

# Environmental Impact Assessment Report

## TEN-T Priority Route Improvement Project, Donegal Chapter 20: Risks of Major Accidents and Disasters



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 EIAR

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## List of Abbreviations

The following is a list of abbreviations used within this chapter of the Environmental Impact Assessment Report (EIAR).

List of Abbreviations	
AEP	Annual Exceedance Probability
ALARP	As Low As Reasonably Practicable
CCR	Climate Change Risk
CIRIA	Construction Industry Research and Information Association
COMAH	Control of Major Accident and Hazards
DAERA	Department of Agriculture, Environment and Rural Affairs (Northern Ireland)
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
FRA	Flood Risk Assessment
GIS	Geographical Information Systems
GSI	Geological Survey of Ireland
HGV	Heavy Goods Vehicle
HSA	Health and Safety Authority
IEL	Industrial Emissions Licences
IEMA	Institute of Environmental Management and Assessment
IPC	Integrated Pollution Control
ISEP	Institute of Sustainability and Environmental Professionals
NMU	Non-Motorised Users
NPWS	National Parks and Wildlife Service
OPW	Office of Public Works
pNHA	proposed Natural Heritage Area
SAC	Special Area of Conservation
SPA	Special Protection Area
TEN-T	Trans-European Network - Transport
TII	Transport Infrastructure Ireland

## 20 RISKS OF MAJOR ACCIDENTS AND DISASTERS

### 20.1 Introduction

The Proposed Development meets the criteria for mandatory EIA under the Roads Act 1993, as amended, (hereafter the Roads Act) and therefore an EIAR must be prepared. Section 50(2)(b)(vi) of the Roads Act requires that the EIAR contains:

*“any additional information specified in Annex IV that is relevant to the specific characteristics of the particular proposed road development or type of proposed road development and to the environmental features likely to be affected”*

Where “Annex IV” refers to Annex IV to Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 as amended by Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 (hereafter, the EIA Directive).

In relation to Major Accidents and Disasters, Annex IV, paragraph 8, states that the EIAR contains:

*“A description of the expected significant adverse effects of the project on the environment deriving from the vulnerability of the project to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to Union legislation such as Directive 2012/18/EU of the European Parliament and of the Council or Council Directive 2009/71/Euratom or relevant assessments carried out pursuant to national legislation may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.”*

This chapter of the EIAR presents the assessment of the expected significant adverse effects of the Proposed Development on the environment deriving from the vulnerability of the Proposed Development to risks of major accidents and/ or disasters which are relevant to the Project. The assessment is considered under two main scenarios:

- Where the Proposed Development may cause a major accident and/or disaster.
- Where the Proposed Development is vulnerable to risks of major accidents and/ or disasters.

This chapter should be read in conjunction with EIAR Chapter 4 Project Description, and Chapters 6 to 18.

### 20.2 Competent Experts

Gareth McElhinney is a Technical Director in RPS with over 26 years' experience. He holds a BE in Civil Engineering, a Postgraduate Diploma in Environmental Sustainability, and a Masters in Business Studies. He is a Chartered Engineer and Fellow with Engineers Ireland, a Registered Consulting Engineer with ACEI and a Project Management Professional with PMI. Gareth is experienced in the delivery of infrastructure projects across the environment and transport sectors and as part of multi-disciplinary teams. These projects include offshore wind, roads and greenways, water and healthcare infrastructure, oil & gas exploration, and environmental engineering, particularly in the waste management area and the construction and remediation of landfills. Gareth was co-author of the EPA's Guidance on assessing and costing environmental liabilities (EPA, 2014).

Tatiana Kelley is a Senior Engineer with RPS with eight years' experience working in Environment, Water and Wastewater Engineering. She has experience working in large-scale roads projects and flood relief schemes and has a strong understanding of Irish and EU environmental policy and legislation. Tatiana has expertise in completing the Risk of Major Accidents and Disasters assessment and is the lead author of the chapter for EIAR's associated with flood relief schemes. She also has expertise in coordinating and reviewing EIA Screening and Scoping and EIARs. Responsibilities include the identification and quantification of risks on projects, advisory role of environmental aspects of infrastructure design projects, management of project programme and organising the creation of EIA applications in line with relevant planning policy and legislation.

## 20.3 Legislation and Guidance

### 20.3.1.1 Legislation

The following legislation was referenced in the creation of this document:

- Roads Act 1993, as amended.
- Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU (the EIA Directive).
- Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC (the Major Accidents (Seveso III) Directive (2012/18/EU)).
- Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) (the COMAH Regulations).
- The Control of Major Accident Hazards Regulations (Northern Ireland) 2015 (2015 No. 325) (the COMAH NI Regulations).

The Major Accidents (Seveso III) Directive is an EU Directive that seeks to prevent major industrial accidents involving dangerous substances and to limit the consequences of such accidents on people and the environment. In Ireland, the COMAH Regulations implement the Seveso III Directive. The COMAH Regulations place an obligation on the operators of establishments that store, handle or process dangerous substances above certain thresholds to take all necessary measures to prevent major accidents and to limit the consequences for human health and the environment. Under the Regulations, a COMAH establishment may qualify as upper tier or lower tier, depending on the inventory of dangerous substances; sites that store, handle or process dangerous substances below a certain threshold do not qualify as establishments under the Regulations.

### 20.3.1.2 Guidance

The following guidance was referenced in the creation of this document:

- Major Accidents and Disasters in EIA: A Primer (Institute of Environmental Management and Assessment (IEMA)<sup>1</sup> 2020).
- A Framework for Major Emergency Management (Department of Housing, Local Government and Heritage, 2021).
- A Framework for Major Emergency Management: A Guide to Regional Risk Assessment (Department of Housing, Local Government and Heritage, 2024).
- A Guide to Risk Assessment in Major Emergency Management (Department of the Environment, Heritage and Local Government, 2010).
- National Risk Assessment 2024 Overview of Strategic Risks (Department of the Taoiseach, 2024).
- National Risk Assessment for Ireland 2023 (Department of Defence, 2023).
- County Donegal Development Plan 2024-2030.

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<sup>1</sup> In 2025, IEMA (Institute of Environmental Management and Assessment) rebranded to ISEP (Institute of Sustainability and Environmental Professionals).

- Donegal Climate Action Plan 2024-2029.
- Donegal Major Emergency Plan 2023.
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out EIA (Department of Housing, Planning and Local Government, 2018).
- Guidelines on the Information to be Contained in EIAR (EPA, 2022).
- Guidance on Assessing and Costing Environmental Liabilities (EPA 2014).

There is no topic specific national guidance on the assessment of major accidents and/or disasters for the purposes of EIA however the topic is included in the more general national EIA guidance, notably the following:

The Guidelines on the Information to be Contained in EIAR (EPA, 2022):

*“To address unforeseen or unplanned effects the Directive further requires that the EIAR takes account of the vulnerability of the project to risk of major accidents and/or disasters relevant to the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and/or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk)”.*

The Guidelines for Planning Authorities and An Bord Pleanála on carrying out EIA (Department of Housing, Planning and Local Government, 2018) require that an EIAR include:

*“the expected effects arising from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project. Where appropriate, the description of expected significant effects should include details of the preparedness for and proposed response to such emergencies”.*

The guidelines state that there are two key considerations under this requirement, namely:

*“The potential of the project to cause accidents and/or disasters, including implications for human health, cultural heritage, and the environment.”*

and

*“The vulnerability of the project to potential disasters/accidents, including the risk to the project of both natural disasters (e.g. flooding) and man-made disasters (e.g. technological disasters).”*

## 20.4 Difficulties/ Limitations

There were no difficulties or limitations encountered in the preparation of this chapter.

## 20.5 Definitions

The definitions provided in Table 20.1 have been taken from the Donegal County Council Major Emergency Plan (DCC, 2023) and Major Accidents and Disasters in EIA: A Primer (IEMA, 2020).

**Table 20.1: Definitions**

Term	Ref:	Definition
Accident	IEMA, 2020	Something that happens by chance or without expectation
As Low As Reasonably Practicable (ALARP)	IEMA, 2020	Involves weighing a risk against the trouble, time and money needed to control it. Thus, ALARP describes the level to which we expect to see risks controlled.
Disaster	IEMA, 2020	May be a natural hazard (e.g. earthquake) or a man-made/external hazard (e.g. act of terrorism) with the potential to cause an event or situation that meets the definition of a major accident.
Hazard	DCC, 2023	Any phenomenon with the potential to cause direct harm to members of the community, the environment or physical infrastructure, or being potentially damaging to the economic and social infrastructure.
Impact	DCC, 2023	The consequences of a hazardous event being realised, expressed in terms of a negative impact on human welfare, damage to the environment or the physical infrastructure or other negative consequences.
Likelihood	DCC, 2023	The probability or chance of an event occurring.
Major Accident	IEMA (2020)	Events that threaten immediate or delayed serious environmental effects to human health, welfare and/or the environment and require the use of resources beyond those of the client or its appointed representatives to manage. Whilst malicious intent is not accidental, the outcome (e.g. train derailment) may be the same and therefore many mitigation measures will apply to both deliberate and accidental events.
Major Emergency	DCC, 2023	Any event which, usually with little or no warning, causes or threatens death or injury, serious disruption of essential services, or damage to property, the environment or infrastructure beyond the normal capabilities of the principal emergency services in the area in which the event occurs, and requiring the activation of specific additional procedures to ensure effective, co-ordinated response.
Mitigation	DCC, 2023	A part of risk management and includes all actions taken to eliminate or reduce the risk to people, property and the environment from the hazards which threaten them.
Pathway	IEMA (2020)	The route by which the source can reach the receptor.
Resilience	DCC, 2023	The term used to describe the inherent capacity of communities, services and infrastructure to withstand the consequences of an incident, and to recover/restore normality.
Receptor	IEMA (2020)	The specific component of the environment that could be adversely affected if the source reaches it. Environmental receptor is specifically defined as: features of the environment that are subject to assessment under Article 3 of the EIA Directive, namely population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and landscape.
Risk	DCC, 2023	The combination of the likelihood of a hazardous event and its potential impact.
Significant environmental effect (in relation to a major accidents and/or disasters assessment)	IEMA (2020)	Could include the loss of life, permanent injury and temporary or permanent destruction of an environmental receptor which cannot be restored through minor clean-up and restoration.
Source	IEMA (2020)	The original cause of the hazard, which has the potential to cause harm.

Term	Ref:	Definition
Source-pathway-receptor linkage	IEMA (2020)	For a risk to arise there must be hazard that consists of a 'source' (e.g. high rainfall); a 'receptor' (e.g. people, property, environment); and a pathway between the source and the receptor (e.g. flood routes).
Vulnerability	IEMA (2020)	Describes the potential for harm as a result of an event, for example due to sensitivity or value of receptors. In the context of the EIA Directive, the term refers to the 'exposure and resilience' of the development to the risk of a major accident and/or disaster. Vulnerability is influenced by sensitivity, adaptive capacity and magnitude of impact.

## 20.6 Methodology

This assessment has had regard to the methodology set out in *Major Accidents and Disasters in EIA: A Primer* (IEMA, 2020).

The IEMA (2020) approach defines a "significant environmental effect" as one which "could include the loss of life, permanent injury and temporary or permanent destruction of an environmental receptor which cannot be restored through minor clean-up and restoration" and this definition has been adopted for the purposes of this assessment.

The methodology involves three stages: Screening, Scoping and Assessment, as described below.

### 20.6.1 Stage 1: Screening

The screening stage identifies if a development has a vulnerability to major accidents and/or disasters and considers whether a development could lead to a significant effect. This is a relatively straightforward stage that considers:

- Is the Proposed Development a source of hazard itself?
- Does the Proposed Development interact with external hazards making it vulnerable to a major accident/ disaster? and
- If an external major accident/ disaster occurs, does the Proposed Development increase the risk of a significant effect?

IEMA (p.10, 2023) states that:

*"It is valid to consider and identify proposed mitigation at the screening stage. If it is possible to demonstrate that proposed design measures, existing legal requirements, and codes and standards are likely to adequately control any potential vulnerability to a major accident and/ or disaster then this should be factored into the conclusion."*

The screening assessment will separately consider the two distinct phases of the project, namely the construction phase and the operation phases, as set out in Section 20.7.

### 20.6.2 Stage 2: Scoping

The scoping stage is to determine in more detail whether there is potential for significant environmental effects as a result of major accidents and/or disasters associated with a development and the likelihood of such an event occurring.

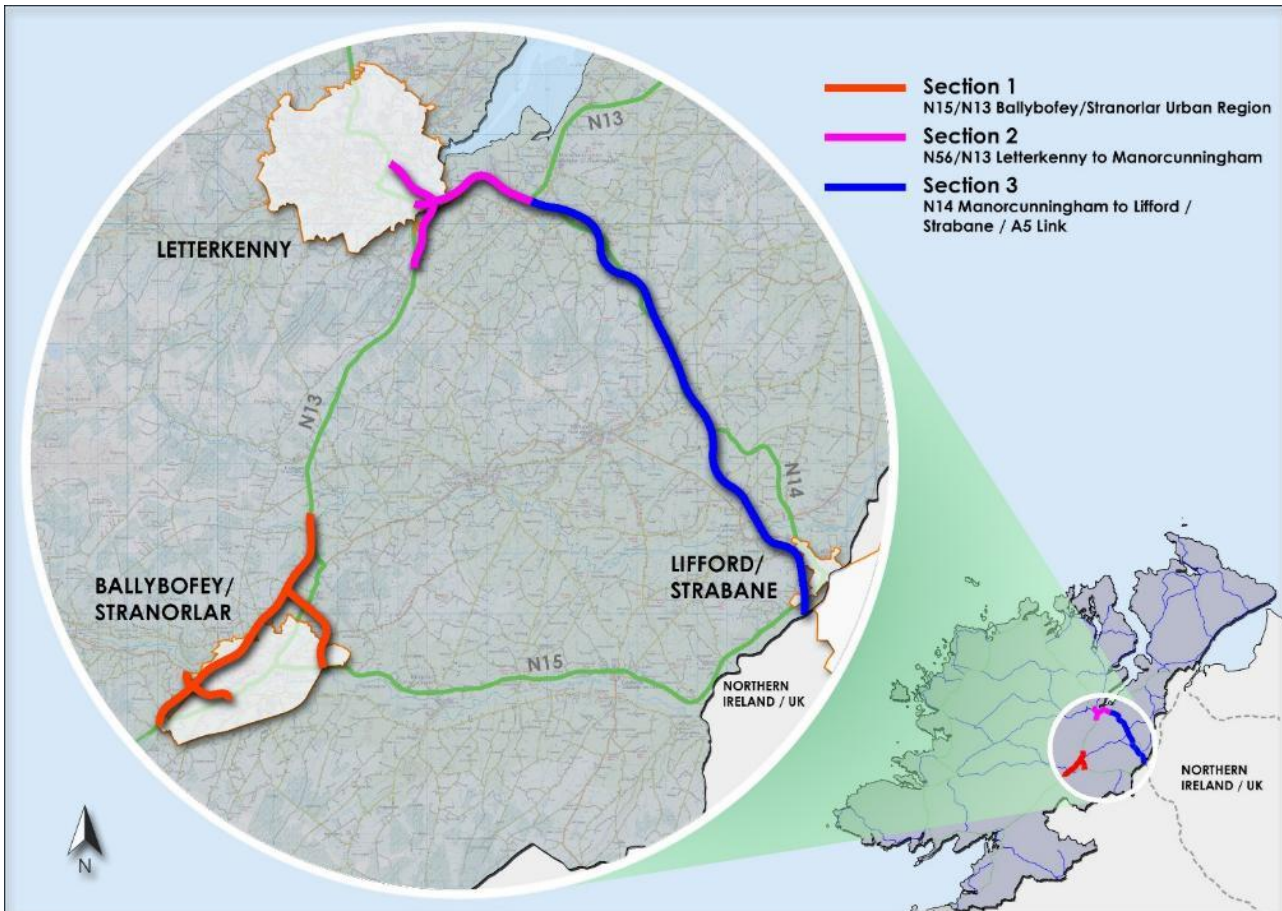
#### 20.6.2.1 Existing Environment and Data Sources

Information on the existing environment in County Donegal and neighbouring counties in Northern Ireland is informed from the description of the baseline environment contained in the other EIAR chapters. These

chapters detail the existing environment in relation to each of the EIA factors defined in the EIA Directive and the Roads Act and the information has not been repeated in this chapter.

A desk-based review of additional data sources has also been undertaken including use of online GIS data sources, e.g. NPWS, EPA, GSI, Donegal County Council, online aerial imagery, and published reports for information on specific risks.

The location of the Proposed Development is illustrated in Figure 20.1.



**Figure 20.1: Location of the Proposed Development**

### 20.6.2.2 Risk Based Approach

The likelihood of an event occurring is determined based on the likelihood classification shown in Table 20.2. The table was adapted from Table 2 in A Framework for Major Emergency Management: A Guide to Regional Risk Assessment (Department of Housing, Local Government and Heritage, p.14, 2024).

**Table 20.2: Likelihood Classification**

Likelihood	Definition
Very Likely	The likelihood of occurrence is 0-1 years between events.
Likely	The likelihood of occurrence is 1-10 years between events.
Unlikely	The likelihood of occurrence is 11-50 years between events.
Very Unlikely	The likelihood of occurrence is 51-100 years between events.
Extremely Unlikely	The likelihood of occurrence is 100 or more years between events.

Impacts are classified under five headings from Very Low to Very High under the four broad Receptor headings of People, Environment, Essential Services and Society, as shown in Table 20.3 adapted from Table 3 in A Framework for Major Emergency Management: A Guide to Regional Risk Assessment (ibid, pp.15-16, 2024).

**Table 20.3: Impact Classification by Receptor Type**

Category	Impact and Rating				
	Very Low	Low	Moderate	High	Very High
<b>People</b>	Deaths less than 1 in 250,000 people for population of interest OR Critical injuries/illness less than 1 in 250,000 OR Serious injuries less than 1 in 100,000 OR Minor injuries only	Deaths greater than 1 in 250,000 people for population of interest OR Critical injuries/illness greater than 1 in 250,000 OR Serious injuries greater than 1 in 100,000.	Deaths greater than 1 in 100,000 people for population of interest OR Critical injuries/illness greater than 1 in 100,000 OR Serious injuries greater than 1 in 40,000	Deaths greater than 1 in 40,000 people for population of interest OR Critical injuries/illness greater than 1 in 40,000 OR Serious injuries greater than 1 in 20,000	Deaths greater than 1 in 20,000 people for population of interest OR Critical injuries/illness greater than 1 in 20,000
<b>Environment (EIA Factors*)</b>	Simple localised contamination	Simple, regional contamination, effects of short duration	Heavy contamination localised effects of extended duration	Heavy contamination, widespread effects or extended duration	Very heavy contamination, widespread effects of extended duration
<b>Essential Services</b>	Very low disruption to the delivery of services essential for the maintenance of vital societal functions or economic activities	Low disruption to the delivery of services essential for the maintenance of vital societal functions or economic activities	Medium disruption to the delivery of services essential for the maintenance of vital societal functions or economic activities	Medium disruption to the delivery of services essential for the maintenance of vital societal functions or economic activities	Loss of delivery of services essential for the maintenance of vital societal functions or economic activities
<b>Society</b>	Limited disruption to community	Community functioning with considerable inconvenience	Community functioning poorly	Community only partially functioning	Community unable to function without support

\* The EIA factors are: Population and Human Health (P&HH), Biodiversity (B), Land, Soil (L&S), Water (W), Air and Climate (A&C), Material Assets (MA), Cultural Heritage (CH) and Landscape (L).

Hazards are evaluated by assessing the likelihood and the impact to determine a level of significance. This is presented graphically in Table 20.4, as adapted from Figure 2 in the IEMA Primer (IEMA, 2020, p.14).

Based on Figure 3.2 from A Guide to Regional Risk Assessment (Department of Housing, Local Government and Heritage, p.18, 2024), Normal emergencies are those impacts below the Moderate impact level, i.e. Low to Very Low, while Major Emergencies are Moderate impact level or above. Any risks within the Normal Emergencies zone of the Risk Matrix (bounded by a green box in Table 20.4) are deemed to be manageable with existing measures (e.g. emergency services) and as such do not need to be considered in terms of the risks of major accidents and/or disasters.

Risks that are Likely or Very Likely as a result of the Proposed Development have been considered in detail in each of the EIA factors and individual chapters of this EIAR, Chapters 6 through 18. They are known and have therefore already been addressed through avoidance and/or mitigation. Similarly, external risks that are Likely or Very Likely are deemed to be covered by existing preparedness and response plans. These risks are bounded by a red box in Table 20.4.

As described in IEMA (pp.13-16, 2020), the scoping approach directs the assessment to focus on low likelihood but potentially high consequence events. For the purposes of this assessment and using the terminology outlined in the tables above, the focus of the assessment in this chapter will be on likelihoods that are **Extremely Unlikely/ Very Unlikely/ Unlikely** and with **Moderate/ High/ Very High Impacts** (bounded within the black box in Table 20.4).

**Table 20.4: Risk Matrix**

		Normal Emergencies		Major Emergencies		
Likelihood	Very Likely	Managed through normal processes and procedures		Managed through avoidance and/or mitigation.		
	Likely			Focus of Stage 3: Assessment		
	Unlikely					
	Very Unlikely					
	Extremely Unlikely					
		Very Low	Low	Moderate	High	Very High
<b>Impact</b>						

A Source-Pathway-Receptor (S-P-R) model will also be applied to the scoping stage.

In scoping hazards for consideration, this assessment has scoped out hazards and risks that meet the following criteria:

- Very Likely/ Low impact events (or below), e.g. spills, sediment loss, personal injury, traffic accidents, etc., also do not pose a major accident and disaster risk and are excluded from consideration. They are either addressed elsewhere in this EIAR in the relevant EIA factor chapters or can be managed by normal procedures of the local authority, emergency services, etc.
- Likely/ Moderate impact events (or above) are not included in the assessment as these are typically considered unacceptable in a project and will have been avoided by design or through the application of mitigation measures.
- Hazards that are covered by separate Legislation, Regulations, Codes of Practice, including the Safety, Health and Welfare at Work Act and associated obligations.
- Hazards with no pathway and/or receptor.
- Hazards that are not applicable to the area of the Proposed Development.

The Stage 2: Scoping is presented in Section 20.8.

### 20.6.3 Stage 3: Assessment

Stage 3: Assessment provides further understanding on the scoped in hazards and the risk of major accidents and disasters.

In terms of significance, major accidents and natural disasters are, by their nature, significant events that are likely to result in adverse effects on people, the environment, essential services or society. As such, the EIA significance ratings as set out in Figure 3.4 of the EPA Guidelines (p.53, 2022) do not apply.

As mentioned previously, the focus of the assessment in this chapter will be on likelihoods that are Unlikely/ Very Unlikely/ Extremely Unlikely with Moderate/ High/ Very High Impacts, which aligns with IEMA (pp.13-16, 2020) that the focus of this chapter should be on low likelihood but potentially high consequence events.

Where risks are scoped in from Stage 2, they will be assessed at Stage 3 to determine where, if any, measures can be applied to reduce risks to ALARP. Mitigation measures through design and as identified in the other EIAR chapters are considered in Stage 1 and Stage 2 and therefore, Stage 3 will consider whether any additional mitigation measures are required or necessary. In addition, monitoring measures may be required to ensure the mitigation measures for risks of a major accident and/or disaster are operating as expected.

The Stage 3: Assessment is presented in Section 20.9.

### 20.6.4 Consultation

**Table 20.5** provides a summary of the key issues raised during consultation activities undertaken for the Proposed Development relevant to this chapter.

**Table 20.5: List of Consultees**

Stakeholder	Stakeholder Response Summary	Comments Addressed
EirGrid	Environmental reporting should ensure early identification of potential impacts to the transmission network and mitigation of the same. It should also consider what approval/consent is required to alter the existing transmission network, if required, to facilitate the road scheme. All transmission infrastructure needs to be considered and included in the EIAR, including the construction of any significant towers or diversions.	Hazard associated with utilities are identified in Chapter: 16: Material Assets Non-Ag
Enet (Broadband)	Impacted area in N15 Ballybofey/ Stranorlar shown in provided drawing.	Hazard associated with utilities are identified in Chapter 16: Material Assets Non-Ag
Gas Networks Ireland	No recorded Gas Network within study area. Ensure a current gas network map is kept on site while work underway.	Not Applicable
Geological Survey of Ireland (GSI)	<b>Geo Heritage</b> Records show there are no audited County Geological Sites within the study area. <b>Geohazards</b> The Active Quarries database shows one active and one old quarry in close proximity to the study area. The landslide susceptibility mapping for County Donegal shows that the study area is generally classified as low susceptibility but there are discrete areas mapped as moderate and high susceptibility and we advise the use of our data sets in considering the impact of geohazards and landslides. <b>Geological Mapping</b> Past site investigation work sites can be located on the GSI Geotechnical Map viewers.	Geohazards are identified in Chapter 10: Land, Soil & Hydrogeology. The GSI datasets have been used in the assessment of geohazard and landslide risks.

Stakeholder	Stakeholder Response Summary	Comments Addressed
Uisce Eireann (UE)	<p><b>N15 Ballybofey/Stranorlar Urban Region route</b> Works to the Ballybofey Stranorlar wastewater treatment plant (complete) and sewerage network (complete). There is a Trunk Water Main (450 mm dia.) and network of water/waste infrastructure within the Proposed Development route boundary.</p> <p><b>N56/N13 Letterkenny to Manorcunningham route</b> Letterkenny: a critical new trunk watermain was installed along the proposed route. There are a network of water/waste infrastructure within and proximate to the proposed route. There are a number of UE assets e.g. Lurgybrack Reservoir, Listillian Pumps, Listillian Service Reservoir, Riverside Waste Water Pump station and Letterkenny Waste Water Treatment Plant within and proximate to the proposed route.</p> <p><b>N14 Manorcunningham to Lifford/Strabane/A5 Link route</b> There are a network of water/wastewater infrastructure within and proximate to the proposed route. There are a number of UE assets e.g. Manorcunningham Water within and proximate to the proposed route. Magherabeg/Veagh Public Water Supply is 1.5 km northeast of the proposed route. Crana River intake is 7 km northwest from the proposed route. While the associated river network is not proximate to the proposed route, the groundwater is hydrologically connected and of moderate/high vulnerability. Any risk to the Magherabeg/Veagh Public Water Supply and potential negative impact on the water quality from surface and ground water quality through the run-off and infiltration of silt, hydrocarbons, cementitious material, detergent, sewage and other pollutants.</p>	<p>See Chapter 11: Water for the assessment of flooding. Hazard associated with utilities are identified in Chapter 16: Material Assets Non-Ag</p>
SIRO	SIRO's network is overlaid on existing ESB network.	Hazard associated with utilities are identified in Chapter 16: Material Assets Non-Ag
Virgin Media	No record of underground services at the location indicated on the provided drawings.	Not Applicable
Regen Power	The 38 kV overhead line from the Lettergull Wind Farm to the Listellion ESB Substation crosses Section 3 and Section 2. This line is expected to be commissioned in 2026.	Hazard associated with utilities are identified in Chapter 16: Material Assets Non-Ag

## 20.7 Stage 1: Screening

The Proposed Development is a linear road project in County Donegal that includes new and/or improved sections of single carriageway roads, divided roads, and dual carriageway roads. It also includes three major river bridges, other river bridges, road over/under bridges, culverts, a comprehensive active travel network, Park and Share facilities and accommodation works.

The Proposed Development has been designed in accordance with the appropriate design standards, guidelines and best practice. Therefore, it has been assumed that both the construction and operation of the Proposed Development will be undertaken safely. In addition, this EIAR presents mitigation measures and monitoring that will form part of the construction and operation of the Proposed Development. Taking this into consideration it is reasonable to assume that the risks of a major accident and/or disaster for many

hazards have already been reduced to As Low As Reasonably Practicable (ALARP), i.e. below the level that further control measures are required.

As set out in Section 20.6.1, Stage 1: Screening involves considering if the Proposed Development has a vulnerability to major accidents and/or disasters and considers whether a development could lead to a significant effect. This stage can include mitigation as part of the screening process. The following sections discuss whether the Project screens in or out for assessment.

#### Is the Proposed Development a source of hazard itself?

- **Construction:** The construction works will interact with all the environmental factors set out in the Roads Act. Therefore, there is the potential for the construction works to pose a hazard. Although mitigation measures are set out in each of the chapters of the EIAR, further assessment is considered necessary to confirm whether the Proposed Development is a source of hazard itself for the risks of major accidents and disasters.
- **Operation:** The Proposed Development will be operated and maintained in accordance with the appropriate standards, guidelines and best practice measures. It provides additional capacity for the road network and improves the standard and safety of the TEN-T network. Design and mitigation measures have been introduced to reduce the hazards from the operation of the Proposed Development to ALARP, e.g. drainage systems, attenuation ponds, petrol/oil separators, noise barriers, Non-Motorised Users (NMU) facilities, landscape design, biodiversity no net loss, mammal fencing, etc. Therefore, the operation of the Proposed Development will not be a source of hazard itself.

#### Does the Proposed Development interact with external hazards making it vulnerable to a major accident/ disaster?

- **Construction:** There are external hazards such as weather events, flooding, emergency situations that, when they interact with the construction of the Proposed Development, may make it vulnerable to a major accident/ disaster.
- **Operation:** There are external hazards such as weather events, flooding, emergency situations that, when they interact with the operation of the Proposed Development, may make it vulnerable to a major accident/ disaster.

#### If an external major accident/ disaster occurs, does the Proposed Development increase the risk of a significant effect?

- **Construction:** The construction works will involve interactions with live traffic on the existing TEN-T network in Donegal as well as regional and local road networks. This includes works on the N13/ N56 in Letterkenny, especially at the existing Dry Arch Roundabout which is on the main route to/ from Letterkenny University Hospital from south and east Donegal. Traffic management measures will be in place in accordance with best practice guidelines for the duration of the works at interface points with the existing road network. However, in the event of an external major accident/ disaster, the construction of the Proposed Development has the potential for there to be a risk of a significant effect.
- **Operation:** The Proposed Development provides additional capacity for the road network and improves the standard and safety of the TEN-T network. Therefore, the Proposed Development has a positive impact and, in the event of an external major accident/ disaster will not increase the risk of a significant effect.

### 20.7.1 Screening Conclusion

The Proposed Development has been screened for both the construction and operational phases of the Project. Taking into consideration the design of the project, and proposed mitigation measures, the Proposed Development is **screened in** for Stage 2 for both the construction and operation phases.

## 20.8 Stage 2: Scoping

A scoping exercise was undertaken to determine whether there is the potential for significant adverse effects on the environment deriving from the vulnerability of the Project to risks of major accidents and/or disasters which are relevant to the Project.

The following discussion under each major hazard considers the reasonable worst case-scenario in each case, the likelihood of occurrence and the impact if it were to occur.

### 20.8.1 Major Transportation Accident

There are no major transport hubs (railways, ports, airports) within close proximity to the Proposed Development. As such there will be no adverse impacts on any transportation hubs during either the construction or operation of the Proposed Development.

In Section 2, Letterkenny Airfield is located at Farsetmore, just to the north of the existing dual carriageway between Dromore Junction and the proposed Trimragh grade separated junction. In the event of a major accident or disaster at the airfield, emergency services may encounter delays due to construction activities on the transport network (see below). During the operational phase this is no longer a risk.

During construction, the Proposed Development will interact with the existing road network (national, regional and local roads) including road users, both motorised users and NMU. However, the majority of construction works will be off-line except for the existing section of dual carriageway between the existing Dry Arch Roundabout and Pluck Roundabout in Section 2. Interactions with live traffic and roads will be undertaken safely and in line with the contractor(s) temporary traffic management plan to ensure that traffic is managed safely and road users are protected. In Section 2, there is one main road across the River Swilly in Letterkenny on the N56 Four Lane Road which is connected to the east and south of Donegal through Dry Arch Roundabout. There will be interactions between the Proposed Development and the existing road network, especially at Dry Arch Roundabout, Dromore and on the N13 between Letterkenny and Pluck Roundabout. Essential services responding to a major accident and/or disaster elsewhere in County Donegal have the potential to be affected by delays and disruptions caused by the construction works on the existing N13 and N56. However, a temporary traffic management system will be in operation for the duration of construction works with signage and traffic control measures in accordance with Department of Transport (DoT) Traffic Signs Manual Chapter 8. Temporary Traffic Measures and Signs for Roadworks (DoT, 2019a) and the Temporary Traffic Management Design Guidance, 3rd Edition (DoT, 2019b). The Proposed Development involves significant offline segments north and south of the existing N13 dual carriageway and Dry Arch Roundabout ensuring that interactions with the existing national road network will be minimised. Interactions between construction traffic and other road users, including emergency services, will be reduced to ALARP. The contractor(s) will liaise with the relevant emergency services to ensure that the risks managed appropriately. The contractor(s) will also have an emergency response plan that will be initiated in the event of an emergency. With the appropriate design and mitigation measures set out elsewhere in this EIAR, it is Unlikely that a major transportation accident and/or disaster will occur and if one were to occur it has the potential to have a Low impact.

Major transportation risk during construction of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

During the operational phase, in the event of a major accident and/or disaster, the Proposed Development will have a positive benefit as it provides for a safer TEN-T network, removes traffic from urban centres, and will improve journey times. The design of the Proposed Development has also taken into consideration the anticipated growth in traffic for the region from the opening year (2032) through to the design year (2047). It is Unlikely that a major accident and/or emergency will occur but if one were to occur it has the potential to have a Very Low impact as the Proposed Development provides greater resilience to the transportation network.

Major transportation risk during operation of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

## 20.8.2 Local Communities and Health

There is a general risk to local communities and health from construction activities associated with the Proposed Development from: altered travel routes due to construction traffic management measures, movement of construction traffic/ HGVs around Ballybofey/ Stranorlar, Letterkenny, Lifford and other communities, generation of dust, and potential risk of causing accidents to general recreational users (walkers, cyclists, kayakers etc.) in the vicinity of the construction site, particularly during bridge construction. However, the risk is more likely to involve one or a small number of individuals and will not lead to a risk of a major accident or disaster.

The impacts of the Proposed Development on the local communities and health is assessed separately in Chapter 7: Population, Chapter 8: Human Health, Chapter 12 Air Quality, Chapter 14: Noise & Vibration, and Chapter 16 Material Assets: Non-Agricultural. These assessments are full and complete and are not repeated here. Mitigation and monitoring measures are proposed in each of those chapters that addresses any likely significant environmental effects. Traffic management measures, including for NMU, will be implemented to ensure minimal disruption for access to local services and facilities. Emissions (noise and dust) will be controlled throughout construction.

The study area includes a number of significant watercourses which may flood causing severance or disruptions to local communities during the period of the construction works. However, the planning and design of the works has taken into consideration flood areas and the Proposed Development will not contribute to or exacerbate a flood event.

Taking into consideration the information presented in these chapters, the construction phase of the Proposed Development is Very Unlikely to present a risk of a major accident and/or disaster and if one were to occur the impact would be Very Low. Similarly, the construction of the Proposed Development is Extremely Unlikely to contribute significantly to the risks of a major accident and/or disaster from an external event and if one were to occur the impact would be Very Low.

Local Communities and Health risks during construction of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

The operation of the Proposed Development is likely to positively impact on the majority of receptors within the study area given the bypass of existing urban centres in Ballybofey/ Stranorlar and Lifford, the creation of a new bridge in Letterkenny and an extensive active travel network across all three sections. The improved TEN-T network will make it easier and quicker for the community to access services in the local towns, especially Letterkenny University Hospital. No significant effects on the local community and health from major accidents or disasters during the operational phase are likely. The operation of the Proposed Development is more likely to have positive benefits rather than adverse effects.

Local community and health risks during operation of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

## 20.8.3 Environmental Degradation/ Pollution

The Proposed Development traverses or is contiguous with the following protected sites:

- Section 1 crosses the River Finn SAC (Site Code 002301).
- Section 2 crosses the River Swilly and is within the Lough Swilly SAC (002287), and the Lough Swilly including Big Isle, Blanket Nook and Inch Lake pNHA (000166). The Lough Swilly SPA (004075) is just downstream of the Swilly Crossing.
- Section 3 crosses the River Finn SAC (Site Code 002301) and is contiguous with the River Foyle and Tributaries SAC (Northern Ireland).

In addition to the above, there are numerous watercourse crossings across all three sections of the Proposed Development. Flooding associated with the major rivers and/or their tributaries has been recorded

within or in close proximity to the Proposed Development. The risks of a major accident or disaster from flooding is addressed in Section 20.8.5.3.

The construction of the works has the potential to cause a significant environmental degradation through pollution, destruction of habitats, etc. These issues are addressed in Chapter 9A Biodiversity - Terrestrial and Chapter 9B Biodiversity - Aquatic, and Chapter 11: Water. The construction of the works will include mitigation measures such as not permitting the storage of any materials, chemicals or other toxic substances close to watercourses, and the use of bunded stores for chemicals and fuels. Measures will also include those stated in relevant guidance, e.g. CIRIA C648 Control of water pollution from linear construction projects; and CIRIA C532 Control of water pollution from construction sites: guidance for consultants and contractors. Any pollution events are likely to be localised and controlled with spill kits deployed as soon as possible to reduce the likelihood of a significant impact. Therefore, the risk of a major accident and/or disaster causing environmental degradation/pollution is Unlikely and if it were to occur would be of Low impact.

Environmental degradation/pollution risks during construction of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

The Proposed Development has been designed to avoid impacts on the local environment where possible (e.g. clear-span bridges over the River Finn in Section 1 and River Swilly in Section 2) and mitigation and monitoring measures have been included to reduce impacts to ALARP. In addition, the Proposed Development includes measures to deliver No Net Loss for Biodiversity. Therefore, the risk of a major accident and/or disaster to Biodiversity is Unlikely and if it were to occur would be of Low impact.

Environmental degradation/pollution risks during operation of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

#### 20.8.4 Climate & Weather Events

Ireland's geographic position means it is less vulnerable to extreme natural disasters and hazards such as earthquakes or tsunamis, which might pose risk to projects of this nature and scale in other locations. However, in recent times there has been an increase in the number of severe weather events in the country, particularly those leading to flooding and flash flood incidents. Extreme weather events can result in significant impacts. Heavy rainfall can cause local and regional flooding (pluvial, fluvial and coastal), strong winds can damage structures, trees, buildings, electricity poles, and extreme heat and cold can result in damage to roads, heatstroke, hypothermia, water supply issues, and an increased risk of fires.

Section 13.4.2.2 Climate Vulnerability, in Chapter 13: Climate of this EIAR, summarises the natural hazards that have the potential to impact on the Proposed Development. That chapter presents a Climate Change Risk Assessment (CCR) for the Proposed Development. The CCR examines the following hazards:

- Flooding (Coastal)
- Flooding (Pluvial)
- Flooding (Fluvial)
- Extreme Heat
- Extreme Cold
- Wildfire
- Extreme Wind
- Drought
- Lightning and Hail
- Fog

These climate related hazards have already been assessed in the CCR. The CCR for the construction phase of the Proposed Development considered Extreme Wind as the only high vulnerability hazard. With

the application of the planned controls in Table 13-38 of Chapter 13: Climate, this risk is reduced to not significant. As this risk has been addressed fully in the CCR, climate related hazards are **scoped out** from Stage 3.

## 20.8.5 Geohazards

The GSI states that in Ireland geohazards most commonly relate to landslides, subsidence, flooding and coastal erosion. The GSI notes that geohazards can cause widespread damage to landscapes, wildlife, human property and human life.

The GSI Geotechnical Map viewer provides details of historic geological incidents throughout the country. No geohazards were noted within the study area of the Proposed Development. The environs of the Proposed Development are not considered to be at risk from geohazards such as landslides and Ireland in general is not prone to seismic activity.

Refer to Chapter 10: Land, Soil & Hydrogeology for further discussions on the soils, geology and hydrogeology of the study area.

### 20.8.5.1 Landslides

The GSI notes the following in relation to County Donegal.

*“The landslide susceptibility mapping for County Donegal shows that the study area is generally classified as low susceptibility but there are discrete areas mapped as moderate and high susceptibility”.*

Chapter 10: Land, Soils and Hydrogeology details the ground conditions that will be encountered based on the ground investigations undertaken for the Project. The design of the Proposed Development has been undertaken in accordance with the relevant TII geotechnical engineering specifications (e.g. DN-ERW-03083 Managing Geotechnical Risk) and Eurocode 7: Geotechnical design. This ensures that geotechnical risks have been appropriately mitigated to ensure the risk of landslide has been reduced to ALARP. In addition, no landslide risks have been identified and no landslide geohazards were identified from the GSI historical mapping. The Proposed Development is not vulnerable to landslide and will not exacerbate such an event.

During the construction of the works, best practice construction measures will be implemented to ensure that any excavations, stockpiles and embankments are undertaken in a safe and appropriate manner with landslide risks reduced to ALARP. Materials handling will be minimised, and stockpiles will be located away from watercourses. Earthworks embankments will be sloped to safe levels and benched where required to reduce instability and erosion. With the design and mitigation measures detailed in the EIAR, alongside best practice measures, codes of practice for earthworks, and health and safety legislation, the construction phase landslide risk is considered a Very Unlikely and Low impact event.

Landslide risks during construction of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

For the operational phase, the Proposed Development has been designed in accordance with the relevant geotechnical standards which include factors of safety. Finished earthworks surfaces will be grass seeded and landscaped as soon as reasonably practicable after topsoiling to stabilise the surface. A landslide during the operation phases is Extremely Unlikely and if one were to occur the impact will be Very Low as it is likely to be confined to a localised area, e.g. small slip on an embankment.

Landslide risks during operation of the Proposed Development or as a result of an external major accident and/or disaster is therefore **scoped out** for Stage 3.

### 20.8.5.2 Subsidence

Chapter 10: Land, Soils and Hydrogeology detail the ground conditions that will be encountered based on the extensive ground investigations undertaken for the Project. No subsidence risks have been identified from the GSI historical mapping. No karst features are recorded in proximity to the Proposed Development. No historical mining activity is recorded within or in close proximity to the Proposed Development.

The design of the Proposed Development has fully considered the geotechnical properties of the ground and each element of the Project reducing the subsidence risks to ALARP. This includes the design at embankments, bridge pier locations, etc. There are no tunnelling works on the Project that could lead to subsidence. The Proposed Development is not vulnerable to subsidence and will not exacerbate such an event.

The risk of subsidence occurring as a result of the construction and/or operation of the Proposed Development is considered an Extremely Unlikely and Very Low impact event. Therefore, it can be **scoped out** for Stage 3.

### 20.8.5.3 Flooding

The OPW National Flood Hazard Mapping system provides details of historic flooding incidents throughout the country. Information on the flood risk review is presented in Chapter 11: Water.

Detailed hydrological modelling was completed to predict the potential impacts of the Proposed Development on the existing flooding regimes of the lands and properties located in close proximity to the relevant watercourses.

Flooding (coastal, pluvial, and fluvial) has been fully considered in the design of the Proposed Development. Both Chapter 11: Water and Chapter 13: Climate assess the impact of flooding both during construction and operation phases. The construction design includes for:

- Pre-earthworks drainage channels to divert surface water from entering earthworks cuttings and excavation areas.
- Interception, channelling and/or discharge of surface water from sumps, excavations and exposed soil surfaces to silt traps or settlement lagoons.
- Storage of fuel, oils and chemicals on an impermeable base, away from drains and watercourses.
- Regular monitoring of surface waters during the construction period.

A Flood Risk Assessment (FRA) has been undertaken for the Proposed Development and is presented in Chapter 11: Water. This considers the likelihood of a 1% Annual Exceedance Probability (AEP) (formerly a 1 in 100-year event) and includes an allowance for climate change. Where necessary flood compensation areas have been included in the design (Section 1 and Section 2) to account for any loss of flood storage area as a result of the Proposed Development.

The drainage of the road has been designed in accordance with TII standards. Climate change has also been considered in the design with an allowance made in the sizing of drainage systems, culverts, bridges, attenuation ponds, etc. With the design and mitigation measures detailed in the EIAR, the flooding hazard has been reduced to ALARP.

The Proposed Development is not vulnerable to flooding and will not exacerbate such an event. The likelihood of flooding that will result in a major accident and/or disaster during construction and operation is considered to be Extremely Unlikely and the impact is considered to be Low. Therefore, flooding during the construction and operation phases is **scoped out** from Stage 3.

### 20.8.5.4 Coastal Erosion

There are no coastal areas within the Proposed Development Boundary. Section 2 and Section 3 of the Proposed Development have areas where there is a tidal influence associated with, respectively, Lough Swilly and Lough Foyle. However, there is no coastal erosion associated with this. The Proposed Development is not vulnerable to coastal erosion and will not exacerbate such an event. As there is no risk of a major accident and/or disaster from this hazard it can be **scoped out** from further consideration.

## 20.8.6 Other Natural Hazards

Ireland is not vulnerable to many hazards that present a risk of major accidents or disasters, such as volcanoes, tsunamis, avalanches, hurricanes, etc. Two natural phenomena that may pose a risk are earthquakes and wildfires, as described below.

### 20.8.6.1 Earthquakes

Seismicity in Ireland is “particularly low” (Lebedev et al, 2023). The Irish National Seismic Network (INSN) contains a catalogue of local earthquakes in Ireland<sup>2</sup>. From their database, since 1984, there have been 191 earthquake events recorded in County Donegal, with the vast majority of them (173 or 91%) “Not-Felt”. In 2025, there were a total of 31 earthquake events and all were “Not Felt”.

Given the history of low-level earthquake events in Ireland it is not expected that there is likely to be an event that would cause a major accident or disaster. As there is no risk of a major accident and/or disaster from this hazard it can be **scoped out** from further consideration.

### 20.8.6.2 Wildfires

In 2024 there were a total of 39 reported wildfires (forest, bog, grasses, etc.) in Donegal.<sup>3</sup> The fires were largely gorse and there is no report of major road damage. Furthermore, the Proposed Development has the potential to act as a firebreak and access route in the event of a wildfire.

Wildfires can cause localised visibility issues with smoke dispersing over a wide area. However, given the location of the Proposed Development and wind dispersion, the Proposed Development is not vulnerable to fires/ wildfires and would not exacerbate such an event. As there is no risk of a major accident and/or disaster from this hazard it can be **scoped out** from further consideration.

## 20.8.7 Utilities

During the design and environmental evaluation of the Proposed Development, consultations were held with the relevant utilities providers to determine what, if any, interaction the Proposed Development has with existing and planned utilities infrastructure. This information is presented in detail in Chapter 16: Material Assets Non-Agricultural and includes:

- Gas
- Water
- Wastewater
- Electricity
- Telecoms

The design of the Proposed Development has taken account of the known utilities that interact with the Proposed Development, as discussed in Chapter 16: Material Assets Non-Agricultural. All utilities works will be undertaken to minimise disruptions with customers notified of any potential outages in advance.

There is the possibility that unknown utilities may be present within the footprint of the Proposed Development. However, the appointed contractor(s) undertaking the construction of the Proposed Development are required to take measures to confirm the route of utilities.

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<sup>2</sup> INSN (Irish National Seismic Network). Available: <https://www.insn.ie/confirmed/>; and database here: <https://osas.dias.ie/misc/INSN-earthquake-catalog.csv>; Accessed January 2026.

<sup>3</sup> Department of Housing, Local Government and Heritage Fire Statistics (<https://www.gov.ie/en/department-of-housing-local-government-and-heritage/collections/locations-of-fires-statistics/#2024>, accessed November 2025).

During construction, a major accident and/or disaster from the interruption of utilities is considered Very Unlikely and Very Low impact event. Therefore, this hazard can be **scoped out** from further assessment.

During operation, there will be no risk of a major accident and/or disaster.

## 20.8.8 Regulated Facilities

### 20.8.8.1 Seveso/ COMAH Sites

The Health and Safety Authority (HSA) publish a list of all upper and lower tier Seveso Establishments in Ireland<sup>4</sup>. From a review of the Seveso Establishments list for Ireland, there are no upper or lower tier Seveso Establishments in County Donegal.

In Northern Ireland, the Department of Agriculture, the Environment and Rural Affairs (DAERA) publish a list of facilities regulated under the COMAH NI Regulations<sup>5</sup>. There are three sites in County Tyrone, all of which are in Dungannon which is approximately 60 km from the Proposed Development (Lifford). In County Derry, there are also three COMAH sites, all located to the north of Derry City which is approximately 30 km from the Proposed Development (Lifford). In Fermanagh there is one COMAH site located approximately 70 km from the Proposed Development.

As there are no Seveso sites in County Donegal, and none of the COMAH sites in Northern Ireland will have an interaction with the Proposed Development, this hazard is **scoped out** from further consideration.

### 20.8.8.2 EPA Licenced Facilities, Waste and Contaminated Lands

A search of the EPA Maps<sup>6</sup> was carried out to determine if any EPA licenced facilities are within or in close proximity to the Proposed Development.

There are no active Industrial Emissions Licences (IEL), or Integrated Pollution Control (IPC) facilities within or in close proximity to the Proposed Development. In Section 1, the nearest IPC licenced site is McCool's Sawmills Ltd. (P0318) in Stranorlar but the licence has been surrendered. In Section 2, the IEL for Unifi Texture Yarns Europe Ltd. (P0235) in Ballyraine, Letterkenny, has similarly been surrendered. In Section 3 there are two IEL sites, one near Raphoe (P0968) and one in Ballindrait (P1040), but both do not interact with the Proposed Development.

A similar exercise was undertaken for waste facilities. In Section 1, there are no waste facilities or historical/closed landfills within or in close proximity to the Proposed Development. In Section 2, the nearest waste licenced facility is the Meenaboll Landfill Site (W0215-01), in Meenaboll, Letterkenny. It is approximately 18 km from the Proposed Development. In Section 3 there is the Churchtown Landfill (W0062-02) in Churchtown, Lifford. It is approximately 2 km south of the Proposed Development. There will be no interaction between the Proposed Development and the Churchtown Landfill site.

Information on management of contaminated lands/materials is presented in Chapter 16: Material Assets Non-Agricultural. There were no areas of contaminated land found during ground investigations (Chapter 10: Land, Soil & Hydrogeology).

As there is no interaction between the Proposed Development and any EPA licenced facilities, waste and/or contaminated land these hazards are **scoped out** from further consideration.

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<sup>4</sup> HSA Notified Seveso Establishments: List for Upper and Lower Tier establishments available:

[https://www.hsa.ie/eng/Your\\_Industry/Chemicals/Legislation\\_Enforcement/COMAH/List\\_of\\_Establishments/](https://www.hsa.ie/eng/Your_Industry/Chemicals/Legislation_Enforcement/COMAH/List_of_Establishments/); Accessed November 2025.

<sup>5</sup> Northern Ireland COMAH sites; available: <https://www.daera-ni.gov.uk/articles/comah-public-information-northern-ireland> ; Accessed November 2025.

<sup>6</sup> <https://gis.epa.ie/EPAMaps/>

## 20.8.9 Transboundary

The assessments described in this Stage 2: Scoping exercise have considered the location of the Proposed Development in proximity to Northern Ireland and the potential for transboundary effects. There are no additional risks of major accidents and/or disasters related to transboundary effects.

## 20.8.10 Scoping Conclusion

The following Table 20.6 presents the summary for the scoping process for construction phase related major accidents and/or disasters and Table 20.7 presents the summary for the scoping process for operational phase related major accidents and/or disasters.

None of the hazards/ risks identified in the above sections have scoped in for Stage 3: Assessment.

**Table 20.6: Scoping Assessment of Potential Major Accidents and Disasters Associated with the Proposed Development - Construction**

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Major transport accident	<p>Construction activities' interaction with traffic causes a major traffic accident.</p> <p>Access for Emergency Services to/from a major traffic accident is impacted by construction activities' interaction with traffic.</p>	Yes - Construction traffic interacts with live roads.	Yes - Interaction with existing road network.	Yes - Construction activities could delay or disrupt access to/from a major transport accident.	Yes - Direct interaction between construction activities and live traffic.	<p>Yes - Proper planning and phasing of construction works. Use of internal haul roads where possible. Contractor(s) temporary traffic management measures and emergency response plan. DoT Traffic Signs Manual. Liaison with emergency services.</p>	Unlikely	People	Low	Out
								Environment	Very Low	
								Essential Services	Low	
								Society	Very Low	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Local Communities and Health	Construction activities impact on local communities impacting access to services, and health impacts associated with local disruptions and construction emissions.	Yes - Construction activities may disrupt and/or sever access for local communities or have excessive emissions impacting on health.	Yes - Interactions with watercourses that may flood causing further community severance.	Yes - Interactions with watercourses that may flood causing further community severance.	Yes - Direct interaction between construction activities and local communities.	Yes - Design has reduced to ALARP impacts on local communities. Flooding during construction has been taken into account in the design to reduce impacts. Proper planning and phasing of construction works. Use of internal haul roads where possible. Contractor(s) temporary traffic management measures and emergency response plan. DoT Traffic Signs Manual. Liaison with local communities during construction.	Very Unlikely	People	Very Low	<b>Out</b>
								Environment	Very Low	
								Essential Services	Very Low	
								Society	Very Low	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Environmental Degradation/ Pollution	Risk of environmental degradation/ pollution impacting on biodiversity, human health, watercourses, etc.	Yes - Construction activities will result in loss of habitats, interactions with watercourses, emissions to air, and noise.	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood and sensitive habitats and species.	Yes - Design has avoided impacts where practicable with the inclusion of mitigation measures, including the following:  Clear-span bridges over SACs in Section 1 and 2. Dust monitoring. Noise monitoring and mitigation measures. Contractor's Environmental Operating Plan. Bunded stores. No stockpiles near watercourses. etc.	Unlikely	People	Low	Out
								Environment	Low	
								Essential Services	n/a	
								Society	n/a	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Climate & Weather Events	Vulnerability of the Proposed Development to climate change and extreme weather events.	Yes - Construction activities combined with an extreme weather event may cause a significant effect.	Yes - Construction activities combined with an extreme weather event may cause a significant effect.	Yes - Construction activities combined with an extreme weather event may cause a significant effect.	Yes - Interactions with watercourses and local communities.	Yes - Addressed fully in the Climate Change Risk Assessment (CCR) in Chapter 13. As this is addressed in that chapter it is scoped out from further consideration in this assessment.	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Geohazards - Landslides	Risk from landslide causing a significant impact during construction.	Yes - Major earthworks required as part of the construction.	No - Low landslide susceptibility in Donegal.	No - Low landslide susceptibility in Donegal.	Yes - Major earthworks within relatively close proximity to watercourses and local communities.	Yes - Ground investigations undertaken as part of design. Design to TII standards. Best practice measures implemented in earthworks.	Very Unlikely	People	Low	<b>Out</b>
								Environment	Low	
								Essential Services	Very Low	
								Society	Very Low	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Geohazards - Subsidence	Risk from subsidence causing a significant impact during construction.	Yes - Major earthworks required as part of the construction.	No - Low subsidence risk in Donegal.	No - Low subsidence risk in Donegal.	Yes - Major earthworks within relatively close proximity to watercourses and local communities.	Yes – Ground investigations undertaken as part of design. Design to TII standards. Best practice measures implemented in earthworks.	Extremely Unlikely	People	Very Low	<b>Out</b>
								Environment	Very Low	
								Essential Services	Very Low	
								Society	Very Low	
Geohazards - Flooding	Risk from flooding causing a significant impact during construction	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood.	Yes - Design has reduced to ALARP the risks from flooding on the construction of the works and any contribution or exacerbation. Flooding during construction has been taken into account in the design to reduce impacts. Proper planning and phasing of construction works.	Extremely Unlikely	People	Low	<b>Out</b>
								Environment	Low	
								Essential Services	Low	
								Society	Low	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Geohazards - Coastal Erosion	Risk from coastal erosion causing a significant impact during construction.	No - Coastal erosion is not recorded in the vicinity of the Proposed Development.	No - Coastal erosion is not recorded in the vicinity of the Proposed Development.	No - Coastal erosion is not recorded in the vicinity of the Proposed Development.	n/a	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Other Natural Hazards - Earthquakes	Risk of earthquake	No - No significance seismic activity in Donegal.	No - No significance seismic activity in Donegal.	No - No significance seismic activity in Donegal.	n/a	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Other Natural Hazards - Wildfire	Risk of a wildfire.	No - Construction of the Proposed Development will not lead to an increase in wildfire risk.	No - No interaction between the construction of the Proposed Development and external wildfire risk.	No - The presence of the Proposed Development can act as a fire-break. It may also provide refuge in the event of wildfire.	n/a	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Utilities	Disruption and/or damage to existing utilities as a result of the construction activities.	Yes - Diversion of utilities is required to facilitate construction.	Yes - Utilities are located throughout the Proposed Development.	Yes - effects from an external event could be exacerbated by works to utilities during construction.	Yes - construction activities interact with utilities.	Yes - known services have been identified and, where required, diversions have been included in the construction phase. In the event of a disruption or damage to utilities, current response measures, repairs, etc. can be implemented to reduce effects to ALARP.	Very Unlikely	People	Very Low	<b>Out</b>
								Environment	Very Low	
								Essential Services	Very Low	
								Society	Very Low	
Regulated Sites - Seveso/ COMAH	Interaction with Seveso or COMAH sites.	No	No	No	No - No Seveso or COMAH sites in proximity to the Proposed Development.	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Regulated Sites - EPA Licenced Facilities, Waste and Contaminated Land.	Interaction with other regulated sites.	No	No	No	No - No active EPA licenced facilities and contaminated land in proximity to the Proposed Development.	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	

**Table 20.7: Scoping Assessment of Potential Major Accidents and Disasters Associated with Proposed Development – Operational**

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Major transport accident	Operation of the Proposed Development causes major traffic accident.  Access for Emergency Services to/from a major traffic accident is impacted by traffic on the Proposed Development.	Yes - Road users on the Proposed Development	Yes - Interaction with existing road network.	No - Proposed Development provides greater and safer access within the North West Region.	Yes - Direct interaction between construction activities and live traffic.	Yes - Road has been designed to TII standards. Divided roads used where required. Traffic removed from urban centres. Improved safety and journey times.	Unlikely	People	Very Low	<b>Out</b>
								Environment	Very Low	
								Essential Services	Very Low	
								Society	Very Low	
Local Communities and Health	Severance within local community and from facilities.	No - Proposed Development is likely to have an overall positive benefit.	No - Proposed Development is likely to have an overall positive benefit.	No - Proposed Development is likely to have an overall positive benefit.	n/a	n/a	n/a	People	Overall positive impact.	<b>Out</b>
								Environment	Overall positive impact.	
								Essential Services	Overall positive impact.	
								Society	Overall positive impact.	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Environmental Degradation/ Pollution	Risk of environmental degradation/ pollution impacting on biodiversity, human health, watercourses, etc.	No - Drainage and attenuation ponds included in design.		No - Operation of Proposed Development will not increase risk.	Yes - Interactions with watercourses that may flood and sensitive habitats and species.	Yes - Design measures include clear-span bridges, contained drainage systems, attenuation ponds, petrol oil separators, flood compensation areas, habitat planting, no net loss, landscape design, noise barriers, etc.	Unlikely	People	Low	Out
								Environment	Low	
								Essential Services	n/a	
								Society	n/a	
Climate & Weather Events	Vulnerability of the Proposed Development to climate change and extreme weather events.	No - Not a source of hazard.	Yes - Interaction with an extreme weather event may cause a significant effect.	Yes - Interaction with an extreme weather event may cause a significant effect.	Yes - Interactions with watercourses that may flood and sensitive habitats and species.	Yes - Addressed fully in the Climate Change Risk Assessment (CCR) in <b>Chapter 13</b> . As this is addressed in that chapter it is scoped out from further consideration in this assessment.	n/a	People	n/a	Out
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Geohazards - Landslides	Risk from landslide causing a significant impact during operation.	Yes - Major earthworks embankments as part of the design.	No - Low landslide susceptibility in Donegal.	No - Low landslide susceptibility in Donegal.	Yes - Major earthworks within relatively close proximity to watercourses and local communities.	Yes - Ground investigations undertaken as part of design. Design to TII standards.	Extremely Unlikely	People	Very Low	Out
								Environment	Very Low	
								Essential Services	Very Low	
								Society	Very Low	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Geohazards - Subsidence	Risk from subsidence causing a significant impact during operation.	Yes - Major earthworks embankments as part of the design.	No - Low subsidence risk in Donegal.	No - Low subsidence risk in Donegal.	Yes - Major earthworks within relatively close proximity to watercourses and local communities.	Yes - Ground investigations undertaken as part of design. Design to TII standards.	Extremely Unlikely	People	Very Low	<b>Out</b>
								Environment	Very Low	
								Essential Services	Very Low	
								Society	Very Low	
Geohazards - Flooding	Risk from flooding causing a significant impact during operation.	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood.	Yes - Interactions with watercourses that may flood.	Yes - Design has reduced to ALARP the risks from flooding including provision of flood compensation areas in Section 1 and Section 2.	Extremely Unlikely	People	Low	<b>Out</b>
								Environment	Low	
								Essential Services	Low	
								Society	Low	
Geohazards - Coastal Erosion	Risk from coastal erosion causing a significant impact during operation.	No - Coastal erosion is not recorded in the vicinity of the Proposed Development.	No - Coastal erosion is not recorded in the vicinity of the Proposed Development.	No - Coastal erosion is not recorded in the vicinity of the Proposed Development.	n/a	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	

Grouped Major Hazard	Description	Is the development a source of hazard that could result in a major accident and/or disaster?	Does the development interact with any external sources of hazard?	If an external man-made or natural hazard occurred, would the presence of the development increase the risk of significant environmental effect to an environmental receptor occurring?	Pathway	Do existing design measures or legal requirements, codes and standards adequately control the potential major accident and/or disaster, or will it be adequately covered/assessed by another topic?	Likelihood	Receptor(s)	Impact	Scoped In/ Out
Other Natural Hazards - Earthquakes	Risk of earthquake	No - No significance seismic activity in Donegal.	No - No significance seismic activity in Donegal.	No - No significance seismic activity in Donegal.	n/a	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Other Natural Hazards - Wildfire	Risk of a wildfire.	No - Operation of the Proposed Development will not lead to an increase in wildfire risk.	No - No interaction between the operation of the Proposed Development and external wildfire risk.	No – The presence of the Proposed Development can act as a fire-break. It may also provide refuge in the event of wildfire.	n/a	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Utilities	There will be no effects on utilities from the operation of the Proposed Development.	No	No	No	n/a	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Regulated Sites - Seveso/ COMAH	Interaction with Seveso or COMAH sites.	No	No	No	No - No Seveso or COMAH sites in proximity to the Proposed Development	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	
Regulated Sites - EPA Licenced Facilities, Waste and Contaminated Land.	Interaction with other regulated sites.	No	No	No	No - No active EPA licenced facilities and contaminated land in proximity to the Proposed Development.	n/a	n/a	People	n/a	<b>Out</b>
								Environment	n/a	
								Essential Services	n/a	
								Society	n/a	

## 20.9 Stage 3: Assessment

As summarised in Table 20.6 and Table 20.7, none of the construction and operation hazards/ risks have scoped in for Stage 3: Assessment.

## 20.10 Mitigation Measures

As no hazards/ risks have scoped in for assessment, no additional mitigation measures other than what is included in the other EIAR chapters are required.

## 20.11 Monitoring

As no hazards/ risks have scoped in for assessment, no additional monitoring measures other than what is included in the other EIAR chapters are required.

## 20.12 Residual Effects

The scoping stage of the assessment identified no hazards with a likelihood of resulting in a risk of a major accident and/or disasters.

The design of the Proposed Development and the implementation of the proposed mitigation measures will adequately control the potential for major accidents and/or disasters. The assessment indicates that there is no potential for major accidents and/or disasters to be caused by the Proposed Development and that the Proposed Development is not vulnerable to major accidents and/or disasters that would result in significant adverse effects.

It should be noted that the transfer of high volumes of traffic from the urban centres of Ballybofey, Stranorlar, and parts of Letterkenny and Lifford, to the new bypass routes; and from the sub-standard existing road network to the high quality, safer new roads will result in a significant reduction in risk of serious traffic related incidents and disasters occurring during the operational phase.

## 20.13 References

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