Maynooth Eastern Ring Road

EIA Screening Report | May 2019

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Meanma agus Mianaigh

Maynooth Eastern Ring Road

EIA Screening Report

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1. INTRODUCTION

The purpose of this Environmental Impact Assessment (EIA) Screening report is to inform the competent authority as to whether the proposed Maynooth Eastern Ring Road referred hereafter as the 'proposed development' is likely to have significant effects on the environment such that an Environmental Impact Assessment Report (EIAR) should be prepared and an Environmental Impact Assessment (EIA) be conducted.

This EIA Screening Report contains the necessary information to enable the competent authority, in this case Kildare County Council, to undertake an EIA Screening Assessment and determine whether an Environmental Impact Assessment (EIA) is required for the proposed road development.

The EIA Screening report is presented in accordance with the information required as per Schedule 7A of the Planning and Development Regulations 2001-2018. The information is presented in the following sections:

Section 3: Characteristics of the Proposed Development

Section 4: Location of the Proposed Development

Section 5: Types and Characteristics of Potential Impact

A separate Appropriate Assessment (AA) Screening has also been prepared for the proposed development.

1.1 Introduction to the Proposed Development

The proposed development is located in the Railpark townland to the east of Maynooth, in a semi-urban area, within the townlands of Maynooth, Railpark and Moneycooly. The proposed development will comprise approximately 1.55 km of ring road linking the R148 Leixlip Road and the R405 Celbridge Road in a north-south direction to the east of Maynooth, creating a new link to the east of Maynooth and providing an alternative route for traffic which currently has to travel through Maynooth town centre.

The proposed development will comprise; a single carriageway road of 1.55km length, the upgrade of two junctions at the northern and southern tie-ins to provide access onto the new development. A bridge crossing is also required as part of the proposed development to bridge over the Royal Canal and the Dublin to Sligo railway line. The route will also provide facilities for pedestrians and cyclists within the road cross section and will also create an access link to the Royal Canal toepath. A detailed description of the proposed development is included in this report in Section 3 and drawings of the proposed development are included in Appendix A.

1.1.1 Need for the Proposed Development

The provision of a transport link between the Maynooth to Leixlip Road (R148) and the Maynooth to Celbridge Road (R405) through the Railpark townland to the east of Maynooth town has been a roads objective for Maynooth dating back to the Maynooth Town Plan 2002 and is currently an objective of the Maynooth Local Area Plan (LAP) 2013 – 2019 Incorporating Amendment No. 1. The location of the proposed road is shown in Figure 1.1 below on the Maynooth Local Area Plan Roads Objective Map outlined in yellow.

Currently there is no suitable road that serves the purpose of providing a ring road to the east of Maynooth which would provide a connection between the Leixlip Road (R148) and the Dunboyne Road (R157) to the Celbridge Road (R405) without travelling

through Maynooth town centre. The proposed development will aim to reduce congestion within Maynooth town centre through the provision of new road infrastructure, including sustainable transport facilities, pedestrian/cyclist facilities and bus stops. The need for the proposed development is supported by existing national, regional and local planning policy as discussed in Section 1.2.

The need for the proposed development also stems from local needs to improve connectivity and provide improved road infrastructure to local road users.

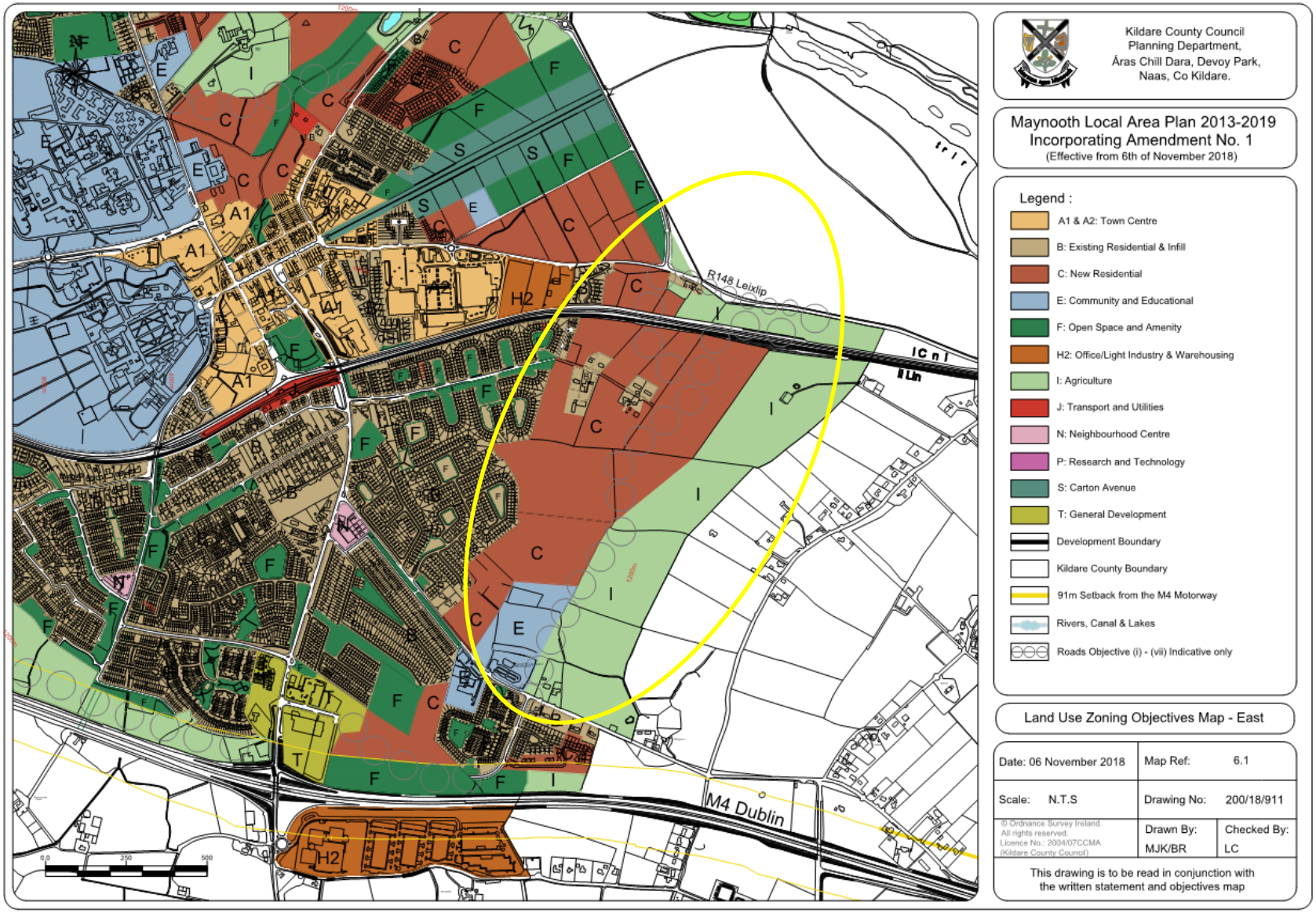

Figure 1.1 Proposed Road Location as shown on the Maynooth Local Area Plan Land Use Zoning Map outlined in yellow

The proposed road development will achieve the following objectives, and this evidences the need for the proposed development:

- Improve connectivity to road users travelling between the M4 Dublin to Sligo Road and the R157 Dunboyne Road to County Meath, removing the need to travel through Maynooth;
- Provide a safer alternative to minor roads within the locality which may currently be used to avoid traffic in Maynooth;
- Contribute to the goals contained in the *Smarter Travel – A Sustainable Transport Future* policy by including new walking and cycling facilities along the length of the proposed development;
- Provide access to the Royal Canal for pedestrians and cyclists, facilitating access for locals to Maynooth and the Maynooth Train Station via the Royal Canal Greenway and to enable walking and cycling loops within the local area as part of the proposed development;
- Provide new road infrastructure to manage the continued development of Maynooth and contribute to alleviate traffic demands through Maynooth town by providing an alternative route to locations such as schools on the R405 Celbridge Road and on the Moyglare Road as well as the National University of Ireland Maynooth (NUIM);
- Provide necessary road infrastructure which will allow for the future development of zoned lands to the east of Maynooth town. The Maynooth Eastern Ring Road has been approved for Local Infrastructure Housing Activation Fund (LIHAF) funding; and
- Provide improved connectivity and access to public transportation along the route as well as an extensive pedestrian and cyclist facilities to enable and promote the use of sustainable travel.

1.2 Policy Context

1.2.1 National Planning Policy

National Development Plan 2018–2027 – Project Ireland 2040

National Development Plan 2018–2027 (NDP) will drive Ireland's long term economic, environmental and social progress across all parts of the country over the next decade. NDP states the fundamental objectives:

- Carefully managing the sustainable growth of compact cities, towns and villages to achieve effective density and consolidation through a streamlined and co-ordinated approach to their development;
- Improving access to quality education and health and childcare resources;

NDP also states that "Investment in national, regional and local road infrastructure will be delivered in accordance with the NPF. It will be guided by the findings of the Department of Tourism, Transport and Sport's SIFLT analysis:

- Roads will be maintained to a high quality.
- Roads will be improved to reduce journey times, remove bottlenecks and improve safety.
- New roads will be built to connect communities and encourage economic activity.

The NDP emphasises the importance of a good transport infrastructure as being crucial to the promotion of national competitiveness and sustainable development and

that this can be achieved by further investment in roads to improve traffic flows, reduce congestion and thus result in lower rates of traffic emissions.

The proposed development will contribute to the objectives of the NDP in managing the sustainable growth of Maynooth, allowing the development of zoned lands and improving connectivity between residential areas and the two schools on the R405 Celbridge Road. The proposed development will also contribute to the objectives outlined for road infrastructure, following the outcomes of the SIFLT analysis.

Smarter Travel – A Sustainable Transport Future

Smarter Travel, a Sustainable Transport Future (2009-2020) is a new transport policy for Ireland introduced by the Government in 2009 to:

- Enhance our communities;
- Improve our environment;
- Make our economy more efficient and competitive, and;
- Significantly add to the equality of life for all our citizens.
- Chapter 3 of the policy document outlines the Key Goals of the smarter travel initiative which includes to improve quality of life and accessibility to transport for all and, in particular, for people with reduced mobility and those who may experience isolation due to lack of transport;
- Improve economic competitiveness through maximising the efficiency of the transport system and alleviating congestion and infrastructural bottlenecks;
- Minimise the negative impacts of transport on the local and global environment through reducing localised air pollutants and greenhouse gas emissions;
- Reduce overall travel demand and commuting distances travelled by the private car; and
- Improve security of energy supply by reducing dependency on imported fossil fuels.

The second Key Goal as defined within the policy document, in relation to maximising the efficiency of the transport system and alleviating congestion and infrastructure bottlenecks aligns with the key objectives of the proposed development. The reduction of congestion within Maynooth and improved access to the railway station will result in improvements which align with the remainder of the key goals identified within the document.

The policy document sets out 49 actions identified to achieve these objectives. The development of the Maynooth Eastern Ring Road supports a number of these objectives and actions, in that:

- The proposed development will ease congestion and pressures on the local road network.
- It will provide walking and cycling facilities and in turn will provide a safer environment for pedestrians and cyclists and thus allow for the promotion of local commuting via non-motorised transport means.

1.2.2 Regional Planning Policy

Transport Strategy for the Greater Dublin Area 2016 - 2035

On the 6th April 2016 the National Transport Authority (NTA) announced that its work in preparing the Transport Strategy for the Greater Dublin Area (GDA) 2016 to 2035 had concluded. The Strategy outlines a suite of public transport and highway

proposals to be implemented through the GDA over the period 2016 to 2035. The Strategy is intended to guide decisions on transport throughout the GDA and will contribute to the economic, social and cultural progress of the GDA by providing for the efficient, effective and sustainable movement of people and goods.

The NTA Transport Strategy comprises a longer-term analysis of the needs of the transport network within the GDA (including Maynooth as part of Corridor C) as shown in Figure 1.2 below. The Strategy builds upon the previous 2011 Draft Transport Strategy which recognised the need to reduce car commuting mode share and aimed to reduce car commuting mode share to 45% by 2030. The Strategy therefore recognises the need to invest in public transport solutions for the long-term sustainable development of the GDA.

The aims of the Strategy include:

- "Implement the DART Expansion Programme, which will provide DART services to Maynooth in the west which will deliver a very substantial increase in peak-hour capacity on this line.";
- "Develop orbital roads around town centre accompanied by and facilitating enhanced public transport, cycling and pedestrian facilities in the relevant centre.";
- "Develop appropriate road links to service development areas"; and
- "Enhance pedestrian and cycle safety through the provision of safer road junctions, improved pedestrian crossing facilities and the incorporation of appropriate cycle measures including signalised crossings where necessary."

The proposed development will help achieve the above aims by providing a ring road to the east of Maynooth town including footpaths and cycleways which can connect to the town centre via the Royal Canal walkway. The new junctions will provide pedestrian crossing facilities ensuring the safety of pedestrians and cyclists, and segregated cycle tracks.

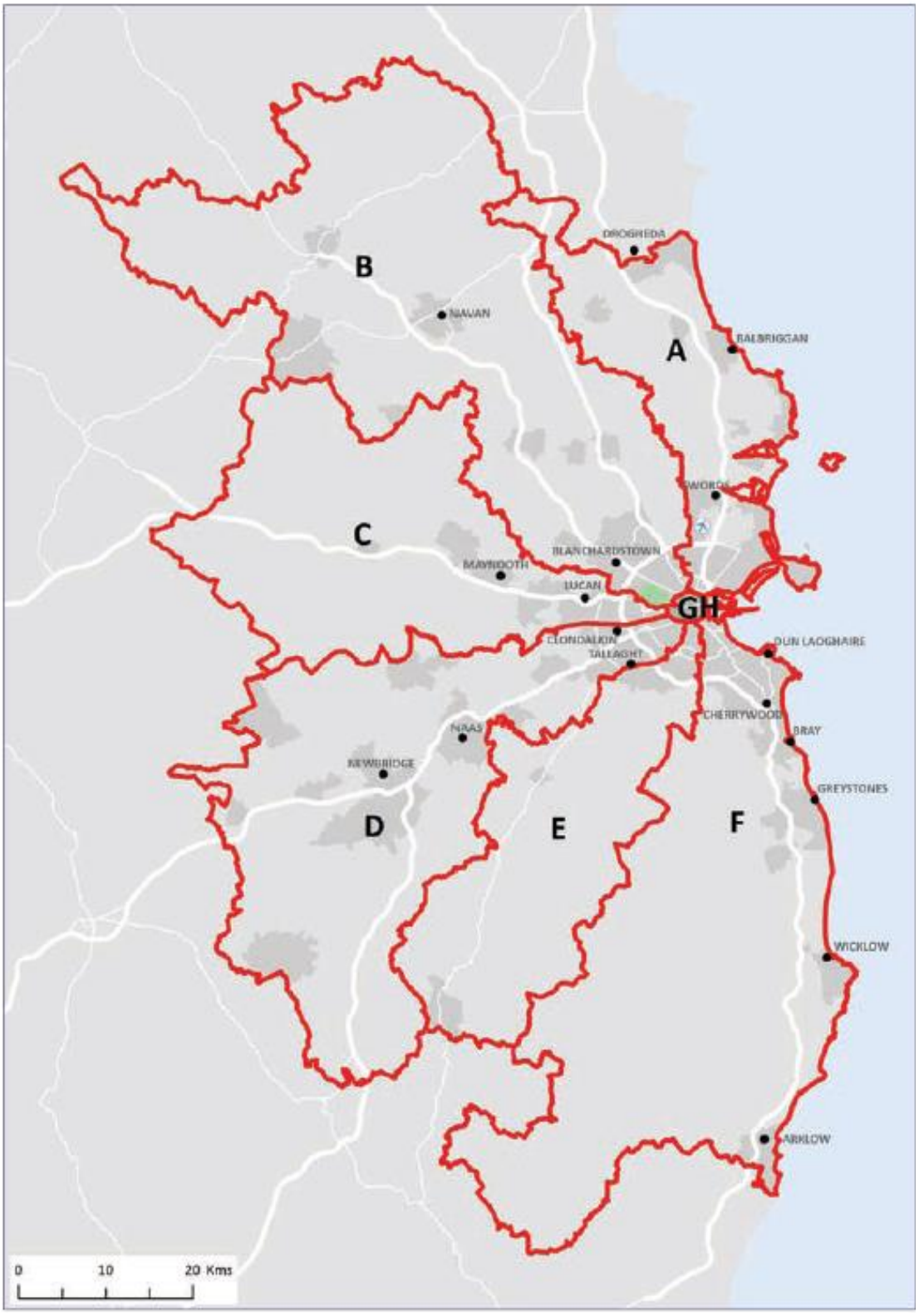

Figure 1.2 Transport Strategy for the Greater Dublin Area – Radial Corridors

The Regional Planning Guidelines for the Greater Dublin Area 2010 – 2022

A 6-tier urban hierarchy is described in the regional planning context, and as shown in Figure 1.3 below, with the relevant towns local to the subject development shown at the appropriate level:

- Gateway Core - Dublin City;
- Metropolitan Consolidation Towns;
- Large Growth 1 – Naas & Navan;
- Large Growth 2 – Maynooth & Leixlip;
- Moderate Sustainable Growth Town – Kilcock and Celbridge; and
- Small Towns – Sallins, Straffan and Enfield

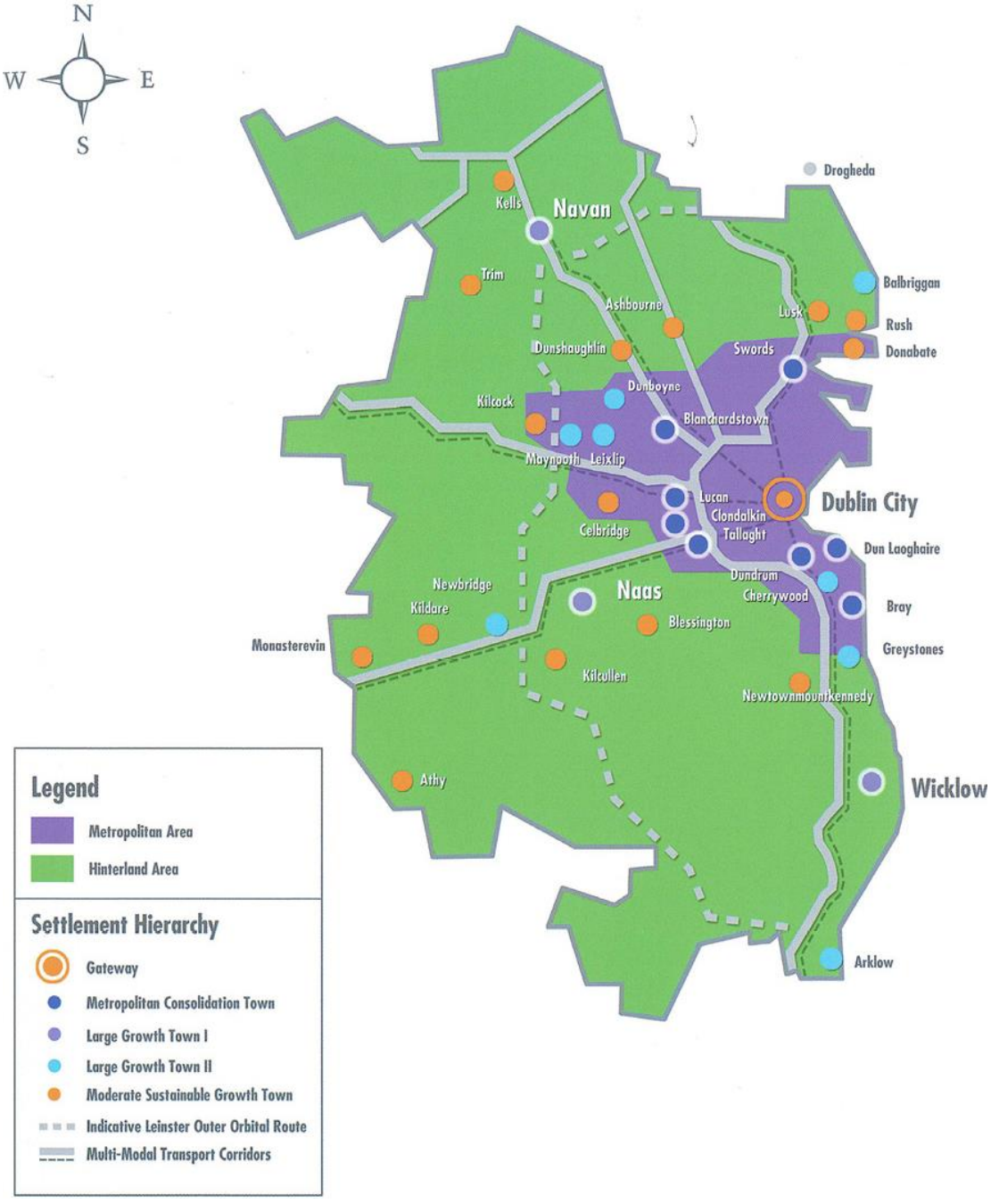

Figure 1.3 RPGGDA – Settlement Strategy

Key planning and development issues in the Greater Dublin Area include the economic imperative to link future locations of growth with investment in public infrastructure, particularly through land use & transport integration.

It is policy (Ch 3.1) to promote balanced economic development within the Region. Connectivity and investment in linkages between centres of economic activity, ports and airports is important (Ch 3.5.6) and has benefits to outputs, costs and productivity, with radial routes and multi-modal corridors offering access to larger indigenous and foreign markets and allowing movement of goods, services and labour between Gateways and major employment centres.

Barriers to enterprise include urban sprawl, congestion and long travel times. Priority targets for investment in transport infrastructure are essential to the economic success of the Region. Local congestion in the GDA represents the biggest road transport issue for the area. A range of possible solutions is suggested including maximising the use of existing road infrastructure.

The RPGGDA (Ch 6.3.2) require a holistic approach in the design and retro-fitting of the existing road network to:

- Cater for sustainable transport modes;
- Provide contingencies for such provisions as green bridges/eco-ducts, connections for communications infrastructure and services which may be required over the next 10 - 20 years; and
- Provide high quality layout, safety and design.

It is further stated (Ch. 6.3.2) that 'investment in public transport development is the main priority in the GDA, it is recognised that future transport demands cannot be delivered solely by the public transport rail system, and that the road network will continue to be critical to transport management and the efficient movement of buses, people, goods and other services in the GDA and beyond'.

The proposed development will aim to reduce congestion within Maynooth town and the surrounding area through the provision of new infrastructure which will strive to reduce congestion and travel time through enabling traffic to travel in a north-south direction around Maynooth without having to travel through the town centre. The proposed development will also provide extensive footpaths and cycle tracks along the length of the ring road to promote and enable sustainable travel within the area.

Draft Eastern and Midland Regional Spatial and Economic Strategy (RSES)

The Draft Regional Spatial and Economic Strategy (RSES) sets out a 12-year strategic development framework for the Eastern and Midland region. The Strategy's aim is to support the national level 'Project Ireland 2040' and sets out a development framework to guide development in the region. The Eastern and Midland region is comprised of 9 counties; Longford, Westmeath, Offaly, Laois, Louth, Meath, Kildare, Wicklow and Dublin.

Maynooth is identified as one of three key towns within the Eastern and Midlands Region which is within the Dublin Metropolitan Area. A Key Town is defined as a "*Large economically active service and / or county town which is able to provide employment for its surrounding area, having high-quality transport links, and with an ability to act as growth drivers to complement its Regional Growth Centres*".

The Eastern and Midland RSES identifies the Railpark lands as a growth area, with significant residential development potential and potential links along the Royal Canal towpath to the town centre. It also identified that the Railpark lands are subject to LIHAF funding for a new relief road and bridge over the railway line.

The following Regional Policy Objective outlines the objective for Maynooth as a Key Town (RPO):

> "*RPO 4.27: Support the continued development of Maynooth, co-ordinated with the delivery of strategic infrastructure including DART expansion to support future population growth and build on synergies with Maynooth University to promote research and economic development opportunities*".

The proposed development will provide a high-quality transport link to support the development of Maynooth into the future. The development will also provide infrastructure required to service the Railpark lands which are identified as a growth area. The need for the relief road and bridge over the railway line is outlined and will be enabled through the proposed development.

1.2.3 Local Planning Policy

Kildare County Development Plan 2017 - 2023

The County Development plan has effect from the 1st March 2017. The aim of the Development Plan is to "promote ease of movement within and access to County Kildare, by integrating sustainable land use planning with a high quality integrated transport system; to support improvements to the road, rail and public transport network, together with cycleway and pedestrian facilities and to provide for the sustainable development of aviation travel within the county in a manner which is consistent with the proper planning and sustainable development of the county".

The Kildare County Development Plan contains the following list of policies, for which the proposed development will contribute to as outlined below:

- "*Prioritise the development of new urban distributor/link/arterial roads to provide access to new communities and employment development to support the economic development of the county. (MT 5*)" (P.130)
    - The Maynooth Eastern Ring Road will provide a distributor/link/arterial road to the east of Maynooth to link the R405 and R148.
- "*Seek to address urban congestion with particular emphasis on facilitating improved bus transport movement and reliability and improved links to bus and railway stations. (MT 8*)" (P.130)
    - The proposed development will reduce congestion within Maynooth and on the wider network, while providing potential for new bus routes, and an improved link to the Maynooth Railway station for pedestrians and cyclists via the link to the Royal Canal towpath.
- "*Co-operate with adjoining authorities and other public authorities to secure new and/ or improved road infrastructure at towns bordering the county boundary including Blessington, Kilcock, Maynooth and Leixlip (RS 9)"* (P.136)
    - The proposed development provides a junction with the R157 Dunboyne Road which will create a new link between the N4 Dublin to Sligo Road and the Dunboyne Road which travels north through to County Meath.

Walking and cycling policies also included in the County Development Plan as below, where the contribution which the proposed development will have to these policies is also outlined:

- "*Promote the development of safe and convenient walking and cycling routes (WC 2*)"
    - The proposed development will provide safe pedestrian and cycle facilities along the length of the development in addition to a link connecting into the Royal Canal toepath which provides an off road route towards both Maynooth and Dublin.
- "*Ensure that connectivity for pedestrians and cyclists is maximised in new communities and improved within the existing areas in order to maximise access to town centres, local shops, schools, public transport services and other amenities (WC 3)"*
    - Pedestrian and cycle facilities will be provided to enable residents of existing and new housing estates to connect to schools, public transport, the Maynooth Railway Station and Maynooth town centre via the Royal Canal toepath.
- "*Provide for safer routes to schools within the county and promote walking and cycling as suitable modes of transport as part of the Green Schools Programme and other local traffic management improvements. (WC 7)"*
    - The pedestrian and cycle facilities will link residential areas along the R148 and those in town, with the two schools on the R405 providing safe connectivity for adults and children alike.

Maynooth Local Area Plan 2013 – 2019 (Incorporating Amendment No.1)

The LAP states that "*Traffic congestion is a major problem in Maynooth Town*". The delivery of policies and objectives of the LAP particularly roads infrastructure is recognised as "*vital for the economic development and quality of life of all Maynooth's residents and visitors"*.

The Maynooth Eastern Ring Road is an objective of the Maynooth Local Area Plan as below under 'Roads Infrastructure' contained in Section 7.5.2 of the LAP:

"*TRO 2: To facilitate the future construction of the following roads and in the interim protect these routes from development":*

"-Between the Celbridge Road (B) and the Leixlip Road (E)(i) or (E)(ii) (TRO 2)".

In addition, the proposed development supports a number of Policies and Objectives of the Plan, , including the following:

"TR0 1: To develop, maintain and improve as required, the local road network to ensure a high standard of road quality and safety in accordance with the requirements of this Plan and relevant legislation."

Amendment No.1 to the Maynooth Local Area Plan 2013-2019 was made in 2018 to align the Maynooth Local Area Plan with the Core Strategy of the Kildare County Development Plan 2017-2023 and to align the zoning matrix with other local area plans in Kildare and the Kildare County Development Plan.

The recent amendment to the Maynooth LAP also changed the zoning of areas of land, including lands at Railpark, Maynooth and Moneycooly townlands. Map 6.1 from the recent LAP Amendment (Refer to Figure 1.1) illustrates these land use zoning changes. Lands within the footprint of the proposed development have been changed from Agriculture "I" to New Residential "C" and from Office "H4" to New Residential "C". This land will facilitate the development of the Railpark area as a new Key Development Area of approximately 39 hectares of land. The Amendment No.1 also identified Railpark as a Key Development Area (section 7.1.4 of the Amendment No.1). The Railpark Key Development Area (KDA) is bounded by Parklands and Rockfield estates to the west, the Royal Canal and the Dublin-Sligo rail line to the north, Celbridge Road to the south and agricultural lands to the east.

1.2.4 Guidance and Methodology

This EIA Screening Report has been prepared with reference to the relevant legislation, EU and national guidance documents. The methodology devised for this EIA Screening is based on established best practice with particular reference to: -

- Annex III and Annex IIA of Directive 2014/52/EU;
- Schedule 7 of the Planning and Development Regulations 2001-2018, and the criteria set out in Schedule 7A;
- *Environmental Impact Assessment (EIA) Guidelines for Consent Authorities Regarding Sub-Threshold Development* (DEHLG, 2003);
- *Environmental Impact Assessment of Projects Guidance on Screening (European Commission, 2017); and*
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, August 2018*
- *The European Commission Environmental Impact Assessment of Projects, Guidance on Screening (2017).*
- *Environmental Impact Assessment of National Road Schemes – A Practical Guide* (NRA/TII, 2008)

The following draft guidance document has also been consulted:

- *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*, Draft August 2017 (EPA, 2017).

2. LEGISLATIVE CONTEXT

Directive 2011/92/EU as amended by Directive 2014/52/EU (the EIA Directive) sets out the requirements for environmental impact assessment ("EIA"), including screening for EIA. Projects listed in Annex I of the EIA Directive require mandatory EIA while projects listed in Annex II require Screening to determine whether an EIA is required or not. Annex I and Annex II of the EIA Directive have been transposed into Irish Law in the Planning and Development Regulations 2001 to 2018 and in particular Schedule 5 (Part 1 and Part 2).

Section 50 of the Roads Act, 1993 (as amended) sets out the circumstances in which a road authority must prepare a statement of the likely effects on the environment (now called an Environmental Impact Assessment Report) of any proposed road development. It consists of certain mandatory categories where an EIAR must be provided and an EIA conducted namely in relation to (i) motorway (ii) busway, (iii) the construction of a service area or (iv) any prescribed type of "proposed road development" consisting of the construction of a proposed public road or the improvement of an existing public road that exceeds certain thresholds.

2.1 Screening for Mandatory EIA

All projects can be placed into one of the following two categories:

- Those that **exceed the thresholds** laid down in planning policy and therefore have a mandatory requirement to prepare an EIAR; and
- Those projects that are **sub-threshold** and must be assessed on a case-by-case basis to determine whether or not they are likely to have significant effects on the environment.

This first part of the EIA Screening exercise is to determine if EIA is required as set out in the Annex I of the EIA Directive, and the mandatory and discretionary provisions of the Planning and Development Act, 2000 (as amended) (the Act) and Schedule 5 of the Planning and Development Regulations 2001- 2018. Section 172 of the Act provides the legislative basis for mandatory EIA.

In this case the proposed development is not listed in Annex I (EIA Directive) or Schedule 5 (Part 1) of the Planning and Development Regulations and therefore **does not require mandatory EIA.** Section 50 Roads Act 1933 (as amended) is also required to be reviewed for this proposed development. Table 2.1 below provides an overview of the relevant road legislation and assesses if the proposed development meets or exceeds the mandatory thresholds contained therein.

Table 2.1 Screening Matrix for mandatory EIA (Roads Act & Regulations)

Mandatory Threshold	Regulatory Reference	Assessment
a) A road authority or the Authority shall prepare a statement of the likely effects on the environment ('environmental impact statement') [EIAR] of any proposed road development it proposes consisting of-		
(i) Construction of a Motorway	S. 50(1)(a) of the Roads Act, 1993, as amended by S. 9(1)(d)(i) of the Roads Act, 2007 (as amended)	The proposed development is **not** a Motorway. **Mandatory Threshold is not reached.**

Mandatory Threshold	Regulatory Reference	Assessment
(ii) Construction of a Busway	S. 50(1)(a) of the Roads Act, 1993, as amended by S. 9(1)(d)(i) of the Roads Act, 2007(as amended)	The proposed development is a **not** Busway. **Mandatory Threshold is not reached.**
(iii) Construction of a Service Area or	S. 50(1)(a) of the Roads Act, 1993, as amended by S. 9(1)(d)(i) of the Roads Act, 2007(as amended)	The proposed development is **not** a Service Area and does **not** incorporate a Service Area. **Mandatory Threshold is not reached.**
(iv) Any prescribed type of proposed road development consisting of the construction of a proposed public road or the improvement of an existing public road, namely: • 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 • The construction of a new bridge or tunnel which would be 100 metres or more in length.	Article 8 of the Roads Regulations, 1994 (as amended) (prescribed type of road development for the purposes of S. 50(1)(a)(iii) (now replaced by S. 1(a)(iv) of Section 50 of the Act amended	The proposed development is carriageway designed according to Design Manual for Urban Roads and Streets as 'Carriageway for Arterial and Link Streets' with a length of 1.55km and typical road carriageway of 7m wide. While there will be 4 lanes provided on some approaches to junctions due to turning lanes, these will be less than 500m in total. **Mandatory Threshold is not reached.** The proposed development comprises the construction of a bridge 41m in length. **Mandatory Threshold is not reached.**
(b) Where An Bord Pleanála considers that any proposed road development (other than development to which paragraph (a) applies) consisting of the construction of a proposed public road or the improvement of an existing public road would be likely to have significant effects on the environment, they shall direct the road authority to prepare an environmental impact statement [EIAR] in respect of such a proposed road development and the authority shall comply with such direction.	S. 50(1)(b) of the Roads Act, 1993, as amended	An Bord Pleanála has not directed the road authority to prepare an EIAR. **Mandatory Threshold is not reached.**

Mandatory Threshold	Regulatory Reference	Assessment
(c) Where a road authority considers that any proposed road development (other than development to which paragraph a) applies) consisting of the construction of a proposed public road or the improvements of an existing public road **would be likely to have significant effects on the environment,** it shall inform An Bord Pleanála in writing and where An Bord Pleanála concurs with the road authority they shall give direction to the road authority under paragraph (b).	S. 50(1)(c) of the Roads Act, 1993, as amended	**The Purpose of this EIA Screening Report** is to undertake an assessment to determine if the proposed development is likely to have significant effects on the environment. **See Section 6 'Conclusion' of this Report**
d) Where a proposed road development (other than development to which paragraph (a) applies consisting of construction of a proposed public road or the improvement of a public road or the improvement of an existing public road would be located on: (i) a European Site, meaning (ii) a candidate site of Community importance, (iii) a site of Community importance, (iv) a candidate special area of conservation, (v) a special area of conservation, (vi) a candidate special protection area, or (vii) a special protection area (viii) land established or recognised as a nature reserve within the meaning of section 15 or 16 of the Wildlife Act, 1976 (No. 39 of 1976) the road authority concerned shall decide whether the proposed road development would or would not be likely to have significant effects on the environment, and if the authority decides that the proposed road development would be likely to have such effects, paragraph (c) shall apply accordingly.	S.50(1)(d) of the Roads Act, 1993, as amended by Reg.56(7) of the European Communities (Birds and Natural Habitats) Regulations 2011	The proposed development is not located on any of the criteria (i) – (v) and therefore there will be no likely significant effects on the environment. However, the Rye Water Valley/Carton SAC is located 750m to the north east of the proposed development. An Appropriate Assessment Screening report for the proposed development concluded that the proposed development, either individually or in combination with other plans and projects, will not give rise to any likely significant effects on the qualifying interests of the Rye Water Valley/ Carton SAC and it's Conservation Objectives on the basis of the objective scientific information and in view of the best scientific knowledge and the sites' Conservation Objectives.

As can be seen from Table 2.1 the Roads legislation assessment found that the proposed road development is not a motorway, busway or service area. The proposed development is located in a semi-urban area and is over 500m in length, but it does

not comprise four or more lanes greater than 500m in length and therefore does not require a mandatory EIA under these thresholds. The proposed development comprises the construction of a bridge approximately 41m in length therefore the Mandatory Threshold Trigger of 100m is not reached. The proposed road development does not exceed any of the thresholds and **does not require a mandatory EIA.**

Furthermore, Section 50(1)(e) of the Roads Act (as amended) states:

> "*Where a decision is being made pursuant to this subsection on whether a proposed road development would or would not be likely to have significant effects on the environment, An Bord Pleanála or the road authority concerned (as the case may be) shall have regard to the criteria specified for the purposes of article 27 of the European Communities (Environmental Impact Assessment) Regulations, 1989."*

The 1989 Regulations referred to in Section 50(1)(e) of the Roads Act, 1993 (as amended) are no longer sufficient for the purposes of AA Screening as they have not been updated in line with the new EIA Directive, namely 2014/52/EU. In that regard the criteria that must be used for EIA Screening is that contained in Annex III (which is the same as what is contained in Schedule 7 of the Planning and Development Regulations 2001 to 2018)Annex IIA of the EIA Directive (2014/52/EU) sets out the information to be provided by the applicant for the purposes of screening sub threshold development for an Environmental Impact Assessment. The Planning and Development Regulations equivalent of Annex IIA is Schedule 7A. Therefore, for the purposes of this EIA Screening Schedule 7A is used.

2.2 Screening Sub-threshold Development

Part 10 of the Planning and Development Regulations 2001-2018 defines "*sub threshold development*" *as "development of a type set out in Part 2 of Schedule 5 which does not equal or exceed, as the case may be, a quantity area or other limit specified in that Schedule in respect of the relevant class of development*." In this context the proposed road development does not fall within a type set out in Part 2 of Schedule 5 of the classes of development.

For projects that fall below a class or threshold specified in Schedule 5, it is the decision of the Competent Authority to determine if an EIA (and the associated EIAR) is required to be completed. This is determined by examining if the 'sub threshold' development is likely to result in significant environmental effects. Significant environmental effects may arise due to the characteristics of the potential effects based on the nature and extent of the proposed development, and/ or its location in relation to the characteristics of the receiving environment, particularly sensitive environments.

As already stated, Schedule 7A is used to form the basis of this assessment *'Information to be provided by the applicant or the developer for the purposes of Screening Sub-Threshold development for Environmental Impact Assessment'*. The assessment is undertaken under three main headings:

- Characteristics of the Proposed Development;
- Location of the Proposed Development; and,
- Types and Characteristics of the potential Impacts.

These three headings are used as the basis for the examination of likely significant effects on the environment and are discussed in the following sections of this EIA Screening Report.

3. CHARACTERISTICS OF THE PROPOSED DEVELOPMENT

3.1 Description of the Proposed Development

The Maynooth Eastern Ring Road comprises the construction of 1.55 km of relief road between the R148 Leixlip Road and the R405 Celbridge Road (See Figure 3.1).
The proposed development will include the following:

- A carriageway design to Design Manual for Urban Roads and Streets as 'Carriageway for Arterial and Link Streets' of 1.55km length and 7m carriageway cross section;
- The construction of a bridge approximately 41m in length over the Dublin to Sligo railway line and the Royal Canal;
- A new junction layout to the north of the proposed development to connect with the R148 (Leixlip Road) and R157 (Dunboyne Road);
- A new junction layout to the south of the proposed development to connect with the R405 Celbridge Road and the entrance to Griffin Rath Road;
- Provision of pedestrian and cyclist facilities along the length of the proposed development including a connection to the current walkway along the Royal Canal, which will be developed in the future as part of the Royal Canal Greenway for which, a Part VIII Approval was procured in 2016; and
- All ancillary works.

The proposed development will provide an alternative link between the Dunboyne Road (R157) / Leixlip Road (R148) and the Celbridge Road (R405), which will provide a new route for traffic using this corridor while also providing an extensive pedestrian/cyclist connectivity from Carton Wood to Griffin Rath Road.

The site location of the proposed development can be seen in Figure ***1.***3.1. The cross section of the proposed development is shown in Figure 3.2.

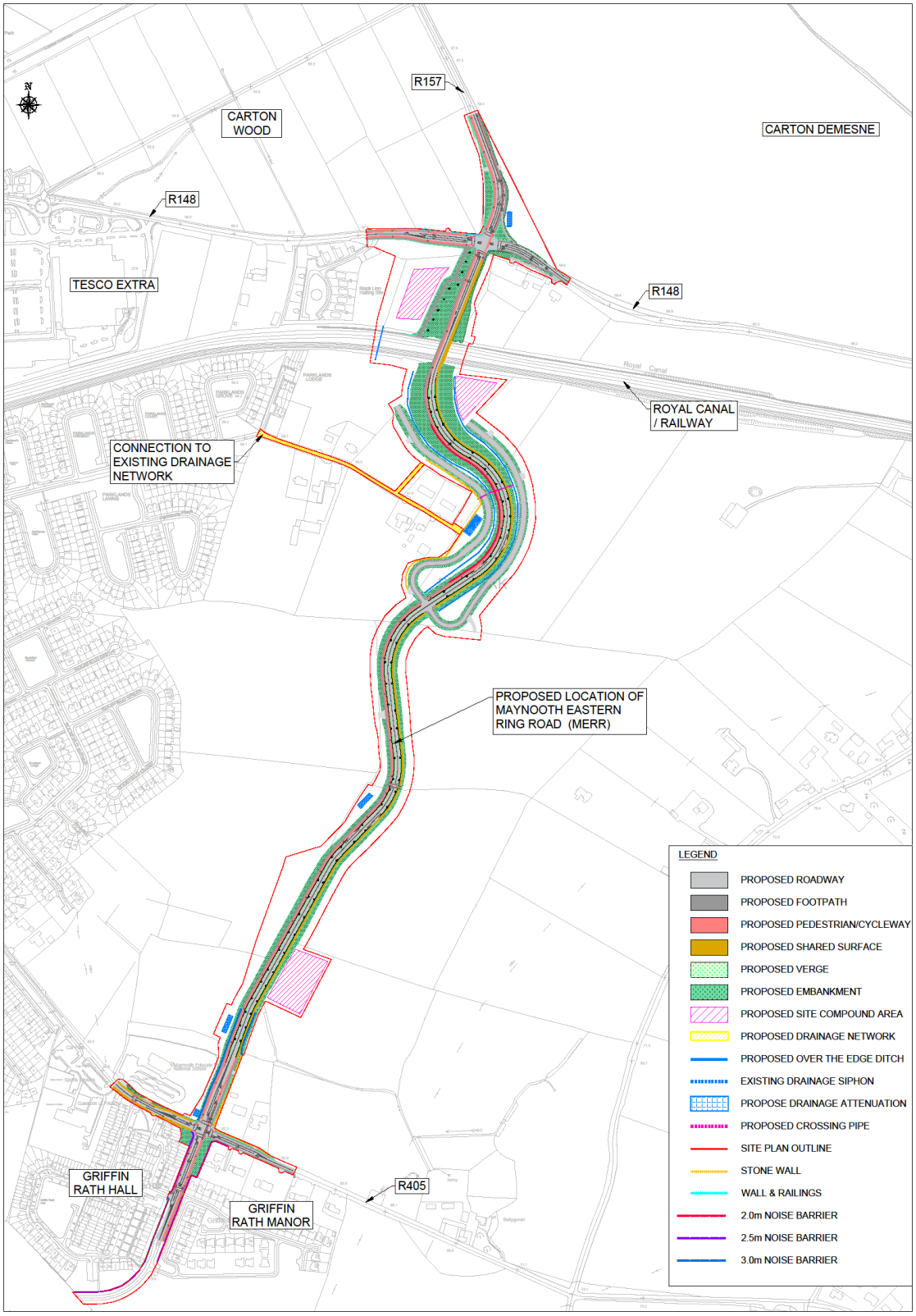

Figure 3.1 Proposed Alignment of Maynooth Eastern Ring Road

The characteristics of the proposed development are important when considering the any likely significant effects on the environment. The characteristics of the proposed development are described in the following sections with reference to the criteria set down in Schedule 7 of the Planning and Development Regulations.

3.1.1 Size and Design of the whole of the Proposed Development

The proposed development will include the construction of 1.55 km of relief road from the Celbridge Road (R405) to the Leixlip Road (R148). The footprint of the road will be 3.2 Hectares including verges (21m wide cross section), and approximately 5.2 Hectares including embankments. Pedestrian and cyclist facilities will be provided on both sides of the carriageway and access into existing lands will also be provided along the route.

The construction stage is approximately 18 months. The construction sequence will generally be as follows:

1. Site clearance;
2. Accommodation works, drainage works (including services);
3. Foundations;
4. Structural works; and,
5. Ground works, including surfacing and landscaping.

Walking and Cycling Provisions

The proposed development will include walking and cycling provisions, with pedestrian and cycle paths provided along both sides of the road for the duration in accordance with the National Cycle Manual. Both junctions will also provide safe crossing points for pedestrians and cyclists. The typical road cross section on the northbound carriageway will provide for two 2m cycle tracks to provide two-way facilities for cyclists and a 2m footpath for pedestrians. A 4m shared surface will be provided on the southbound carriageway to accommodate both pedestrians and cyclists. The northbound 6m cycle and pedestrian path will be reduced to a 4.5m wide provision for the bridge crossing to accommodate the cross section. See typical cross sections of the route below in Figures 3.2, as also included in Appendix A.

The proposed development will provide a shared surface link from the proposed development to access the existing walkway which runs adjacent to the Royal Canal, which is proposed for widening to a greenway route linking Maynooth to Leixlip and beyond.

The provision of segregated pedestrian and cyclist facilities will provide a link from the two schools (Gaelscoil Uí Fhiaich and Maynooth Educate Together National) on the R405 Celbridge Road to the Carton Wood housing estate north of the proposed development. The new access to the Royal Canal walkway will also provide a connection for pedestrians and cyclists from Carton Wood on the R148 Leixlip Road and also for residents on the R405 Celbridge Road to access Maynooth town and the railway station using cycleways and footpath provisions in addition to the Royal Canal walkway.

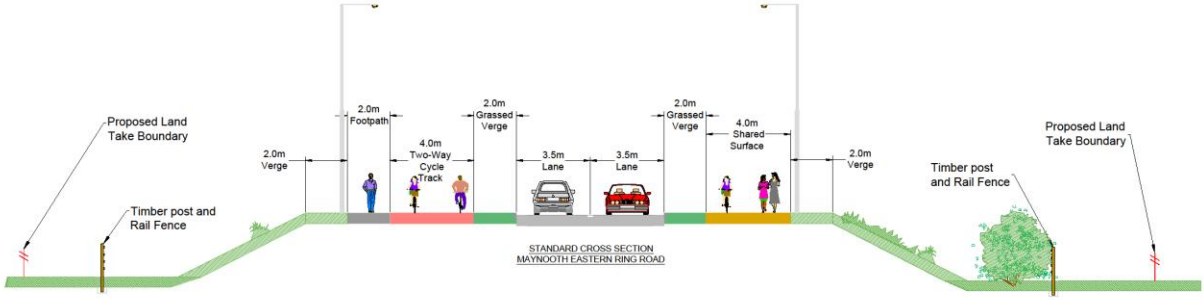

Figure 3.2 Typical Cross Section of the Route

Drainage

The proposed road design will include road drainage based on Sustainable Drainage Systems (SuDS) including attenuation for a 100-year flood event and 20% climate change and hydrocarbon interceptors prior to reaching the existing surface water drainage network and eventually the River Rye Water. This will prevent impacts on water quality, both in terms of sedimentation, pollutants and the sudden increase in flows following a rainfall event, as a result of the proposed development. The drainage system developed for the proposed development will provide a suitable drainage system to service the road and to ensure that the drainage system within adjacent lands is not adversely impacted.

There are no streams or rivers crossing the site area apart from the Royal Canal, which does not have a drainage function. To the west of the route there is an existing surface water drainage system, into which the proposed road drainage will be connected.

There are no cut sections required for the proposed development and therefore there will be no impacts relating to changes in the groundwater vulnerability or impacts to the underlying aquifers.

Bridge

The proposed structural form of the bridge is to be a single span precast concrete structure as shown below in Figure 3.3. The bridge supports will have reinforced earth walls and piled foundations to the limestone bedrock.

Figure 3.3 Proposed Bridge over Royal Canal and Railway

Minimum vertical clearance of 5.3m is required over the railway and 4.5m above the towpath on the north side of the canal. In addition, the bridge abutment located to the south of the railway lines has a horizontal clearance of 4.5m from the closest rail, in accordance with Irish Rail requirements.

3.1.2 Cumulation with other existing development

The cumulation with other existing development and/ or development that is subject of a consent for proposed development for the purposes of Section 172(1A)(b) of the Act and/ or development that is subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment has been assessed as part of this Screening Exercise. The assessment of the likelihood of cumulative effects in cumulation with these projects is provided in Section 5.11 of this Report.

3.1.3 Nature of any associated demolition works

Some minor demolition works are required at a number of property boundary walls that will be replaced as a result of the proposed development.

3.1.4 The use of natural resources

Approximately 115,000m^3 of soil will be imported for the embankments which, will vary up to 10m in height at the crossing of the railway. Road foundation crushed stone materials will amount to 20,000m^3.

3.1.5 The production of waste

Small scale excavation works will be required for the construction of the proposed road development and all unsuitable soft soil materials will be deposited in landscaping for the proposed development. No material will require disposal of to a licenced landfill or other suitably licenced facility in accordance with the relevant waste management legislation.

3.1.6 Pollution and Nuisance

During the construction phase the proposed development may give rise to short-term nuisance related to construction activities such as potential for the generation of dust emissions, noise and vibration and the potential of discharge of polluted surface water

runoff to receiving surface waters and groundwaters, and other traffic related nuisance in the immediate area.

Temporary traffic management measures during construction may also cause nuisances to local road users. These effects will all be short term and not significant.

A dust minimisation plan will be included as part Construction Environmental Management Plan (CEMP) which follows recommendations and guidance contained in the *Institute of Air Quality Management Guidance on the Assessment of Dust from Demolition and Construction* for sensitive receptors.

All works will be subject to the implementation of a Construction Environmental Management Plan (CEMP) and Traffic Management Plan to be prepared by the contractor and agreement with the local authority prior to construction. The CEMP will detail the contractors measures to control traffic, pollution and nuisances during construction periods and emissions controls and as such is not likely to result in significant pollution and nuisance.

Prior to construction, routine practice and procedures to prevent pollution of the environment and in particular the aquatic environment will apply. These measures will be put in place to reduce the risk of any accidental spillages of pollutions particularly to the Royal Canal pNHA, the Lyreen River and the River Rye Water. Construction works will be subject to normal health and safety controls for construction sites, will be short-term in nature and will not result in significant effects on the environment.

A Habitats Directive Screening for Appropriate Assessment (AA) has been carried out for the proposed development. The AA Screening Report concluded that the proposed development is not likely to have significant effects on the Rye Water Valley/Carton SAC located 750m to the north east of the proposed development or any other European site in view of best scientific knowledge and the Conservation Objectives of the site concerned.

Likely pollution and nuisance resulting from the proposed development will not cause unusual, significant or adverse effects of a type that would, singly or in combination, require an EIA. Section 5 of this Screening provides a further assessment of the characteristics of potential pollution and nuisance sources associated with the proposed development.

3.1.7 Risk of Major Accidents and/ or Disasters

The potential for the construction phase of the proposed development to result in major accidents and/or disasters is low. All works will be subject to the implementation of a Construction Environmental Management Plan (CEMP) and Traffic Management Plan (TMP) to be prepared by the contractor and in agreement with the local authority prior to construction. Construction works will be subject to the normal health and safety controls and will be short-term in nature.

A flood risk assessment has been undertaken to assess the Maynooth Eastern Ring Road for the existing and future sources of flood risk. Figure 3.4 shows the Preliminary Flood Risk Map of the development area by the OPW. The primary source of flood risk identified for the site is pluvial flooding. The proposed development is suitable for the associated flood risk as per the OPW Guidelines. The drainage network for the proposed development on the site will incorporate Sustainable Drainage Systems (SuDS) for the purpose for managing surface water in terms of both flow and quality.

Figure 3.4 OPW Preliminary Flood Risk Map of the development area

One of the objectives of the proposed development is to provide a safer alternative to minor roads within the locality which are currently being used to avoid traffic in Maynooth town.

During the operational phase the road risk of accidents or disaster will be low as it will serve to alleviate congestion and provide a safer alternative to minor roads within the locality. A low speed limit of 50km per hour (kph) will apply to the proposed development with separate walking and cycling facilities provided for these users. The risk of collision or major accidents is based on road users due care and diligence in accordance with the requirements of the design of the road. Therefore, the risk of accidents associated with this development would not cause unusual, significant or adverse effects of a type that would, in themselves, require an EIA.

3.1.8 Risk to Human Health

The construction phase of the proposed development is relatively small in scale and will be subject to the normal health and safety controls and will be short-term in nature and will not have adverse impacts on human health.

The proposed development will not have adverse impacts on human health during the operational phase due to noise, air quality and visual impacts which will be normal for a developed urban area.

The proposed road is designed in line with the guidance outlined in the Department of Transport's Design Manual for Urban Roads and Streets (DMURS), published in March 2013 for a low design speed of 50kph, which will ensure safety for all road users.

4. LOCATION OF PROPOSED DEVELOPMENT

The location of the proposed development is an important factor when considering the characteristics of potential impacts and is described in the sections below with references to Section 2, Schedule 7 of the Planning and Development Regulations.

The proposed development is located approximately 1.2km to the east of Maynooth town centre in the townlands of Maynooth, Railpark and Moneycooly. The proposed development is located in an area that can be characterised as semi-urban with the southern-most tie in connecting into the Griffin Rath housing estates. The extent of the development is shown in Figure 3.1 (Refer to Appendix A for more detailed drawings).

The proposed development ties in to the existing R405 Maynooth to Celbridge Road at the southern extent where a new junction layout will be provided to accommodate the proposed development. The route then extends north towards the eastern extents of Parklands. The route curves west around residential dwellings on Parklands Grove and bridges over the Royal Canal and the Dublin to Sligo rail line. The proposed bridge crossing will be a clear-span structure which will provide sufficient clearance for the railway as required by Irish Rail and significant clearance over the Royal Canal and towpath as required by Waterways Ireland.

The route then continues in the northerly direction to the west of the residential dwellings to the existing R148 Leixlip Road and the R157 Dunboyne Road junction. The R148 Leixlip Road and the Dunboyne Road are both proposed to be realigned at this junction to facilitate the new junction and turning lanes.

4.1.1 Existing and Approved Land Uses

The current land use within the Railpark townland is agricultural. However, as was mentioned in Section 1.2.3 above, the recent amendment to the Maynooth LAP (see Figure 1.1 above) changed the zoning of areas of land, including lands in the townlands of Railpark, Maynooth and Moneycooly from the LAP Amendment No. 1 as follows: lands within the proposed footprint of the proposed route have been changed from Agriculture “I” to New Residential “C” and from Office “H4” to New Residential “C”. This land will facilitate the development of the Railpark area as the new Key Development Area as per the indicative design strategy outlined in the LAP.

4.1.2 The Relative Abundance, Quality and Regenerative Capacity of Natural Resources

The proposed development is not likely to have a significant effect on the quality and regenerative capacity of natural resources in the area. The lands are currently used for agriculture.

All construction material will be imported for the construction of the proposed development as the road will be built on embankments ranging up to 10m where it bridges the Railway and Canal. The area can be described as semi-urban and is currently subject to high traffic levels bounded to the north by the R148 Leixlip Road and to the south by the R405 Celbridge Road. The M4 Dublin to Sligo Motorway is also located approximately 300m south of the proposed development.

Maynooth is outlined as being a Key Development Town in the Draft Regional Spatial and Economic Strategy for the Eastern and Midlands Region and is part of the Dublin Metropolitan Area. The Kildare County Development Plan (2007 – 2023) lists Maynooth as a Large Growth Town II along with Leixlip and Newbridge. These Large

Growth Towns II are described in the Plan as being "*designated to act as important self-sustaining regional economic drivers, accommodating significant new investment in transport, housing, economic and commercial activity, while capitalising on international connectivity and high-quality connections to Dublin City Centre*".

Agricultural lands are in abundance to the east of the proposed development and south of the M4 including the townland of Moneycooley. The proposed development is therefore not likely to affect the abundance, quality or regenerative capacity of the local environment.

4.1.3 The Absorption Capacity of the Natural Environment

The area of the proposed development is mainly a greenfield site within the Railpark townland and will create a tie-in with the R405 Celbridge Road and the R148 Leixlip Road / R157 Dunboyne Road to the north. Information obtained from the Geological Society of Ireland (GSI) mapping website www.gsi.ie indicates that the bedrock geology consists of Waulsortian Limestones (massive unbedded lime-mudstones) in the southern half of the development and Tober Colleen Formation (calcareous shales and limestone conglomerate), according to Geological Survey of Ireland's (GSI) Bedrock Geology map.

The GSI website shows the groundwater vulnerability to be High for the proposed site and surrounding area while the bedrock Aquifer is Locally Important and is moderately productive only in local zones. From existing GSI data obtained, the ground conditions appear to be dry and well drained for the northern half of the proposed route while the southern section is subject to wetter soils which are poorly drained.

4.1.3.1 Wetlands, Riparian Areas and River Mouths

There are no wetlands, riparian areas or river mouths within the development boundary. The proposed development will travel through agricultural land and will cross the Royal Canal via a new clear-span bridge. The Rye Water Valley / Carton SAC is located 750m north east of the proposed development, for which Petrifying Springs are a Qualifying Interest.

4.1.3.2 Coastal Zones and the Marine Environment

The proposed development is not located close to any coastal zones or the marine environment. The Royal Canal links the River Liffey in Dublin approximately 27km east of Maynooth in the Dublin Docklands, to the River Shannon in Longford. The Rye Water which is 750m north of the proposed development joins the River Liffey downstream in Leixlip, Co Kildare, which reaches the sea approximately 23km further east in Dublin Bay.

4.1.3.3 Mountain and Forest Areas

There are no mountains or areas of forestry within the study area of the proposed development. There are woods located within the Carton Estate to the northeast of the proposed development. These woods and their birdlife are of interest within the Rye Water Valley/Carton SAC.

4.1.3.4 Nature Reserves and Parks

There are no nature reserves or parks within close proximity of the proposed development.

4.1.3.5 European or National Designated Sites

The Rye Water Valley/Carton SAC is located 750m northeast of the proposed development, which follows the River Rye Water, a tributary of the River Liffey. The River Waterbody Water Framework Directive (WFD) Status for the Rye Water was

poor from 2010-2015 and the River Waterbody score is 'at risk of not achieving good status'. Petrifying Springs are a Qualifying Interest of the SAC and are also noted as being a priority habitat within the SAC. Petrifying springs are listed on Annex I of the E.U. Habitats Directive.

A Habitats Directive Screening for Appropriate Assessment (AA) has been carried out for the proposed development. The AA Screening Report concluded that the proposed development is not likely to have significant effects on the Rye Water Valley/Carton SAC is located 750m to the north east of the proposed development or any other European site in view of best scientific knowledge and the Conservation Objectives of the site concerned.

The proposed development will bridge over one proposed National Heritage Area, namely the Royal Canal pNHA. Designated as a proposed National Heritage Area (pNHA), it contains protected species sensitive to disturbance and pollution including Daubenton's Bat and Otter. The assessment of impacts on the Royal Canal and the mitigation measures proposed are discussed in detail in Section 5 of this report.

4.1.3.6 Areas with Exceedances in Environmental Standards

The River Rye Water is classified under the Water Framework Directive (WFD) rating system as being 'at risk' of not achieving good status. There are no other known areas in which the environmental quality standards have been reported as exceeded.

4.1.3.7 Densely Populated Areas

The proposed development is located on the south eastern extent of Maynooth town in the townlands of Maynooth, Railpark and Moneycooly. The development will be located approx. 1.2 km east of Maynooth town which is identified as a Key Town within the Metropolitan Area by the Draft Regional Spatial and Economic Strategy (RSES) 2018. Maynooth Electoral Division had a population of 15,998 in 2016, which was an increase of 17.5% since 2011[1]. The proposed development will also unlock zoned lands within the area for future development of housing developments in the area of Railpark as outlined in the RSES. Lands within Railpark were zoned as New Residential by Amendment No.1 to the Maynooth LAP, as can be seen in Figure 1.1 of this document.

There are a number of residential properties in close proximity to the proposed development, in particular at the northern and southern junction tie-ins. The Griffin Rath housing estates are located south of the junction with the R405 Celbridge Road while two schools are also located west of this junction namely Gaelscoil Uí Fhiaich and Maynooth Educate Together National School. The northern junction is in close proximity to a small number of houses along the R148, east of the proposed junction while Carton Wood housing estate is located to the northwest.

4.1.3.8 Landscapes and Sites of Historical, Cultural or Archaeological Significance

The Carton Demesne is located to the north of the proposed development and is bounded by the Carton Demesne Wall visible along the R157 Dunboyne Road and R148 Leixlip Road. The Demesne is listed by the National Inventory of Architectural Heritage as an 18th Century estate and a number of views within the demesne are protected.

Another major cultural heritage site in the vicinity is Castletown House at Celbridge, which is about 4km distant to the southwest and beyond the M4 motorway corridor.

[1] Central Statistics Office (https://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/saveselections.asp) [Accessed: 22/03/19]

There are no architectural protected structures within the footprint of the development with the nearest being 500m east of the proposed development. The Lime Kiln is located in an adjacent field to the east of the proposed development and is listed on the Record of Protected Structures (RPS) within the Kildare County Development Plan (B06-06). Pike Bridge (Reg. No. 11900601) is also listed as a protected structure and is located 1.1km east of the proposed development, off the Leixlip Road (R148). This two-arch rubble stone hump back road bridge crosses the Royal Canal and the Dublin to Sligo Railway line.

There are two archaeological records within 150m of the southern tie in with the R405 Celbridge Road, however these sites were excavated and recorded in 2004 during the development of the Griffin Rath housing estate. Connolly's folly is also located approximately 1.3km east of the proposed development and is associated with the Castletown House in Celbridge.

The nearest Architectural Heritage Area (ACA), the Maynooth ACA is located in Maynooth town and is 1 km west of the proposed development.

Designated Focal Points/ Views

The area for development is located within the Northern Lowlands of Kildare which are defined in the Kildare County Development Plan 2017-2023, as "*areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area*". These areas are classified as Class 1: Low Sensitivity. There are a number of protected views within the landscape also.

The Royal Canal is designated as an Area of High Amenity (AHA) in the Kildare County Development Plan and the views to and from the Royal Canal are listed to be maintained, including RC5 Pike Bridge Railpark/Donaghmore. A Scenic Route is also identified within the County Development Plan (Route Number 30) within Carton Demesne Walls: Views to and from Carton House, the Lake and Woodland Areas. There is also a policy to Maintain the views to and from Carton House and within Carton Demesne (PS 6) while scenic viewpoints are identified along the River Rye Water.

5. TYPES AND CHARACTERISTICS OF POTENTIAL IMPACTS

Having regard to the description of the proposed development and the unique location discussed in Sections 3 and 4 above, an assessment of the types and characteristics of likely significant effects on the environment is undertaken in the following sections and is informed by the assessment Criteria in Schedule 7 to include:

(a) the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected),

(b) the nature of the impact,

(c) the transboundary nature of the impact,

(d) the intensity and complexity of the impact,

(e) the probability of the impact,

(f) the expected onset, duration, frequency and reversibility of the impact,

(g) the cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment, and

(h) the possibility of effectively reducing the impact.

The assessment considers the above criteria under the EIA environmental receptors headings, as follows:

- Population and human health;
- Biodiversity;
- Soils, Geology & Hydrogeology;
- Hydrology;
- Landscape & Visual;
- Air Quality & Climate;
- Noise and Vibration;
- Cultural Heritage;
- Material Assets and Land;
- Interactions; and
- Cumulative assessment.

This EIA Screening has been informed by specialist inputs for the following environmental topics; Noise and Vibration has been informed by Jennifer Harmon, Senior Acoustic Consultant, AWN; Air Quality and Climate has been informed by Ciara Nolan, Environmental Consultant, AWN; and Evelyn Sikora, Senior Landscape Planner, Cunnane Stratton Reynolds. The remainder of the environmental assessments have been undertaken by environmental consultants within Roughan and O'Donovan.

5.1 Population and Human Health

Receiving Environment

The 2016 census indicated that Maynooth Electoral Division had a population of 15,998, which was an increase of 17.5% since 2011. In the Maynooth Local Area Plan it is projected that the town population will grow a further 11% to 19,000 people by 2023.

The proposed development has a critical role to play in ensuring that the needs of future population growth are planned for in a sustainable manner.

The proposed road development is located at the edge of the existing urban environment to the east of Maynooth town. It is bound by the regional roads; to the north by the Leixlip Road (R148) and to the south by the Celbridge Road (R405).

There are a number of existing residential properties within the vicinity of the proposed development.

- To the north of the development Carton Wood is located off the R148 Leixlip Road. There are also a small number of houses located to the east of the proposed development, on the R148 Leixlip Road.
- The proposed development will curve around Parklands Grove just to the south of the Royal Canal and railway, where a small number of residential houses are also located.
- At the southern tie-in, there are several residential properties located on the R405 Celbridge Road east of the proposed development.
- Two schools are located in proximity to the proposed development: the Maynooth Educate Together School is located immediately to the west of the southern junction, while Gaelscoil Uí Fhiaich is located 150 m to the west.
- Griffin Rath Manor and Griffin Rath Hall housing estates are located south of the R405 Celbridge Rd which the proposed development will connect with.

Potential Impacts for Population & Human Health

Construction Stage

The works required during construction are modest in scale and will be short-term in nature.

Construction Traffic

Construction traffic volumes will be in the order of 10,000 two-way heavy goods vehicle (HGV) movements, mainly over a 6-month period while the embankments are under construction with imported soil and rock materials, which is an average of 80 HGV's each way per day. Access to the site for these trucks will be from the adjoining regional roads the Leixlip Road (R148) at the northern end and Celbridge Road (R405) at the southern end, linking to the M4 motorway at either Junction 6 Celbridge, or Junction 7 Maynooth. The additional construction traffic will be less than 2% of the existing traffic flows on these roads and will have no impact.

Royal Canal Greenway and Dublin to Sligo Railway line

Access along the canal walkway will be restricted for short periods during the construction of the bridge across the Royal Canal and the Dublin to Sligo railway line to enable works such as lifting into place of bridge beams. However, this will be undertaken during the night-time and weekends so as to limit impact on railway passenger journeys.

Human Health

Standard control measures for temporary emissions of noise, dust and air pollutants will be implemented in the Construction Environmental Management Plan (CEMP). Therefore, these effects will not be significant.

Local Business

The construction phase of the development will benefit the local economy and populations through the provision of employment opportunities and local expenditure by construction workers as well as the purchase of local materials and services.

Operation Stage

No residential dwellings will be acquired as a result of the proposed development and no displacement of population will arise.

The proposed development will acquire agricultural lands which could potentially create severance for property owners. Suitable new accesses to severed lands will be provided. The acquisition of lands through Compulsory Purchase Order (CPO) is assessed further in section 5.9 Material Assets and Land.

The transport network and traffic conditions in Maynooth will be greatly improved for all modes of travel during operation phase as the Maynooth Eastern Ring Road (MERR) which will remove the need to travel through the centre of Maynooth town from the north or north-east, to the south or south-east directions. Journey times will improve which will benefit the overall quality of life for the population of the town.

Noise, vibration, air quality and climate impacts have been assessed in sections 5.6 and 5.7 of this report and with suitable mitigation there will be no significant impacts.

The World Health Organisation issued updated Environmental Noise Guidelines for the European Region in 2018. The specific guidelines for road noise include a recommended average day time level of 53dB and a night-time level of 45dB. Current baseline noise levels in the area of the proposed development are all currently range from 52 – 75dB $L_{den.}$ The levels recommended by the WHO are outlined for communities rather than individual residences and in addition it is important to remember that the levels are not thresholds. The proposed development will also reduce existing road noise for a number of receptors which are subject to high traffic levels bringing an improvement in noise levels across the wider community. The WHO Environmental Noise Guidelines recommend:

> *"to reduce noise exposure from road traffic in the population exposed to levels above the guideline values for average and night noise exposure."*

Improved facilities for pedestrians and cyclists, including the link to the Royal Canal Greenway are likely to improve the physical health and mental wellbeing of the residents of Maynooth through increased opportunities for outdoor activities and exercise in semi-natural environments.

Standard Mitigation Measures for Population & Human Health

A Construction Environmental Management Plan (CEMP) will be compiled to account for all works associated with the construction of the proposed development, including pre-construction site clearance works. The CEMP will provide a framework for compliance auditing and inspection to ensure that these construction practices and

mitigation measures in relation to each environmental topic, including Human Health and Population.

A Traffic Management Plan (TMP) will also be submitted for approval to Kildare County Council Road and Traffic Division by the appointed contractor prior to the commencement of any construction works as part of the CEMP. This plan will ensure that temporary traffic works and road safety measures will be put in place during the construction. Therefore, there will be no likely significant effect on Population and Human Health.

Residual Impacts for Population & Human Health

The proposed development will generally have positive effects on population and human health within the Maynooth area through provision of new transport infrastructure to reduce congestion and provide increased connectivity and facilities for sustainable travel modes to the existing and future residential communities.

Conclusion: No significant effects for Population & Human Health.

5.2 Biodiversity

Receiving Environment

The proposed development is located predominantly in agricultural lands lined with hedgerows.

The Royal Canal proposed National Heritage Area (pNHA) is the only watercourse, which is crossed by the proposed development, located along the northern section adjacent to the Dublin to Sligo rail line. It contains protected species sensitive to disturbance and pollution including Daubenton's Bat and Otter.

The proposed development is located 750m south west of the River Rye at Carton Demesne which is designated as part of the Rye Valley/Carton House SAC/pNHA. The conservation importance of the Special Area of Conservation (SAC) is due to the presence of several rare and threatened plant and animal species, and the presence of petrifying springs, a habitat type listed on Annex I of the E.U. Habitats Directive.

Potential Impacts for Biodiversity

An Appropriate Assessment (AA) Screening Report has been prepared separately to this EIA Screening for the proposed development in order to assress the potential effect on Natura 2000 Sites including Special Areas of Conservation (SAC). The AA Screening Report concluded that the Project, either individually or in combination with other plans or projects, does not give rise to any likely significant effects on the Qualifying Interests of the Rye Water Valley/ Carton SAC and their respective Conservation Objectives.

<u>Construction Stage</u>

The development will comprise a bridge over the Royal Canal, the design of which includes a clear span bridge with abutments set back 6m from the edge of the canal. The risk of pollution to the canal during construction, which could impact directly on fish and invertebrates, constitutes a potential short-term minor negative impact.

The drainage ditch in the field on the northern side of the canal contains frogs and newts. Construction activities may lead to pollution of the ditch. There is potential for amphibians to enter the construction compound where there is a risk they would be

killed. The risk of habitat degradation and direct mortality of amphibians is considered to be a potential short-term significant effect, where the population could be lost.

Removal of hedgerows and treelines is required in order to facilitate the construction of the proposed development. Approximately 550m of hedgerow and 60m of treeline will be removed. The loss of vegetation including treelines and scrub, can impact on the local fauna.

The risks to biodiversity arising from the construction of the proposed development are habitat loss and accidental pollution of surface. With appropriate and standard best practice construction management and the implementation of a landscape master plan, there will not be significant effects on biodiversity.

Operational Phase

Light-spill from the bridge onto the Royal Canal has the potential to lead to habitat disturbance for nocturnal fauna activities.

Standard Measures for Biodiversity

Construction

The implementation of a Construction Environmental Management Plan (CEMP) by the contractor will reduce the impact on local biodiversity.

Under national legislation to protect nesting birds, no vegetation may be removed between the 1st of March and the 31st of August. The ditch containing the newts and frogs will be retained and protected during construction, with a buffer zone of 3m maintained between the ditch and the construction works. Temporary newt fencing will prevent newts (and frogs) entering the compound. Measures will be taken to ensure that run-off containing pollutants does not enter the ditch.

Standard Measures for prevention of pollution environment, particularly of aquatic environment will be followed:

(a) All material including oils, solvents and paints will be stored within temporary bunded areas or dedicated bunded containers;

(b) Refuelling will take place in a designated bunded area away from surface water gullies, drains and water bodies, in the event of refuelling outside of this area, fuel will be transported in a mobile double skinned tank;

(c) All machinery and plant used will be regularly maintained and serviced and will comply with appropriate standards to ensure that leakage of diesel, oil and lubricants is prevented;

(d) Spill kits and hydrocarbon absorbent packs will be available and drip trays will be used during refuelling;

(e) Elements of the bridge will be prefabricated to reduce the need for pouring wet concrete on site.

Operation

(a) The surface water from the proposed development will be directed to the existing water drainage network and will pass through attenuation tanks and a hydrocarbon interceptor prior to reaching surface water drainage network and eventually to the Rye Water. Therefore, no significant effects will occur.

(b) The lighting design will ensure that all luminaries will be LED which lack UV elements, producing a warm white colour and will reduce the impacts of lighting on wildlife. Street lights will be designed to minimise light spill outside the

intended area. This will include the use to light shields or cowls to prevent light spill onto habitats outside the site, particularly the Royal Canal.

(c) Road embankments and boundaries will be planted with shrubs and trees consisting of native species to compensate for the loss of hedgerow habitat and will provide a greater extent of potential new habitat.

Residual Impacts for Biodiversity

The proposed development will not result in any significant effects in the short, medium or long term for Biodiversity.

Conclusion: No significant effects for Biodiversity.

5.3 Soils, Geology and Hydrogeology

Receiving Environment

The ground conditions consist of glacial till soils typically 3 to 4 m deep, overlying limestone and mudstone rock. The hydrogeology is of low permeability with a Locally Important Aquifer.

Potential Impacts for Soils, Geology & Hydrogeology

Construction

Approximately 115,000m³ of soil will be imported for the embankments which, will vary up to 10m in height at the crossing of the railway. Road foundation crushed stone materials will amount to 20,000m³. The impacts associated with HGV movements as a result of this material is assessed as part of the Noise and Vibration, and Air Quality and Climate assessments.

The bridge foundations will be founded on piles bearing on the limestone bedrock.

The proposed road earthworks will not involve cutting below ground level other than for shallow pipe trenches and ditches. This will not have effect on the groundwater regime.

No effects for soils, geology and hydrogeology will occur.

Operation

The road drainage will discharge to existing surface water sewers in Maynooth town and there will be no impacts from the operation phase on groundwater quality.

Mitigation Measures

Mitigation Measures have been included in the design of the proposed development and will include standard measures to ensure that earthworks do not effect groundwater.

Residual Impacts

There are no residual impacts to the soils and geology as a result of either the construction or operational phase.

No likely significant effects.

5.4 Hydrology

Receiving Environment

The proposed development is within the catchment of the Rye Water located 750m northeast of the proposed development in Carton Demesne. The Lyreen River is a tributary which joins the Rye Water 1km northeast of Maynooth.

The Environmental Protection Agency (EPA) monitors river water quality as part of the Water Framework Directive (WFD) and the water quality status of the 'Rye Water Mid" and the "Lyreen Lower" for 2010-2015 is classified as "poor" and "at risk" of deteriorating, respectively.

The Royal Canal is located adjacent to the Dublin to Sligo railway line and is within the footprint of the proposed development. It will be crossed by the proposed development via a clear-span bridge structure. There are two other land drainage ditches along the route, one ditch approximately 120m north of the Celbridge Road (R405) which is piped underground at the crossing point and another ditch in the field south of the Dunboyne Road (R157) / Leixlip Road (R148) junction.

A Flood Risk Assessment (FRA) for the Maynooth Eastern Ring Road has been assessed for existing and future sources of flood risk. The primary source of flood risk identified for the site is pluvial flooding. The Maynooth Eastern Ring Road is found to be suitable for the associated flood risk of the location as per the 2009 OPW Flood Risk Guidelines for Planning Authorities.

Potential Impacts for Hydrology

Construction

The construction stage of the proposed development has the potential to result in run off entering the canal and surrounding watercourses due to construction works.

The construction of the bridge structure over the Royal Canal could impact on water quality during construction and constitutes a potential short-term effect if a pollution incident occurs. During all construction activities there is risk of pollution occurring however with the implementation of standard mitigation measures these risks can be avoided or reduced.

Operation

Attenuated flows from the proposed development will outfall to the Lyreen River, however this slight increase in runoff to the downstream end of the Lyreen Catchment will not be significant as it will ultimately outfall to its natural drainage catchment of the River Rye Water.

Standard Mitigation Measures for Hydrology

Construction

- A Construction Environmental Management Plan will be developed by the successful contractor prior to the works commencing detailing control, treatment and disposal of potentially contaminated surface water.
- An Emergency Incident Response Plan will be prepared detailing the procedures to be undertaken in the event of a spill of chemical, fuel or other hazardous wastes, a fire, or non-compliance incident with any permit of license issues.

- In addition, pollution of aquatic systems including adjacent ditches during the construction phase will be mitigated by the implementation of a suite of protective measures as outlined in the Biodiversity Section of this Report.
- The application of industry best practice pollution prevention measures will remove the likelihood of significant adverse impacts to surrounding watercourses occurring (for example CIRIA Guideline Document C532 Control of Water Pollution from Construction Sites and C648 Control of water pollution from linear construction projects).

Operation

- Treatment and spillage containment facilities are proposed by means of silt traps in the road drainage gullies discharging to the drainage system with Class 1 By-Pass petrol interceptors located immediately upstream of the road drainage outfall locations prior to discharging to the existing surface water network. These measures will treat the road run-off before entering the receiving waters. Therefore, no significant impacts to water quality will remain.
- The proposed road drainage will be designed to incorporate attenuation storage for the 1 in 100 Year rainfall event, including a 10% increase in rainfall intensities to allow for the effects of climate change. Runoff from the proposed road will be attenuated to greenfield runoff rates. A slight increase in runoff will occur however it will not be significant as the flows will be attenuated and will ultimately discharge to the natural drainage catchment of the River Rye Water.

Residual Impacts for Hydrology

The mitigation measures outlined for Hydrology in addition to those in the Biodiversity section of this report will result in imperceptible effects on water quality.

Conclusion: No significant effects for Hydrology.

5.5 Landscape and Visual

Receiving Environment

The landscape in the vicinity of the proposed development is characterised by open low-lying agricultural lands in a semi-urban environment on the outskirts of Maynooth. The majority of the lands are currently used for agriculture and are bounded to the north and south by regional roads. The area for development located within the Northern Lowlands is defined in the Kildare County Development Plan 2017-2023, as "*areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area*". These areas are classified as Class 1: Low Sensitivity.

The Kildare County Development Plan 2017-2023 contains a number of policies and objectives relating to landscape and green infrastructure, protected views, Carton Demesne, and Areas of High Amenity (AHA) which include the Royal Canal.

Carton Demesne is located to the north of the proposed development bounded by the demesne wall visible along the R157 Dunboyne Road and R148 Leixlip Road and a number of views within the demesne are protected. A Scenic Route is also identified within the County Development Plan (Route Number 30) within Carton *Demesne Walls: Views to and from Carton House, the Lake and Woodland Areas.* There is also a policy to *Maintain the views to and from Carton House and within Carton Demesne* (PS 6) while scenic viewpoints are identified along the River Rye Water.

The Royal Canal is designated as an Area of High Amenity (AHA) in the Kildare County Development Plan and the views to and from the Royal Canal are listed to be maintained, including *RC5 Pike Bridge*.

There are also a small number of residential dwellings that will be in close proximity to the proposed development. In particular these include houses close to the new tie-ins to the R405 and R148, and the houses along Parklands Grove.

Potential Impacts for Landscape & Visual

Construction

Landscape and visual effects during construction will include vegetation removal as noted above, and the operation of machinery in and out of the site. A number of visual receptors in proximity to the site and users of the Royal canal will experience effects however these are not significant and will be short term.

Operation

Photomontages have been prepared to assess the potential impacts from designated views at Pike Bridge and Mullen Bridge over the Royal Canal and from Carton Demesne.

The proposed road bridge over the Royal Canal and the Dublin to Sligo railway line will be barely visible from Pike Bridge at a long distance of 1.1km to the west. The vegetation along the canal will provide screening of the road embankments on either side of the new bridge. No significant impact will occur for this protected view.

Figure 5.1 View from Pike Bridge to the Proposed New Bridge on the Eastern Ring Road

From Carton Demesne there will be no view of the proposed new road.

The proposed road embankments on either side of the canal will be visible from a number of residential properties at the R148 Leixlip Road on the northern side and at Parklands Grove on the southern side.

Landscape effects will occur along the Royal Canal corridor, in the agricultural fields in the vicinity of the road corridor, and at the built-up areas to the east of the town where the landscape character will change from rural area to a more suburban character with the introduction of the ring road and the bridge.

Noise barriers proposed as part of the Noise and Vibration assessment have been taken into account in the Landscape and Visual assessment. The requirement for barriers is likely to result in moderate to significant local impacts to a small number of properties adjacent to the proposed development.

Standard Mitigation Measures for Landscape & Visual

The landscape Masterplan will incorporate mitigation measures for both the construction and operation phases of the proposed development. Some of the key elements of the plan are as follows:

Construction phase

Damage to existing trees at the edges of the works will be prevented. Areas of vegetation to be retained during construction have been outlined as per the Landscape Masterplan attached in Appendix C.

Operation Phase

Landscape Mitigation provisions:

- Retention of existing trees and hedgerows is proposed along the proposed development boundaries.
- Replacement hedgerow habitat with native species: hawthorn, willow and hazel.
- Tree planting on the embankments leading to the bridge will integrate the new road into the local landscape.
- Selection of appropriate height noise barriers in balance with visual effects to ensure that the most sensible outcome is reached.
- Landscape planting in front and behind noise barriers as agreed with landowners, to provide screening.

These measures can be seen in the Landscape Masterplan which is attached in Appendix C.

Residual Impacts for Landscape & Visual

Landscape and visual effects will range from slight to moderate-significant with effects reducing over time to slight to moderate as landscaping is established. Where a small number of properties are likely to be subject to slight to moderate-significant impacts, these impacts will be at a local level and will be mitigated as far as possible through the landscaping proposed.

Conclusion: No significant effects for Landscape & Visual.

5.6 Air Quality and Climate

Receiving Environment

The proposed development is located within Air Zone D which is classified as 'Rural Ireland'. According to the EPA, the overall air quality status in Maynooth is 'Good'.

Potential Impacts for Air Quality & Climate

Air Quality – Construction

The greatest potential impact on air quality during the construction phase of the proposed development is the potential for nuisance dust from earthworks operations and particulate matter (PM_{10}/$PM_{2.5}$) emissions. Truck and vehicle movements required for construction have been taken into account in the Air Quality and Climate assessment. While construction dust tends to be deposited within 200m of a construction site, the majority of the deposition occurs within the first 50m. There are

a number of sensitive receptors located in close proximity to the proposed works for the proposed development.

The sensitive receptors are primarily residential properties and schools, located at the northern and southern junction tie-ins where the earthworks will be minimal, and the risk of dust will be very low.

Air Quality – Operation

Traffic levels for the Design Year of 2036 have been assessed based on annual average daily traffic movements (AADT) and the percentage of heavy goods vehicles predicted. No significant effects on air quality in the area as the volumes of traffic-derived air pollutants from the proposed development will not exceed the ambient air quality standards either with or without the development in place.

The proposed development will assist in alleviating congestion within Maynooth town through the removal of some traffic and this may lead to air quality improvements in the future.

Climate – Construction and Operation

Construction emissions will not be significant and will be short-term.

Road traffic emissions in the operation phase are predicted to be insignificant in terms of Ireland's obligations under the EU 2020 target.

Standard Mitigation Measures for Air Quality & Climate

Air Quality Construction

A Dust Minimisation Plan will be implemented following recommendations and guidance contained in the Institute of Air Quality Management *Guidance on the Assessment of Dust from Demolition and Construction* for sensitive receptors.

Provided the dust minimisation measures outlined in the Dust Minimisation Plan and construction management plan are adhered to, the air quality impacts during the construction phase should be not be significant. In summary the measures which will be implemented will include:

- Hard surface roads will be swept to remove mud and aggregate materials from their surface while any un-surfaced roads will be restricted to essential site traffic.
- Furthermore, any road that has the potential to give rise to fugitive dust must be regularly watered, as appropriate, during dry and/or windy conditions.
- Vehicles exiting the site shall make use of a wheel wash facility where appropriate, prior to entering onto public roads.
- Vehicles using site roads will have their speed restricted, and this speed restriction must be enforced rigidly. On any un-surfaced site road, this will be 20kph, and on hard surfaced roads as site management dictates.
- Vehicles delivering material with dust potential (soil, aggregates) will be enclosed or covered with tarpaulin at all times to restrict the escape of dust.
- Public roads outside the site will be regularly inspected for cleanliness and cleaned as necessary.
- Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods.

- During movement of materials both on and off-site, trucks will be stringently covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected to ensure no potential for dust emissions.

At all times, these procedures will be strictly monitored and assessed. In the event of dust nuisance occurring outside the site boundary, movements of materials likely to raise dust would be curtailed and satisfactory procedures implemented to rectify the problem before the resumption of construction operations.

Construction
Although the impact on climate will not be significant during construction, some site-specific mitigation measures can be implemented during the construction phase of the proposed development to ensure emissions are reduced further. In particular the prevention of on-site or delivery vehicles from leaving engines idling, even over short periods. Minimising waste of materials due to poor timing or over ordering on site will aid to minimise the embodied carbon footprint of the site.

Air Quality – Operation
Emissions of pollutants from road traffic can be controlled most effectively by either diverting traffic away from heavily congested areas or ensuring free flowing traffic through good traffic management plans and the use of automatic traffic control systems. These have been included in the design of the proposed development.

Climate - Operation
Improvements in air quality are likely over the next few years as a result of the on-going comprehensive vehicle inspection and maintenance program, fiscal measures to encourage the use of alternatively fuelled vehicles and the introduction of cleaner fuels.

Residual Impacts for Air Quality & Climate

Residual impacts on Air Quality and Climate will be slight at worst-case receptors. The overall result of the assessment found no significant impacts to either air quality or climate are predicted during the construction or operational phases of the proposed development.

Conclusion: No significant effects for Air Quality & Climate.

5.7 Noise and Vibration

Receiving Environment

The area of the proposed development is semi-urban with an extensive existing road network, serving traffic towards Maynooth town from the east (R405 Celbridge Road and R148 Leixlip Road), north (R157 Dunboyne Road), and south (M4 and R406 Straffan Road).

The results of a baseline noise surveys which were undertaken in March and April 2019, have indicated the existing noise environment at locations in the vicinity of the proposed MERR and set back from existing regional and national roads were measured in the range of 53 to 56dB $L_{den.}$ Monitoring locations along existing roads (R148 and R405) to the north and south of the proposed MERR were measured in the range of 61 to 75dB L_{den} with highest levels being recorded at closest proximity to the road edge.

At monitoring locations recorded along existing roads to the west of the proposed road development along Maynooth main street and within existing residential areas were measured in the range of 61 to 72dB L_{den}. Road traffic, local estate activities and general urban ambient sources all contributing to the ambient noise levels. The range of noise levels measured is considered typical of the environment under assessment.

The existing background traffic noise level along the Griffin Rath Road, is currently impacted by the nearby M4 motorway and ranges from 64dB to 66dB.

Potential Impacts for Noise & Vibration

Construction

Construction noise will occur over a period of approximately 18 months. The assessment of construction traffic impacts took into consideration the number of construction vehicles required for the proposed development and found that for distances of beyond 50m from the works, the construction day time noise limit of 70dB L_{Aeq} can typically be complied with for the scenarios assessed. At distances of up to 25m from the works, there is potential for the noise criterion to be exceeded in the absence of noise mitigation over and above the use of site hoarding. A number of properties along the length of the proposed road development are within 25m of the proposed works, hence the use of localised screening and the range of best practice mitigation measures set out below will be employed to ensure the construction noise limits are not exceeded along the length of the proposed development.

Operation

Traffic levels for the Design Year of 2036 have been assessed based on annual average daily traffic movements (AADT) and the percentage of heavy goods vehicles predicted. The results of the assessment indicate that calculated traffic noise levels at the vast majority of assessment locations are above 60dB L_{den} during both the Do Nothing and Do Something scenarios for the design year of 2036.

To the north of the proposed development along the R148 Leixlip Road, noise levels are above 60dB L_{den} during the Do Nothing scenario. At Carton Wood noise levels are increased by up to 2dB with an overall impact rating of negligible. At properties along the R148, a neutral or reduced traffic noise level will be experienced due to a reduction in traffic flow along this road during the Do Something scenario. Noise mitigation is not deemed necessary at these locations.

Properties along the alignment of the MERR are for the majority below 60dB L_{den} with the exception of those within Rail Park closest to the road alignment where a moderate to major increase in noise levels are predicted. Given the increase to the noise environment calculated at these properties, noise mitigation measures are recommended.

To the south of the alignment at the junction with the R405, noise levels are calculated above 60dB L_{den} and in the absence of mitigation would result in a major noise impact to the rear of properties along the MERR at the southern junction and a moderate impact to the rear/side façade of the National School. In order to reduce the overall impact at these locations, noise mitigation measures are recommended. At properties located further east and west along the R405, a neutral to minor change in traffic noise levels is calculated. Noise mitigation is not deemed necessary at these locations.

To the south of the MERR along Griffin Rath Road, calculated noise levels are increased to levels in the range of 68 to 73dB L_{den} during the Do Something scenario. The change in noise levels calculated between the Do Minimum and Do Something

scenarios at residential properties along this road are in the range of 2.5 to 5dB resulting in a noise impact rating of negligible to moderate. Given the operational noise level at these properties are at or above the proposed onset levels for assessment of noise mitigation measures within the Kildare Noise Action Plan, noise mitigation should also be considered for these locations.

The mitigation measures proposed to reduce operational noise levels at those locations discussed above are set out below.

Standard Mitigation Measures for Noise & Vibration

Construction

The Contractor undertaking the construction of the works will be obliged to take specific noise abatement measures and comply with the recommendations of *BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites - Noise* and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001.

These measures will ensure that:

- No plant used on site will be permitted to cause an ongoing public nuisance due to noise;
- The best means practicable, including proper maintenance of plant, will be employed to minimise the noise produced by on site operations;
- All vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good working order for the duration of the contract;
- Compressors will be attenuated models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers;
- Machinery that is used intermittently will be shut down or throttled back to a minimum during periods when not in use;
- Any plant, such as generators or pumps that is required to operate before 07:00hrs or after 19:00hrs will be surrounded by an acoustic enclosure or portable screen.

During the course of the construction programme, the contractor will be required to manage the works to comply with noise limits using methods outlined in *BS 5228-1:2009+A1 2014. Part 1 – Noise* BS 5228 *-1: 2009+A1 2014 Part 2* which include guidance on several aspects of construction site practices, which include, but are not limited to the following:

- The selection of quiet plant;
- Noise Control at Source using Best Available Techniques;
- Effective Noise Screening; and
- Working Hours.

These mitigation measures will be employed to ensure the construction noise limits are not exceeded along the length of the proposed development.

Normal working times will be 07:00 to 19:00hrs Monday to Friday and 08:00 to 13:00hrs Saturday. Construction works for the bridge crossing which require possession of the railway line will be required to be undertaken at night or at weekends however these will be temporary. Additional works other than the pumping out of excavations, security

and emergency works will not be undertaken outside these working hours without the written permission of the Contracting Authority.

Operation

In order to reduce operational noise levels along the length of the proposed road development in addition to properties along sections of the realigned R157, R148, R405 and Griffin Rath Road, a low noise road surface will be included as part of the road surface.

In addition to the road surface, mitigation measures through screening will be included along either the road edge or at property boundaries. Barriers can take the form of proprietary acoustic screens, solid block walls, earth berms or other solid structures. The barriers chosen should be solid, with no gaps at the base or between vertical joints and should have a minimum surface mass of 10kg/m^2. All barriers shall achieve the performance specified in I.S. EN 1793 – 1:1998, I.S. EN 1793-2:1998, I.S. EN 1973-3:1998, I.S. 1794-1:2003 and I.S. EN 1794-2:2003.

The requirement for noise barriers will also take cognisance of the impact that they have on the visual amenity of properties. Table 5.1 summarises the location and extent of screening requirements for noise mitigation.

Table 5.1. Extent of Noise Mitigation Required During Operational Phase

Barrier Details	Side of Road	Barrier Height (m)
New barrier to MERR at Parklands Grove (Old Railpark Lane) (300m approximately)	West	2m above road level
New barrier to MERR on approach to southern junction (185m approximately)	West	3m above road level
New barrier to MERR on approach to southern junction (185m approximately)	East	3m above road level
Existing boundary along R405 east upgraded to include 2.5m wall from MERR junction to property entrance.	South	2.5m above road level
Existing boundary to Griffin Rath Road (GRR) upgraded to 2.5m barrier	East of GRR	2.5m above road level
Existing boundary to Griffin Rath Road (GRR) upgraded to 2.5m barrier	West of GRR	2.5m above road level
Existing boundary to Griffin Rath Road (GRR) upgraded to 2.5m barrier	East of GRR	2.5m above road level
Existing boundary to Griffin Rath Road (GRR) upgraded to 3m barrier	West of GRR	3m above road level
Existing boundary to Griffin Rath Road (GRR) upgraded to 2.5m barrier	West of GRR	2.5m above road level

Residual Impacts for Noise & Vibration

Construction

During the construction phase of the project there will be short term moderate to major impacts on nearby residential properties due to noise emissions from site traffic and other activities. The application of noise limits, restricted hours of operation, along with implementation of appropriate noise control measures, will be designed in order to control noise emissions to within the noise limits for this phase.

Operation

The residual impacts of the proposed development have been assessed taking into account the recommended noise mitigation measures. The assessment has determined that with the inclusion of the recommended noise mitigation measures, traffic noise levels associated with the proposed road combined with traffic along the adjacent surrounding roads will result in a neutral to minor noise impact at the majority of noise sensitive locations in proximity to the proposed development, with 14 no. properties benefiting from reduced noise levels between the Do-Nothing scenario and the Do-Something scenario.

Moderate impacts will be experienced at properties within Rail Park and front of residential property along the R405 at the MERR junction. Noise mitigation measures are incorporated at these properties and operational noise levels are below 60dB L_{den}. The overall impact is considered acceptable at these properties and no further noise mitigation is considered necessary.

One location will experience a residual 'major' noise impact due to the calculated increase in noise levels between the Do Minimum and Do Something scenarios. The calculated residual noise level at this location is 62dB $L_{den.}$ This calculated level is in line with noise levels to the front of the property along the R405. In order to further reduce noise levels at this property to below 60dB L_{den}, substantial barrier lengths and heights will be required, as a minimum height of 4m.

Notwithstanding this project is not a national road scheme, TII notes the following with respect to the provision of noise barriers for traffic noise mitigation:

"in some cases the attainment of the design goal may not be possible by sustainable means". This guidance document also notes that caution should be exercised specifying substantial screening where small benefits (<3dB) are only achieved, given a change of 3dB(A) is the smallest change that would give a reliable difference in public response. Specifically, the TII 2014 document goes on to note that:

"It may be unsustainable to increase barrier dimensions significantly where the result would be a reduction of 1dB or less, as such a reduction would be close to imperceptible in a laboratory situation, and would not result in a difference in public response in the real world environment."

In this instance, the extent of screening deemed feasible to achieve further traffic noise reductions at this property has been assessed, taking into account a level of proportionality with respect to changes in noise level.

For properties along Griffin Rath Road, the inclusion of upgraded boundary treatments to residential properties within Griffin Rath Manor and Griffin Rath Hall can suitably reduce noise levels to within those associated with the Do Minimum scenario which includes traffic along the Straffan Link Road.

The localised major impact which remains for one property is considered to be offset by positive impacts through reduction in noise levels along existing roads such as the R148 through to Maynooth town and local roads which are currently used as a link between the R405 and R148.

Conclusion: No likely significant effects for Noise & Vibration.

5.8 Cultural Heritage

Receiving Environment

There are no protected structures or known archaeological sites within the footprint of the proposed development.

Carton Demesne is an 18th century estate and is listed in National Inventory of Architectural Heritage (NIAH) (reference number KD-50-N-954387) and lies immediately to the north and east of the proposed development. It contains a boundary stone wall which can be seen along the Maynooth to Dunboyne Road (R157) and Maynooth to Leixlip Road (R148).

Potential Impacts for Cultural Heritage

Construction

The proposed development is mainly located within a greenfield site and therefore, there is potential for previously unrecorded archaeological features to survive which may be impacted by construction activities including earthworks associated with the proposed development.

Operation

Any indirect impacts on the setting of the Carton Demesne are assessed under the Landscape and Visual section of this Report.

Standard Mitigation Measures for Cultural Heritage

For archaeology, ground disturbances associated with the proposed development in greenfield areas will be monitored by a suitability qualified archaeologist during the construction phase. If any features of archaeological potential are encountered, further archaeological mitigation may be required, such as preservation in-situ or by record.

A pre-construction condition survey will be carried out for the boundary wall of Carton Demesne to ensure that the wall will not be impacted by the very limited construction works nearby.

Residual Impacts for Cultural Heritage

There will be no residual impact on the archaeological and built heritage resource.

Conclusion: No significant effects for Cultural Heritage.

5.9 Material Assets and Land

Receiving Environment

The proposed road will be constructed on lands currently in use for agriculture and zoned for residential development.

There are residential properties located in proximity to the proposed development along each of the regional roads intersected by the proposed development at each end, and to the west of the central section of the route at Parklands Grove.

A number of utilities are located underground along the R405 and the R148 roads, including ESB, Gas Mains, Telecommunications and water supply. Two foul sewage / wastewater pipes are currently located within the area, one running parallel to the

canal while one is located in the greenfield site to the west of the proposed development.

Potential Impacts for Material Assets and Land

Construction

The proposed development does not require the demolition of any buildings.

The proposed development will require the acquisition of private lands through a Compulsory Purchase Order (CPO). The proposed development will provide new access to zoned lands, and suitable temporary arrangements to mitigate severance.

Existing boundary walls in several locations will require to be modified and a similar replacement boundary wall will be provided.

The existing utilities will be protected during construction. Where overhead lines are affected by the route, they will be diverted following consultation with the utility provider.

It is anticipated that the railway possessions will be required for the installation of the precast concrete beams, the pouring of the in-situ bridge deck and the installation of the precast concrete parapets. It is anticipated that these possessions will be undertaken at night and/or at weekends in order to reduce the impact on the railway services as much as is practicable. The extent and time of possessions is subject to Iarnród Éireann approval.

Operation

The proposed new road will enable future development of the zoned lands in accordance with planning policy for the area, which will enhance the value.

Standard Mitigation Measures for Material Assets and Land

Temporary access arrangements will be provided to the lands severed by the proposed road during the construction stage. Lands acquired through the Compulsory Purchase Order (CPO) will be assessed through a separate process and compensation will be provided to landowners as mitigation. Access to severed lands and new boundary fences will be provided to those landowners affected.

Disruptions to the Dublin to Sligo Rail line will be discussed and agreed with Iarnród Éireann with any closures of the railway line to be undertaken during night time / weekends to minimise disruption.

Residual Impacts for Material Assets and Land

There are no significant residual impacts predicted from the proposed development on Material Assets and Land.

Conclusion: No likely significant effects for Material Assets and Land.

5.10 Interactions

Interactions between environmental effects are likely to occur during both construction and operation as a result of the proposed road development.

Construction

During construction stage, interactions will occur between air quality and climate, noise and vibration, landscape and visual and population and human health. Mitigation measures proposed to reduce noise and air quality impacts during construction will result in positive effects on population and human health through the reduction in nuisances and visual effects during construction. The small scale and short-term nature of some of these interactions are not likely to result in significant environmental effects.

Operation

During operation, the main interaction will be between Noise and vibration, landscape and visual and population and human health. The noise barriers have been designed with the intension of providing enough protection to population while not impacting significantly on the same population as a result of visual effects. Landscape planting as contained in the Landscape Masterplan in Appendix C has been designed to reduce the impact of the noise barriers where lands are available, by means of planting and screening.

Conclusion: No significant effects due to interactions.

5.11 Cumulative Assessment

A review of existing and/or approved projects that may have the potential to result in cumulative impacts has been undertaken. This section considers plans and projects within the Maynooth area. Data sources used in compiling this project list included the following:

- Kildare County Council website (planning and roads sections);
- An Bord Pleanála website (planning searches);
- Web search for major infrastructure projects in County Kildare; and
- Kildare County Development Plan (2016 - 2022).

The following paragraphs provide an overview of the projects considered and the cumulative assessment of planned Projects in cumulation with the proposed development.

Grant Thornton Corporate Finance Ltd (Planning Ref 09/8 as amended by 14/519)

This planning application grants permission for the extension of duration to the planning application 09/8 which was granted in 2009. The permission under 14/519 was granted in 2014 and gives permission for 151 residential dwellings and a two-storey creche. The site is located north west of the Crowncourt junction at the northern end of the proposed development and was developed in 2018, named Carton Wood. All foul sewage is discharged from the site to the existing public foul sewer via a new pumping station provided. There are no likely visual impacts as a result of this development and the proposed road development. While the boundary of this property will be impacted by the Maynooth Eastern Ring Road, the boundary will be reinstated in agreement with the landowner. The visual impact on the estate as a result of the proposed development has been assessed and will have no significant impacts. The proposed development will have a positive effect on traffic levels on the R148 through the provision of new infrastructure. Access to the R405 will also be improved for the Carton Wood estate. Therefore, no significant cumulative effects are expected as a result of both this proposed development and the Maynooth Eastern Ring Road.

Orivo Properties Ltd. (Planning Applications 09/246, 14/1002, 16/937)

Planning Application number 09/246 was granted in 2010 to Willowbridge Developments Ltd for 141 no. dwelling units on a 3.7 Ha site, off the Leixlip Road (R148), 200m west of the Crowncourt junction. Also included are surface level car-parking, bicycle spaces and bin stores, a new vehicular access at Leixlip Road and ancillary site development works. Orivo Properties applied for an extension to this planning permission in 2014 and were granted permission to extend the permission to 2020 under application number 14/1002. A further application regarding the permission was submitted in 2016 to make modifications to the already approved residential development, comprising of minor revisions to home types. This was granted in 2017. The proposed MERR is found to have a positive impact on the traffic along the R405 and has taken into account the future development growth of Maynooth town. The foul sewage will be connected into the existing pubic foul sewer and any water to be discharged to surface water will be adequately treated. Due to the distance and the nature of the development, the housing development is not expected to cause significant cumulative effects with the proposed development.

Gaelscoil Ui Fhiaich (Planning Application 08/1946 amended by 08/1946 and amended by 11/9)

Gaelscoil Ui Fhiaich was granted permission in 2008 (Planning Application no: 08/1946) which was amended in 2011 to include additional classrooms (Planning Application 11/9). Further permission for the erection of an all-weather 'astro-turf' playing pitch with associated perimeter fence and 4 no. flood lights and all associated site works was granted to the Board of Management in January 2015 (Planning Application 14760). The school is located approximately 150m west of the southern junction of the proposed development on the R405 and will benefit from improved access infrastructure as a result of the proposed development. It is on the southern side of the R405, adjacent to the Griffin Rath Housing Development. The recent permissions have been for small developments such as an all-weather "astro-turf" playing pitch. The school and its recent improvements are not expected to cause significant cumulative effects in-combination with the proposed development due to the small-scale nature of the impacts.

The Minister for Education & Skills (Planning Application 17/383)

Maynooth Educate Together School was granted permission to construct a two storey 16 classroom Primary School and all associated works in October 2017. The development was proposed to be completed over two phases to allow the school to remain open. The primary school is located to the west of the southern junction tie-in, to be provided as part of the proposed development on the R405 Celbridge Road. The school is currently undergoing construction and it is likely to be completed prior to the proposed road development. The proposed development will provide improved access to the primary school from the northern extents of Maynooth town and will help alleviate traffic during peak hours due to school traffic. Positive impacts will therefore arise from the construction of the proposed development in combination with the Maynooth Educate Together School. Due to the small scale of the school project, the short-term construction stages for both developments and the delay between the two projects, the construction stage of both projects will not occur in tandem and will not have significant cumulative effects. Despite the close proximity it is not likely that the operation of the two developments will cause significant cumulative effects in-combination with the proposed development.

Cairn Homes Properties Ltd. Mariavilla, Dunboyne Road, Maynooth (Kildare CoCo Ref: 18/301230, ABP Ref: 301230)

A Strategic Housing Development application was lodged to An Bord Pleanála in March 2018 by Cairn Homes Properties Ltd. for a residential development on the Moyglare Road and Dunboyne Road within the townland of Mariavilla, approx. 1km north west of the proposed MERR. The development is proposed to comprise mixed use development of 462 residential dwellings comprising; houses, apartments, a gate lodge and student accommodation units, a local neighbourhood node to include a creche, café, gym and a retail unit.

The Bord granted permission in July 2018 dependant of a number of conditions. An EIAR was submitted with the planning application and concluded that no significant effects were likely. Impacts to watercourses including the Lyreen River and the River Rye Water were identified as imperceptible and short term. A Stage II Natura Impact Statement was carried out and mitigation measures put in place to ensure that the conservation objectives and integrity relating to the Natura 2000 sites are maintained and that they will not be adversely affected by construction-related surface water discharges, by surface water or waste water discharges or by changes in hydrology as a result of the development.

Due to the results of the assessments carried out for the above project, and the distance between the Cairn Homes Properties Ltd development and the proposed MERR, it is not likely that there will be any significant cumulative effects in combination with the proposed development.

Kelston Properties Ltd (16/1153 and subsequently 18/761 and 18/762)

Permission was granted to Kelston Properties Ltd in 2016 for a development including 181 no. dwellings, a 2-storey Créche (552m^2) and all associated and ancillary site development works including link road. The site is located west of the Griffin Rath Housing Estate, adjacent to the M7 Motorway. Two amendment applications were submitted in 2018 to omit a portion of the lands to the north west of the site, to reduce the house count to 84 in total, reduce the Creche to 380m^2 and to include for a link street (objective TRO 2(a) of the Maynooth LAP) among other ancillary works. The development was subject to Appropriate Assessment Screening by competent authority which concluded that there would be no significant effects on any Natura 2000 Site. The proposed development will tie in to the link street within this project once both developments are constructed. The traffic assessment for the MERR has incorporated the opening of the link street proposed above, for the design year of 2036 Do-Minimum Scenario. The traffic assessment has therefore assessed the cumulative effects of the Kelston Properties development and the proposed MERR.

It is therefore concluded that there will be no significant effects as a result of the proposed Kelston Properties Development in combination with the proposed Maynooth Eastern Ring Road.

Killross Properties Limited (16/282)

Permission was granted for the provision of 170 no. house units and 30. no apartment units, 430 no. car parking spaces, a childcare facility and a vehicular and pedestrian access onto Green Lane. The proposed housing development is located 4.5km east of the proposed Maynooth Ring Road, to the west of Celbridge. There have been a number of amendments to the house types included in this application, with the addition of 1 no. housing unit under the application no. 18/664. An AA Screening has been carried out for the Kilross Properties Development, which concluded there to be

no significant effects on the Rye Water Valley/Carton SAC. Due to the distance of the housing development from the proposed Ring Road and the nature of the project, it is not likely that there will be any significant effects as a result of the Kilross Properties Development and the proposed Maynooth Eastern Ring Road.

Kildare County Council

The planning application for the development of a Royal Canal Greenway was granted in 2016. The Royal Canal Greenway is a *c.*8.5km pedestrian and cycle greenway located along the Royal Canal towpath within Co. Kildare. The Greenway stretches from Maynooth to Confey, an area north of Leixlip town.

The greenway will provide a c. 3m wide shared cycle way and foot way on the existing canal towpath. The greenway will begin at Straffan Road Bridge c. 1km west of the proposed Maynooth Eastern Ring Road along the canal. The section between Straffan Bridge and Pike Bridge will provide a new 3m wide greenway over the majority of the route however there are certain sections where the facility will have to be narrowed locally to 2.5m. The surface will comprise bituminous for the first 600m of the route with the remainder of the 1.5km section surfaced using grit. A section of boardwalk is proposed on the approach to Pike Bridge to improve user safety when passing under the bridge arch.

The Maynooth Eastern Ring Road, through the implementation of mitigation measures outlined in this report, is not likely to have any impact on the Royal Canal with the implementation of construction works being short term. While temporary restrictions to access along the canal is likely to occur during the construction of both projects for short periods, the operational phase of the proposed ring road will enhance connectivity to the planned Greenway, having a positive effect on the environment. Therefore, significant cumulative effects in combination with the proposed development are not expected.

Meath County Council (P8/16003)

The planning application is currently under judicial review for the construction of a *c.* 1.7 km single carriageway north of Maynooth town. The proposed road extends from the eastern end of the northern access road in the Moyglare Estate, Mariavilla in Co. Kildare to the Moygaddy Junction on the Dunboyne Road (R157). The road scheme comprises the construction of two bridge structures over the Rye Water and over the Blackhall Little. The road scheme also includes a roundabout at its junction with the Kilcoon Road (L2214) and bisects the Poundhill Road (L6219) with which it forms two T-junctions.

The proposed road scheme is located approximately 750m north of the proposed development. An Appropriate Assessment Screening was carried out in 2016 for the development which concluded that the *"habitats and species for which the Rye Water Valley/ Carton SAC has been selected, including its conservation objectives and key elements of structure and function, will not be affected by the construction and operation"* of the proposed road scheme. An Environmental Impact Assessment Screening was also undertaken as part of the Part VIII process which found that there would be no significant effects on the environment. The proposed Maynooth Eastern Ring Road has accounted for future growth of Maynooth as far as 2036 and therefore will not by impacted by the Meath County Council development. The proposed road scheme is likely to have positive effects on connectivity through Maynooth and Meath in combination with the Maynooth Eastern Ring Road. Therefore, significant cumulative effects in combination with the proposed development are not expected.

Intel Ireland Limited, Collinstown Industrial Park, Leixlip (Planning Application 1991)

Intel Ireland Limited submitted an application to Kildare County Council (Planning Application 1991) for the permission to develop reconfigured and extended support buildings, water tanks and yards to provide for additional manufacturing capacity of a previously permitted manufacturing building (Planning Application 16/1229). The project will consist of buildings, site infrastructure and ancillary works, for the manufacture of integrated circuit boards. An EIAR was carried out for the Intel development which found that there would be no significant impacts on the environment. The project is located 3 km east of the proposed development on the R148 Leixlip Road. Due to the nature of the impacts outlined in the EIAR and those as part of the MERR development, it is not likely that there will be any cumulative impacts as a result of the Intel development and the proposed road development due to the nature of the development and the distance between the two developments. The project is not expected to cause significant cumulative effects in-combination with the proposed MERR development.

Conclusion for Cumulative Assessment

Having considered the anticipated overall potential impact with respect to each of these developments, it is considered that the there are no likely significant effects on the environment when all of the above projects are considered in combination with each other and the proposed Maynooth Eastern Ring Road due to the location, scale and characteristics of the proposed developments and the likely impacts. The proposed Maynooth Eastern Ring Road has included for the future development of Maynooth town as part of it's traffic assessment and therefore includes the worst case scenario for the Design Year of 2036, which will include the above projects.

Therefore it can be concluded that the proposed development is not likely to result in significant effects either alone or in combination with the existing, planned or likely future projects.

No likely significant effects for Cumulative Assessment.

6. SCREENING CONCLUSION AND RECOMMENDATION

The proposed Maynooth Eastern Ring Road does not trigger the threshold for mandatory EIA/EIAR as set out in the Roads Act, 1993 (as amended) and/or in the Road Regulations of 1994 and has been considered and assessed using the appropriate criteria. It is considered that noise and visual impacts are the main issues identified as a result of the proposed development, and these impacts have been mitigated as far as possible to reduce impacts to receptors. While there may be residual local moderate-significant noise impacts on a small number of properties at the southern end of the development, this EIA Screening Report has concluded that this does not result in an overall significant effect as a result of the proposed development. The proposed development will also bring long-term positive impacts as a result of the reduction in traffic along local roads which are currently subject to high traffic levels and the reduction of congestion in the Maynooth area. These long-term positive impacts are considered to out-weigh any localised impacts which have been identified. It can be therefore concluded that the proposed development is not likely to have significant effects on the environment and does not require an Environmental Impact Assessment Report to be prepared or an Environmental Impact Assessment to be conducted.

A separate Screening for Appropriate Assessment Report has been completed and has informed this EIA Screening. The AA Screening Report found that proposed development is not likely to have a significant effect on Rye Water Valley /Carton SAC or any other European site in view of best scientific knowledge and the Conservation Objectives of the site concerned, either alone or in combination with other plans or projects.

It is therefore recommended to Kildare County Council that the proposed development would not have significant effects on the environment by virtue of its characteristics, location, size or potential impacts and does not require an Environmental Impact Assessment Report to be undertaken.

Based on this Screening exercise it is recommended that a Part VIII planning application be prepared for the Maynooth Eastern Ring Road.

APPENDIX A

DEVELOPMENT DRAWINGS

CARTON WOOD

R157

TIE-IN TO EXISTING R157

CARTON WOOD

CARTON DEMESNE

TIE-IN TO EXISTING R148

PROPOSED DRAINAGE ATTENUATION

R148

PROPOSED LINK TO EXISTING TOW PATH

PROPOSED SITE COMPOUND AREA

TESCO EXTRA

Black Lion Halting Site

EXISTING FOOTPATH

R148

Royal Canal

PARKLANDS LODGE

PROPOSED OVERBRIDGE

ROYAL CANAL / RAILWAY

PROPOSED SITE COMPOUND AREA

CONNECTION TO EXISTING DRAINAGE NETWORK

CROSSING PIPE

PROPOSED DRAINAGE ATTENUATION

INDICATIVE FUTURE ACCESS LOCATION

PROPOSED LOCATION OF MAYNOOTH EASTERN RING ROAD (MERR)

PROPOSED DRAINAGE ATTENUATION

PROPOSED PEDESTRIAN CROSSING

INDICATIVE FUTURE ACCESS LOCATION

BARROGSTOWN

PROPOSED DRAINAGE ATTENUATION

PROPOSED SITE COMPOUND AREA

MAYNOOTH EDUCATE TOGETHER

PROPOSED DRAINAGE ATTENUATION

PROPOSED SIGNAL CONTROLLED CROSSING

TIE-IN TO EXISTING R405

GRIFFIN RATH HALL

GRIFFIN RATH MANOR

PROPOSED SIGNALISED JUNCTION

R405

TIE-IN TO EXISTING GRIFFIN RATH ROAD

LEGEND

- PROPOSED ROADWAY
- PROPOSED FOOTPATH
- PROPOSED PEDESTRIAN/CYCLEWAY
- PROPOSED SHARED SURFACE
- PROPOSED VERGE
- PROPOSED EMBANKMENT
- PROPOSED SITE COMPOUND AREA
- PROPOSED DRAINAGE NETWORK
- PROPOSED OVER THE EDGE DITCH
- EXISTING DRAINAGE SIPHON
- PROPOSE DRAINAGE ATTENUATION
- PROPOSED CROSSING PIPE
- SITE PLAN OUTLINE
- STONE WALL
- WALL & RAILINGS
- 2.0m NOISE BARRIER
- 2.5m NOISE BARRIER
- 3.0m NOISE BARRIER

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P01	Issued For Approval	29/04/2019	PC	IF	SMG

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Drawn	Designed	Checked	Approved	Suitability Code - Description
PC	IF	SMG	MK	S2 - Information/Planning

Project Stage: EIA Screening

Project Title: Maynooth Eastern Ring Road

Drawing Title: Location Plan

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number — MERR - ROD - EGN - SW_AE - DR - CH - 40002

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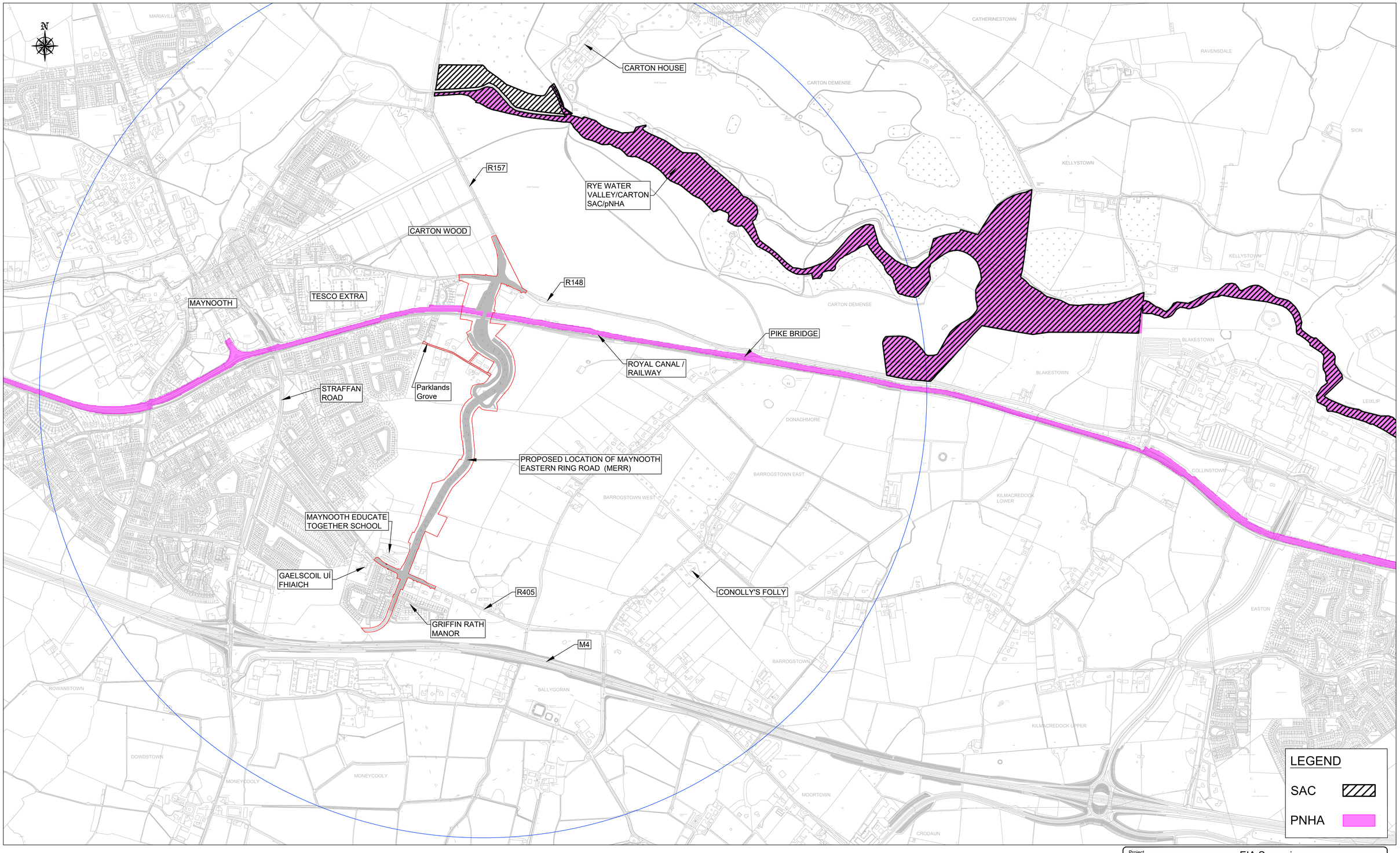

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Drawing Title	Natura 2000 Sites
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Job No:	18.109
Rev:	P01

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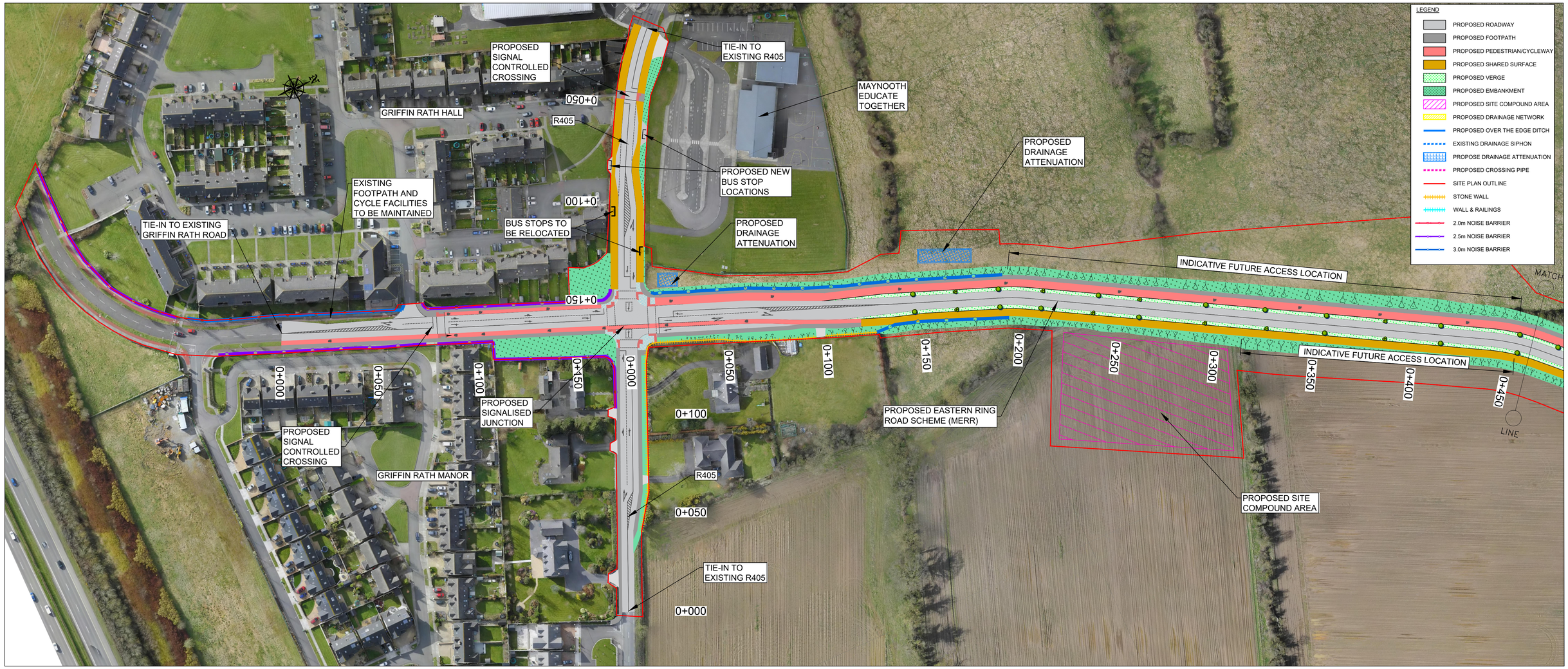

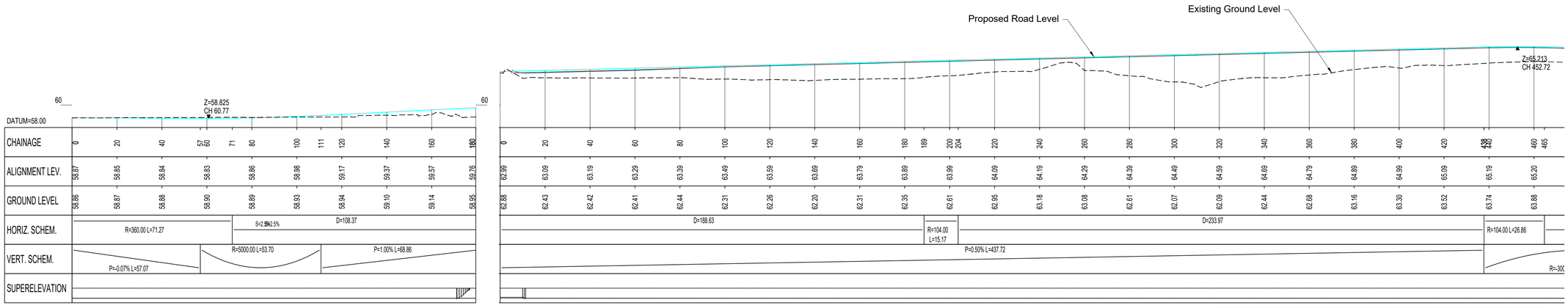

ROAD NAME: Griffin Rath Manor

ROAD NAME: Maynooth Eastern Ring Road

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Project Stage	EIA Screening
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Drawing Title	Proposed Layout Plan & Profile Sheet 1 of 3
Drawing Number	Project | Originator | Volume | Location | Type | Role | Number: MERR - ROD - EGN - SW_AE - DR - CH - 40201
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Job No:	18.109
Rev:	P01

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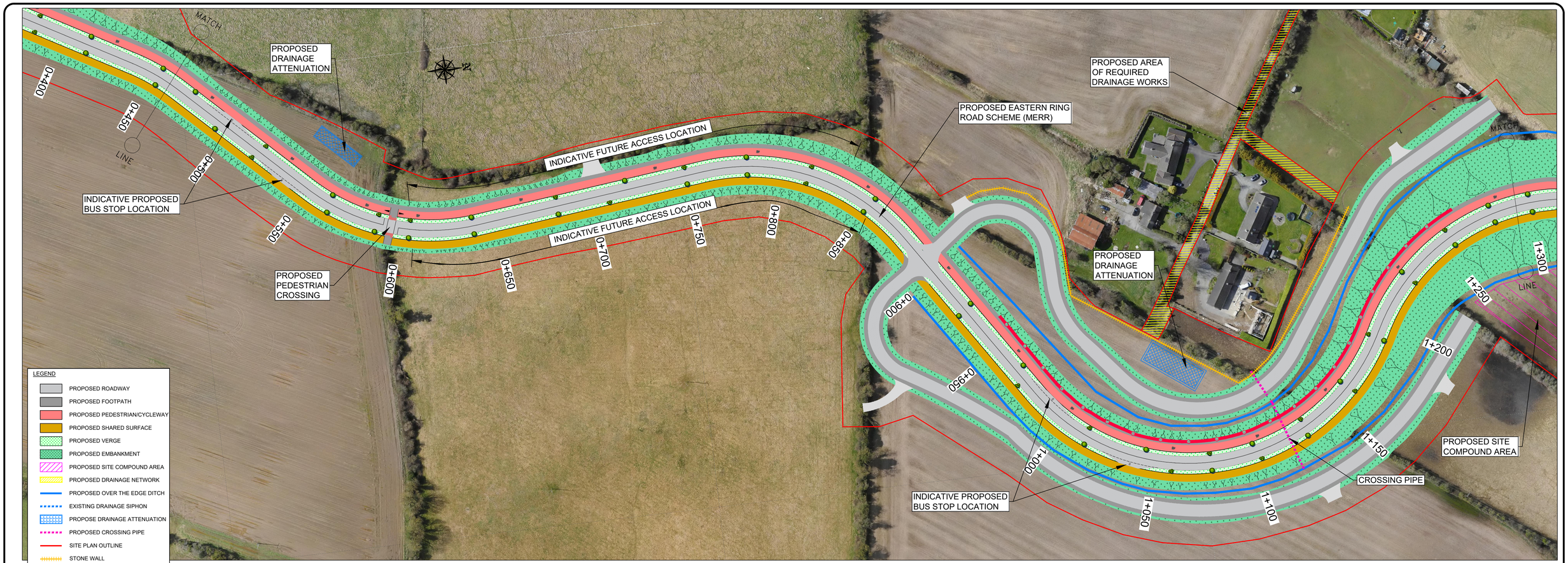

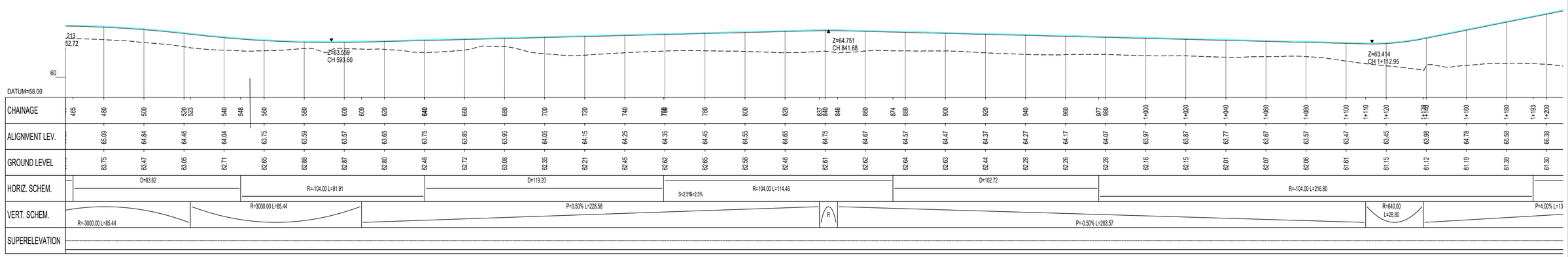

ROAD NAME: Maynooth Eastern Ring Road

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Project Stage: EIA Screening

Project Title: Maynooth Eastern Ring Road

Drawing Title: Proposed Layout Plan & Profile
Sheet 2 of 3

Drawing Number: Project | Originator | Volume | Location | Type | Role | Number
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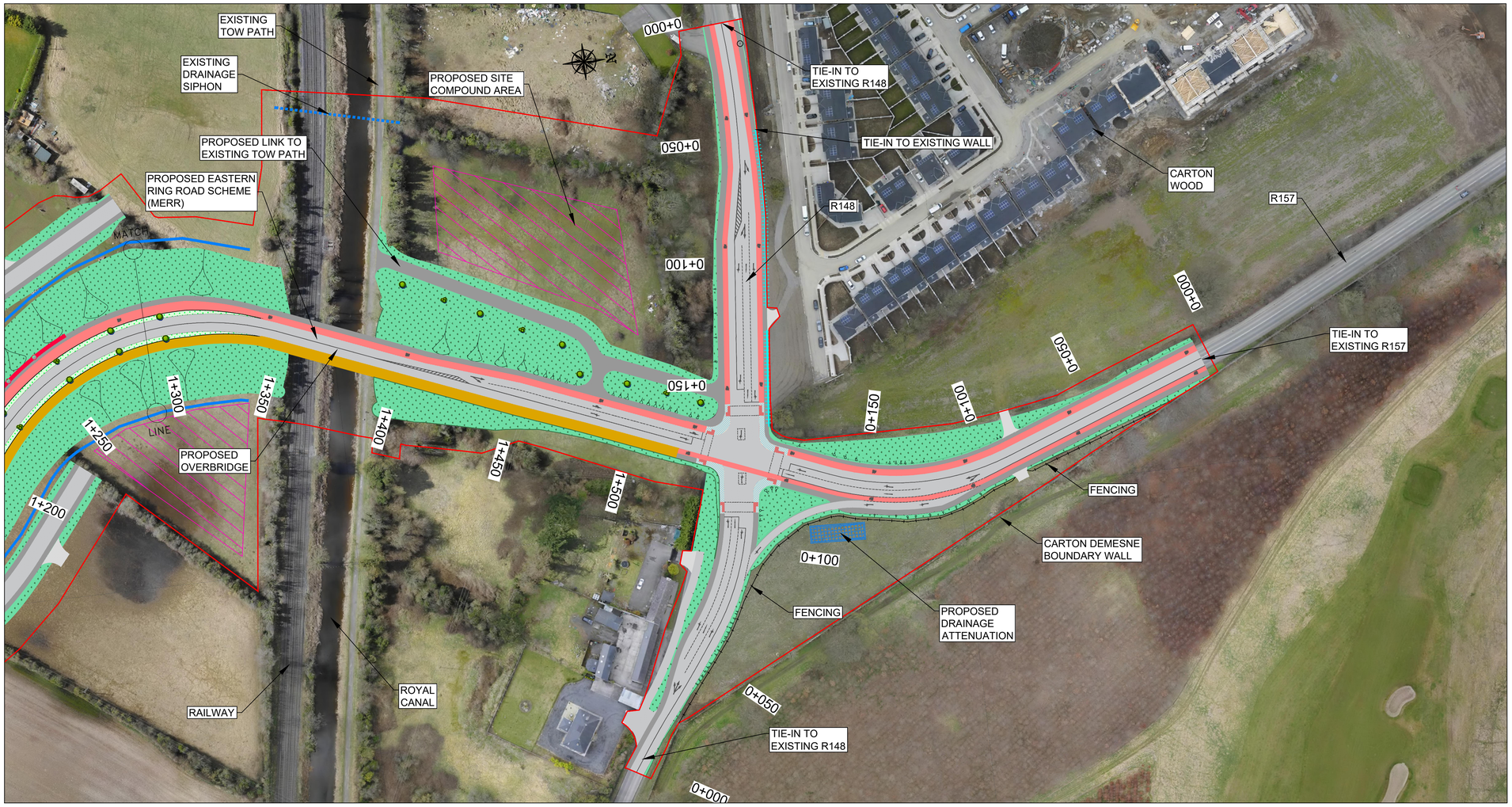

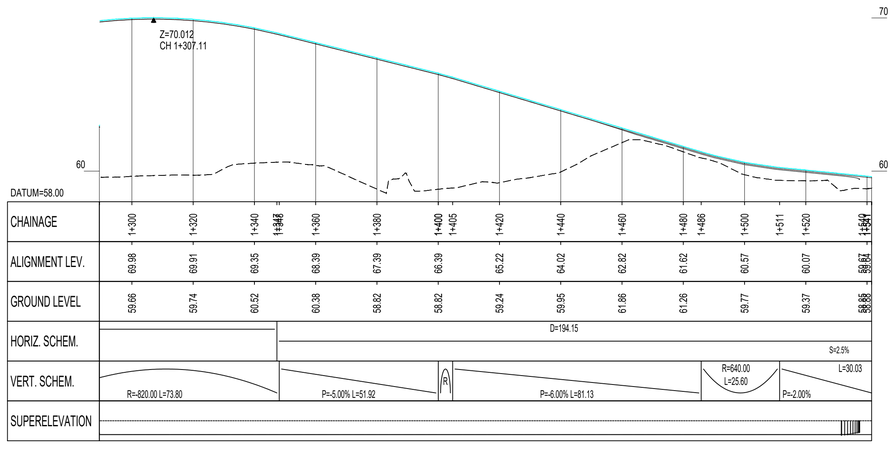

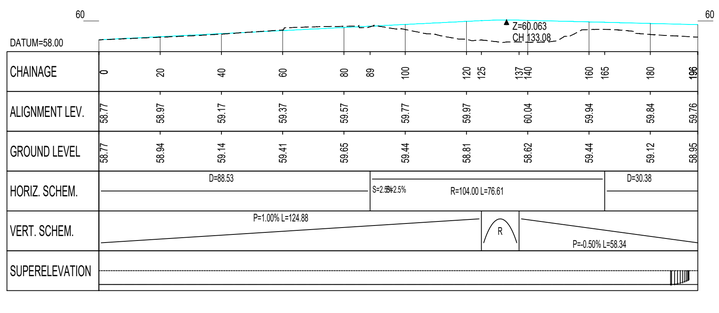

ROAD NAME: Maynooth Eastern Ring Road

ROAD NAME: R157 Dunboyne Road

LEGEND

- PROPOSED ROADWAY
- PROPOSED FOOTPATH
- PROPOSED PEDESTRIAN/CYCLEWAY
- PROPOSED SHARED SURFACE
- PROPOSED VERGE
- PROPOSED EMBANKMENT
- PROPOSED SITE COMPOUND AREA
- PROPOSED DRAINAGE NETWORK
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Job No:	18.109
Rev:	P01

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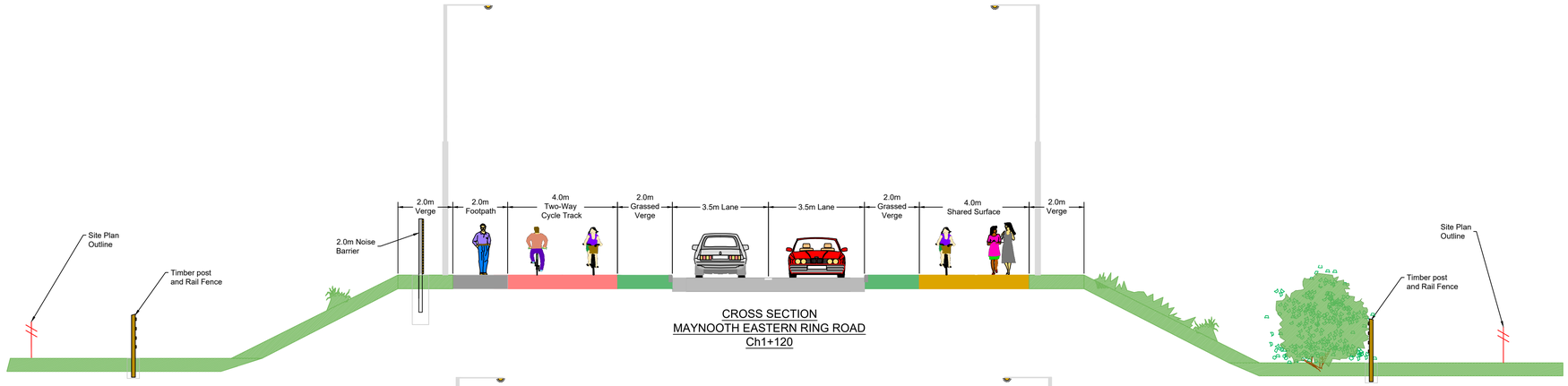

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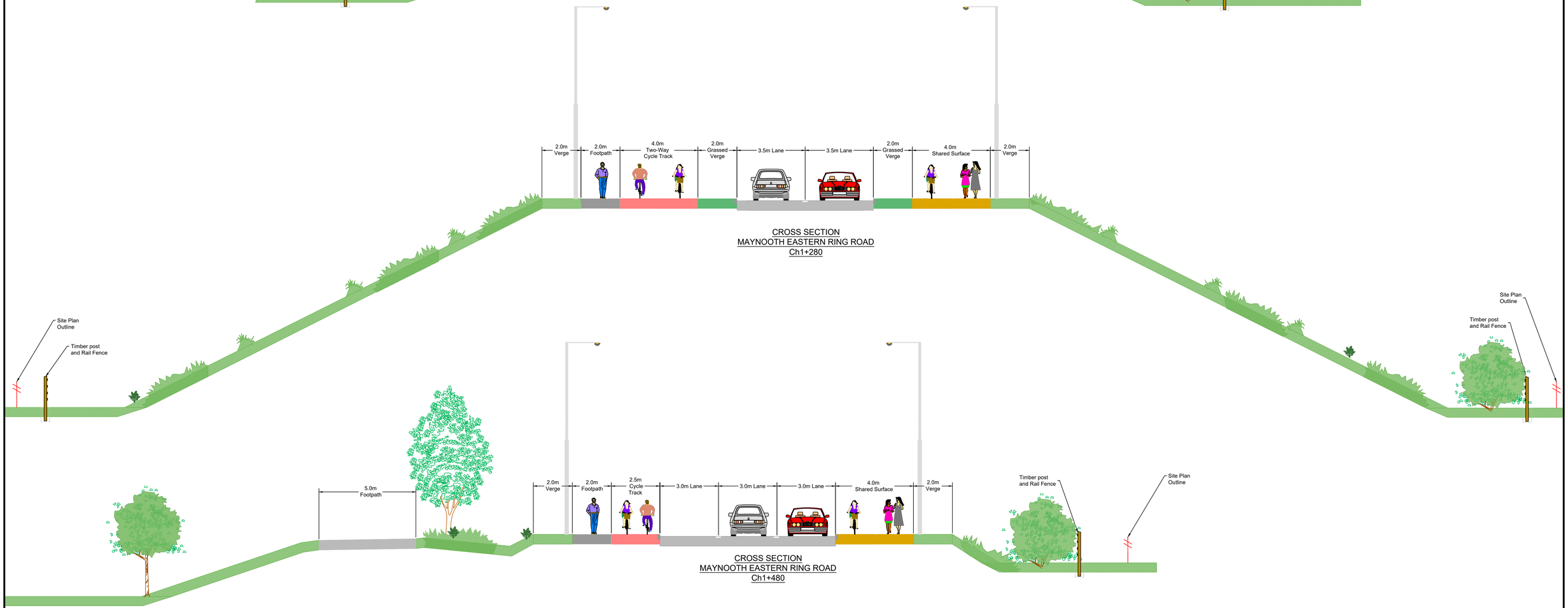
Ch1+120



CROSS SECTION
MAYNOOTH EASTERN RING ROAD
Ch1+280

CROSS SECTION
MAYNOOTH EASTERN RING ROAD
Ch1+480

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P01	Issued For Approval	29/04/2019	PC	IF	SMG

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Drawn	Designed	Checked	Approved	Suitability Code - Description
PC	IF	SMG	MK	S2 - Information/Planning

Project Stage	EIA Screening
Project Title	Maynooth Eastern Ring Road
Drawing Title	Proposed Route Cross Sections Sheet 1 of 3
Drawing Number	Project | Originator | Volume | Location | Type | Role | Number: MERR - ROD - EGN - SW_AE - DE - EN - 40301
Scale (A1)	1:50
Date:	May 2019
Job No:	18.109
Rev:	P01

10 May 2019 12:18:20

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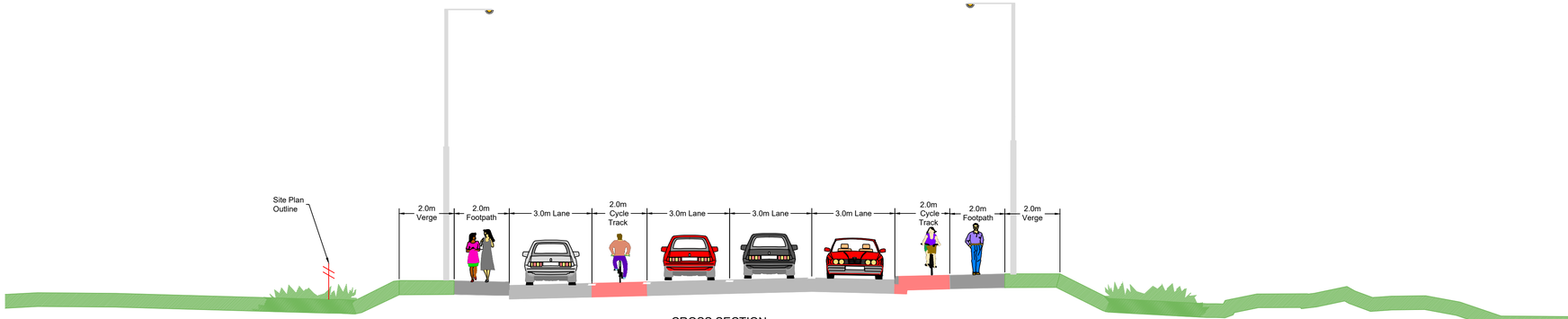

CROSS SECTION
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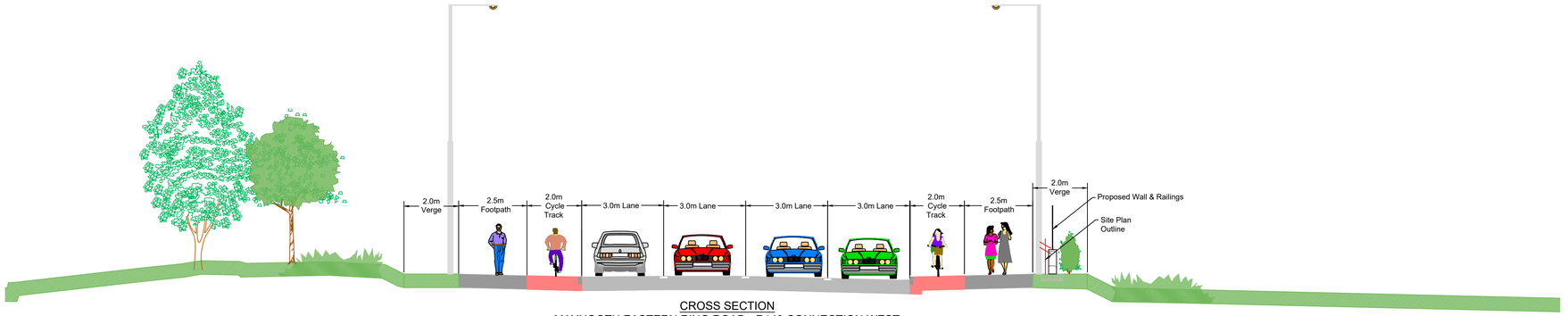
Ch0+150



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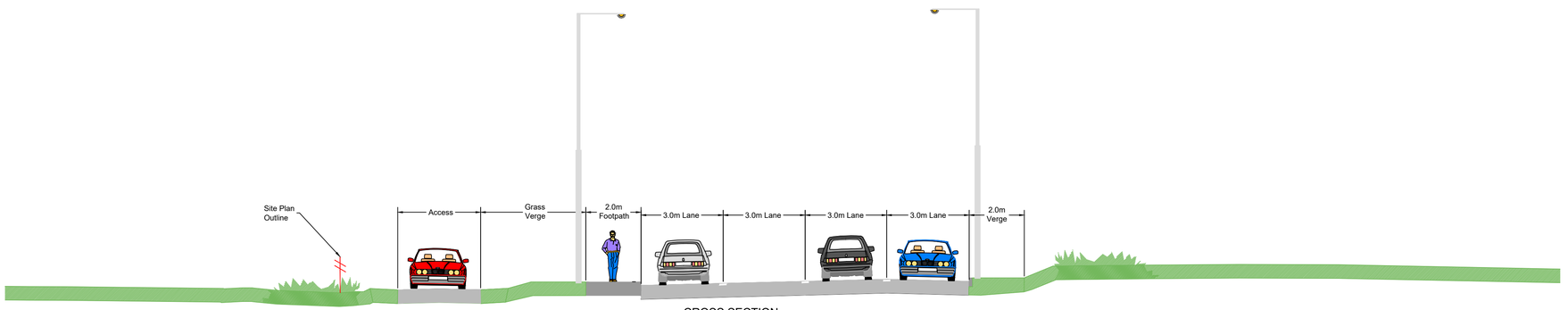

CROSS SECTION
MAYNOOTH EASTERN RING ROAD - R148 CONNECTION EAST
Ch0+075

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Roads Design Office

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Drawn	Designed	Checked	Approved	Suitability Code - Description
PC	IF	SMG	MK	S2 - Information/Planning

Project Stage	EIA Screening
Project Title	Maynooth Eastern Ring Road
Drawing Title	Proposed Route Cross Sections Sheet 2 of 3
Drawing Number	Project | Originator | Volume | Location | Type | Role | Number: MERR - ROD - EGN - SW_AE - DE - EN - 40302
Scale (A1)	1:50
Date:	May 2019
Job No:	18.109
Rev:	P01

10 May 2019 12:18:36

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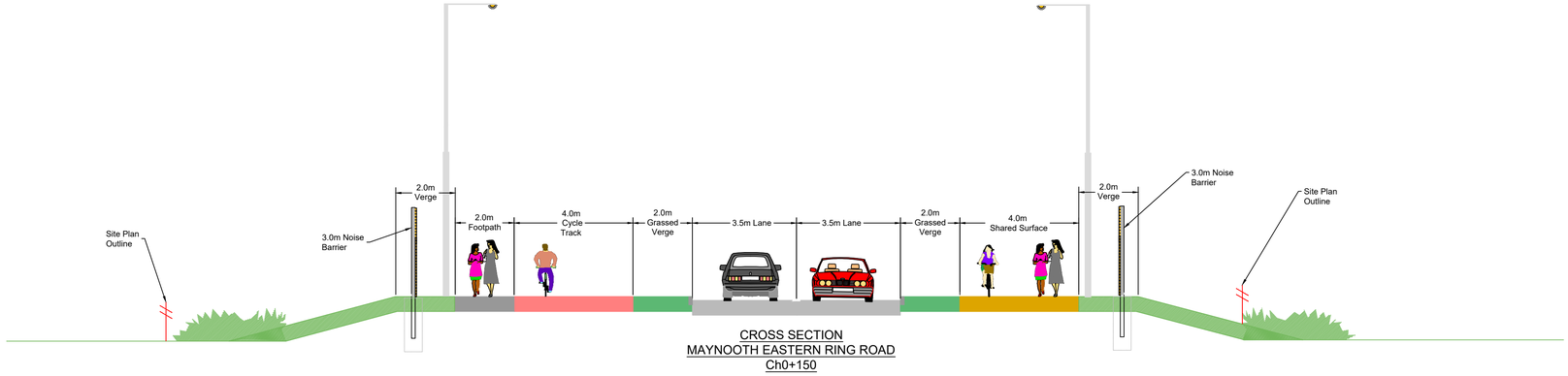
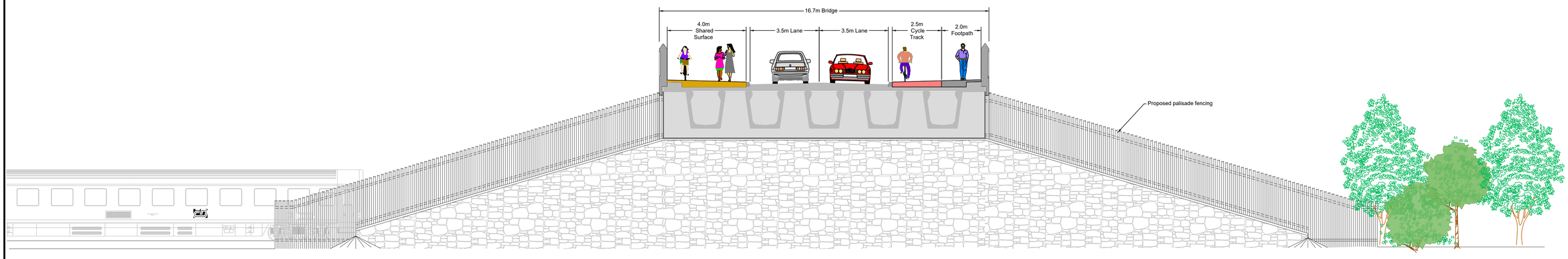
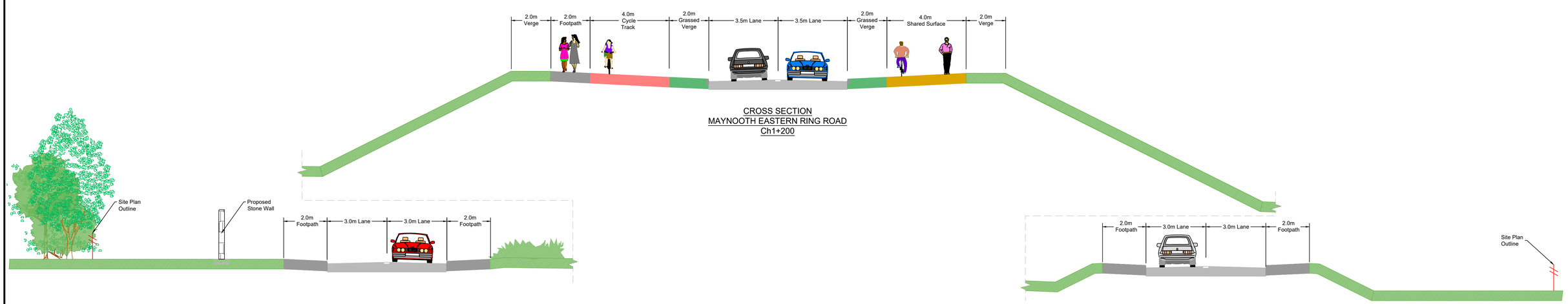


CROSS SECTION
MAYNOOTH EASTERN RING ROAD
Ch0+150



BRIDGE CROSS SECTION (LOOKING SOUTH)
MAYNOOTH EASTERN RING ROAD



CROSS SECTION
MAYNOOTH EASTERN RING ROAD
Ch1+200

Roads Transportation and Public Safety Dept.
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Drawn	Designed	Checked	Approved	Suitability Code - Description
PC	IF	SMG	MK	S2 - Information/Planning

Project Stage	EIA Screening
Project Title	Maynooth Eastern Ring Road
Drawing Title	Proposed Route Cross Sections Sheet 3 of 3
Drawing Number	Project | Originator | Volume | Location | Type | Role | Number: MERR - ROD - EGN - SW_AE - DE - EN - 40303
Scale (A1)	1:50
Date:	May 2019
Job No:	18.109
Rev:	P01

10 May 2019 12:19:18

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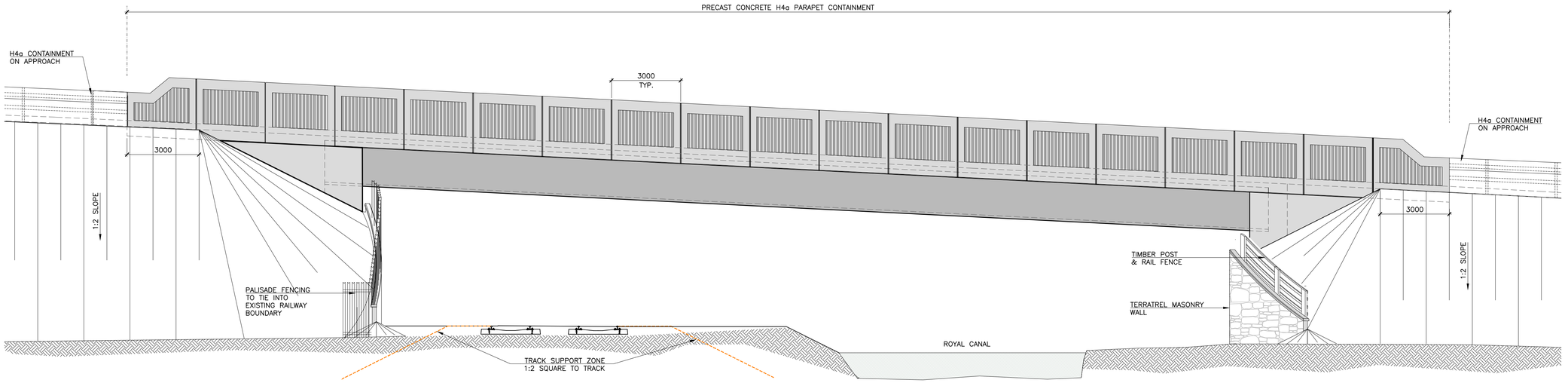
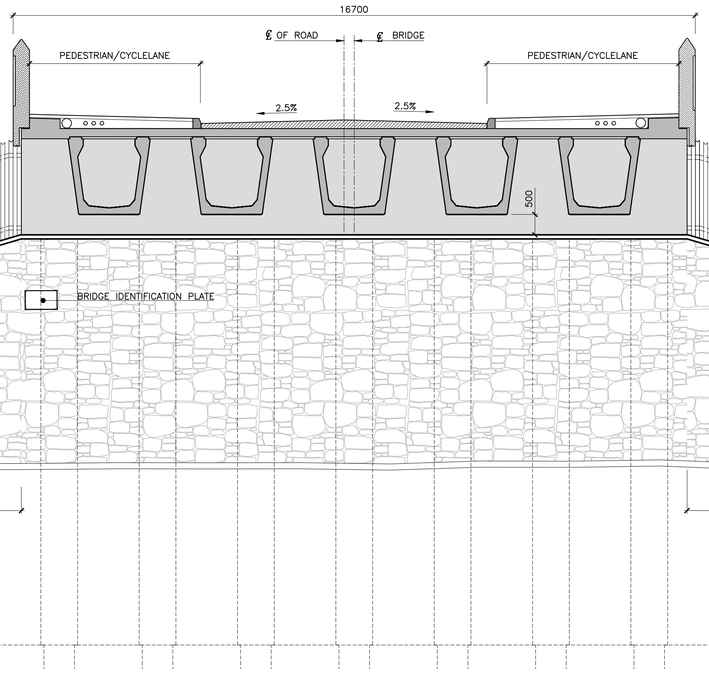
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE



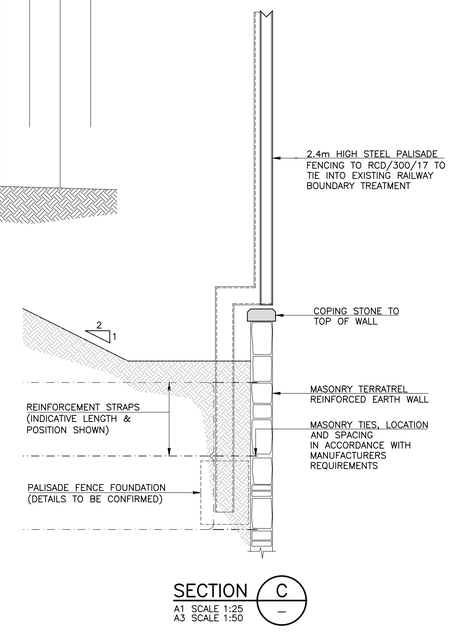
ELEVATION

SCALE 1:100 A1
SCALE 1:200 A3



ELEVATION ON REINFORCED EARTH WALL

SCALE 1:75 A1
SCALE 1:150 A3



SECTION C–C

A1 SCALE 1:25
A3 SCALE 1:50

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Drawn	Designed	Checked	Approved	Suitability Code - Description
DQ	AOC	MK	MK	S2 - Information/Planning

Project Stage	EIA Screening
Project Title	Maynooth Eastern Ring Road Canal and Railway Bridge
Drawing Title	ELEVATIONS & DETAILS
Drawing Number	Project | Originator | Volume | Location | Type | Role | Number: MERR - ROD - EGN - SW-S01 - DR - CB - 40003
Scale (A1)	AS SHOWN
Date:	May 2019
Job No:	18.109
Rev:	P01

09 May 2019 12:23:05

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APPENDIX B

EIA SCREENING CHECKLIST
(Source EIA of Projects, Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU) (2017) European Commission

Questions to be Considered	Yes / No /? Briefly Describe	Is this likely to result in a significant effect? Yes/No/? – Why?
Brief Project Description: The Maynooth Eastern Ring Road (proposed development) comprises the construction of 1.55 km of relief road between the R148 Leixlip Road and the R405 Celbridge Road		
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc)?	**Yes** The construction of a relief road will change land use and topography.	**No** The scale of the proposed development will involve small area of physical land use change which are in accordance with and support planning policy.
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	**Yes** Land and natural resources will be required.	**No** The volume of materials required will not be large enough to result in a significant effect.
3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	**Yes** Concrete, oils, etc will be used during construction.	**No** Construction best practice and guidance will be followed during construction, therefore there will be no likely significant effects.
4. Will the Project produce solid wastes during construction, operation or decommissioning?	**Yes** Small quantities of unsuitable material will be excavated during construction.	**No** Due to the small scale of quantities excavated during construction, no significant effects are likely.
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air or lead to exceeding Ambient Air Quality standards in Directives 2008/50/EC and 2004/107/EC)?	**Yes** The construction and operation phases will produce air pollutants.	**No** Air pollution levels will not exceed permitted thresholds.
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	**Yes** The construction and operation phases will create noise and vibration and will have a public lighting included in the design.	**No** The extent of construction works will be small scale and short term. Through the implementation of mitigation measures, there will be no likely significant effects during the construction or operation. The lighting provided will be consistent with that provided in the local area. Cowels will remove lightshed into the Royal Canal.

Questions to be Considered	Yes / No /? Briefly Describe	Is this likely to result in a significant effect? Yes/No/? – Why?
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	**Yes** Both the construction and operation phases will have risk of pollutants entering surface water and groundwater.	**No** The proposed development will be designed and constructed in accordance with best practice guidelines and there will be no likely significant effects.
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?	**Yes** Both the construction and operation phases will have risk of accidents which could affect human health or the environment.	**No** The proposed development will be designed and constructed in accordance with best practice guidelines and there will be no likely significant effects.
9. Will the Project result in environmentally related social changes, for example, in demography, traditional lifestyles, employment?	**Yes** Benefits from the proposed development include the increase in employment which will result from the construction stage of the proposed development. Positive effects on the environment within the locality are also expected as a result of reduced congestion.	**No** The positive social effects resulting from the proposed development are not likely to be significant.
10. Are there any other factors that should be considered such as consequential development which could lead to environmental impacts or the potential for cumulative impacts with other existing or planned activities in the locality?	**Yes** The development of the Ring Road will provide access to zoned lands within the Railpark area.	**No** Any future developments will be subject to their own environmental impact and cumulative impact assessments. There will be no likely significant effects as a result of the proposed development.
11. Is the project located within or close to any areas which are protected under international, EU, or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the Project?	**Yes** The Rye Water Valley/Carton SAC is located 700m northeast of the proposed development in and runs through the Carton Demesne, listed by the NIAH. A Lime Kiln on the Kildare RPS is the only architectural, archaeological or cultural heritage sites around the site location that could be indirectly affected by the development.	**No** The proposed development will be designed and constructed in accordance with best practice guidelines and the extent of works will not be large enough to result in significant effects. The proposed development will have no significant effects on any national or Natura 2000 sites, recorded monuments or structures.

Questions to be Considered	Yes / No /? Briefly Describe	Is this likely to result in a significant effect? Yes/No/? – Why?
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	**Yes** Petrifying Springs are a QI of the Rye Water Valley/Carton SAC. The Royal Canal pNHA is located within the footprint of the proposed development and supports a wide diversity of species along its linear habitats.	**No** The Screening for AA concluded there to be no significant effect on the SAC. Effects on the Royal Canal pNHA will be short term during construction and will not be significant during either construction or operation phase. Therefore there will be no significant effects.
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	**Yes** The Rye Water Valley/Carton SAC is located 700m north-east of the proposed development.	**No** The proposed development will be designed and constructed in accordance with best practice guidelines and the works will be short-term in duration. Therefore, there will be no significant effects on the SAC.
14. Are there any inland, coastal, marine or underground waters (or features of the marine environment) on or around the location which could be affected by the project?	**Yes** The Rye Water is located 700m north east of the proposed development. The Royal Canal will be crossed by a new bridge as part of the proposed development.	**No** Through following best practice methodologies and the TII Construction Guidelines, significant effects will not occur to either the Rye Water or Royal Canal.
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	**No** There are protected views within the Carton Demesne. A Scenic Route is identified (Route Number 30) within Carton Demesne Walls while it is policy to maintain the views to and from Carton House and within Carton Demesne. Views to and from along the Canal are to be maintained including Pike Bridge Railpark/Donaghmore.	**No** The Carton Demesne is bounded by a high wall and band of trees to the south. The construction of the proposed road development and the proposed bridge will not cause significant effects to the Demesne. The proposed bridge across the canal will be visible from Pike Bridge but it will be located 1.1 km downstream and therefore will have no significant effect on the view. The screening vegetation along the embankments of the proposed bridge will reduce the visual effect further overtime.
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	**No** The land is currently used for agriculture. Access to the Royal Canal will be provided as part of the proposed development. Access along the canal walkway may be temporarily affected for short periods during construction of the bridge.	**No** Any access restrictions will be temporary during construction and therefore will not have significant effects on the public.

Questions to be Considered	Yes / No /? Briefly Describe	Is this likely to result in a significant effect? Yes/No/? – Why?
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	**No** Maynooth town centre is a busy centre and is subject to congestion most mornings and evenings. The provision of the proposed road development to the east of Maynooth will help ease this congestion within the town.	**No** The proposed development will have a positive effect on the local transport routes through the provision of new infrastructure and connectivity to help accommodate increasing traffic growth.
18. Is the project in a location where it is likely to be highly visible to many people?	**Yes** While the road will travel through undeveloped agricultural land, the bridge over the railway line and Royal Canal will be visible to the surrounding area due to its height.	**No** Due to the level of mature trees in the area, and the implementation of landscape planting, there will be no likely significant effects as a result of the proposed bridge.
19. Are there any areas or features of historic or cultural importance on or around the location which could be affected by the project?	**No** The Carton Demesne is located to the north-east of the proposed development.	**No** There will be no significant effects from the proposed development on these features of cultural importance as the Carton Domain wall will not be impacted and the views from the Demesne will not result in significant impacts.
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	**Yes** The proposed development is located on a previously undeveloped area of land, currently used for agriculture.	**No** The scale of the proposed development will not result in significant loss of greenfield land. The land is zoned for development in the Maynooth Local Area Plan. Therefore there will be no likely significant effects.
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	**Yes** The proposed development will require the acquisition of land through CPO, however no properties will be included within the CPO. There are a number of residential dwellings in close proximity to the proposed road development, of which boundary fences will be affected.	**No** Where the proposed development results in effects to the curtilage of property boundaries, replacement fences and boundaries will be reinstated similar to those affected. The proposed development will not have significant effects on the existing land uses.
22. Are there any plans for future land uses within or around the location that could be affected by the Project?	**Yes** The development of the proposed road will provide access to the zoned lands to the east of Maynooth for future development.	**No** Positive effects will be provided through the provision of access to lands.

Questions to be Considered	Yes / No /? Briefly Describe	Is this likely to result in a significant effect? Yes/No/? – Why?
23. Are there areas within or around the location which are densely populated or built-up, that could be affected by the Project?	**Yes** The proposed development will be located approx. 1.2 km south east of the town of Maynooth.	**No** The proposed development will have positive effects on the town of Maynooth, easing traffic and congestion.
24. Are there any areas within or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship community facilities, that could be affected by the Project?	**Yes** Two schools are located on the R405 just west of the proposed junction.	**No** The extent of works associated with the proposed development is not large enough to result in likely significant effects to surrounding land uses.
25. Are there any areas within or around the location which contain important, high quality or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, that could be affected by the Project?	**No** The proposed development is within the catchment of the River Rye Water located 700m northeast of the proposed development in the Carton Demesne and its tributary the Lyreen Water flows through Maynooth University and Maynooth town centre.	**No** The proposed development is located in agriculture lands, these are not considered to be scarce resources in the area and have been zoned to accommodate the propose road development. There are no likely significant effects on the groundwater or surface water during the construction or operational phases. See Section 5 for an overview of these receptors.
26. Are there any areas within or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, that could be affected by the Project?	**Yes** The River Rye Water is classed as being 'at risk' by the Water Framework Directive.	**No** The Screening for AA concluded there to be no likely significant effects on the Rye Water Valley / Carton SAC as a result of the proposed development.
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	**No**	**No** Flooding has been incorporated as part of the environmental assessments in this EIA Screening Report.
Summary of features of Project and of its location indicating the need for EIA: No features of the proposed development or of its location indicate the need for an EIA.		

CHECKLIST OF CRITERIA FOR EVALUATING THE SIGNIFICANCE OF ENVIRONMENTAL IMPACTS		
Questions to be Considered	**Yes or No**	**Significance?**
1. Will there be a large change in environmental conditions?	**No**	**Not Significant**
2. Will new features be out-of-scale with the existing environment?	**No**	**Not Significant**
3. Will the impact be unusual in the area or particularly complex?	**No**	**Not Significant**
4. Will the impact extend over a large area?	**No**	**Not Significant**
5. Will there be any potential for transboundary impact?	**No**	**Not Significant**
6. Will many people be affected?	**No**	**Not Significant**
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?	**No**	**Not Significant**
8. Will valuable or scarce features or resources be affected?	**No**	**Not Significant**
9. Is there a risk that environmental standards will be breached?	**No**	**Not Significant**
10. Is there a risk that protected sites, areas, features will be affected?	**No**	**Not Significant**
11. Is there a high probability of the effect occurring?	**No**	**Not Significant**
12. Will the impact continue for a long time?	**No**	**Not Significant**
13. Will the effect be permanent rather than temporary?	**No**	**Not Significant**
14. Will the impact be continuous rather than intermittent?	**No**	**Not Significant**
15. If it is intermittent will it be frequent rather than rare?	**n/a**	
16. Will the impact be irreversible?	**n/a**	
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?	**n/a**	

APPENDIX C

LANDSCAPE MASTER PLAN

LEGEND

- Native shrub planting (bare-root transplants)
- Native hedgerow mix (bare-root transplants)
- Native hedgerow tree (light standard)
- Native woodland tree
- Street tree
- Beech hedging
- Vegetation to be retained
- Timber post and rail fence
- Concrete post and rail fence
- Wildflower meadow grass
- Grass
- Attenuation tanks (grassed)
- Noise barrier
- Wall

Attenuation tanks to be grassed over

Existing grassy verge vegetation and trees to be retained

Concrete post and rail fence

Existing vegetation to be retained

Compound locations to be returned to grassland

Timber post and rail fence

Proposed wall

Existing vegetation to be retained

Native shrub planting/ Trees

Hedgerow/ tree planting

Existing vegetation to be retained

Attenutation tank to be grassed

Proposed wall

Existing trees in green spaces to be retained and new tree planting proposed. Shrubs retained if possible, or replaced.

PLANTING SCHEDULE

Native Hedgerow Mix (@ 6/lin.m)

%Mix	Species	Specification
45%	Crateagus monogyna	1+2 bareroot transplant / 60-90cm
20%	Salix caprea	1+2 bareroot transplant / 60-90cm
20%	Corylus avellana	1+2 bareroot transplant / 60-90cm
15%	Sambucus nigra	1+2 bareroot transplant / 60-90cm

Hedgerow Tree Light Standard Tree Planting (Single stake with biodegradable colar & tie)

%Mix	Species	Specification
50%	Alnus glutinosa	6-8cm girth / bare-root / 1.5m clearstem / 2-2.5m high
50%	Betula pendula	6-8cm girth / bare-root / 1.5m clearstem/2-2.5m high

Street Trees (Alternate species planted at 10m centres, Sorbus to be planted close to lamp posts)

%Mix	Species	Specification
50%	Quercus petrea	12-14cm girth,
50%	Sorbus aria	12-14cm girth

Beech Hedging (Carton Woods)

Species	Specification(5 per linear metre, double staggered row)
Fagus sylvatica	1+2 bareroot transplants/60-90cm

Woodland Trees (Single stake with biodegradable colar & tie)

Species	Specification	
50%	Quercus petraea	6-8cm girth / bare-root / 1.5m clearstem / 2-2.5m high
50%	Fagus sylvatica	6-8cm girth / bare-root / 1.5m clearstem / 2-2.5m high

Native Shrub Planting (groups of 3-5, 4/sqm.)

%Mix	Species	Specification
35%	Viburnum opulus	1+2 bareroot transplant / 60-90cm
35%	Corylus avellana	1+2 bareroot transplant / 60-90cm
30%	Euonymous europeaus	1+2 bareroot transplant / 60-90cm

Grass Seeding

The following wildflower meadow grass seed mixes shall be utilised subject to soil sampling and specialist supplier approval.

Wildflower Meadow Grass (Short / Low Growing Species Mix for lower embankments)

Species List:
Birdsfoot Trefoil, Black Meddick, Burnet Saxifrage, Century, Wild Chamomile, Cowslip, Eyebright, Meadow Buttercup, Marjoram, Red Bartsia, Mallow, Forget-me-not, Hoary Plantain, Kidney Vetch, Lady's Bedstraw, Ox-eye Daisy, Red Clover, Ribwort Plantain, Rough Hawksbit,St Johnswort, Wild Carrot, Sorrel, Yarrow, Quaking Grass, Lady's Smock, White Bedstraw, Selfheal, Smooth Hawksbit, Corn Marigold, Corn Poppy, Cornflower, Corncockle, Scented Mayweed.

Wildflower Meadow Grass (Tall Species Mix for upper embankments)

Species List:
Biennials: Alexanders, Burdock, Foxglove, Hedge Garlic Mustard, Cow-Parsley, Mullein, Teasel, Upright Hedge Parsley, Weld -Yellow weed, Wild Angelica, Wild Carrot, Mugwort, Pokeweed,Perennials: White Bedstraw. Bladder Campion, Common Vetch, Field Scabious, Hemp Agrimony, Lesser Knapweed, Meadowsweet, Ox-eye Daisy, Purple Loosestrife, Red Campion, St Johnswort, Yarrow, Yellow Flag Iris,

Annuals include: Corn Marigold, Corn Poppy, Corncockle, Scentless and Scented Mayweed

Both mixes to be sown at 1 to 1.5 grams per metre square.

Damp Meadow:(Species suitable for drainage channels)
Species List: Birdsfoot trefoil, Corn marigold, Corncockle, Devil's Bit scabiouis, Eyebright, Medow buttercup, Fleabane, Greater trefoil, MArch Marigold, Marsh Cinquefoil, Lesser Knapweed,
Scented Mayweed, Measowsweet, Ox-eye daisy, Purple Loosestrife, Ragged Robin, Red Bartsia,
Red Campion, Red Clover, Ribwort Plantain, Selfhreal, Sorrel, Water Avens, Wild Angelica, Yarrow,
Yellow Flag Iris, Yellow Rattle, Woundwort, Molinia.

Mix to be sown at 1 to 1.5 grams per metre square.

Note: Wildflower mixes are subject to soil testing and shoudl be confirmed by specialist advice.

REV	DATE	AMENDMENT

CUNNANE STRATTON REYNOLDS
LAND PLANNING & DESIGN

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PROJECT: **MAYNOOTH EASTERN RING ROAD**	DATE: MAY 2019
	SCALE: 1:2500 @ A1
DRAWING: **LANDSCAPE MASTER PLAN**	DRAWN: KM/ES CHECKED: KM/DOL
	DRAWING NO: **18400_3_101**