Crossing of Watercourses during the Construction of National Road Schemes . **NRA.** 2008.
- 41. Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes. NRA. 2008.
- 42. **Ireland, Institute of Geoligists of.** *Guidelines for the Preparation of Soils, Geology and Hydrogeology Chapters of Environmental Impact Statements* . 2013.
- 43. **NRA.** Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes . 2009.
- 44. **DoEHLG/OPW.** The Planning System and Flood Risk Management Guidelines for Planning Authorities. 2009.
- 45. Planning, Inspectorate UK. CIS Guidance Document 36, Advise Note 19. 2017.
- 46. JASPERS. WFD Checklist Tool . 2018.
- 47. **OPW.** Consent Requirements Construction Alteration of Watercourse Infrastructure A Guide to Applying for Consent under Section 50 of the Arterial Drainage Act, 1945. 2018.
- 48. OPW—. Design Guidance for Fish Passage on Small Barriers. 2021.
- 49. **TII.** Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes . 2005.
- 50. NRA. Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes. 2005.
- 51. **DAHGI.** Frameworks and Principles for the Protection of the Archaeological Heritage . 1999.
- 52. **DEHLG.** Architectural Heritage Guidelines . 2004.
- 53. **Assessment, Landscape Institue and Institue of Environmental Management and.** *Guidelines for Landscape and Visual Impact Assessment.* 2013.
- 54. **TII.** Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects Overarching Technical Document PE-ENV-01101. 2020.
- 55. TII. Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Proposed National Roads Standard PE-ENV-01102. 2020.
- 56. TII—. Project Appraisal Guidelines for National Roads Unit 7.0 Multi Criteria Analysis PE-PAG-02031. 2016.
- 57. NRA. A Guide to Landscape Treatments for National Road Schemes in Ireland. 2006.
- 58. NRA—. Guidelines on the Implementation of Landscape Treatments on National Road Schemes in Ireland . 2011.
- 59. **UK, Highways Agency.** Design Manual for Roads and Bridges Volume 11, Section 3 for Stage Two Assessment. 1994.
- 60. Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes . NRA. 2005.

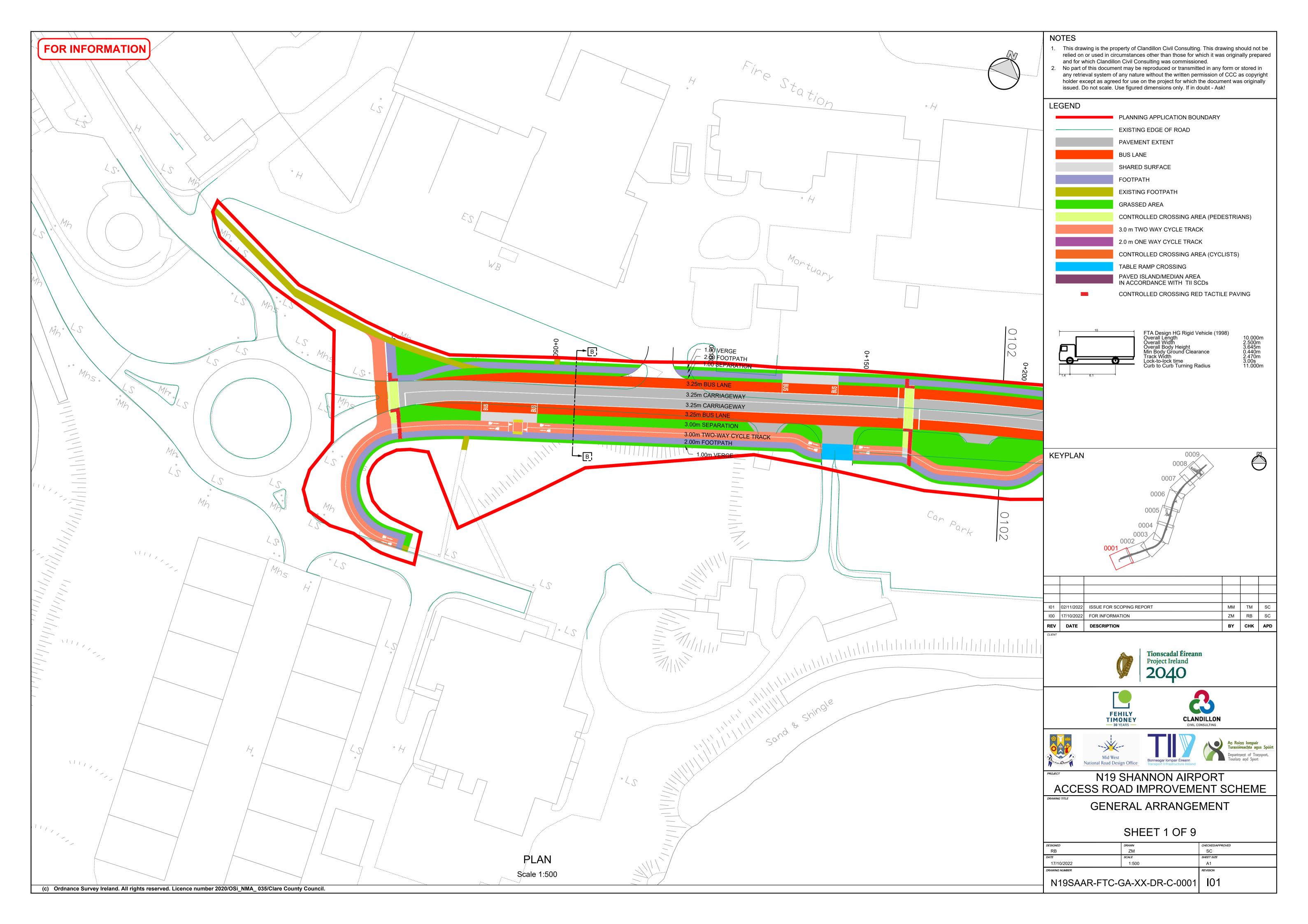


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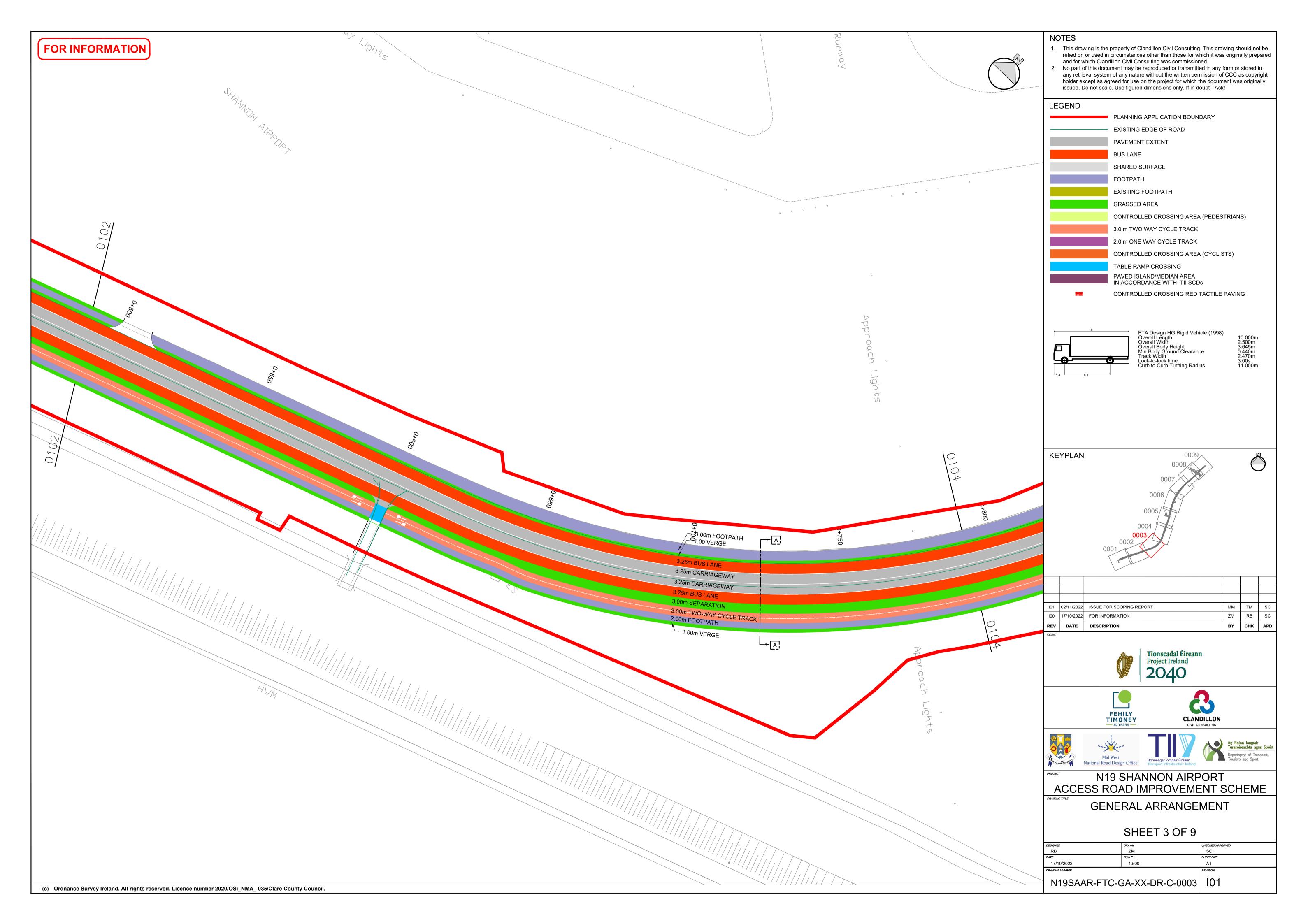
APPENDIX 1

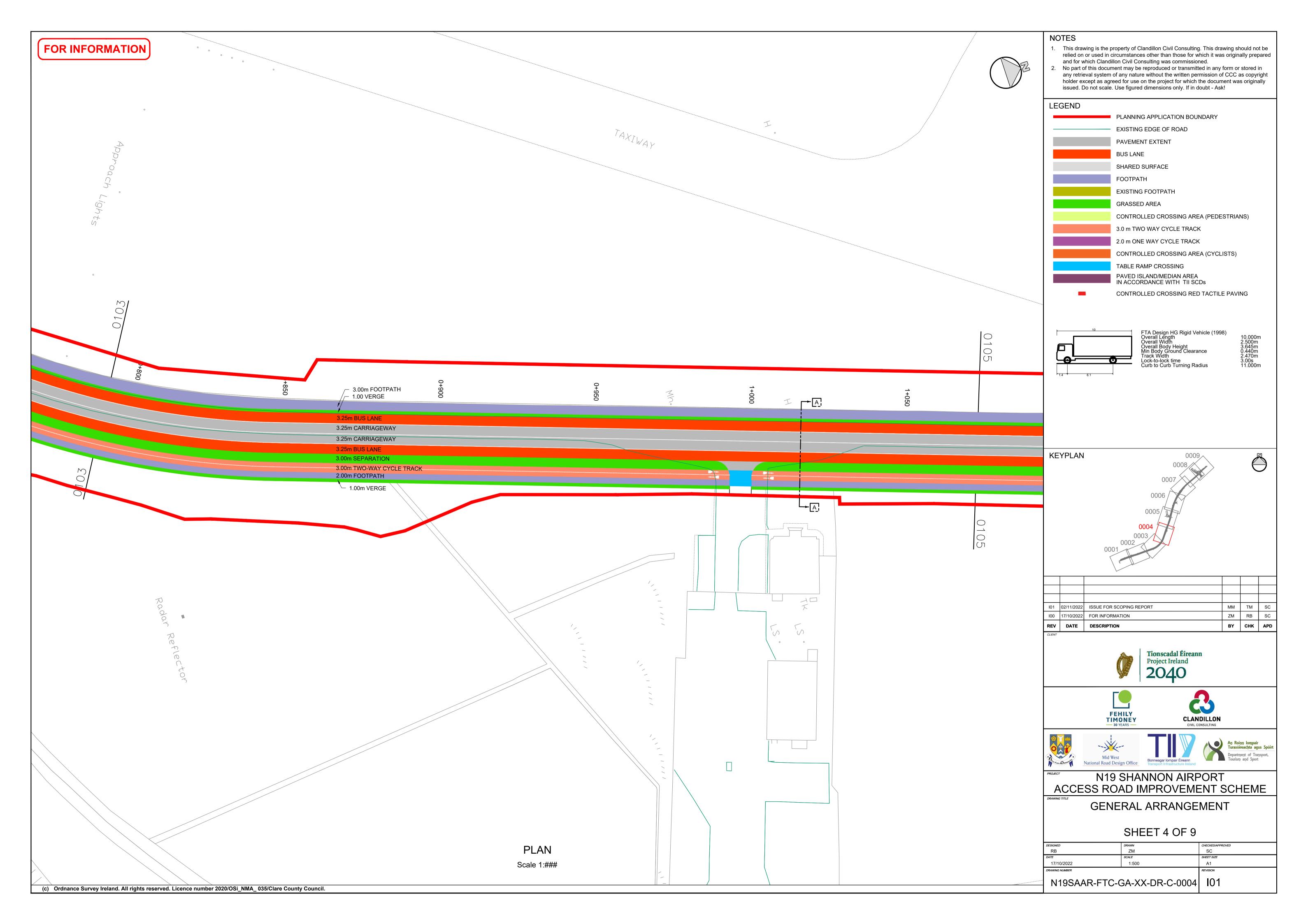
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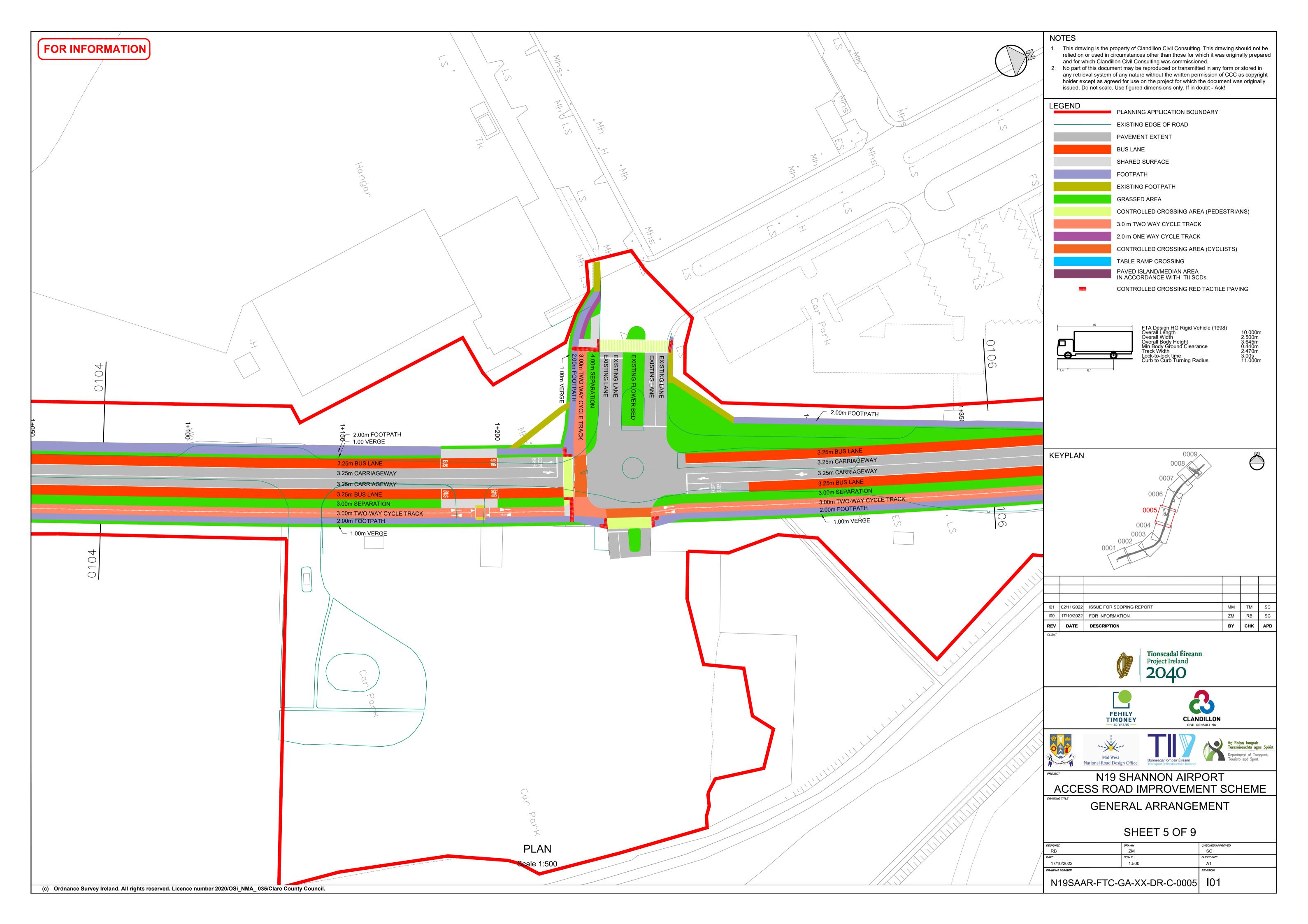


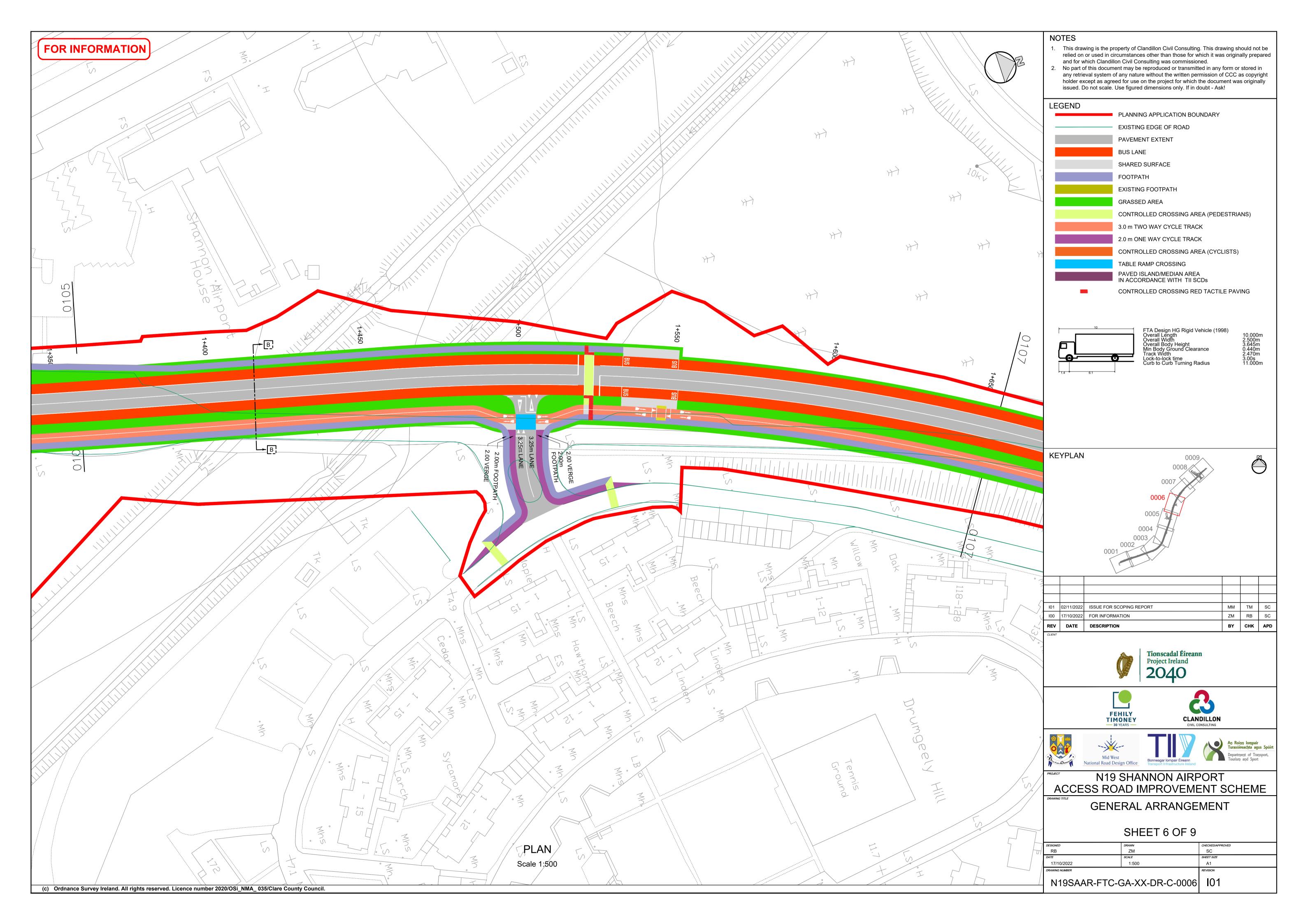


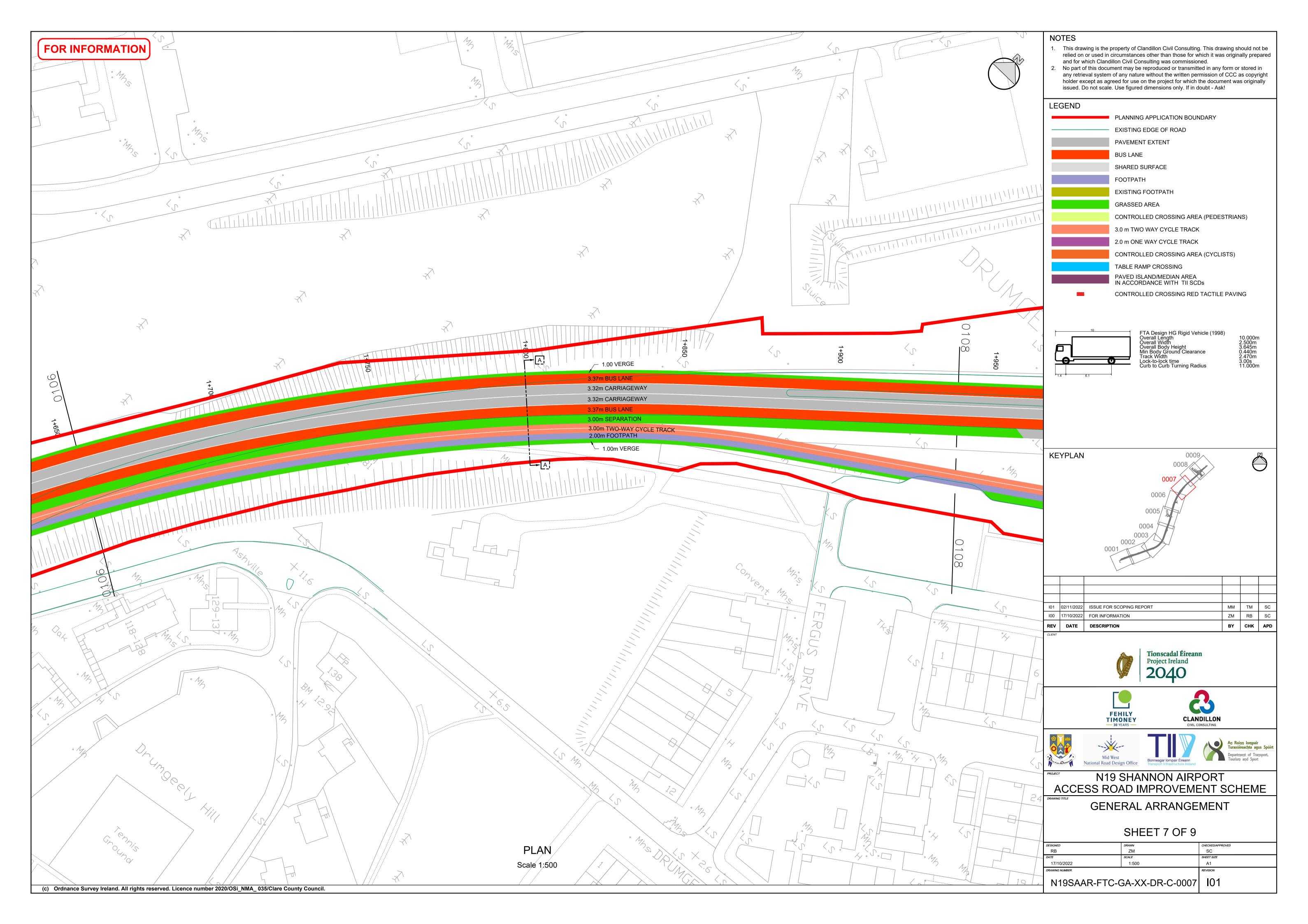


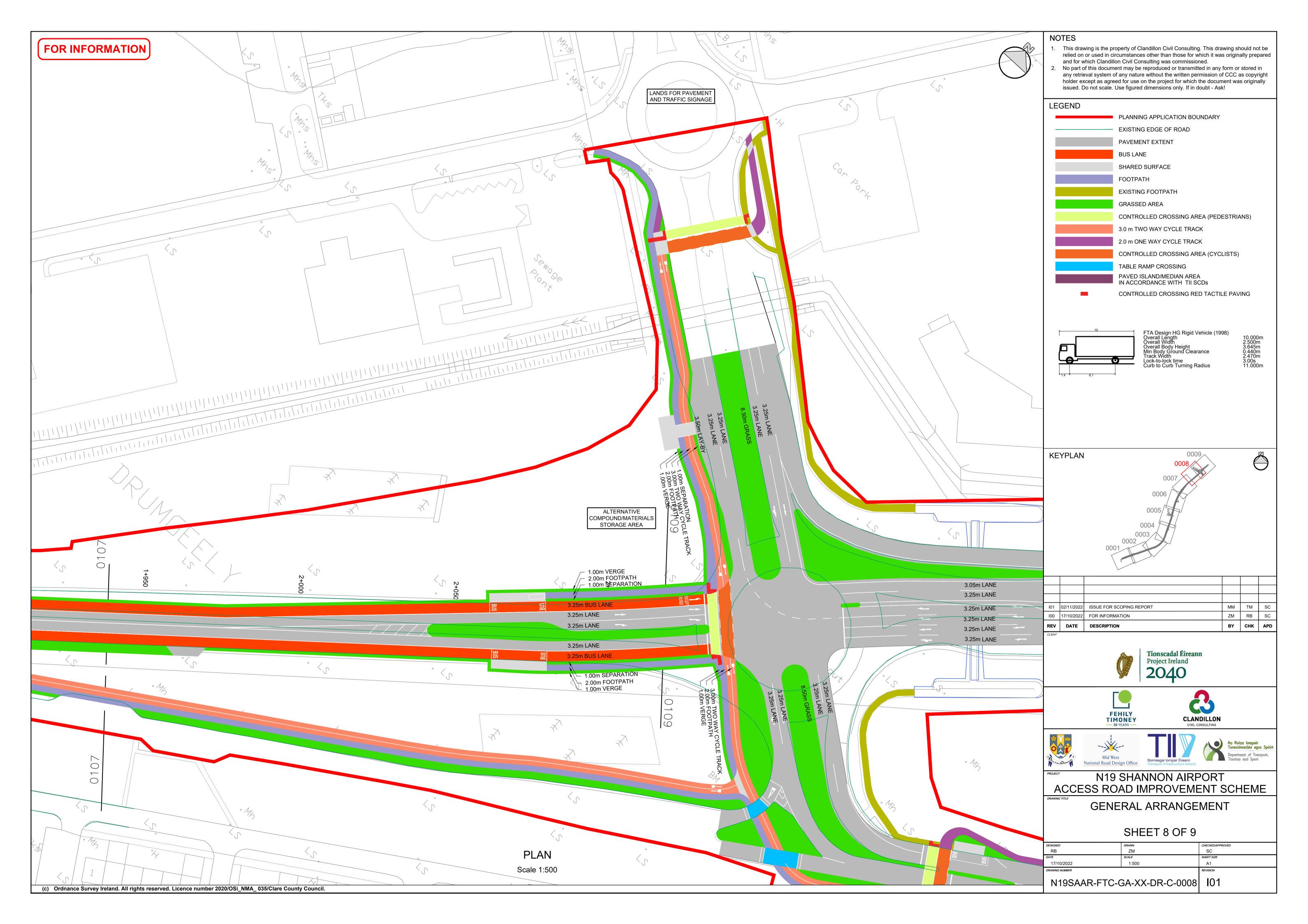


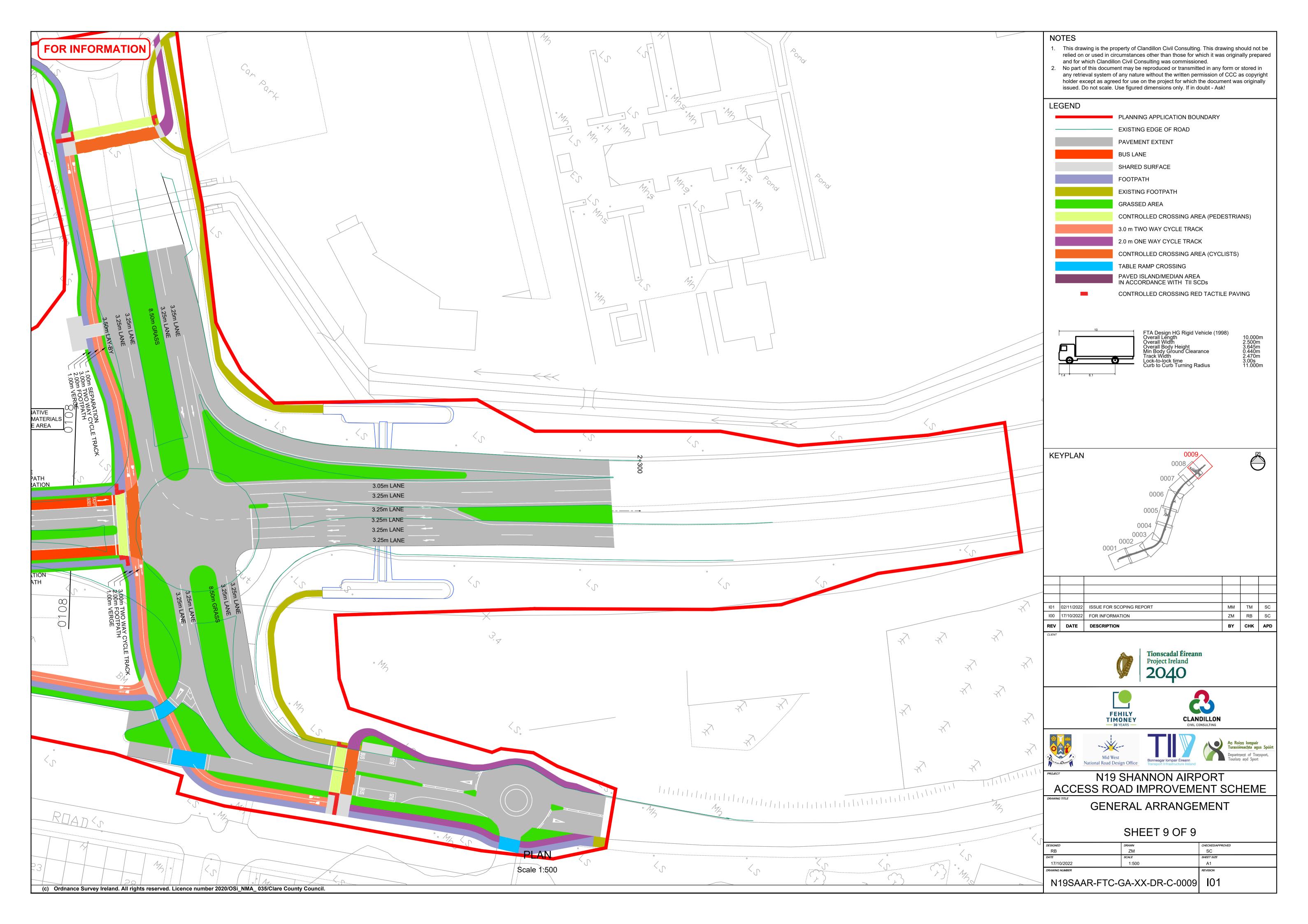














CONSULTANTS IN ENGINEERING,
ENVIRONMENTAL SCIENCE
& PLANNING

APPENDIX 2

List of Consultees



LIST OF CONSULTEES

Name
Regional Authority
Southern Regional Assembly
Government Departments
Minister for Communications, Climate Action and Environment
Minister for Housing, Local Government & Heritage
Minister for Housing, Local Government & Heritage (DAU)
Minister for Rural and Community Development
Minister for Transport
Minister for Enterprise, Trade and Employment
Minister for Tourism, Culture, Arts, Gaeltacht, Sport and Media
Telecommunications
Commission for Regulation of Utilities
Eircom Ltd (Eir)
ESB Networks
Other Bodies or Interested Parties
An Taisce
Bat Conservation Ireland
Birdwatch Ireland
Bus Éireann
Department of Defence
EirGrid
Environmental Protection Agency (EPA)
Fáilte Ireland
Geological Survey Ireland (GSI)
Gas Networks Ireland
Health and Safety Authority
Health Service Executive (HSE)
Inland Fisheries Ireland (IFI)
An Chomhairle Ealaíon (The Arts Council)
Irish Aviation Authority
Irish Water

Name
Irish Wildlife Trust
Met Éireann
National Biodiversity Data Centre
National Monuments Service
National Parks and Wildlife Service (NPWS)
National Transport Authority
Office of Public Works (OPW)
South West Region Catchment Team
Sports Ireland
Sustainable Energy Authority Ireland
The Heritage Council
Transport Infrastructure Ireland (TII)
Shannon Chamber
Shannon Airport Group
Future Mobility Campus Ireland
Cycling Ireland
The Irish Cycling Advocacy Network

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