



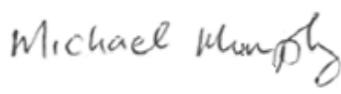
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EIA SCREENING REPORT

M.H.L & ASSOCIATES LTD.

CAPPAMORE JUNCTION IMPROVEMENT SCHEME

LIMERICK CITY

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1. Introduction

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

1.1 Purpose of this Report

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

1.2 Context

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

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

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

These criteria include:

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

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

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

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

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

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

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

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

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

2. EIA Screening Methodology

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

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

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

2.1 Characteristics of proposed projects

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

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

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

2.2 Location of Proposed Development

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

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

2.3 Characteristics of Potential Impacts

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

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

3. Description of the Proposed Development

3.1 Site Location

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

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

3.2 Details of Proposed Development

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

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

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



Figure 1: Site location map.

3.3 Best Practice Construction Approach

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

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

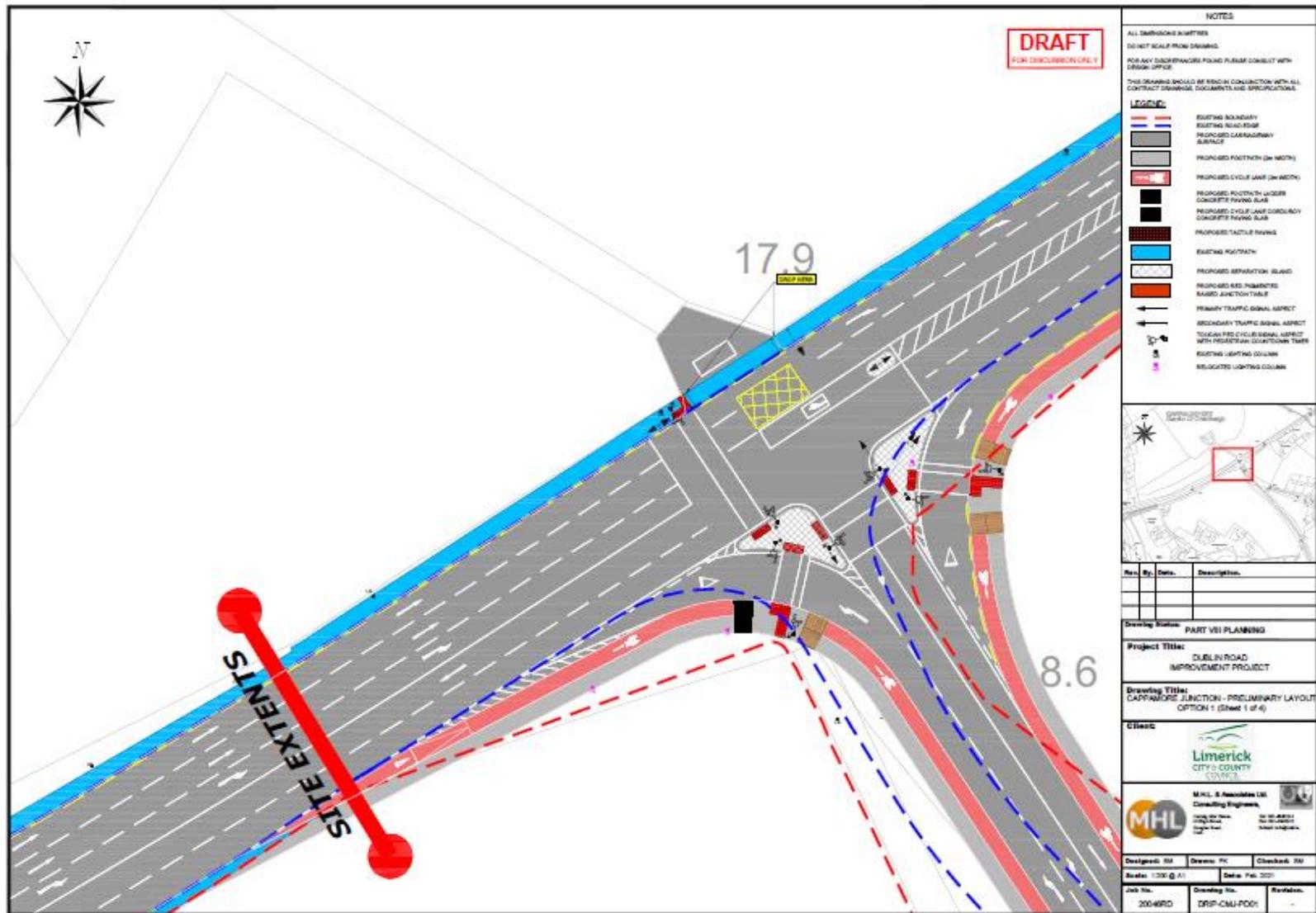


Figure 2: Site plan.

4. Potential Impacts on Receiving Environments' Sensitivities

4.1 Introduction

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

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

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

4.2 Overview of potential impacts on Receiving Environment

4.2.1 Population & Human Health

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

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

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

4.2.2 Biodiversity

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

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

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

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

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

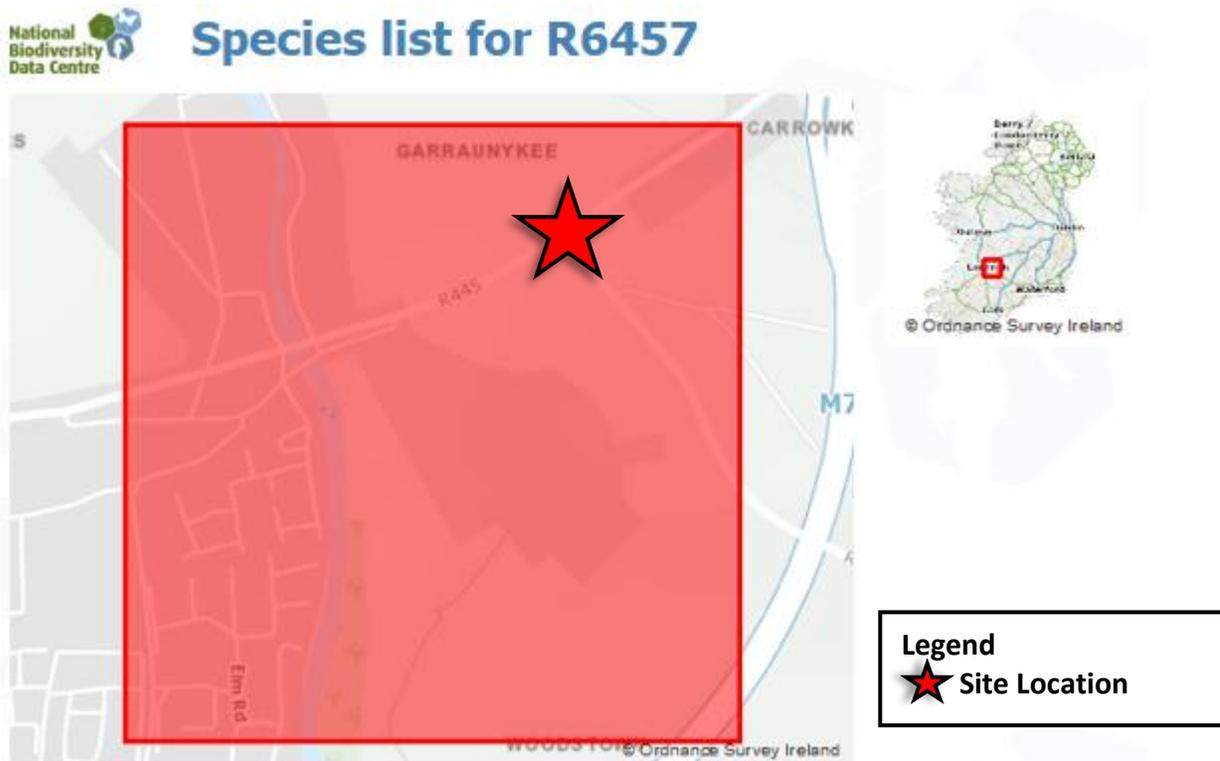


Figure 3. 1km grid square R6457. Table 1. National Biodiversity Centre database records.

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

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

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

4.2.3 Land & Soil

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

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

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

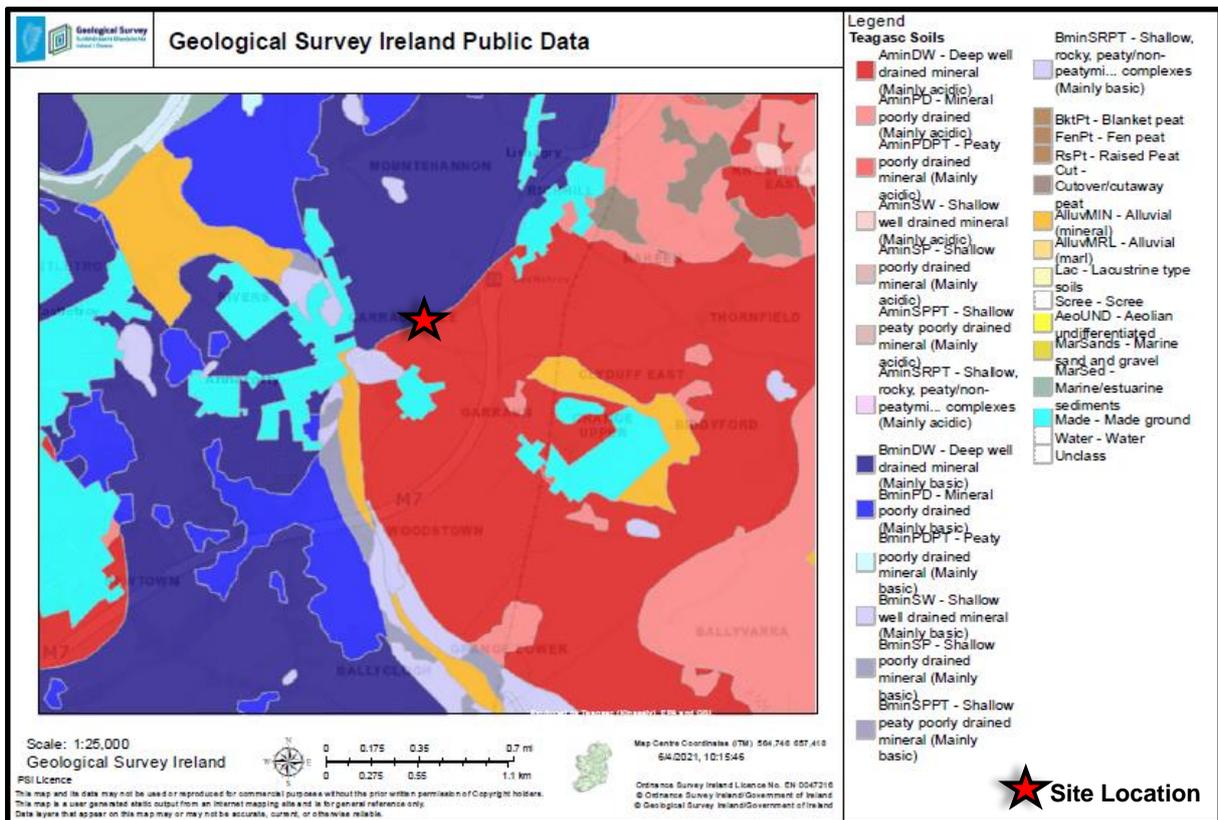


Figure 4. Description of soils adjacent to site.

4.2.4 Water

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

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

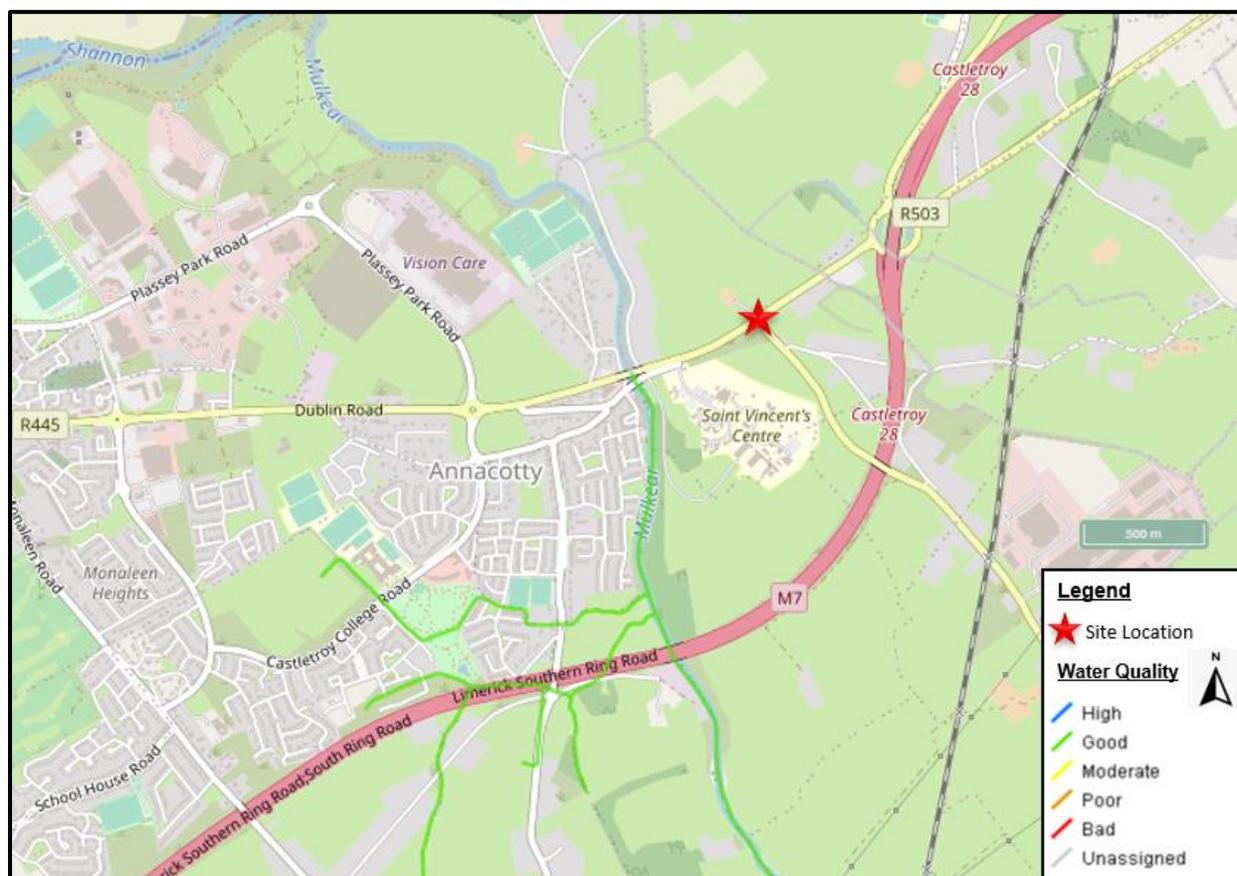


Figure 5: Location of development site in relation to nearby watercourses and their waterbody status (EPA.ie).

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

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

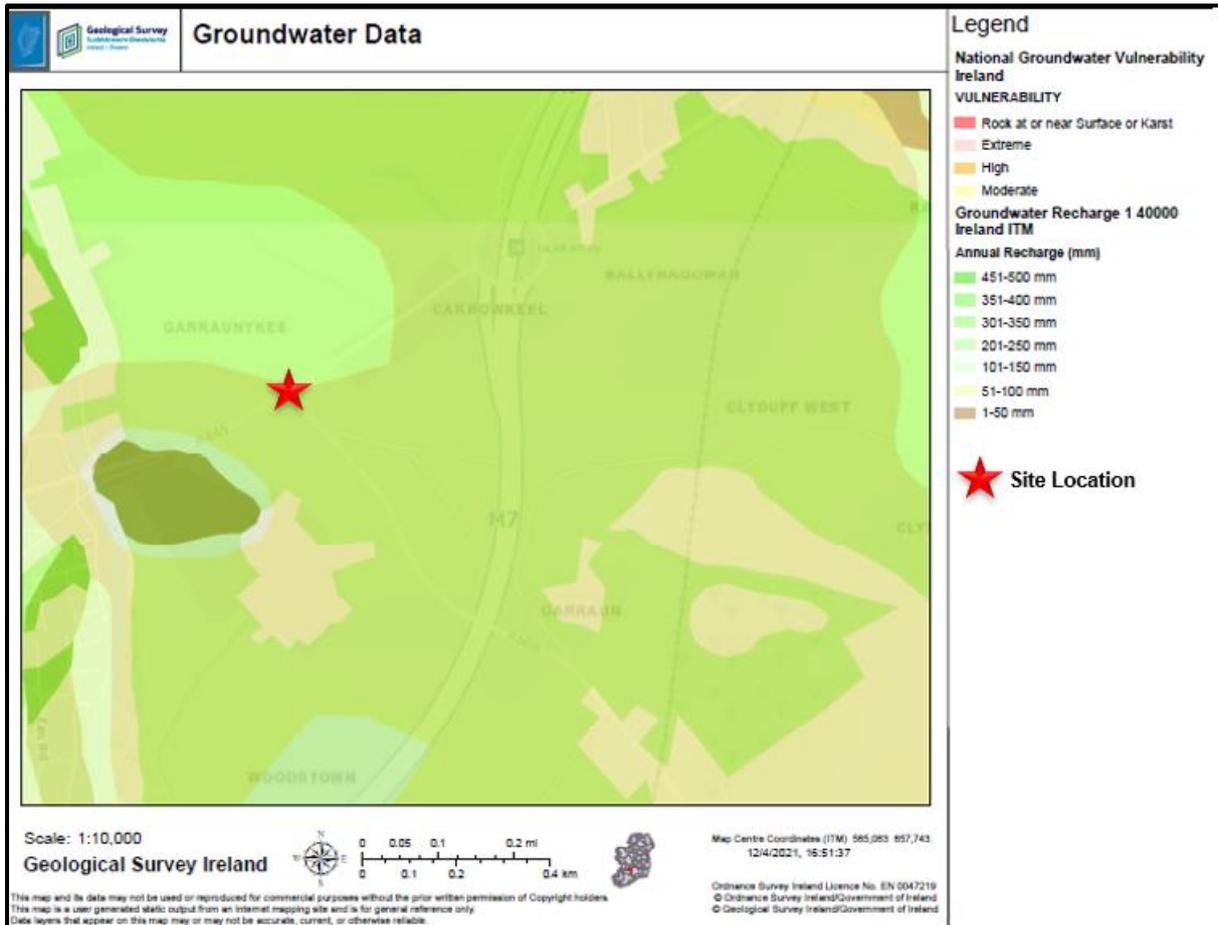


Figure 6. Groundwater data relevant to proposed site.

4.2.5 Cultural Heritage & Archaeology

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

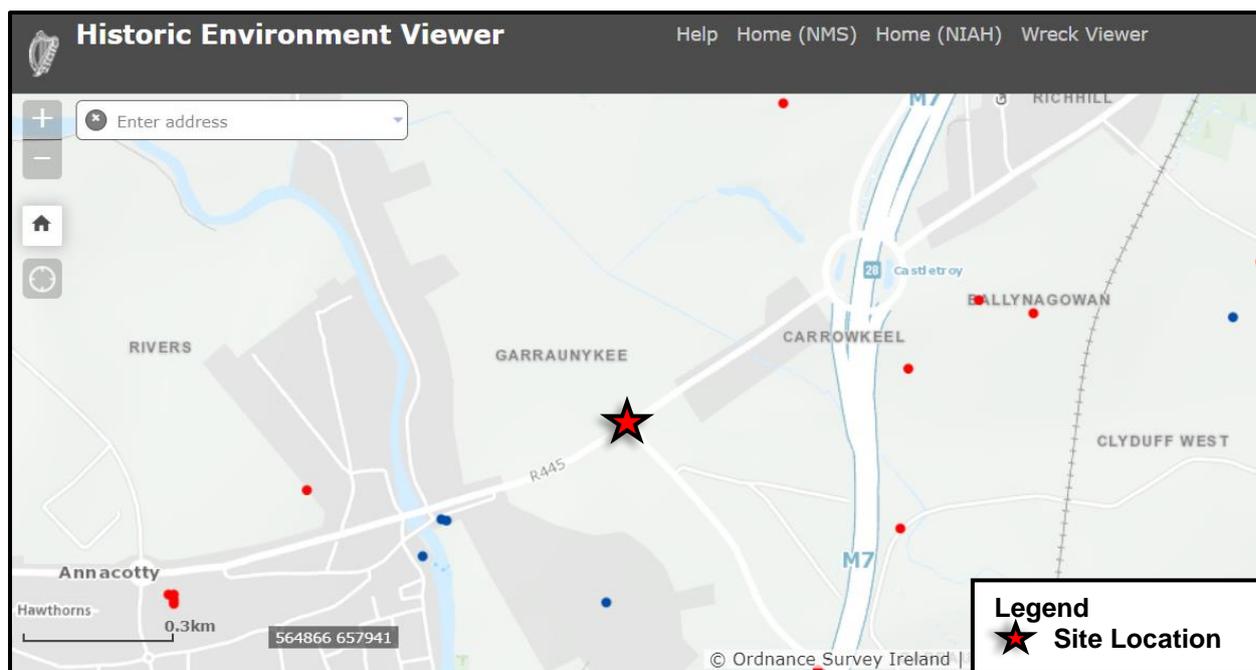


Figure 7. Map identify archaeological features associated with site (Archaeology.ie).

4.2.6 Landscape & Visual

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



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



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

4.2.7 Air and Climate

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

In terms of air quality: Works of this type will have minimal potential by virtue of their scale and duration on the local air quality. Pm^{10} , NO_x , hydrocarbons and dust-fall are the unavoidable emissions to air from construction activities. Best practice control measures will diminish these to negligible amounts (see appendix II).

In terms of Climate: Global warming emissions of CO_2 from fuel combustion will be negligible having regard to the scale and duration of the works.

4.2.8 Noise

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

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

4.2.9 Material Assets

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

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

4.2.10 The interrelationship between the environmental topics

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

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

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

5. Screening of Likely Impacts

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

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

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

Table 2. Characteristics of proposed developments

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

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

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

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

Table 3. Location of Proposed Development

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

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

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

5.1 Type and characteristics of Potential Impact

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

Article 3(1) Factors

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

Table 4a. Characteristics of Potential Impacts on environmental parameters

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

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

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

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

Table 4b. Characteristics of potential impacts

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

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

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

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

6. Screening Conclusions

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

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8. Appendices

Appendix I

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

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

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

Appendix II – Air Quality control measures.

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

Appendix III – Noise control measures.

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