

**Environmental Report
for the
Draft
Letterkenny Plan
And
Local Transport Plan
2023-2029**



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Dhún na nGall**
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Community Development & Planning Services
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1 Introduction

1.1 Background to the Draft Letterkenny Plan and Local Transport Plan 2023-2029

The Draft Letterkenny Plan 2022-2028 is a land use plan for Letterkenny prepared in accordance with the Local Area Plan provisions of the of Sections 18-20 of the Planning and Development Act 2000(as amended). The plan sets out an overall strategy for the proper planning and sustainable development of Letterkenny including detailed land use zonings and development policies and objectives framed within the wider context of the National Planning Framework (NPF), the Regional Spatial and Economic Strategy for the Northern and Western Assembly 2020-2032, and the County Development Plan 2018-2024(as varied) (the CDP) and other relevant national planning guidance. The plan will inter alia guide local authority development management decisions around the nature and location of new residential, commercial retail development and help guide public investment choices around urban regeneration, and new transport, water, wastewater, recreational infrastructure. The plan replaces Letterkenny specific zonings, objectives and policies contained within Chapter 12, Part C of the CDP.

1.2 Strategic Environmental Assessment of the Draft Letterkenny Plan and Local Transport Plan 2023-2029

In summary Strategic Environmental Assessment (SEA) is a systematic and effective multistage process for ensuring that environmental issues are taken into account at every stage in the preparation, implementation, monitoring and review of plans, programmes and strategies. The preparation of an Environmental Report is a key part of this assessment process. In accordance with the SEA Directive this Environmental Report contains inter alia information on: the main objectives of the plan and relationship with other plan, the relevant aspects of the current state of the environment, the environmental characteristics areas likely to be significantly affected, existing environmental problems, relevant international European and national environmental protection objectives, the likely significant effects of implementing the plan on a range of environmental issues, measures to prevent reduce and offset significant adverse effects, information on alternatives, monitoring measures, and a non-technical summary. It should be read in conjunction with the Stage 2 Natura Impact Report (NIR) for The Letterkenny Plan.

The requirement for an SEA was introduced by Directive 2001/42/EC of the 27th June 2001 ("the SEA Directive") and Article 1 thereof set out the objective of the Directive as:

"to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the Environment".

The former Department of the Environment, Heritage and Local Government (now Department of Housing, Local Government and Heritage) in November 2004 issued guidelines for Regional Authorities and Planning Authorities on the implementation of the SEA Directive titled "Assessment of the Effects of Certain Plans and Programmes on the Environment". Donegal County Council ("DCC") as a Planning Authority is obliged to have regard to such guidelines in the performance of its functions and that requirement has been observed in the preparation of this Environmental Report.

The SEA Guidelines outline the SEA process and set out the following requisite steps, as outlined in Table 1.1.

Table 1.1 Steps in the SEA Processes for The Letterkenny Plan

Screening of the Letterkenny Plan: Determines whether SEA is required for The Letterkenny Plan.	Completed
Scoping of the Letterkenny Plan: Consultation with Statutory bodies and other interested parties on the scope and level of detail to be considered in the assessment of the Letterkenny Plan.	Completed Q2 2022
Preparation of Environmental Report: An assessment of the likely significant impacts on the environment as a result of the implementation of The Letterkenny Plan. The Environmental Report is the output of this part of the SEA process	Current Stage
Consultation on the Letterkenny Plan and associated Environmental Report and Appropriate Assessment.	To be Completed
Publication of the Letterkenny Plan associated Strategic Environmental Assessment and Appropriate Assessment.	To be Completed
Preparation of an SEA Statement identifying how environmental considerations and consultation have been integrated into the Adopted Variation to the Donegal CDP in respect of the TEN-T Priority Route Improvement Project.	To be Completed

1.3 Screening the SEA

The first step in the SEA process was to 'screen' the draft Letterkenny Plan. However Article 14B of the Planning and Development Regulations 2001 (as amended) states that "*Where... the population or the target population of a local area plan is 5,000 persons or more...the planning authority shall... prepare an environmental report of the likely significant effects on the environment of implementing the local area plan...*". Consequently, given that the population of the Letterkenny Plan area is greater than 5,000 persons there is no requirement for SEA screening as the SEA process must be undertaken. The next step was to proceed to preparation of an Environmental Report.

1.4 Scoping the SEA

As noted above, an SEA is required by reason of Regulation 14B of the Planning and Development Regulations 2001 (as amended) and as the Letterkenny Plan is a local area plan for an area with a population greater than 5000 persons.

Thus, and in accordance with Article 14D of the Planning and Development Regulations 2001 (as amended) the following environmental authorities and planning authorities were notified on 6th July 2022 that an Environmental Report would be prepared and submissions in relation to the scope and level of detail to be included in said report were invited from same:

- Environmental Protection Agency (EPA).
- Department of Housing, Local Government and Heritage (DHLGH)
- Department of Environment, Climate and Communications (DECC)
- Department of the Communications, Climate Change and Natural Resources (DCCCNR)*
- Department of Agriculture, Food and the Marine (DAFM)
- Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs (DTCAGSM)* which included the National Parks and Wildlife Service, Glenveagh National Park.
- Sligo County Council
- Leitrim County Council
- Department of Agriculture, Environment and Rural Affairs (Northern Ireland).
- Department for Infrastructure (Northern Ireland)
- Fermanagh & Omagh District Council

- Derry City & Strabane District Council
- Causeway Coast and Glens Borough Council

Submissions were received from the following consultees:

- Inland Fisheries Ireland
- Environmental Protection Agency
- Geological Survey of Ireland
- Department of Agriculture, Environment and Rural Affairs (NI) Natural Environment Division
- Fermanagh & Omagh District Council

* *Departments which have subsequently changed names*

These submissions are provided in **Appendix A**, and the issues raised are summarised in Table 1.2 below. The comments received were taken on board in the preparation of this Environmental Report, where appropriate as appears from the responses in Table 1.2.

Table 1.2 Submissions received from Consultees

Ref	Submission by	Summary of Issues raised	Response
1	Inland Fisheries Ireland	<ul style="list-style-type: none"> • States that the IFI is a statutory authority for the protection, management and conservation of the Inland Fisheries Resource and sea angling. • Notes the importance of compliance with the Habitats Directive the need for sustainable development in the inland fisheries resource. • Notes the importance of angling to the Irish economy. • Recognises that the EU Water Framework Directive is a critical regulatory legislative provision and its objective to prevent further deterioration and enhance the status of aquatic ecosystem and associated legislative requirements. • States that the plan should give consideration to the 3rd cycle River Basin Management Plan 2022-2027. • Highlights that the plan must take account of climate disruption, the biodiversity crisis and possible mitigation measures. • States that potential negative impacts on aquatic habitats should be addressed and highlights a range of environmental pressures which should also be addressed. • Advocates a presumption against any instream interference. • Highlights the benefit of rivers for the urban environment. • Concludes by stating inter alia that critical and sensitive habitats must be protected, all fish species and associated habitats require protection and management and a precautionary principle should be applied. 	Comments Noted. This report will consider the potential effects of the Letterkenny Plan and Transport Plan on biodiversity (including fish species), water quality and designated aquatic habitat.
2	EPA	<ul style="list-style-type: none"> • Notes that the EPA is an SEA environmental authority which promotes the full and transparent integration of environmental assessment into the plan and advocates that key environmental challenges are addressed. 	The comments and recommendations from the EPA are noted. In the particular this report will have regard to the EPA's SEA specific guidance and

Ref	Submission by	Summary of Issues raised	Response
		<ul style="list-style-type: none"> • Highlights the document: <i>SEA of Local Authority Land Use Plans – EPA Recommendations and Resources</i> and suggests taking said document and associated recommendations into account. • Notes the PA's determination that SEA is required. • Recommends that the plan should ensure that the plan is consistent with the proper planning and sustainable development, climate change objectives, the NPF and the NWRA RSES. • Highlights the EPA Report Irelands Environment and Integrated Assessment 2020. • Points to the SEA guidance and resources available on their website including topic specific SEA guidance. • Reference the SEA WebGis search and reporting tool which allows planning authorities to produce an indicative report on key aspects of the environment in specific geographic areas. • States that their WFD applications provides access to water quality and catchment data from the national WFD monitoring programme. • Notes that the EPA AA Geotool allows users to gather information on European sites. • States that prior to making an AA determination the PA should consult with the EPA, Minister for Housing, Local, Government and Heritage, Minister for Environment, climate and Communications, Minister for Agriculture, Food and marine and adjoining planning authority and copy of the SEA determination should be made available for public inspection. 	<p>the resources highlighted in the publication <i>SEA of Local Authority Land Use Plans – EPA Recommendation and Resources</i>. In addition, this report will take into account EPA's online datasets including EPA map viewer.</p>
3	Geological Survey of Ireland	<p>The submission inter alia:</p> <ul style="list-style-type: none"> • Encourages use and provides references to GSI data sets and attaches a list of their publicly available datasets. <p>County Geological Sites</p> <ul style="list-style-type: none"> • Notes that County Geological Sites (CGSs), as adopted under the National Heritage Plan, include additional sites that may also be of national importance. • States that Lough Swilly CGS is located in the vicinity of the Letterkenny Plan and provides a description and a proposed protection policy for same. <p>Groundwater</p> <ul style="list-style-type: none"> • States that proposed developments need to consider any potential impact on specific groundwater abstractions and on groundwater resources and recommends using the groundwater maps on the GSI map viewer. • Notes that the Letterkenny Plan area is underlain by aquifers classed as a 'Poor Aquifer - Bedrock which is Generally Unproductive except for Local Zones' and a 'Locally important gravel aquifer.' • Recommends use of the GSI groundwater viewer to identify areas of high to extreme vulnerability and rock at or near surface as well as any groundwater-surface interactions. 	<p>The comments and recommendations from the GSI are noted. The report will utilise the recommended datasets to assess the likely significant effects/interactions of the plan on/with the Lough Swilly CGS, local groundwater resources, geohazards (including areas of landslide susceptibility), geothermal energy and areas of aggregate potential.</p>

Ref	Submission by	Summary of Issues raised	Response
		<ul style="list-style-type: none"> • Recommends use of GSI’s groundwater maps and data sets within the Letterkenny plan. <p>Geohazards</p> <ul style="list-style-type: none"> • Notes the risks of geohazards and highlights and the National Landslide Database and Landslide susceptibility map available on the GSI mapviewer. <p>Geothermal Energy</p> <ul style="list-style-type: none"> • Recommends use of GSI’s geothermal suitability maps. <p>Natural Resources</p> <ul style="list-style-type: none"> • Recommends use of their aggregate potential mapping viewer to identify areas which are high to very high aggregate potential. <p>In addition, notes the availability of their geochemistry and geophysical datasets.</p>	
4	Department of Agriculture, Environment and Rural Affairs (NI) Natural Environment Division	<p>Introductory Comments.</p> <ul style="list-style-type: none"> • Agrees with the conclusions of the SEA report that SEA should be carried out. • Requests a clear statement indicating whether or not the implementation of the plan is likely to have a significant effect on Northern Ireland. • States that the Habitats Regulations Assessment should consider transboundary effects on Northern Ireland sites. <p>Natural Environment Division Comments</p> <ul style="list-style-type: none"> • States that Transboundary issues arising from this plan should be considered as part of the SEA including potential disturbance to/impact on NI/RoI migratory/mobile species such as salmon within the River Foyle and Tributaries SCA and states that cross border sites, designated sites, NI European sites, priority sites, river basins and landscape types require special attention. Further state that consideration should be given all potential impacts on NI habitats. • Highlights the DEARA NI protected sites viewer, NI environmental reports, regional landscape character map, and the status of habitats and species. <p>Marine Fisheries Division Comments.</p> <ul style="list-style-type: none"> • Highlights the UK Marine Policy Statement and the Draft Marine Plan for NI and the NI Marine Act. • Given the geographical extent of the proposed plan Inland Fisheries state that they are content that the potential impact of the plan lies substantially outside their jurisdiction and the only section with potential to impact on their interests is the N13 Road Improvement Scheme and any potential impacts lie within the jurisdiction of the Loughs Agency. • The water management unit states that the assessment should consider whether there are any potential transboundary issues which could arise from the plan in relation to water quality and the Water Framework Directive, notes that 	The comments and recommendations are noted. This report will consider inter alia the transboundary effects of the Letterkenny Plan including effects on cross border and NI specific European sites, rivers basins and NI designated landscapes.

Ref	Submission by	Summary of Issues raised	Response
		cross border river basins require special attention and DAERA has published the Draft River Basin Management Plan 2021-2027 which should be considered.	
5	Fermanagh & Omagh District Council	<ul style="list-style-type: none"> • Welcomes decision to carry out Environmental Assessment and state that FODC places great importance on conserving, sustaining, enhancing the natural environment. • Notes that the plan lies 15km from the FODC boundary and they therefore have no specific comments on the scope and detail within the Environmental Report. • However, makes a number of general comment namely: <ul style="list-style-type: none"> ○ Recommends DCC consult with the NI Environmental Agency within DAERA. ○ Consideration should be given to cumulative effects. ○ Ecological pathways and corridors should be considered. ○ Infrastructural connectivity is also an important factor in considering transboundary impacts. 	Comments Noted. DCC has consulted with DAERA as part of this SEA scoping exercise. Furthermore, this report will give consideration to cumulative effects and ecological pathway and corridors.

At a similar time informal consultation with a range of stakeholders occurred on a strategy for growth for Letterkenny (and as a precursor to The Letterkenny Plan). This included workshops with the business community as well as representatives of community, cultural and social sectors, and meetings with key parties such as the Letterkenny Institute of Technology and large employers. Written submissions were also invited from members of the public and prescribed bodies between 21st May and 28th June 2018. [A report of the Consultation events](#) provided a summary of the responses received and outlined subsequent actions for The Letterkenny Plan. This included nine emerging Strategic Themes as follows:

1. Sustainable Neighbourhoods
2. Rebalance the footprint
3. Regenerate and infill
4. Choice in housing location & type
5. A strong town centre
6. Improve liveability through our natural assets
7. Prioritise key physical infrastructure
8. Plan for public transport
9. Support economic development through placemaking

Regard to the comments raised during these consultation events has been taken into account in the development of the environmental assessment of The Letterkenny Plan.

1.5 Appropriate Assessment

The Habitats Directive (Council Directive 92/43/EEC) on the conservation of natural habitats and of wild fauna and flora obliges member states to designate, protect and conserve habitats and species of importance in a European Union context. Article 6(3) of the Habitats Directive requires that *"Any plan or project not directly connected with or necessary to the conservation of a site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."*

A Natura Impact Report (NIR) of the Letterkenny Plan was completed in accordance with the requirements of Article 6(3) of the EU Habitats Directive (92/443/EEC), and in accordance with the requirements of Part XAB of the Planning and Development Act (2000), as amended.

The NIR concluded that the proposed plan will not result in any residual adverse effects on any European Sites their integrity or their conservation objectives on its own and found no identified no residual cumulative impacts with regard to any European Site following the completion of Stage II of the Appropriate Assessment (AA) process in relation to the Proposed Variation.

1.6 Checklist of Contents of Environmental Report

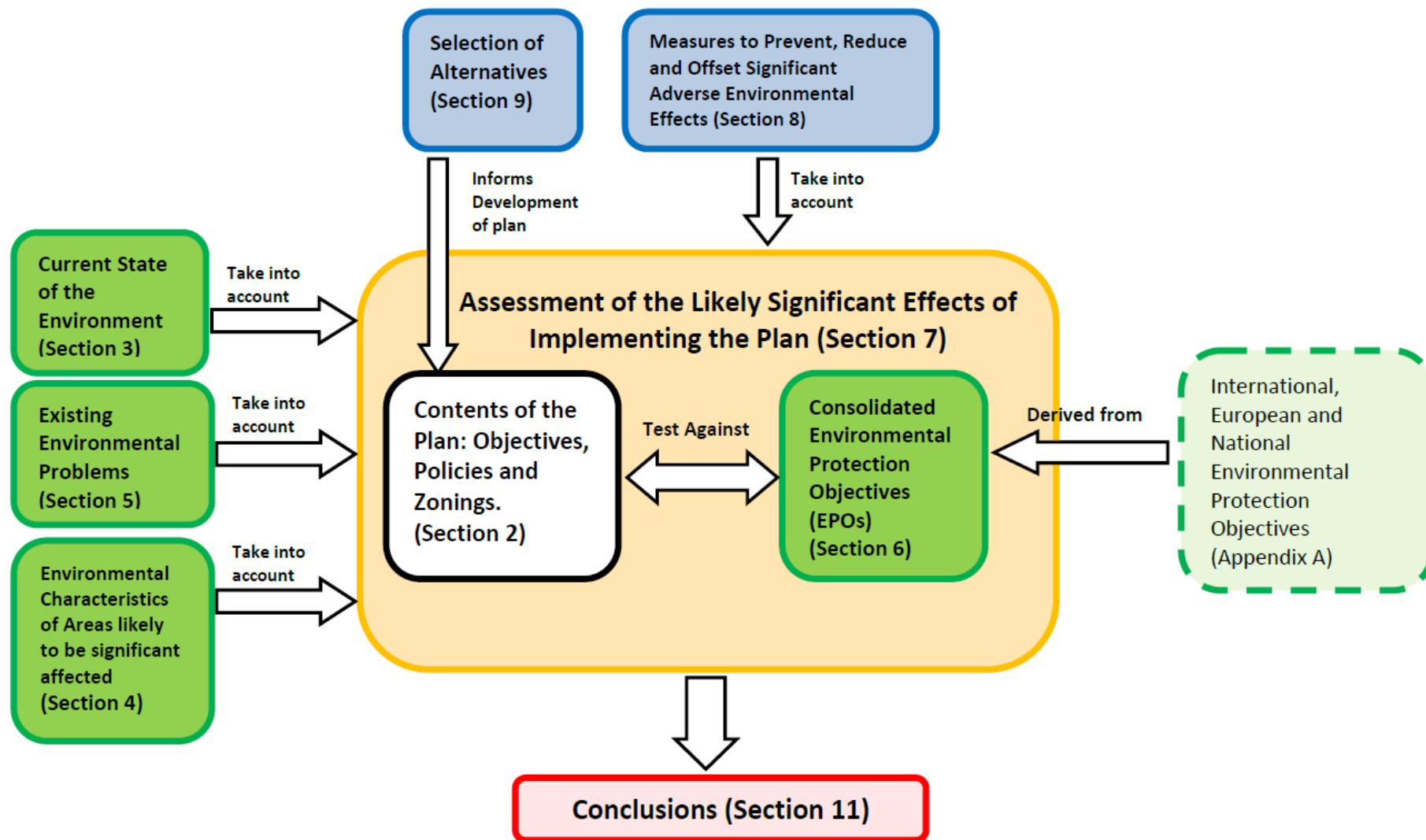
Table 1.3 sets out the information to be contained within the Environmental Report as set out in Annex 1 of the SEA Directive (2001/42/EC) and Schedule 2B of the 2001 Regulations and as per and indicates where in this Report each is included.

Table 1.3 Checklist of Contents of Environmental Report

Contents of Environmental Report		Section of Report
(a)	An outline of the contents and main objectives of the plan and relationship with other relevant plans.	Section 2 – Contents and Main Objectives of The Letterkenny Plan and Relationship with Other Plans.
(b)	The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan.	Section 3 – Relevant Aspects of the Current State of the Environment and Likely Evolution thereof without Implementation of The Letterkenny Plan.
(c)	The environmental characteristics of areas likely to be significantly affected.	Section 4 – Environmental Characteristics of the Areas Likely to be Affected by the Letterkenny Plan.
(d)	Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to the Birds Directive or Habitats Directive.	Section 5 - Existing Environmental Problems of Relevance to The Letterkenny Plan.
(e)	The environmental protection objectives, established at international, European Union or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation.	Section 6 - Environmental Protection Objectives of Relevance to The Letterkenny Plan & Appendix A.
(f)	The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.	Section 7 – Assessment of the Likely Significant Effects on the Environment of Implementing The Letterkenny Plan.
(g)	The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan.	Section 8 - Measures Envisaged to Prevent, Reduce and as Fully as Possible Offset Any Significant Adverse Environmental Effects on the Environment of The Letterkenny Plan.
(h)	An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.	Section 9 - Selection of Alternatives for The Letterkenny Plan.
(i)	A description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan.	Section 10 - Monitoring of Significant Environmental Effects.

Contents of Environmental Report		Section of Report
(j)	A non-technical summary of the information provided under the above headings	Section 11 – Non Technical Summary and Conclusion

Figure 1.1 Infographic: How this Environmental Report Works



2 Outline of the Contents and Main Objectives of the Letterkenny Plan and Relationship with Other Relevant Plans

2.1 Outline of the Contents and Main Objectives of the Letterkenny Plan

An outline of the contents and main objectives of the plan is set out in section 2.1.1 below. The geographical scope/land use zoning map of the plan is detailed in Section 2.1.2. The temporal scope of the plan is detailed in Section 2.1.3. The relationship of the plan with other plans and programmes is set out in Section 2.2. The legal status of the plan has already been set out in Section 1.1.

2.1.1 Outline of Contents and Main Objectives

Table 2.1 Outline of Content and Main Objectives

Chapter	Objective Ref.	Outline of Content or Objective
The Letterkenny Plan 2022-2028		
Section A - Context		
Chapter 1: Introduction	N/A	Sets out: the statutory context of the plan, the public consultation undertaken, how environmental mitigation and climate change mitigation and adaptation measures were incorporated into the plan, how the plan fits within the spatial planning policy hierarchy including the settlement structure of the CDP 2018-2024(as varied).
Chapter 2: Strategic Context and Growth Ambitions	N/A	Sets the broad strategic context and growth ambitions for the plan including: <ul style="list-style-type: none"> • Letterkenny is the key economic engine and strategic regional centre for the North West and a key component of the North West City Region which is recognised in the NPF, RSES and CDP which collectively provide a strong support for an ambitious growth agenda for the town. • The NPF and the RSES assert that strong urban centres must be a key policy instrument for delivering regional parity. • The NPF recognises that the North West City region is essential to achieving the North West’s potential. • Sets out strategic growth ambitions of increasing the population to 35,000 by 2040, and providing 5,000-6,000 additional jobs which must be complemented by making Letterkenny a quality place to live work and visit, building on existing assets and addressing deficiencies.
Chapter 3: Climate Change and Compact /Sustainable Growth	N/A	<ul style="list-style-type: none"> • Highlights National and regional policy requirements to achieve compact growth, urban regeneration, a low carbon society, sustainable mobility. • Climate change and compact growth agenda has been embedded in the plan preparation process. • States that by adopting these planning principles the plan aims to ensure that the town develops in a fully sustainable fashion.
Section B – Strategy Development		
Chapter 4: Key Structural Issues	N/A	This chapter sets out the key structural issues which must be tackled within a new strategy for the growth of the town including: car dependency and the lack of sustainable transport,

Chapter	Objective Ref.	Outline of Content or Objective
		non sequential development removed from the town centre and other services, the disconnection of the new town centre from the traditional town centre, road network deficiencies, lack of wastewater and poor water infrastructure south of the river Swilly, along Port Road and in the Bunnagee area, flood risk particularly in the centre and town centre issues including car dominance, inadequate active travel and public transport, under provision of public realm and vacancy and dereliction.
Chapter 5: Development Strategy and Consolidation	N/A	Sets out how the key policy messages and underlying local considerations have been applied to arrive a strategic level plan including Compact Letterkenny including remaining development capacity within on the fringes of the core and re-balancing the town's footprint by facilitating development in the Leck/Scribbly area.
Chapter 6: Strategic Infrastructure Deficits	Objective DSC1	To work strategically with other key stakeholders to deliver resolutions to the key infrastructural deficits constraining the growth ambitions for Letterkenny.
Section C- Detailed Policy Chapters		
Chapter 7: General Development Management Approach	N/A	Sets out a general development management approach including Land Use Zoning Objectives and an associated Land Use Zoning Matrix
Chapter 8: Economic Development and Employment	Objective LK-ED-O-1	To build and strengthen Letterkenny as a key centre for economic growth across the sectors and as a university town commensurate with its Regional Centre status as provided for in the National Planning Framework.
Chapter 9: Town Centre Strategy	Objective LK-TC-01	To strengthen the urban form of the town centre so as to reinforce the town centre as a cohesive, attractive and high quality urban area that is attractive and safe for residents, visitors and investors and is a place where public life can thrive.
	Objective LK-TC-02	To create a vibrant town centre which is a multi-dimensional, inclusive and inviting place providing a mix of homes, jobs, services, amenities, facilities and experiences.
	Objective LK-TC-03	To establish the town centre as a gateway for business and enterprise, leading and driving a strong economy in the North West City Region.
	Objective LK-TC-04	To create sustainable and restorative environments where environmental assets are created and enhanced, and climate change challenges addressed, for the delivery of environmental, physical, social and economic benefits to the town.
Chapter 10: Housing	Objective LK-H-O-1	To ensure that an appropriate quantum and mix of housing types, tenures, densities and sizes is provided in suitably located residential areas and in appropriate brownfield/infill areas, in order to meet the needs of the population of Letterkenny, including the provision of social and affordable housing, student housing, traveller accommodation and appropriate residential care solutions designed for older persons and/or persons with disabilities.
	Objective LK-H-O-2	To secure the provision of all necessary physical and social infrastructure, inclusive of community, educational, health, childcare and recreational facilities, as appropriate, commensurate with the needs of new residential development
Chapter 11: Opportunity Sites	N/A	Describes and sets out policies for the specific opportunity sites zoned in the plan.
Chapter 12: Climate Adaptation and	Objective CAM-LK-O-1	To ensure Letterkenny transitions to a low carbon, competitive, climate resilient and environmentally sustainable settlement by 2050, via the implementation of the polices and development

Chapter	Objective Ref.	Outline of Content or Objective
Mitigation		strategy of this Plan that, inter alia, seek to deliver compact growth, integrated land use and transport, sustainable transport choices, renewable energy production, reduced energy consumption, enhanced ecological biodiversity and climate adaptation measures such as appropriate flood risk management, sustainable urban drainage systems and high quality place-making and design.
Chapter 13: Built and Natural Heritage	N/A	This chapter outlines the natural and built heritage assets within the plan area, sets out the general development approach to same, sets out a policy to harness the potential of/manage development adjacent to the River Swilly/Estuary, highlights the recent developments in relation to, and positive contribution of, the Letterkenny Cathedral Quarter ACA.
Chapter 14: Social, Community and Culture	Objective LK-SCC-1:	To deliver all social infrastructure (including, but not limited to, childcare and education facilities, healthcare, social, community and recreational facilities, parks and open spaces) necessary to support the growth of the Regional Centre; both in locations of new development and in existing, long-established areas where the need exists.
	Objective LK-SCC-2:	To support the development of cultural attractions and venues at appropriate locations in Letterkenny.
Part B Letterkenny Local Transport Plan 2022-2028		
Chapter 15 Transport Policy Framework		Sets out the national, regional and local policy context including: <ul style="list-style-type: none"> • NPF: National Strategic Objectives of compact growth, enhanced regional accessibility, sustainable mobility and transition to a low carbon and climate resilient society. • NDP: TEN-T Priority Route Improvement Project, Donegal • RSES: Key Regional Policy Objectives for Letterkenny including delivery of the TEN-T PRIPD, Preparation of a Local Transport Plan for, the development of a integrated cycle network, delivery of a multi purpose transport hub within the town core, and a Letterkenny-Derry rail link feasibility study. • National guidance: Area Based Transport Assessment, Smarter Travel A Sustainable Transport Future, and the Climate action Plan 2021. • The Letterkenny Integrated Land Use and Transportation Plan 2009 and the Letterkenny 2040 Regeneration Strategy.
Chapter 16 Key Issues and Underlying Factors		Sets out a number of key issues including Letterkenny is the primary urban centre in the County with a central geographical location and has severe strategic road inadequacies, significant sprawl, car dependency, limited public transport, but plentiful car parking.
Chapter 17: Pre-Draft Public Consultation		Outlines the pre-draft public consultation undertaken including for both the Letterkenny Plan and the Local Transport Plan and key conclusions from same.
Chapter 18: Challenges and Priorities		Sets out the strength, weaknesses, opportunities, and threats of the town vis-a-vis transportation issues and resultant key priorities and ambitions.
Chapter 19: Active Travel Strategy	LTP-AT-O1:	To provide for an increase in active travel through an expansion of the strategic, inter-connecting and permeability walking and cycling networks in Letterkenny.
Chapter 20: Strategic Roads Strategy	LTP-T-O-1	Should there be any ostensible or apparent conflict between, on the one hand, the Objectives, Policies and/or provisions of the Local Area Plan herein providing for the development of Section 2 of the TEN-T Priority Route Improvement Project, Donegal (TEN-T PRIPD) and, on the other hand, any other Objectives, Policies and/or provisions of the Local Area Plan, those Objectives, Policies and Provisions which provide for the development of the TEN-T PRIPD shall take priority over all or any other provisions of the Local Area Plan and any such other provisions or Objectives shall be read and

Chapter	Objective Ref.	Outline of Content or Objective
		construed as subservient to and not in any material way contravening so much of the Objectives, Policies and provisions contained within this Plan as provide for the development of the TEN-T PRIPD.
	LTP-T-O-2	To develop the Strategic Roads programme for Letterkenny.
Chapter 21: Town Centre Strategy	LTP-TC-0-1:	To deliver a multi-functional, centrally-located regional transport hub for Letterkenny.
	LTP-TC-0-2:	To create a dynamic, connected and accessible town centre, anchored by a centrally-located local transport hub, enabling transitional shift to public transport, walking and cycling.
	LTP-TC-0-3:	To support the principle of the following projects and the incorporation therein of strong Active Travel measures: <ul style="list-style-type: none"> • Upper and Lower Main Street - Breathing new life into the Main Street through restoration, redevelopment and greater use and development of existing properties, in addition to the creation of new civic public space. • The Port and Pearse Roads - Transformation of these two key strategic arterial routes into town centre 'Boulevards' with clear integration, permeability and way-finding. • Town Square and Hub - Establishing a major new civic space as the go to focal point for the Town complementary to the existing Market Square with this new space potentially being located on Pearse road. • The LK Green Connect Project identified on the Land Use Zoning Map as an 'Indicative Active Travel' route. • The Swilly Way
Chapter 22: Public Transport Strategy	LTP-PT-O-1:	To deliver significantly enhanced public transport services and facilities for Letterkenny.
	LTP-PT-O-2:	To support the provision of rail links between Letterkenny and Derry, and Letterkenny to Sligo.

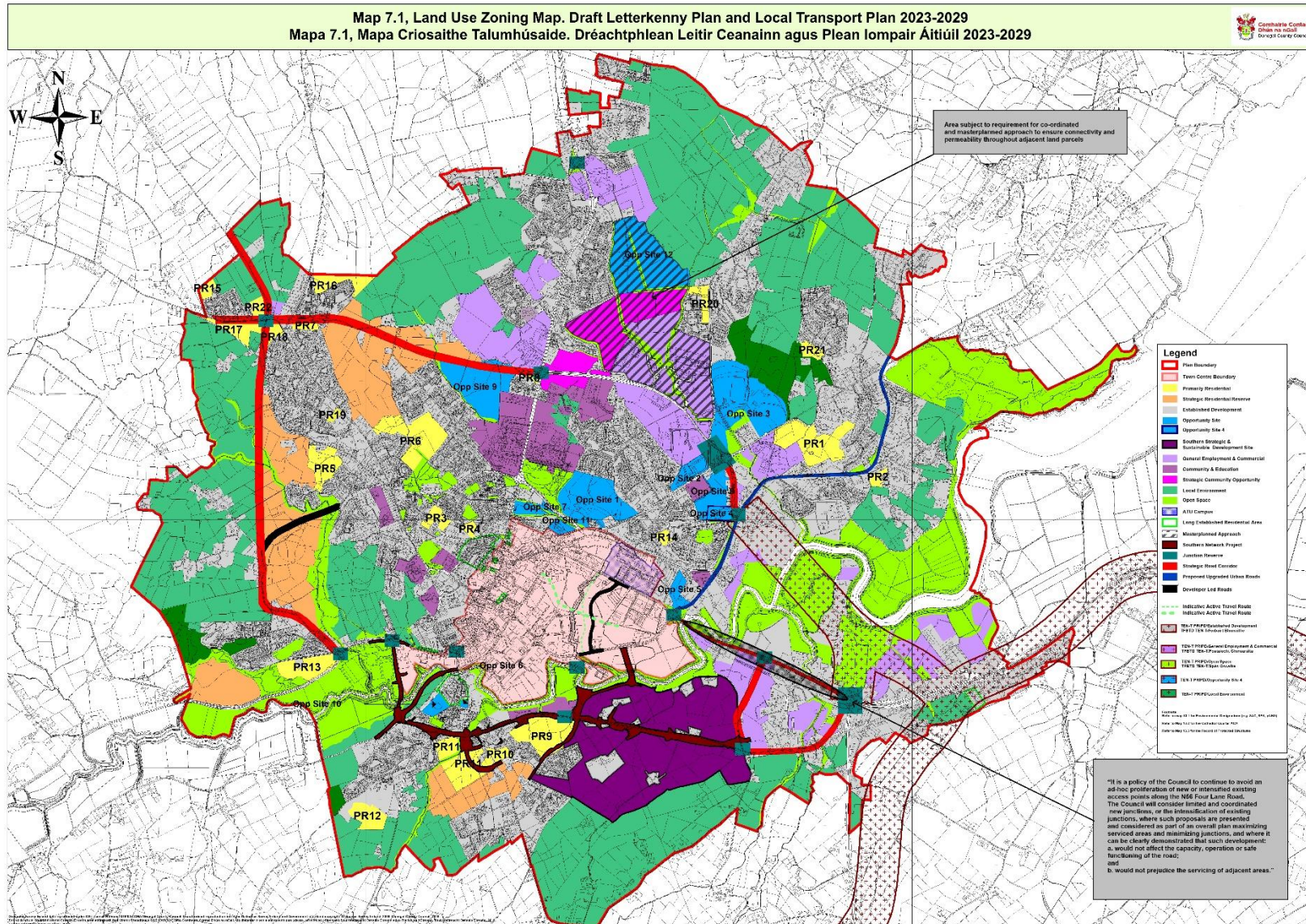
2.1.2 Geographical Scope/Land use Zoning Map

The geographical scope of the Letterkenny Plan is as established by the Donegal CDP 2018-2024(as varied) and includes the town of Letterkenny and the surrounding environs. The land use zoning map associated with the Letterkenny Plan is shown overleaf.

2.1.3 Temporal Scope

The temporal scope of the Letterkenny Plan is the six- year period 2022 to 2028.

Figure 2.1: Land Use Zoning Map of the Draft Letterkenny Plan and Local Transport Plan 2023-2029



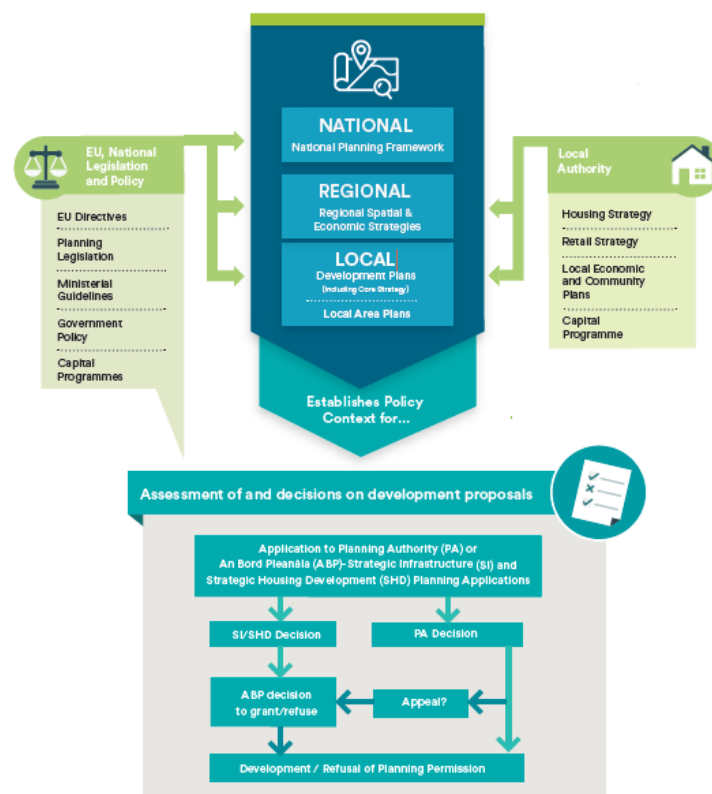
2.2 Relationship of the Letterkenny Plan with Other Relevant Plans

This Section focuses on statutory land use plans of relevance to the Letterkenny Plan. The principal statutory land use plans that are relevant to The Letterkenny Plan are discussed in the following Section 2.2.1 to 2.2.3. As The Draft Letterkenny Plan is a Local Area Plan (LAP), the review of such plans/programmes has focussed on plans and programmes at the local, national and regional level and with a particular emphasis on the spatial planning hierarchy. This is because the Draft Plan must comply with relevant higher-level strategic objectives that these plans/programmes set. Figure 2.2 (below), as taken from the National Planning Framework, sets out the role of Local Area Plans within the Irish Planning System. This includes how an LAP will be informed by EU, National Legislation and Policy as well as ministerial guidelines, government policy and capital programmes set at the national level. Furthermore, an LAP will be informed by the context established by the Local Authority through any housing strategy, local economic strategy, capital programmes or similar. Ultimately, and as shown in Figure 2.2, a LAP will help set the planning context for the assessment of and decisions on development proposals.

For the purposes of clarity, and in accordance with Schedule 2B (e) of the Planning and Development Regulations, 2001 (as amended), a much broader range of plans and programmes (and the environmental protection objectives contained therein) of relevance to The Letterkenny Plan is addressed in Section 6 of this report and Appendix A.

Section 6 and in particular Table A1 of Appendix A details the Environmental Protection Objectives, the convention/legislation/plan in which they originate from, the way in which those objectives and any other environmental considerations have been taken into consideration during the preparation of the Letterkenny Plan.

Figure 2.1 Irish Planning System (National Planning Framework)



2.2.1 Ireland 2040 Our Plan National Planning Framework (NPF)

The National Planning Framework (NPF), adopted in June 2018, is a high level strategic plan for shaping the growth and development of the Country to 2040 intended to guide development and investment through a shared set of national objectives and principles.

It is a framework for the preparation of other plans such as Regional Spatial and Economic Strategies (RSESs) and other statutory land-use plans such as County Development Plans and Local Area Plans. It is a region focused strategy for managing growth with a new major policy emphasis on compact growth and regeneration targeting infill and brownfield sites, renewing and developing existing settlements rather than continual expansion and sprawl of cities and towns, with a strengthened and more environmentally focused planning at local level. A key competent of the NPF is the redistribution of growth and so the regions away from Dublin achieve at least an equitable level of growth.

In particular in the NPF identifies a number of key National Strategic Outcomes that will be achieved by the implementation of its policy objectives including: Compact Growth, enhanced regional accessibility, sustainable mobility, enhanced amenity and heritage, Sustainable Management of Water, Waste and other Environmental resources, and transition to low carbon and climate resilient society.

The NPF acknowledges that Donegal is "spatially unique", given its location relative to the other counties in Ireland, and its substantial border with Northern Ireland. Furthermore the NPF specifically highlights the need to address regional connectivity to the North West in order to enable growth, competitiveness, secure investment and grow sustainably.

In particular in relation to Letterkenny the NPF:

- Identifies Letterkenny as a Regional Centre intended to lead the development of its region.
- Acknowledges that the North-West city region, focused on Derry City, Letterkenny and Strabane, is essential to achieving the potential of the North West and maximising its contribution to regional and all island economic growth
- States that the Regional Centres will be supported and enhanced over the lifetime of NPF through relevant policies and investment but with a strong emphasis on securing a compact-growth development approach.
- Recognises the need to strengthen Ireland's overall urban structure including the regional centre of Letterkenny.

2.2.2 Northern and Western Regional Assembly Spatial and Economic Strategy 2020-2032 (NWRA RSES)

The NWRA RSES, was made by the Northern and Western Regional Assembly in January 2020. The RSES provides a framework which County Development Plans and Local Area Plans must be consistent with to ensure proper planning and sustainable development and so it aligns with the NPF. The objective of the RSES is to support the implementation of the NPF and provide a long-term planning and economic framework which shall be consistent with the NPF and the economic policies and objectives of the Government. It provides a structured hierarchy for integrated control of spatial development with a particular focus on ensuring that sustainable development is an integral element.

In particular the NWRA RSES contains a Regional Growth Centre Strategic Plan for Letterkenny which inter alia:

- Aims to grow Letterkenny to a Regional Centre to a minimum of 27,300 residents by 2040 (RPO 3.7.20 refers)
- Seeks to ensure that at least 40% of all newly developed lands (Residential, Enterprise and Employment) are located within the existing built-up urban area of Letterkenny (RPO 3.7.22 refers)
- Seeks to consolidate existing neighbourhoods through a series of targeted measures.
- Highlights the former ESB site, the Church Lane/Market Square. Lower Main Street as key regeneration/renewal opportunities.
- Identifies inter alia: the TEN-T Priority Route Improvement Project, Donegal, an urban design and masterplan for the town centre, a regional transport hub, the expansion of the LYIT campus, an

urban greenway and a Social Enterprise Centre as critical enabling and transformative projects for Letterkenny.

- Aims to prepare a Local Transport Plan including a multi-modal focus and public transport roadmap within 2 years (RPO 3.7.22 refers).

2.2.3 The Donegal County Development Plan 2018-2024 (CDP)

The County Donegal Development Plan 2018-2024 (CDP) is the statutory land use plan for Donegal and contains strategies, objectives and policies to guide future investment and decisions regarding the nature, type and location of future development in the County. It provides a planning framework for the future physical, social, economic, cultural and environmental growth and sustainable development of County Donegal over the 6 year period of the Plan and beyond.

The CDP was made prior to the adoption of the NWRA RSES and so was not directly informed by it. However, the CDP was published following the publication of the Draft NPF and therefore takes into account the broad framework within the NPF.

The County Development Plan currently includes a spatial planning framework/land use zonings and specific policies and objectives for Letterkenny which will be superseded by the Letterkenny Plan if adopted. Otherwise specifically in relation to Letterkenny the CDP:

- Supports the role of Letterkenny as a linked urban area in the North West City Region in order to drive investment and produce consequential benefits throughout the entire County (S-O-23 refers)
- Identifies Letterkenny as Layer 1 of the Settlement Structure and targets a population increase for the town of 4,190 by 2024 (30% of the total population increase for the County). (Section 2A.3 refers).
- Emphasises the importance of Letterkenny in terms of attracting private sector investment in jobs and the economy and in securing investment in infrastructure that is critical to the county as a whole. (P.15).
- Highlights the importance of the TEN-T Network and in particular the Letterkenny Relief Road and the N14 Letterkenny/ Lifford road. (CS-O-9 refers).
- Cites the promotion of the existing business park, consolidation of the town centre including the prioritising of improvements to public realm, the delivery of key road and access infrastructure, through a proactive approach to enable the delivery of key regeneration sites as key to the economic growth of the town (CS-O-11 refers).
- Highlights the importance of the Letterkenny Institute of Technology in providing a high quality learning environment and Letterkenny University Hospital in health provision. (2B.2.7 refers).
- Identifies Letterkenny as a centre for Higher Order regional retail provision. (RS-P-1 refers).

3 Relevant Aspects of the Current State of the Environment and Likely Evolution thereof without Implementation of the Letterkenny Plan

This section of the Environmental Report describes the relevant aspects of the current state of the environment within, and where relevant in the vicinity of, the Letterkenny Plan area. The baseline environmental information of relevance is presented in Sections 3.1 to 3.9 and provides the environmental context for the Letterkenny Plan. In addition, Section 3.10 the likely evolution of the environment without the implementation of the Letterkenny Plan in the context of the current planning framework for Letterkenny contained within the County Donegal Development Plan 2018-2024 (as varied).

The current state of the environment is considered under the environmental headings as outlined in the SEA Directive, as follows:

- Biodiversity, Fauna and Flora
- Population and Human Health
- Soil
- Water
- Air
- Climatic factors
- Material Assets
- Cultural heritage (including Architectural and Archaeological Heritage)
- Landscape and Visual.

3.1 Biodiversity, Flora and Fauna

This section provides a description of the biodiversity, flora and fauna baseline information of relevance to the Letterkenny Plan and its Zone of Influence.

The term Biodiversity is the biological variety and variability of life on Earth. Biodiversity is a measure of variation biological diversity at the genetic, species, and ecosystem level. Flora (the plant life in a particular region) and Fauna (the animal life in a particular region) are therefore inherently related to Biodiversity. The functional area of the Letterkenny Plan and areas within its Zone of Influence contains a variety of biodiversity, flora and fauna including habitats and species benefitting from European and National statutory protection (e.g. the Lough Swilly Special Area of Conservation, Lough Swilly Special Protection Area and the River Leannan Special Area of Conservation) and other national designations (e.g. River Swilly Valley Woods Proposed Natural Heritage Area including Kiltroy Woods and Ballymacool woods), animal and species protected under the Wildlife Act and other non designated habitats (e.g. woodlands, hedgerows, field boundaries, wetlands, streams, rivers and associated riparian zones).

3.1.2 Natura 2000/European Sites

The EU Habitats and Bird directives oblige Ireland to protect and conserve biodiversity and form the cornerstone of European Conservation Policy.

The **Habitats Directive** (EU Council Directive 92/43/EEC) aims to ensure the conservation of a wide range of rare, threatened or endemic **animal and plant species**. Article 1 of the Habitats Directive states that "*Conservation means a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status...*" Article 3

required the setting up of a European Wide Network of **Special Areas of Conservation** (known as the Natura 2000 network) comprising of natural habitat types listed in Annex I and habitats of the species listed in Annex II of the directive. Article 6(3) of the Directive requires that any plan or project likely to have a significant effect on such a site must undergo an Appropriate Assessment in view of best scientific knowledge and the conservation objectives of the site and requires that competent national authorities shall only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned. Consequently, a Natura Impact Report has been undertaken to inform the Appropriate Assessment of the plan.

The EU **Birds Directive** (Directive 2009/147/EC) aims to **protect** all of the 500 wild **bird species** naturally occurring the European Union. Article 4 of the directive required the setting up of **Special Protection Areas** for the protection of 194 species and sub-species which are particularly threatened and listed in Annex 1 of the Directive and for other migratory bird species and the paying of particular attention to the protection of wetlands in this regard. Article 4 further requires that in said areas members states take appropriate steps to avoid pollution or deterioration of habitats or any disturbance affecting the birds in so far as those would be significant and strive to avoid pollution or deterioration of habitats.

In Ireland, the Natura 2000 network of European sites comprises Special Areas of Conservation (SACs) identified under the Habitats Directive, and Special Protection Areas (SPAs) identified under the Bird Directive. In particular 41 Annex I Habitats (including 9 priority habitats) are represented within SAC's in Donegal. In addition, 17 Annex II species occur in Donegal.

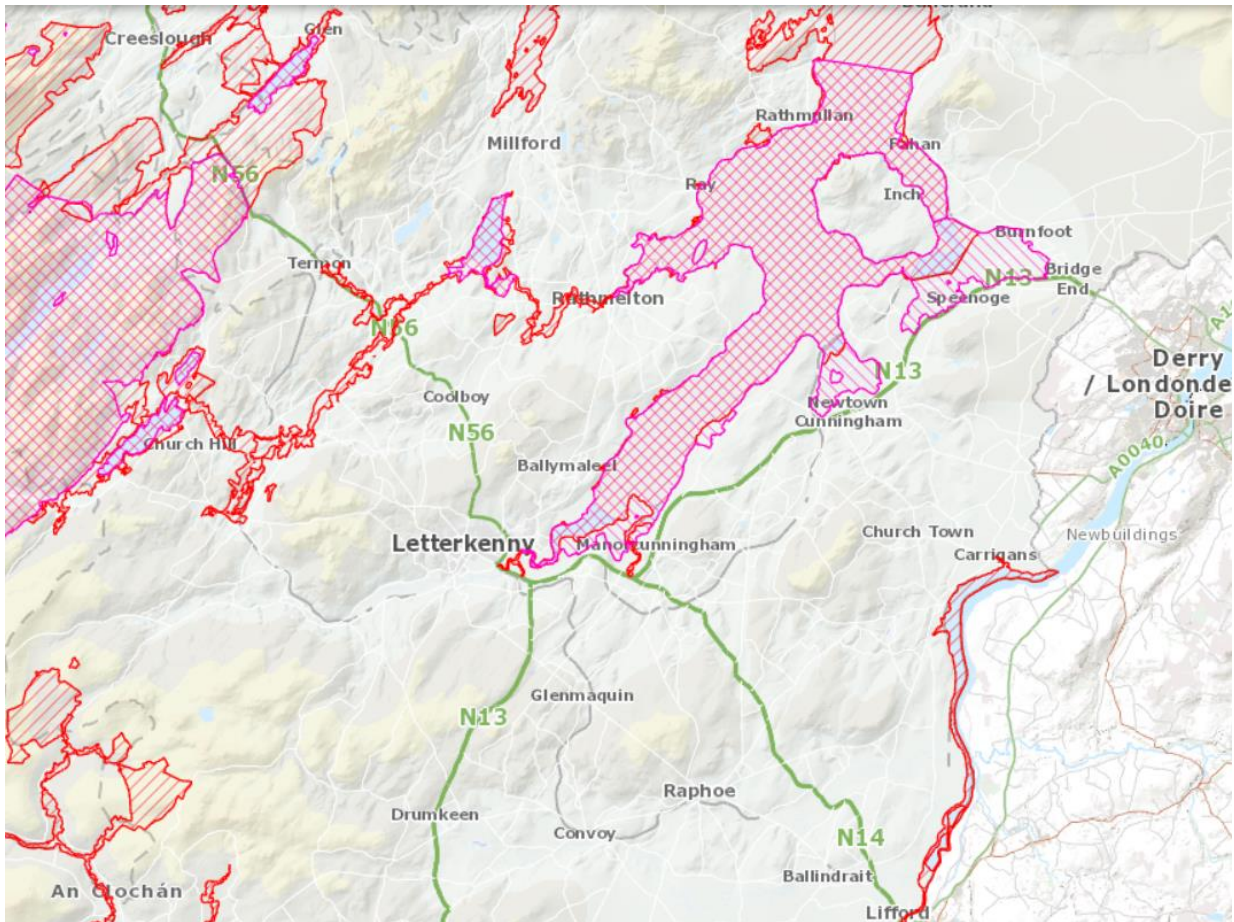
Generic and site-specific conservation objectives have been prepared for European sites to define the favourable conservation condition for habitats and species. These conservation objectives are set out to ensure that the Qualifying Interests(QI)/Special Conversation Interests(SCI) for which an SAC or SPA has been designated are maintained or restored to a favourable conservation condition.

There are 7 European Sites (5 SACs and 2 SPAs) located within a 15km Zone of Influence of the Letterkenny Plan (see table 3.1 below and Figure 3.1 overleaf). In particular The Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area lie partially with the functional area of the Letterkenny Plan. In addition, the northern and northern western fringes of the plan area lie within the catchment of the Leannan River and are therefore hydrologically connected to the Leannan River Special Area of Conservation. The site synopsis and conservation objectives for these 3 specific sites with a physical or hydrological connection to the Letterkenny Plan area are detailed in Appendix B of this report.

Table 3.1 Natura 2000 sites within the ZoI of the Letterkenny Plan

DESIGNATION	Code	Name
Special Areas of Conservation (SACs)	002287	Lough Swilly*
	002047	Cloghernagore Bog and Glenveagh National Park
	002176	Leannan River
	002301	River Finn
	000116	Ballyarr Wood
	000173	Meentygrannagh Bog
	002159	Mulroy Bay
Special Protection Areas (SPAs)	004075	Lough Swilly *
	004039	Derryveagh and Glendowan Mountains
	004060	Lough Fern

Figure 3.1 Natura 2000 Sites within a 15km Zone of Influence of the Letterkenny Plan Area.



The 2019 Article 17 NPWS report *The Status of EU Protected Habitats and Species in Ireland - Conservation Status in Ireland of Habitats and Species listed on the European Council Directive on the Conservation of Habitats, Flora and Fauna 92/43/EEC* identified the following pressures and overall status in relation to the Annex 1 Habitats and Annex II Species identified in the Lough Swilly SAC and the Leannan River SAC and otherwise made the following specific references to said sites.

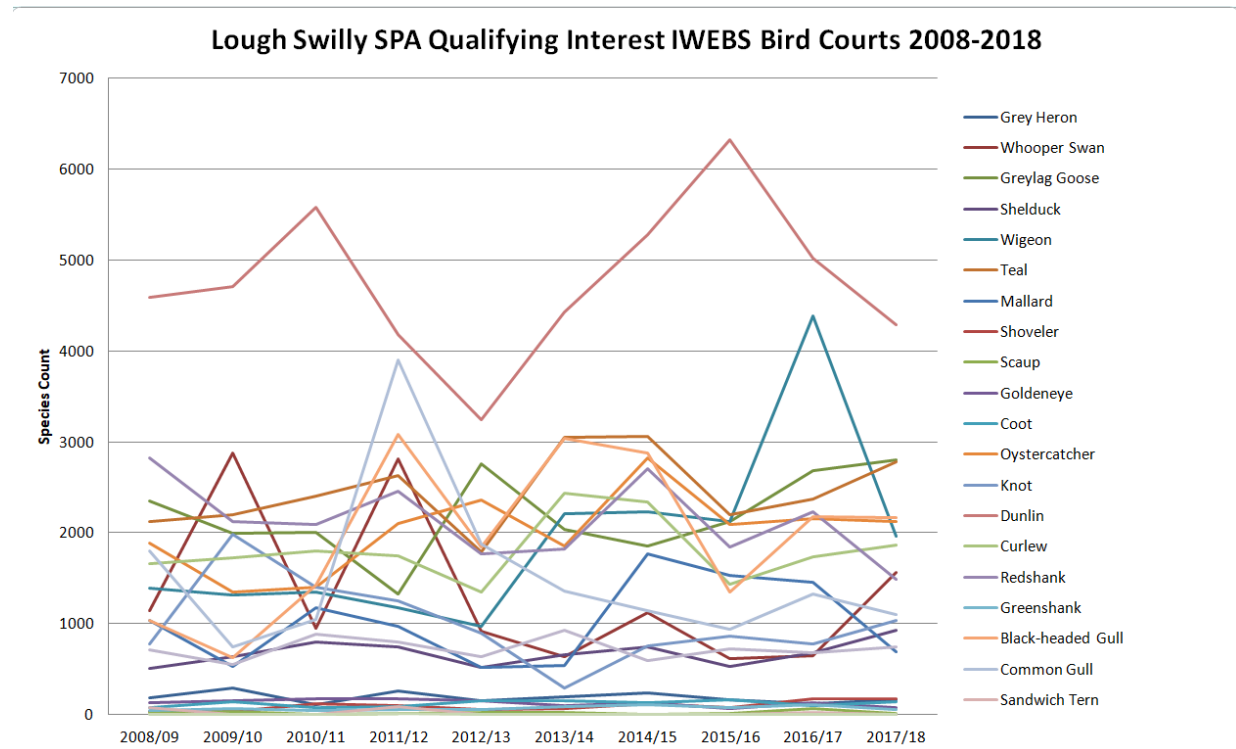
Table 3.2 Annex 1 Habitats and Annex II Species Of The Lough Swilly SAC And The Leannan River SAC And Associated Pressures, Status And Trends Identified The 2019 Article 17 Report

Habitat Type	Pressures	Status	Trend
1130 Estuaries	Domestic wastewater, agriculture and marine aquaculture. Pacific oyster (<i>Magallana gigas</i>) At Lough Swilly SAC an increase in the negative indicator species Pacific oyster <i>Magallana gigas</i> (syn. <i>Crassostrea gigas</i>) was recorded at three intertidal stations and was associated with samples that also contained the reef-building polychaete <i>Sabellaria alveolata</i> .	Inadequate.	Declining
1150 LAGOONS*	Eutrophication, modification of hydrological flow, and drainage. erosion and silting up, accumulation of	Bad	Deteriorating

	seaweed, and sedimentation from peat related to turf cutting and/or forestry		
1330 ATLANTIC SALT MEADOWS	Agriculture, including ecologically unsuitable grazing regimes and land reclamation, and the invasive non-native species common cord-grass (<i>Spartina anglica</i>).	Inadequate.	Deteriorating
6410 MOLINIA MEADOWS	Agricultural intensification (e.g. land drainage, fertiliser application), undergrazing and forestry.	Bad	Deteriorating
91A0 OLD OAK WOODLAND	Invasive non-native species such as <i>Rhododendron ponticum</i> , cherry laurel (<i>Prunus laurocerasus</i>) and beech (<i>Fagus sylvatica</i>), and overgrazing by deer.	Bad	Deteriorating
1355 OTTER (Lutra lutra)	pollution, particularly organic pollution resulting in fish kills; and accidental deaths (road traffic and fishing gear).	Favourable	Unchanged
[3110] Oligotrophic Waters containing very few minerals	Eutrophication, and from drainage and other damage to peatland.	Bad	Stable
[3130] Oligotrophic to Mesotrophic Standing Waters	Drainage, agriculture, peat extraction, forestry and wastewaters.	Inadequate.	Deteriorating
[1029] Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)	Pollution from urban wastewater, development activities, farming and forestry, in-stream works such as channelisation, bridge repairs/construction and recreational fishery structures and flow changes,	Bad	Deteriorating
1106 ATLANTIC SALMON (<i>Salmo salar</i>)	Exploitation at sea in commercial fisheries, interceptory fisheries in coastal waters, aquaculture and predation, negative influence of climate change on food prey structure and abundance, and in river systems alterations in physical habitat, water quality, environmental factors, and angling.	Inadequate.	Stable
1833 SLENDER NAIAD (<i>Najas flexilis</i>)	Enrichment (eutrophication), acidification and peatland damage.	Inadequate.	Deteriorating

Article 12 of the Birds Directive requires the submission of national monitoring reports to the EU Commission. The data for these reports are in turn derived from Irish Wetland Bird Survey (I-WeBS) coordinated by Bird Watch Ireland and funded by the NPWS. Under the I-WeBS survey bird counts for a variety of the bird species including the species comprising the qualifying interests of the Lough Swilly SPA have been conducted over several winters in recent years. This data is available on <https://c0amf055.caspio.com/dp/f4db30005dbe20614b404564be88>. An analysis of this I-WeBS data provides an overview of the overall current state and trends for these bird species in the SPA and is illustrated in the chart below:

Figure 3.2 Lough Swilly Special Protection Area Qualifying Interests I-WeBS Bird Counts 2008-2018



Whilst there is significant variability for individual species for particular years in broad terms this data does not appear to show a significant decline in bird species comprising the qualifying interest of the Lough Swilly Special Protection Area. In addition, at a National Level the Article 12 Report data for Ireland indicates that agriculture, forestry and alien and problematic species are the main pressures on Annex I bird species in Ireland.

3.1.1 Natural Heritage Areas and Proposed Natural Heritage Areas

The Wildlife Amendment Act 2000 (as amended) provides the legal basis for the establishment of a national network of sites known as Natural Heritage Areas (NHAs). NHAs are also designated to conserve and protect nationally important landforms, geological or geomorphological features. Proposed Natural Heritage Areas (pNHAs) were also published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated, however they do have some protection under schemes such as Rural Environment Protection Scheme (REPS), Agri-Environmental Options Scheme (AEOS) and County Development Plans, and many pNHAs are also designated as SACs or SPAs.

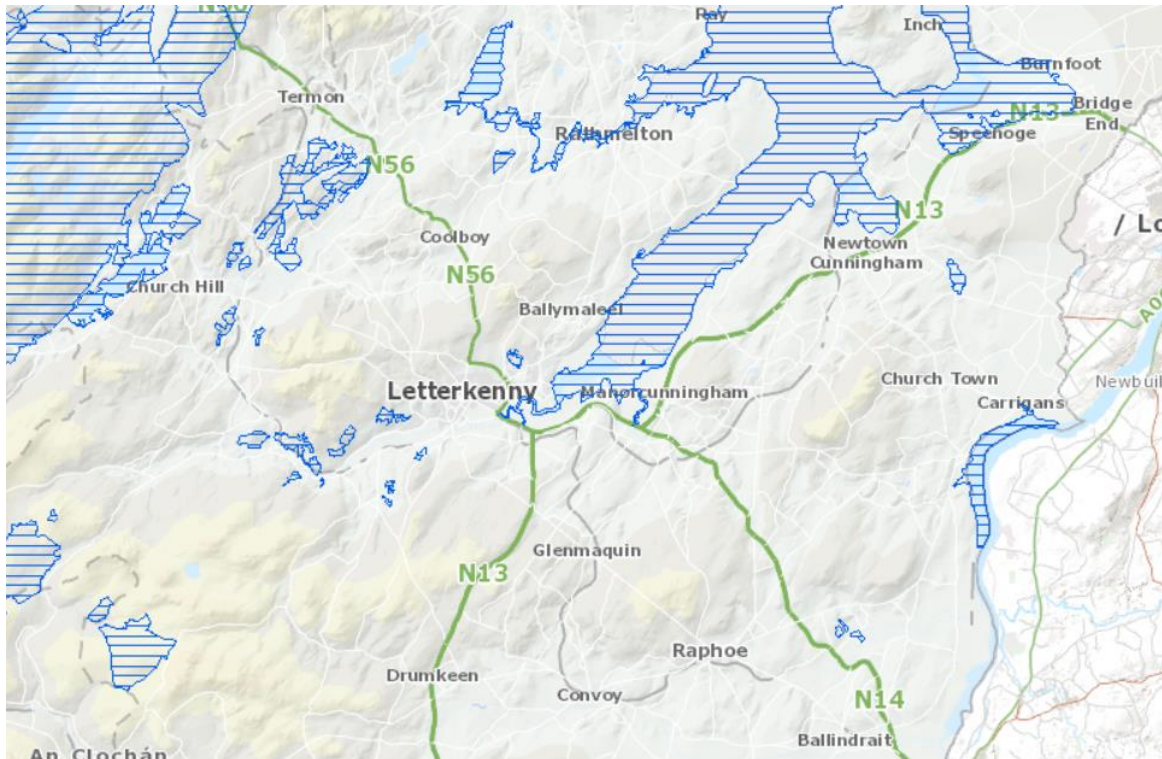
Table 3.3 Proposed Natural Heritage Areas within the Zone of Influence of the Letterkenny Plan Area

Proposed Natural Heritage Areas (pNHAs)	Natural Heritage Areas
000166	Lough Swilly incl. Big Isle, Blanket Nook & Inch Lake*
002011	River Swilly Valley Woods*
002047	Cloghernagore Bog and Glenveagh National Park
000158	Lough Akibbon and Gartan Lough
000155	Leannan Valley Woods
001870	Tullytreasna Bog
001162	Lough Fern
000116	Ballyarr Wood
000173	Meentygrannagh Bog

* straddle the plan area boundary and zone of influence. All other Designated Sites are within the zone of influence only.

There are two pNHA which are partly within the plan boundary and nine within the ZoI. The River Swilly Valley Woods pNHA (Site Code 002011) is located within the plan boundary, in three distinct locations (Ballymacool to the west of the town centre, the Kilty area to the northeast and Creeve townland on the south western periphery of the plan boundary). The Lough Swilly pNHA is partially located within the proposed plan boundary along the River Swilly Estuary. The geographical area extent of the Lough Swilly pNHA is now covered by the Lough Swilly SAC and Lough Swilly SPA which have statutory protection. The site synopsis for the River Swilly Valley Woods pNHA dated 08/12/2009 is detailed below.

Figure 3.3 Natural Heritage Areas in the Vicinity of the Letterkenny Plan Area



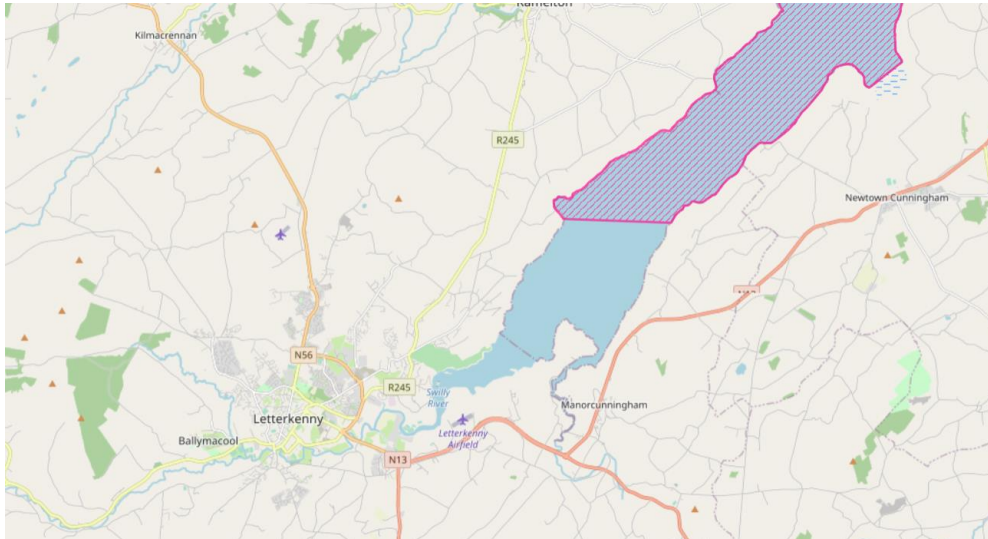
3.1.2 Designated Shellfish Waters

The European Union Shellfish Waters Directive is designed to protect the aquatic habitat of bivalve and gastropod molluscs, including oysters, mussels, cockles, scallops and clams. The directive inter alia: requires all member states to designate waters that need protection in order to support shellfish life and growth, sets physical, chemical and microbiological requirements that designated shellfish waters must either comply with or try to improve and provides for pollution reduction programmes for the designated waters.

There are 12 'Shellfish Water' within County Donegal designated pursuant to Article 4 of the EU (Quality of Shellfish Waters) Regulations 2006. Each designated Shellfish Water area within the County has a 'Pollution Reduction Programme' established by the Department of Housing, Planning, Community and Local Government, details of which can be found at www.housing.gov.ie.

There are no designated shellfish waters within the Letterkenny Plan area however there is downstream connectivity to Lough Swilly Shellfish Area (IEPA2_0042). The Lough Swilly Transitional Waterbody, is currently classified as "Moderate" under the WFD Status 2013-2018. Member states are required to achieve at least good status in all waters and must ensure that status does not deteriorate, with a requirement for water quality management to be centred on river basin districts (RBDs).

Figure 3.4 Extent of Lough Swilly Shellfish Area (IEPA2_0042) in vicinity of Letterkenny

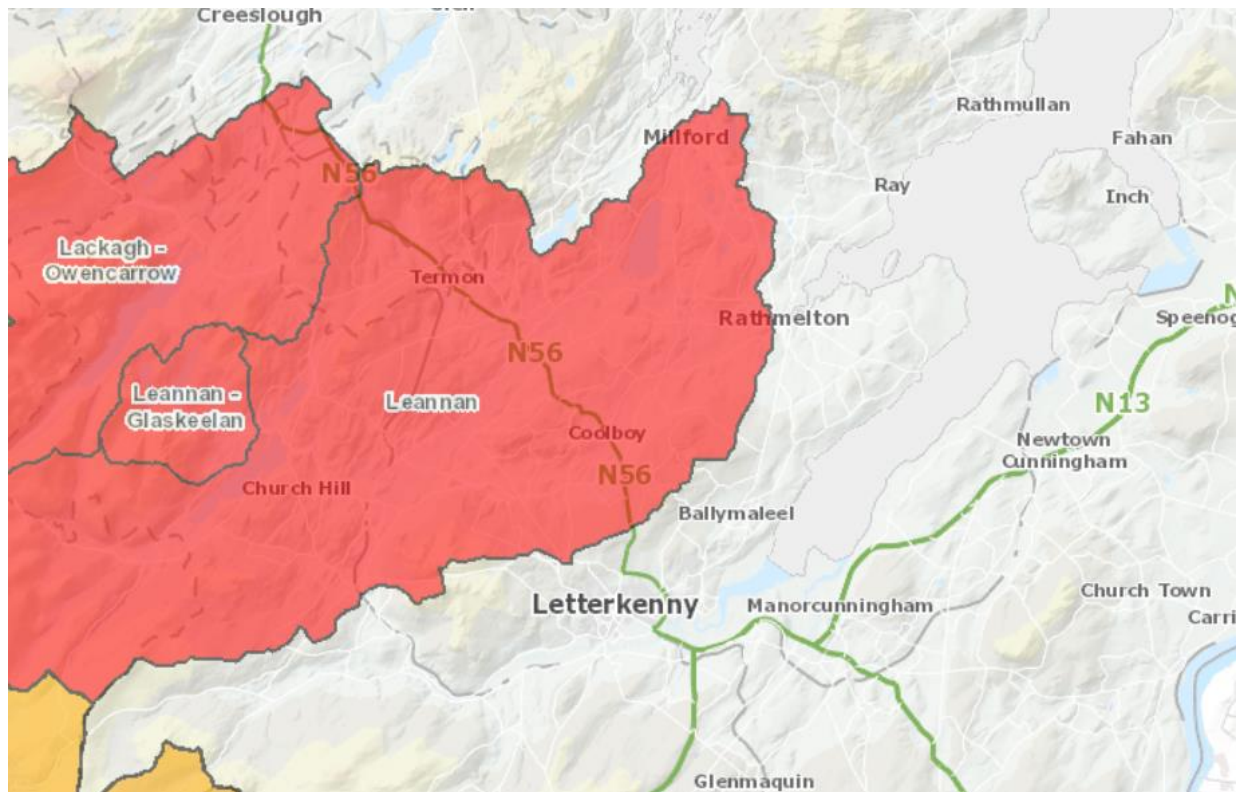


3.1.3 Freshwater Pearl Mussel

The Freshwater Pearl Mussel (FPM) (*Margaritifera margaritifera*) is a filter feeder (filtering up to 50 litres of water per day) and is associated with salmonid waters but requiring a higher water quality than salmonids. A total of 27 populations have been designated within 19 SACs. The FPM is protected under Annex II and V of the Habitats Directive and is legally protected in Ireland under Schedule 1 of the Wildlife Act 1976 (as amended). There has been a considerable decline in species distribution and numbers of FPM in Ireland and across the EU. In Ireland, the Article 17 Report (2019) produced by NPWS indicates that the conservation status for FPM is “bad” and deteriorating, with few locations with recruiting populations showing near-adequate replenishment.

In 2009, legislation was enacted to support the achievement of favourable conservation status for FPMs European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009 (S.I. 296 of 2009) and the NPWS developed 27 FPM Sub-basin Management Plans under these regulations, six of which are within County Donegal, which demonstrates that the County is a stronghold for the species.

There are 3 FPM catchment areas within the ZoI of the Letterkenny plan including the Leannan, Leannan/Glaskeelan and the Lackagh/Owencarrow(Abhainn Choradh) catchments. The northern and northwestern fringes of Letterkenny Plan Area are located within the catchment of, and are therefore hydrologically connected to, the Leannan FPM catchment. The plan area is not otherwise connected to the other abovementioned FPM catchments.

Figure 3.5 Extent of Freshwater Pearl Mussel Catchment Areas in vicinity of Letterkenny

3.1.4 Other Biodiversity, Flora and Fauna relevant to the Letterkenny Plan Area

Article 10 of the Habitats Directive encourages member states to encourage the management of features of the landscape outside designated sites which are of major importance for wild flora and fauna through their land-use planning and development policies. It identifies such features as those by virtue of their linear and continuous structure (such as rivers with their banks or traditional system for marking field boundaries) or their function as stepping stones (such as ponds or small woods) are essential for the migration, dispersal and genetic exchange of wild species. In this regard the Letterkenny Plan area contains a range of habitats and species (e.g. woodlands, hedgerows, field boundaries, rivers, streams and associated riparian zones) that are not subject to legislative protection although they are of high biodiversity and conservation value.

There is no specific detailed survey of the biodiversity flora and fauna within the Letterkenny area. However, as part of the preparation of the Letterkenny and Environs Development Plan 2009 Glás Enviro Teo, Environmental Consultancy was commissioned to prepare a biodiversity study for the area of the plan. The key findings of this Biodiversity survey were detailed in the abovementioned plan and are summarised below:

- The **Urban Core** has a **Low to Moderate Biodiversity** with:
 - Tree planting at Market Square providing niche habitat for passerine birds.
 - Older buildings providing a nesting habitat for house martins, swallows and swifts during the summer period.
 - Area around St Eunan's Cathedral retains its original rock outcrop and upland shrub character with gorse shrub and native trees.
- The **retail and commercial areas** of the town had a **Low to Moderate Biodiversity** with:
 - Tree and shrub landscaping of marginal areas surrounding buildings and car parking and apparent increasing local biodiversity of urban marginal areas.
- The **residential areas** of the town had a **Low to Moderate Biodiversity** with:
 - Older residential estates close to Main Street consisting of mature and semi-mature gardens providing niche habitat for small passerine birds.

- Most recently constructed estates are found to be less diverse with small areas of grass lawns and limited shrub or tree planting.
- Some retention of traditional hedgerow and linear tree boundaries apparent within estate landscape.
- **Agricultural lands** had a moderate-high biodiversity on semi improved pasture and hedgerow environments and a low to moderate biodiversity in areas of tillage and improved pasture field.

This survey also highlighted 3 areas of special biodiversity within the Plan area including:

- **The area of Ballymacool Woods, Whinney Hill, Rodgers Burn and Drum Hill:** The report noted that: Whinney hill is an upland meadow grassland habitat with a high percentage of Gorse Scrub, the area was moderately diverse in its ecological diversity and retains the old traditional field boundaries and trees. Rodgers burn contains a fast flowing stream. Ballymacool estate and the existing woodland was designated a NHA. The area consists of linear hedge, tree line, dry humid acid grassland, scurb, semi improved grassland, hedgerow with trees, scattered scrub and mesotrophic running water. Dominant site habitat is semi- improved pasture fields enclosed by traditional stone ditches and hedgerow boundaries with scattered trees. Floristic biodiversity of the local plant communities was found to be moderate. Himalayan Balsam found growing along Rodgers Burn but not established within the stream. Nettle and bramble frequent close to the embankments. Small woodland passerine birds found to be abundant within the area close to the stream.
- **Kilty Woods:** The report noted that: The woods tree structure is of local provenance. The tree canopy is loose knit allowing sunlight to filter through to the woodland floor providing a sound under canopy growth of shrub and ground flora. Birch found to be the dominant tree species with Willow, Elder, Blackthorn, Hawthorn, Alder and Oak frequent. The woodland area is high in biodiversity providing an important habitat for small passerine bird species within an urban environment. The woodlands also provide habitat for small animals such as rabbit, stoat, badger and possibly squirrel. Consists of linear hedge, tree line and dry meadow.
- **River Swilly:** The report noted the following in relation to particular sections of the River:
 - **Conwall to Dunnes Stores** was dominated by semi improved pasture fields with enclosed by dykes. Biodiversity of the local plant communities was found to be low. The fields were found to be small enclosed by tree and hedgerow dyke. Himalayan Balsam, Nettle and bramble shrub were found to be dominant on embankments. Small woodland passerine birds were found to be abundant.
 - **Dunnes Stores to Ballyaraine:** The area is dominated by reclaimed alluvial coastland. Plant species diversity was found to be generally low increasing along the dyke bank, Small woodland passerine birds were found to be abundant. The tall trees provided nesting for rooks and crows.
 - **Ballyaraine Part/Bunnagee:** This area is located within an area of reclaimed alluvial coastland. The lands is used as cattle pastures. Plant species diversity was found to be generally low, increasing along the hedgerow ditches. Small woodland passerine birds were found to be abundant. The tall mature trees provide nesting for rooks and crows. Bird species noted during the field survey included 6 Wheatears, 30 starlings, 10 hooded crow, and numerous woodland birds including: Chaffinch, Willow Warbler, wagtail, Robin, Dunnock, Black bird, Tree creeper, Bull finch meadow pipit. The report also stated that the area was Likely habitat for Badger, Fox and Rabbit but the Otter was not observed.

In addition to the above survey it is noted that a significant woodland exists at Gortlee Woods. The Environmental Impact Statement which accompanied planning application 09/80091 found that the composition of this woodland was highly variable and predominately comprised of Beech, Sycamore Acer and Horse Chestnut. Furthermore, it is noted that Letterkenny Town Parks and the Ballymacool town Park contains a significant number of semi mature and mature trees which are likely to support a range of species and habitats.

The National Biodiversity Data Centre programme's online mapping portal available on <https://maps.biodiversityireland.ie/Map> also provides an overview of the range of species reported in the Letterkenny area from a range of different surveys/sources. In particular this portal indicates that

the following protected and threatened habitat and species (i.e. through the Wildlife Acts and EU Habitats and Bird Directive) exist in the Letterkenny area (including the adjoining Swilly Estuary):

Table 3.4 Protected and Threatened Species in the Letterkenny Plan Area Identified Through the National Biodiversity Data Centre’s Mapping Portal.

Terrestrial Species	Bird and Marine Species
Eurasian Badger	Barn Owl
West European Hedgehog	Barn Swallow
European Otter	Common Pheasant
Common Frog	Sandpiper
Soprano Pipit (Bat Species)	Common Starling
Narrow Leaved Bitter Cress	Common Wood Pigeon
Small Heath (Butterfly species)	House Sparrow
	Rock Pigeon
	Sky Lark
	Common Swift
	House Martin
	Mallard
	Sand Martin
	Eurasian Curlew
	Black Headed Gull
	Common Kestrel
	Common Shelduck
	Common Snipe
	Corncrake
	Great Cormorant
	Mallard
	Rock Pigeon
	Bar Tailed Godwit
	Black tailed Godwit
	Common Greenshank
	Common Pheasant
	Common Redshank
	Eurasian Curlew
	Eurasian Oystercatcher
	Eurasian Teal
	Eurasian Widgeon
	Great Black Headed Gull
	Great Crested Grebe
	Herring Gull
	Lesser Black Backed Gull
	Mute Swan
	Northern Lapwing
	Red Knot
	Ringed Plover
	Sandwich Tern
	Spotted Flycatcher
	Tufted Duck
	Whooper Swan
	Yellow Hammer
	Dolphin
	Seal

Otherwise While a Biodiversity Species List for County Donegal (2009) was produced this is not geographically specific and therefore does not list species which can specifically be found in Letterkenny.

3.1.5 Invasive Species

Under Regulation 49(2) of the European Communities (Birds and Natural Habitats) Regulations 2011 it is an offence to plant, disperse, allow or cause to disperse, spread or otherwise cause to grow in any place, any plant included in Part 1 of the Third Schedule without a licence from the Minister.

Regulation (EU) No 1143/2014 of the European Parliament and of the council of 22nd October 2014 on the prevention and management of the introduction and spread of invasive alien species includes provisions which deal with, among other things, bringing into the territory of the Union, keeping, breeding, transporting and placing on the market, species included on the list of invasive alien species of Union concern (the "Union list"). The Regulation come into force on the 3rd August, 2016.

A full list of invasive species can be sourced from Invasive Species Ireland <http://www.invasivespeciesireland.com>, the National Biodiversity Data Centre www.biodiversityireland.ie and the Union List can be found on the NPWS website <https://www.npws.ie/sites/default/files/files/Union%20list%20of%20IAS.pdf>.

There have been targeted programmes for eradicating invasive species across the county (e.g. Japanese Knotweed at roadside). No detailed study available of invasive species within the Letterkenny area is available. However, the abovementioned biodiversity study prepared as part of the Letterkenny and Environs Development Plan 2009 specifically identified invasive species at the following locations within Letterkenny:

- Himalayan Balsam at Rodgers Burn and along the River Swilly from Conwall to Oldtown.
- Japanese Knotweed along the River Swilly embankments.

3.1.3 Other Relevant Biodiversity Plans and Targets

In relation to the current state of biodiversity the following plans are also noteworthy:

- The EU's *Biodiversity Strategy for 2030* which aims to: protect nature and reverse and degradation of ecosystems and put Europe's biodiversity on a path to recovery by 2030 for the benefit of people, climate and the planet.
- Ireland's National Biodiversity Plan 2017-2021¹ outlines Ireland's vision for biodiversity protection and management. It outlines a vision that "That biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally."

3.2 Population and Human Health

Population and human health are broad topic areas within the assessment framework and encompass consideration of the distribution and growth of populations, their overall health, and their susceptibility to key environment pressures. Human health can be affected by a number of direct and indirect pathways, including through emissions to air and water, noise exposure, as well as social deprivation. These emissions are generally considered in the context of reference to international and national standards of safety in doses, exposure and risk.²

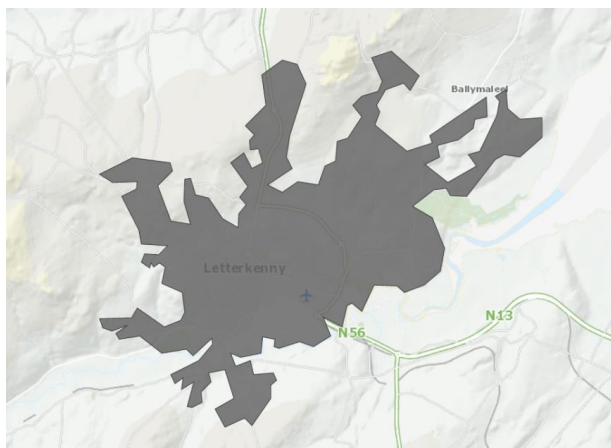
3.2.1 Population and Population Trends

Census 2016 recorded the population of Letterkenny to be 19,274 which makes it 23rd most populous urban area in the State. This figure is based on the census 2016 settlement boundary for Letterkenny detailed in the map below and includes the majority of the urban footprint of Letterkenny as well as a number of built up areas in the rural hinterland of Letterkenny (e.g. Golf Course Road, Woodlands, Upper Woodlands and Illistrin and does not correspond to the plan boundary of the Letterkenny Area Plan.

¹ <https://www.npws.ie/sites/default/files/publications/pdf/National%20Biodiversity%20Action%20Plan%20English.pdf>

² EPA (May 2017) Revised Guidelines on the information to be contained in Environmental Impact Assessment Reports.

Figure 3.6 Census 2016 Letterkenny Settlement Boundary.



Prior to the 2016 census the census boundary for Letterkenny was based on both the Legal Town Boundary and the environs of the town which differs from the abovementioned Census 2016 settlement boundary. Consequently, it is not possible to accurately compare population growth in Letterkenny between 2011 and 2016 based on the 2016 Census³. However, the Letterkenny Legal Town boundary has not changed and Table 4.X below sets out the population and percentage population change for the Legal Town of Letterkenny compared to the wider context of Co. Donegal and the Republic of Ireland between 2006 and 2016. Letterkenny maintained growth which is more comparable to the Republic of Ireland between Census 2011 to 2016; a time when Co. Donegal recorded a reduction in population. The legal town boundary does not relate to the Letterkenny plan boundary.

Table 3.5: Population Change in Letterkenny 2006 to 2016

	Letterkenny (Legal Town)		County Donegal		Republic of Ireland	
		% change		% change		% change
2016	16022	4.1	159192	-1.2	4761865	3.8
2011	15387	2.2	161137	8	4588252	8.2
2006	15062	-	149264	-	4239848	-

Source: www.cso.ie

The Core Strategy of the CDP 2018-2024 projects an additional population for Letterkenny of 4,190 persons by 2024, to give a total projected population of 23,492 persons⁴. In terms of housing the Core Strategy of the CDP 2018-2024 outlines a requirement for 1,552 units within Letterkenny by 2024 to meet the anticipated level of growth.

Households and vacancy rates: Census 2016 details that the total housing stock for Letterkenny is 7,949 dwellings (Letterkenny Legal Town) of which 1,234 (15.5%) are identified as vacant households (excluding holiday homes). This compares to the national 'vacancy rate' of 9.8%. However more recently the NWR Regional Vacancy and Dereliction Analysis (January 2022) found that Letterkenny had a Residential Vacancy and Dereliction rate of just 3.8% in 2020.

³ 80 legal towns were abolished under the Local Government Reform Act 2014. Census towns which previously combined legal towns and their environs have been newly defined using the standard census town criteria. For Letterkenny the impact was to lose area and population compared to the 2011 census. The Legal Town boundary however did not change.

⁴ At the time the CDP was drafted it used an Estimated Population 2016 for Letterkenny of 19,302 persons.

In terms of household composition there has clearly been a demographic shift to more single and two person households. The Census also indicates that the housing stock has increased by 800 households (14.8%) over the 10-year period between 2006 and 2016. This is another indication of the significant growth of Letterkenny's urban and sub-urban area over this time.

Travel to Work: Census 2016 shows of the 5,768 'commuters' in Letterkenny (Legal Town) only 1.1% of journeys are made on bus, mini bus or coach. This is well below the national average of 5.9%. There is also a lower level of commuting by bicycle (0.8% compared to a national average of 2.9%) but more journeys are made by foot (14.8% compared to 9.3%). Combined commuting by the non-car modes of travel available in Letterkenny (i.e. excluding train travel) is also well below average (16.7% compared to 18.3%) and a higher proportion driving to work (65.4% of working commuters compared to the national average 61.4%).

3.2.2 Human Health

The state of the environment directly and indirectly affects human health and is inextricably linked to the physical and mental wellbeing of people. In this regard poor air quality, low water quality, noise, traffic congestion, lack of recreational facilities, and a poor built environment can affect human health. In this regard the World Health Organisation estimates that environmental stressors are responsible for 12-18% of deaths in the 53 countries of the WHO Europe Region⁵.

In addition, social deprivation is a key arbiter of human health. In Ireland life expectancy at birth for males living in the most deprived areas is 4.3 years less (73.7 years vs. 78 years) than that for males living in most affluent areas while life expectancy for females living in the most deprived areas is 2.7 years less (80 years vs. 82.7 years) than that for females living in the most affluent areas⁶. In turn socio-economic development is inherently linked to proper planning and sustainable development (e.g. infrastructure, employment generation and housing).

From the 2016 Census 84.8% of people in Letterkenny reported that they were in 'good health or very good health' with 2.2% stating that they were of 'bad or very bad health'. This indicates that Letterkenny average health is below national average (where 'good or very good health' is 86.9% and 'bad or very bad health' 1.6%).

Air Quality

Poor air quality can impact on human health including causing stroke, heart disease, respiratory disease and premature death. The current state of the environment in relation to Air Quality is detailed in Section 3.4.

Water Quality

Poor water quality can affect human health by impacting on both drinking water and bathing water quality. Contamination of drinking water and bathing water by disease-causing microbes (e.g. viruses, bacteria, and parasites) can result in stomach pain, vomiting, diarrhoea, headache, fever, and kidney failure. Chemical exposure through drinking water can lead to a variety of short- and long-term health effects including skin discoloration or more severe problems such as nervous system or organ damage and developmental or reproductive effects. The current state of the environment in relation to Air Quality is detailed in Section 3.4.

Noise

Noise is also recognised as affecting health and wellbeing. Exposure to noise is recognised as being both an environmental pressure to wildlife as well as human beings and can affect human health and

⁵ <https://www.eea.europa.eu/themes/human/intro>

⁶ Central Statistics Office, Mortality Differentials in Ireland 2010

general well-being by causing stress, anxiety and disruption of activities such as sleep. Moreover Exposure to excessive noise has also been linked to an increased risk of heart attack, stroke and premature death.⁷ People are generally exposed to the most noise from transport-related sources, particularly road traffic. Urban areas can exacerbate the impacts of noise to human health, in particular because air pollution levels are often higher, creating in-combination effects.

Regulation of noise comes under the remit of the Environmental Noise Directive (END) (2002/49/EC), with the requirement for Member States to produce noise maps and noise action plans based on those maps. Under the Environmental Noise Regulations 2006 Strategic Noise Maps and Noise Action Plans were required to be prepared in respect of noise from inter alia Sections of major roads with a flow threshold of 3 million vehicles per annum.

Accordingly, Donegal Local Authorities' Noise Action Plan 2013–2018 has been prepared to address environmental noise from sections of major roads in the county with more than three million vehicles per annum. The Donegal County Council Draft Noise Action Plan 2018-2023 was published in 2018 but has not, as of the date of this report, been adopted.

The Round 3 Strategic Noise Mapping for County Donegal maps are included in Appendix C of the Draft Noise Action Plan 2018-2023. The mapping for Lden and Lnight includes estimates on the number of dwellings and people affected by levels of noise ranging from 55dB up to greater than 75dB. The Round 3 Noise Mapping for County Donegal is available online at: <http://donegal.maps.arcgis.com/apps/View/index.html?appid=cf49cd4f4b65453eb2f6f3e00ca9a575&extent=-8.3033,54.6994,-7.1497,55.0781>. Parts of the Letterkenny Plan area (including alongside the N13, N14, N56 and R229) fall within the thresholds as set out in the 2006 Regulations, as shown in the extracts from this mapping.

Figure 3.7 Lden Noise Mapping for Letterkenny



Social Deprivation

⁷ EEA (2015) The European Environment State and Outlook Synthesis Report.

There is evidence of relative significant social deprivation in Donegal. The Haase Pratschke Relative Deprivation score attributed to County Donegal in 2016 was -6.42. Donegal has now taken over from Limerick and is now the most deprived county in Ireland. The key drivers of the low deprivation score being a low educational attainment and high male unemployment.⁸

3.3 Soil and Geology

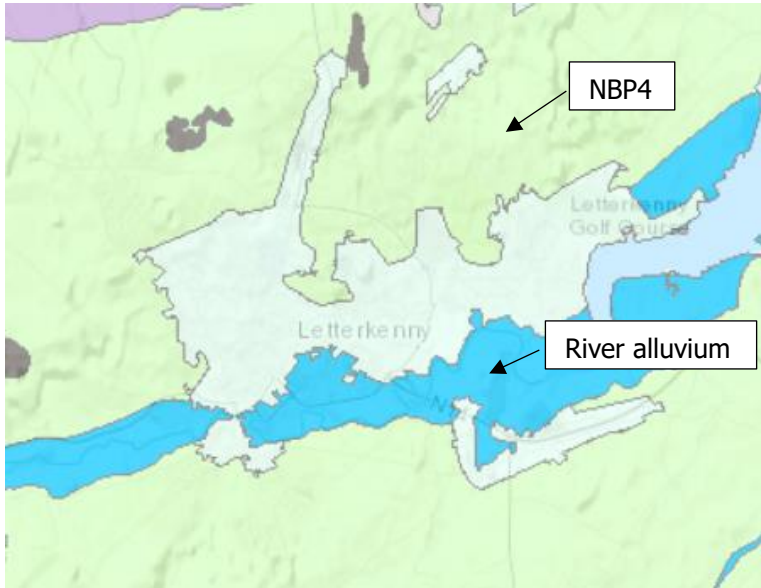
Soil is the top layer of the earth's crust. It is formed by mineral particles, organic matter, water, air and living organisms. Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions. These functions including: food production through arable and pastoral agriculture, habitat provision for flora and fauna, flood attenuation through water absorption and storage, nutrient cycling of carbon, nitrogen and phosphorous essential for plant growth, water purification through physical and chemical filtration and biodegradation, carbon sequestration/storage via photosynthesis, and providing a building material and platform for construction. As such soil is worthy of protection because of its socio-economic and environmental importance.

In general the EU's Seventh Environmental Action Programme to 2020, recognises Ireland (therefore, Donegal) as having soil quality which is regarded as good. More specifically the Irish Soil Information System survey is based on existing information and data from previous soil survey work in Ireland augmented with new field surveys, and has resulted in the production of a new national soil map at a scale of 1:250,000. This map and associated soil classifications and descriptions are available through the EPA's map viewer <https://gis.epa.ie/EPAMaps/> and <http://gis.teagasc.ie/>. These datasets indicate that the main soil types in the Letterkenny Area (see map below) are:

- **NBP4 (0900NBP4):** Occurring on the northern and southern sides of the River Swilly Valley. It is described in the above datasets as having a fine loamy over shale and slate bedrock texture substrate type, being well drained, having a Loamy texture, a depth of >80, and a typical Brown Podzolic soil taxonomy.
- **River alluvium (O5RIV)** This soil type forms is located in a central band running west to east through the plan area corresponds with the flood plain of the River Swilly. It is described in the above datasets as having poor drainage and a depth of >80.

⁸ The Donegal Local Economic and Community Plan 2016-2022, Appendix 1, The Profile of the County

Figure 3.8 Soil Types in Letterkenny (Extract from EPA Map Viewer)



Additionally the Environmental Report prepared for the Letterkenny and Environs Development Plan 2003-2009 noted that 'soil types occurring throughout the area range from shallow to moderate peaty depth podzols and established podzolics types with a moderate percentage of loam and sandy clays' and that 'Ground in most places appears to be relatively free draining, however there are areas prone to localised water logging'.

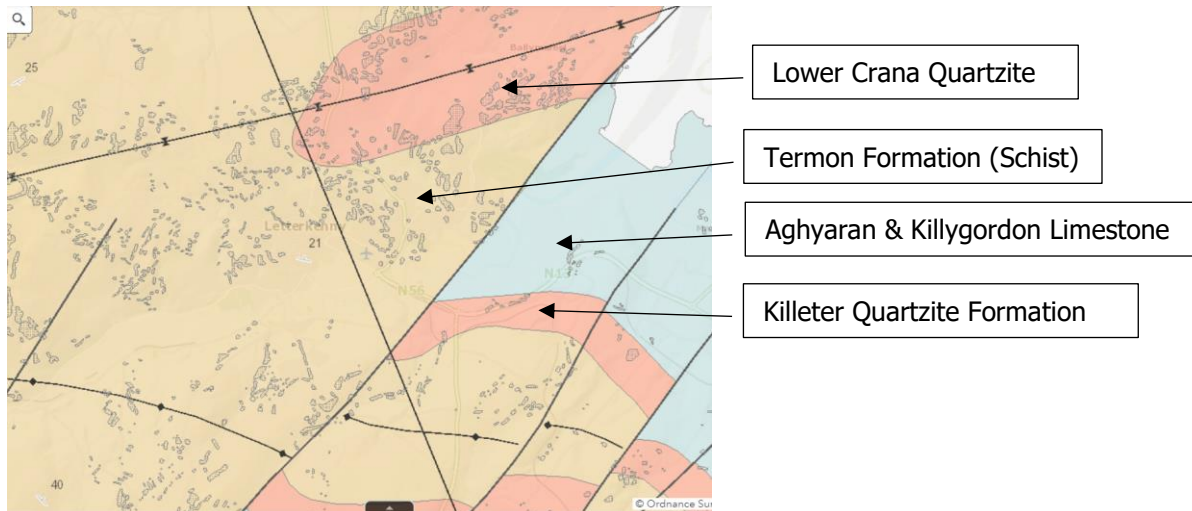
Loamy soils are typically comprised of sand silt and a smaller amount of clays. Brown podzols are devoted extensively to cultivated cropping and pasture production. Their inherent low nutrient status is easily overcome by the addition of lime and fertiliser⁹.

The underlying Geology in the Letterkenny Plan forms part of the Dalradian geological rock group formed approximately 700 million years ago and comprises 3 rock types, as follows:

- Termon Formation (Schist): This rock type consists of banded semi-pelitic & psammitic schist and dominates the majority of the plan area.
- Lower Crana Quartzite: This rock type consists of Psammitic schist, and some marble beds is located in the north east of the plan area in the townlands of Carnamuggagh Lower, Lisnennan, Knockybrin and Woodland.
- Killeter Quartzite Formation: This rock type consists of Slightly impure quartzite and is located within parts of the townlands of Dromore, Drumany and Bunnagee
- Aghyaran & Killygordon Limestone Formation: This rock type consists of Marble, quartzite, psammite; graphitic is located in part of the townland of Dromore and Bunnagee.

⁹ M. J. Gardiner and T. Radford, 198, Soil Associations of Ireland and their Land Use Potential (P.26) available on: <https://www.teagasc.ie/media/website/environment/soil/General.pdf>

Figure 3.9 Rock Types in the Vicinity of Letterkenny (Extract from GSI Map Viewer)

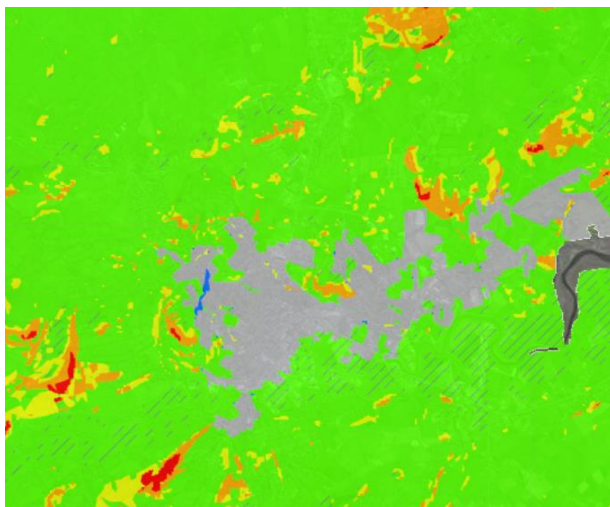


The Donegal Geological Heritage Project was supported by the Geological Survey of Ireland, Donegal County Council and The Heritage Council and resulted in the 2019 Report “The Geological heritage of Donegal”. This report identifies most important geological sites within Donegal and proposes them as County Geological Sites (CGS), for inclusion within the Donegal County Development Plan (CDP). It is a Policy of the CDP 2018-2024 (as varied) to protect County Geological Sites (CGS) (Policy G-P-1 and NH-P-19 refers). In particular this report identifies the following Geological Site of relevance to the Letterkenny Plan Area:

- Lough Swilly – consisting of a fjord (drowned glacial valley) shallowing to extensive intertidal mud flats proximal to Letterkenny.¹⁰

There are no records of Landslide Events within the plan area or zone of influence. However the GSI’s Landslide Susceptibility Map Viewer (see below) does highlight potential areas of moderately high and high landslide susceptibility in the plan area most notably at: Creeve, Sallaghgrane, Gortlee and Lisnenan.

Figure 3.10 Landslide Susceptibility in the Vicinity of Letterkenny (Extract from GSI Landslide Susceptibility Map Viewer)



¹⁰ https://secure.dccae.gov.ie/GSI_DOWNLOAD/Geoheritage/Reports/ND015_Lough_Swilly.pdf

Land Cover

Corine Land Cover (CLC) inventory is a Pan-European landuse and landcover mapping programme. It supplies spatial data on the state of the European environmental landscape and how it is changing over time. Based on the interpretation of satellite imagery, CLC provides national scale maps of landcover and landcover change on a six year basis for thirty nine countries in Europe.

Land cover includes vegetation, man-made structures and surface water features. The Corine Land Cover was updated in 2018, and shows the dominant landcover type in the Plan area to be *Discontinuous urban fabric* (112), and *Industrial or commercial units* (121) and areas of *pastures* (231) which combined account for 87.5% of total land cover. Land use within Class 3 (Forest and Semi Natural) and Class 4 (Wetlands) are more likely to be sensitive to change and more likely to contain habitats listed in Annex 1 of the Habitats Directive (e.g. peat bogs). They account for 6.9% of land cover within the plan area.

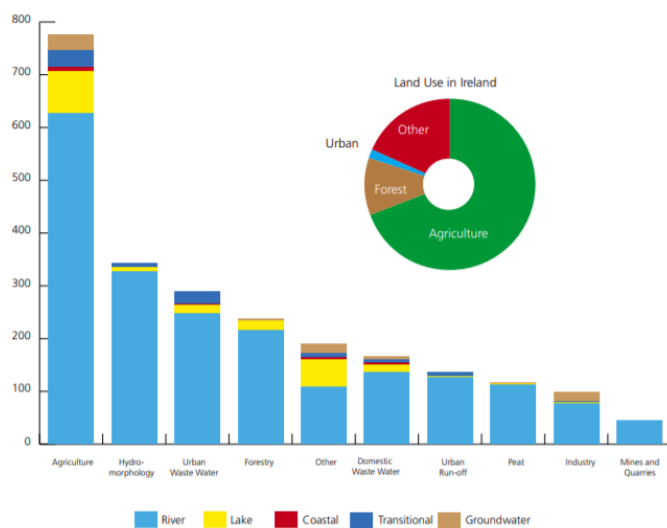
3.4 Water

3.4.1 Environmental Pressures on Water Bodies In Ireland

Water bodies are subject to a range of environmental pressures including pollution from agriculture (e.g. farmyard wastes and land spreading of fertilisers), hydromorphology (i.e. physical modification to rivers banks, and shorelines), deficient municipal wastewater, forestry, domestic wastewater treatment systems, treatment plants, urban runoff, peat industries and quarries.

At a National level The EPA Report 'Water Quality in Ireland 2015-2018'¹¹ indicates that that agriculture was the most significant pressure in water quality in Ireland followed by hydromorphology, urban waste water, and forestry (see extract below).

Figure 3.11 Significant Pressures on Ireland’s Aquatic Environment (Extract from the EPA Report ‘Water Quality In Ireland 2015-2018’ P.8 refers)



Significant pressures on Ireland's aquatic environment

Overall the report found that whilst 52.8% of surface water bodies had a good or high ecological status 47.2% of surface waters were in a moderate, poor or bad ecological status. This report highlights nitrogen and phosphorus pollution (which can lead cause excessive plant growth and increase of the

¹¹ [https://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20\(web\).pdf](https://www.epa.ie/pubs/reports/water/waterqua/Water%20Quality%20in%20Ireland%202013-2018%20(web).pdf)

likelihood of harmful algal blooms) as the main problem impacting our waters. In this regard a third of rivers and lakes and quarter of estuaries failed to meet their nutrient based environmental quality standards and agriculture and wastewater are the main sources of nutrient losses to water.

3.4.2 European and National Requirements Regarding Water Quality

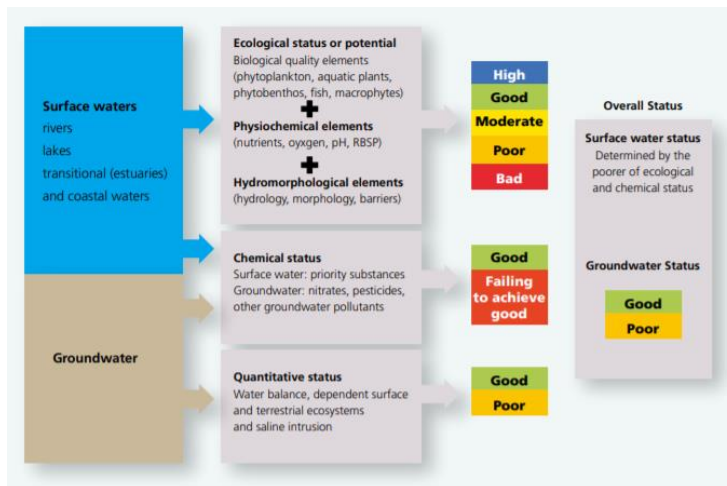
European and national legislation, policies and Directives provide a broad corporate framework for control on the utilisation of natural waters and activities affecting water bodies. These provisions include the the following Europeans Directives Water Framework Directive (2000), Urban Waste Water Treatment Directive (1991), the Drinking Water Directive (1998) and the Waste Framework Directive (2008).

In particular the Water Framework Directive (WFD) aims at improving the aquatic environment and as such it applies to rivers, lakes, estuaries, coastal waters and groundwater. Under the WFD **Member states are required to achieve at least good status in all waters and must ensure that status does not deteriorate**, with a requirement for water quality management to be centred on river basin districts (RBDs). The 2nd Cycle cycle River Basin Management Plan covered the period 2018-2021. The 3rd Cycle Draft River Basin Management Plan 2022-2027 has now been published.

Under the WFD the:

- The overall status of surface waters is determined by considering the values of: ecological status or potential including biological quality elements (e.g. phytoplankton, aquatic plants, phythobenthos, fish, macrophytes), physiological elements (nutrients, oxygen, pH, RBSP), and hydromorphological elements (hydrology, morphology, barriers) and the Chemical Status (priority substances).
- The ecological status of ground waters is determined by considering the Chemical Status (nitrates, pesticides, and other groundwater pollutants) and Quantitative Status (Water balance, dependent surface and terrestrial ecosystems and saline intrusion).

Figure 3.12 Classification of Status of Surface Waters and Groundwater According to the WFD (Extract from the EPA Report 'Water Quality In Ireland 2015-2018' P.18 refers)



3.4.3 Waterbodies Relevant to the Letterkenny Plan

The vast majority of the Plan Area (including the bulk of the urban area) falls within the River Swilly subcatchment whilst a small parts northern and northern western fringes of the plan area fall with the Leannan River subcatchment of said overall catchment. This overall catchment contains six rivers, four groundwater bodies and one transitional water body (Upper Lough Swilly/the Swilly Estuary) but has no lakes or coastal waters.

The River Swilly commences adjacent to the Glendowan Mountains at an elevation of approximately 280mOD Malin. It flows in an easterly direction through Letterkenny and into Lough Swilly. The sub-catchment area is predominantly rural with the only significant urban area at Letterkenny in the downstream end of the catchment. The annual average rainfall for the whole catchment is approximately 1600mm (1140mm in Letterkenny). The River Swilly is tidal throughout Letterkenny and to approximately 2.5km upstream on high spring tides.

The River Leannan system commences on the eastern flanks of the Glendowan mountains where the Bullaba River and tributaries feed into Lough Gartan which in turn discharges to the Leannann River. The Leannann River then flows eastwards and north eastwards through a wide valley toward Kilmacrennan where it is joined by the Lurgy River and then flows north eastwards into Lough Fern. The river then flows south eastwards where it is joined by the Glasagh River (which is partly fed from the northern and north western fringes of the plan area) and then flows north eastwards towards Ramelton where it discharges into Lough Swilly. Only a very small portion of the Leannan River in the vicinity of Ramelton is tidal.

3.4.4 Surface Water Quality Data Relevant to the Letterkenny Plan.

Water Framework Directive Ecological Status and the Risk Status data for some of rivers and the transitional water bodies (i.e. the Swilly Estuary) located within or downstream of the Letterkenny Plan area is available via the EPA Maps website (<https://gis.epa.ie/EPAMaps/>) and is summarised in the table below. Note: data is not available for all rivers.

Table 3.6: Water Quality Status of River and Transitional Water Bodies Relevant to the Letterkenny plan

European Code	Name	Locational Description	Type	WFD Status 2013-2018	WFD At Risk ¹² Status
IE_NW_220_0100	Swilly Estuary	The tidal River Swilly from the Aura Leisure Centre, the Swilly Estuary and Upper Lough Swilly as far north as Rathmullan	Transitional	Moderate	At Risk
IE_NW_39S020300	Swilly (Donegal)_010	Tributaries of the River Swilly within and upstream of the Urban Area of Letterkenny	River	Unassigned	Review
IE_NW_39C030250	Corravaddy Burn_010	The Corravaddy Burn runs from the townland of Corravaddy northwestwards and discharges into the River Swilly at Milk Isle townland.	River	Poor	At Risk
IE_NW_39K240610	Knockybrin_010	Network of smaller rivers discharging into the Swilly Estuary to the North East of the urban area of Letterkenny	River	Unassigned	Review
IE_NW_39G020200	Glashagh (Lower)_010	The Glasagh Lower River and associated tributaries are located within the Leannann River Catchment. The north western and northern parts of the Letterkenny Plan area are located within this sub catchment.	River	Poor	At Risk

¹² The risk for each waterbody of failing to meet their Water Framework Directive (WFD) objectives by 2027. The risk of not meeting WFD objectives was determined by assessment of monitoring data, data on the pressures and data on the measures that have been implemented.

In addition, the Subcatchment Assessment for Swilly_SC_010¹³ (Comprising the catchment of the River Swilly and the Upper Swilly/Swilly Estuary) dated January 2019 highlights the following significant pressures on Rivers and Transitional Water bodies in said catchment.

Table 3.7: Significant Pressures on Water Bodies in the Swilly_SC_010 Subcatchment

Below is a list of all significant pressures identified in the subcatchment.

Code	Name	WFD Risk	Pressure Category	Pressure Sub Category
IE_NW_220_0100	Swilly Estuary	At risk	Urban Waste Water	Combined Sewer Overflows
IE_NW_220_0100	Swilly Estuary	At risk	Urban Run-off	Diffuse Sources Run-Off
IE_NW_220_0100	Swilly Estuary	At risk	Domestic Waste Water	Waste Water discharge
IE_NW_39C030250	CORRAVADDY BURN_010	At risk	Agriculture	Agriculture
IE_NW_39C030250	CORRAVADDY BURN_010	At risk	Forestry	Forestry
IE_NW_39C030250	CORRAVADDY BURN_010	At risk	Extractive Industry	Quarries
IE_NW_39K240610	KNOCKYBRIN_010	Review	Agriculture	Agriculture
IE_NW_39K240610	KNOCKYBRIN_010	Review	Domestic Waste Water	Waste Water discharge
IE_NW_39S020300	Swilly (Donegal)_010	Review	Domestic Waste Water	Waste Water discharge
IE_NW_39S020300	Swilly (Donegal)_010	Review	Hydromorphology	Land Drainage

Furthermore, it is noted that that the town centre area to the east of the Isle Burn and the area to the east of the Port Bridge are both unsewered and effluent treatment in these areas is reliant on individual Waste Water Treatment Systems. Consultations with the DCC Environment Section indicate that the water table is high and percolation is ineffective in these areas, there are compliance issues with Wastewater discharge licences in this area and collectively this situation results in highly polluted watercourses in these areas including in the Bunnagee area.

The subcatchment Assessment for Leannan-SC-020¹⁴ (comprising the eastern part of the River Leannan catchment) dated January 2019 highlights the following significant pressures on the Glasagh River.

Table 3.8: Significant Pressures on Glasagh (Lower)_10 Water Body

IE_NW_39G020200	GLASHAGH (LOWER)_010	At risk	Agriculture	Agriculture
IE_NW_39G020200	GLASHAGH (LOWER)_010	At risk	Domestic Waste Water	Waste Water discharge

3.4.5 Groundwater Quality Data Relevant to the Letterkenny Plan

The bulk of the Letterkenny Plan Area is located within the WFD Lough Swilly Groundwater Waterbody Unit (IEGBNI_NW_G_059 refers) whilst a small portion of the eastern part of the plan area is located within the WFD Manor Cunningham Ground Water Waterbody Unit (IE_NW_G_052 refers). The Overall WFD Status and the Risk Status data for said Groundwater Bodies is available via the EPA Maps website (<https://gis.epa.ie/EPAMaps/>) and is summarised in the table below.

¹³ https://catchments.ie/wp-content/files/subcatchmentassessments/39_6%20Swilly_SC_010%20Subcatchment%20Assessment%20WFD%20Cycle%202.pdf

¹⁴ https://catchments.ie/wp-content/files/subcatchmentassessments/39_5%20Leannan_SC_020%20Subcatchment%20Assessment%20WFD%20Cycle%202.pdf

Table 3.9: Overall WFD Status and WFD At Risk Status for Ground Water Bodies related to the Letterkenny Plan

European Code	Name	Type	Overall Ground Water Status 2013-2018	At Risk Status
IEGBNI_NW_G_059	Lough Swilly	Groundwater	Good	Not At Risk
IE_NW_G_052	Manor Cunningham	Manor Cunningham	Good	Not At Risk

3.4.6 Significant Drinking Water and Wastewater Projects relevant to Letterkenny

This section outlines the baseline information regarding drinking water and wastewater of relevance to The Letterkenny Plan. Irish Water's website <https://www.water.ie/projects/local-projects> indicates 2 significant drinking water and wastewater projects are currently ongoing in the Letterkenny area namely:

- The Letterkenny Regional Water Supply Scheme: The aim of this project is to provide clean safe drinking water for businesses and residents in Letterkenny including improve drinking water quality, reduce disruptions to supply, improve security of supply and improve water pressure. It involved the laying of a strategic new watermain from Illies to Letterkenny.
- The Letterkenny Sewerage Scheme: The aim of this project is to upgrade Letterkenny's sewerage network and its benefits including; increasing the capacity of the wastewater collection network, reducing the incidences of sewer flooding in the area, improving water quality by reducing by reducing the frequency and volume of untreated wastewater overflows from the wastewater collection network to the river, and enabling socio economic development.

3.4.7 Wastewater Treatment

The primary WWTP for Letterkenny is located at Magheranan, north of the River Swilly. The WWTP was upgraded in 2012 and Irish Water and Donegal County Council commenced work on Phase 3 of the Letterkenny sewerage scheme in September 2018. The 2020 Annual Environmental Report for the Letterkenny WWTP indicates that

- The plant has an organic treatment capacity for 40,000 PE and a remaining organic capacity of 16729 PE.
- The WWTP discharge was compliant with the Emission Limit Value's set in the wastewater discharge licence.
- The discharge from the wastewater treatment plant does not have an observable impact on water quality.
- The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

3.4.8 Drinking Water

Since 2014 Irish Water is responsible for the production, distribution and monitoring of drinking water from 962 public water supplies, serving 83% of Ireland's population. The remainder of the population is supplied by group water schemes (c. 6%), small private supplies (c. 1 %) and private wells (c. 11%). Responsibility for the water quality rests with the manager/operator of the supply. Irish Water is responsible for the monitoring of public water supplies and the local authorities are responsible for monitoring of group water schemes and regulated small private supplies. Based on these monitoring results the EPA produces annual Public Supply Drinking Water Report and Private Supply Drinking Water Reports. The EPA's Remedial Action List (RAL) is a priority list of at risk water supplies that require significant corrective action to ensure that drinking water is free of bacteria, protozoan, organisms, and chemical substances and water treatment plants are operated correctly. No remedial actions are listed on the Q4 2021 RAL for the Letterkenny water supply.

3.4.9 Bathing Water Quality

The EU Bathing Water Directive 2006 (implemented under the Bathing Waters Regulations 2008) requires Member States to monitor bathing waters at least monthly, classifies bathing waters as *poor*, *sufficient*, *good*, or *excellent*, sets *sufficient* as the minimum quality threshold and requires member states to undertake management measures where water is classified as poor.

There are no recreational waters/bathing waters within the plan area or the zone of influence. However, the Letterkenny Plan area is hydrologically linked to bathing waters within Lough Swilly including at Rathmullan, Lisfannon, Buncrana and Portsalon. Based on local authority monitoring data the EPA classifies and produces reports on EPA Bathing Water Quality. The EPA Bathing Water Classification for the above sites in Lough Swilly over the past 4 years are set out in the table below.

Table 3.10: Bathing Water Quality at Lough Swilly Sites related to the Letterkenny Plan

Location	2018	2019	2020	2021
Rathmullan	Good	Good	Good	Good
Lisfannon	Sufficient	Good	Good	Good
Lady's Bay Buncrana	Good	Good	Sufficient	Poor
Portsalon	Excellent	Excellent	Excellent	Excellent

3.5 Air Quality

Air pollution is the presence of substances in the atmosphere that are harmful to humans flora and fauna, climate or and materials. Air pollutants include gases such as: particulate matter (both organic and inorganic, nitrous oxides, sulphur dioxide, ammonia, carbon monoxide, methane, carbon dioxide and chlorofluorocarbons. Air Pollution can impact air quality on a local, regional or national scale. Human impacts of air pollution include stroke, heart disease, respiratory disease and premature death.

At a European level the latest report from the EEA on the data submitted by Member States under the NEC Directive indicates that air pollution is the greatest environmental health risk in Europe. Under the revised National Emissions Ceiling (NEC) Directive 2016 Ireland is required to limit the annual national emissions of the following transboundary pollutants: sulphur dioxide (SO₂), nitrogen oxides (NO_x) volatile organic compounds (VOC), ammonia (NH₃) and fine particulate matter (PM_{2.5}).

The EPA releases an annual report titled 'Air quality in Ireland'. The latest such report 'Air Quality in Ireland 2020' provides a synopsis of air quality in the country in that year and in particular identifies **Particulate Matter (i.e. PM_{2.5} and PM₁₀) and Nitrogen Oxides (i.e. NO₂ and NO) as the key problematic sources of air pollution in Ireland.** Furthermore, the report indicates that PM_{2.5} and NO₂ are the more harmful versions of these pollutants. Appendix A of said report also highlights that high SO₂ concentrations can cause short term temporary breathing difficulties and aggravate cardiovascular disease and respiratory illness in the long term.

The EPA's website Airquality.ie indicates that solid fuel burning and vehicular traffic are the main sources of PM pollution and that other sources are soil and road surfaces, construction works and industrial emissions or natural sources such as windblown salt, plant spores and pollens. In particular the abovementioned EPA Air Quality report specifically identifies **solid fuel burning for home heating as the main source of PM pollution especially of the smaller and more dangerous PM_{2.5}.**

The EPA's website Airquality.ie and the abovementioned EPA Air Quality report indicates that emission from traffic are the main source of nitrogen oxides in Ireland along with electricity generating stations

and industry. In particular the abovementioned EPA Air Quality report specifically identifies **road transport as the main source of NO₂ pollution in Ireland.**

In addition consultations with the DCC Environmental Section indicate that PM_{2.5} PM₁₀ and SO₂ pollution in Letterkenny is predominately related to the burning of fossil fuels, there were compliance issues with the smoky coal ban and that such pollution in Letterkenny was exacerbated by the local topographical conditions which creates a down slope temperature inversion on cold nights thereby trapping pollution. In relation to SO₂ the EPA’s website Airquality.ie indicates that **the main source of SO₂ pollution is burning coal and oil to heat homes and industries and to produce electricity.**

The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive 2008 and WHO Air Quality Guidelines set out the following limit values/guidelines for the abovementioned pollutants:

Table 3.11: Limit Values and Guidelines for Specific Air Pollutants set out in the Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) and WHO Air Quality Guidelines

	CAFE Limit Value Annual Mean $\mu\text{g}/\text{m}^3$	WHO Air Quality Guidelines Annual Mean $\mu\text{g}/\text{m}^3$	WHO Air Quality Guidelines Daily (24hr) Mean $\mu\text{g}/\text{m}^3$	CAFE Limit Value Daily (24hr) Mean $\mu\text{g}/\text{m}^3$	CAFE Limit Value 1 hour
PM _{2.5}	25	10	25		
PM ₁₀	40	20	50		
SO ₂				125	
NO ₂	40	40			200

In total, there are 84 Air Quality monitoring stations in the national network. Including a national air quality station located at High Road Letterkenny (Station 64). Overall Air Quality at said station is rated under the Air Quality Index for Health which is calculated on the basis of Ozone ($\mu\text{g}/\text{m}^3$) 8 hour mean, Nitrogen Dioxide ($\mu\text{g}/\text{m}^3$) 1 hour mean, Sulphur Dioxide ($\mu\text{g}/\text{m}^3$) 1 HOUR MEAN, PM_{2.5} ($\mu\text{g}/\text{m}^3$) 24 HOUR MEAN, PM₁₀ ($\mu\text{g}/\text{m}^3$) 24 HOUR MEAN. Air quality ratings at this station can be checked in real time by logging on to www.airquality.ie and for example on the 30th of August 2022 was rated as “Good”.

More specifically in terms of PM_{2.5}, PM₁₀, and SO₂ longer term data obtained from the EPA for 2020 indicate (see charts below) that in relation to:

- PM_{2.5} the annual mean value (11.14 $\mu\text{g}/\text{m}^3$) exceeded the WHO Air Quality Guideline annual mean value of 10 $\mu\text{g}/\text{m}^3$) and there were several exceedances of the WHO daily (24hr) mean guideline value of 25 $\mu\text{g}/\text{m}^3$.
- PM₁₀ the average mean value (14.74 $\mu\text{g}/\text{m}^3$) did not exceed the WHO Air Quality Guideline annual mean value of 20 $\mu\text{g}/\text{m}^3$, however there were a number of exceedances of the WHO daily (24hr) mean guideline value of 50 $\mu\text{g}/\text{m}^3$.
- SO₂ there were no exceedances of the CAFE Daily (24hour) mean limit value of 125 $\mu\text{g}/\text{m}^3$ but there were relatively large spikes of SO₂ observed during the winter heating season.

Figure 3.13 PM_{2.5} Measurements at Letterkenny Air Quality Monitoring Station 2020 (Source: EPA)

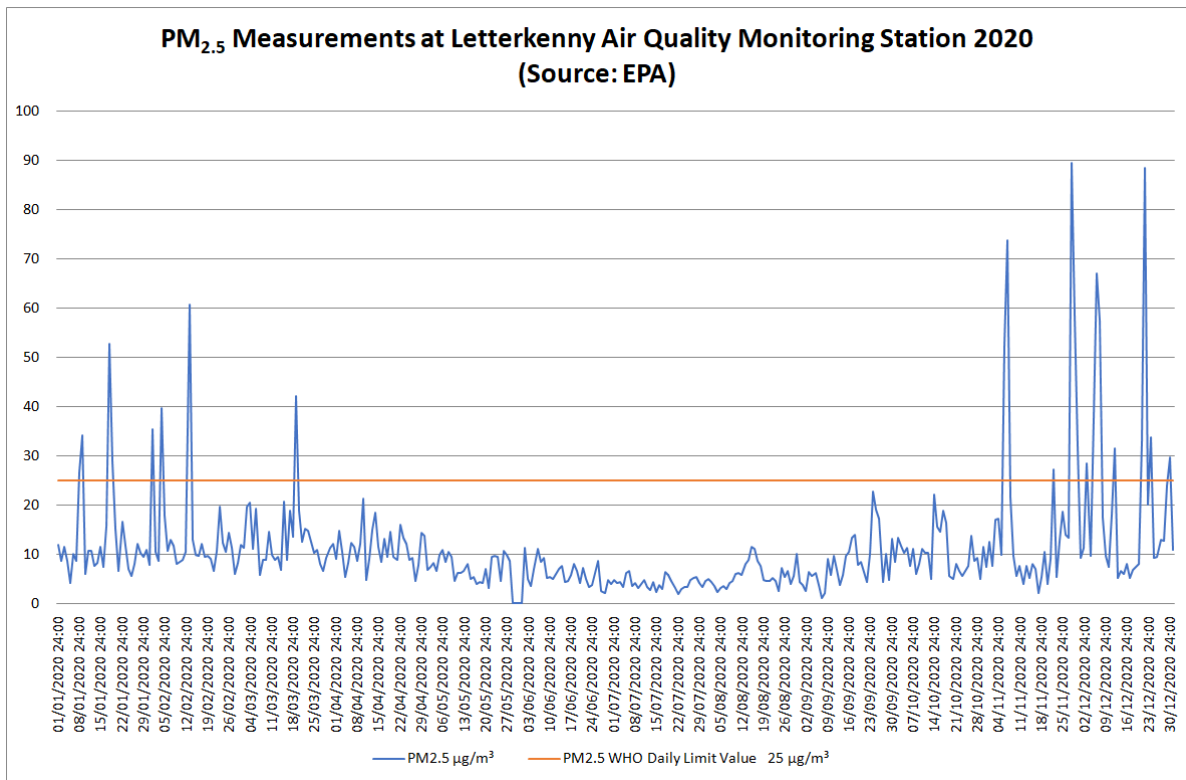


Figure 3.14 PM₁₀ Measurements at Letterkenny Air Quality Monitoring Station 2020 (Source: EPA)

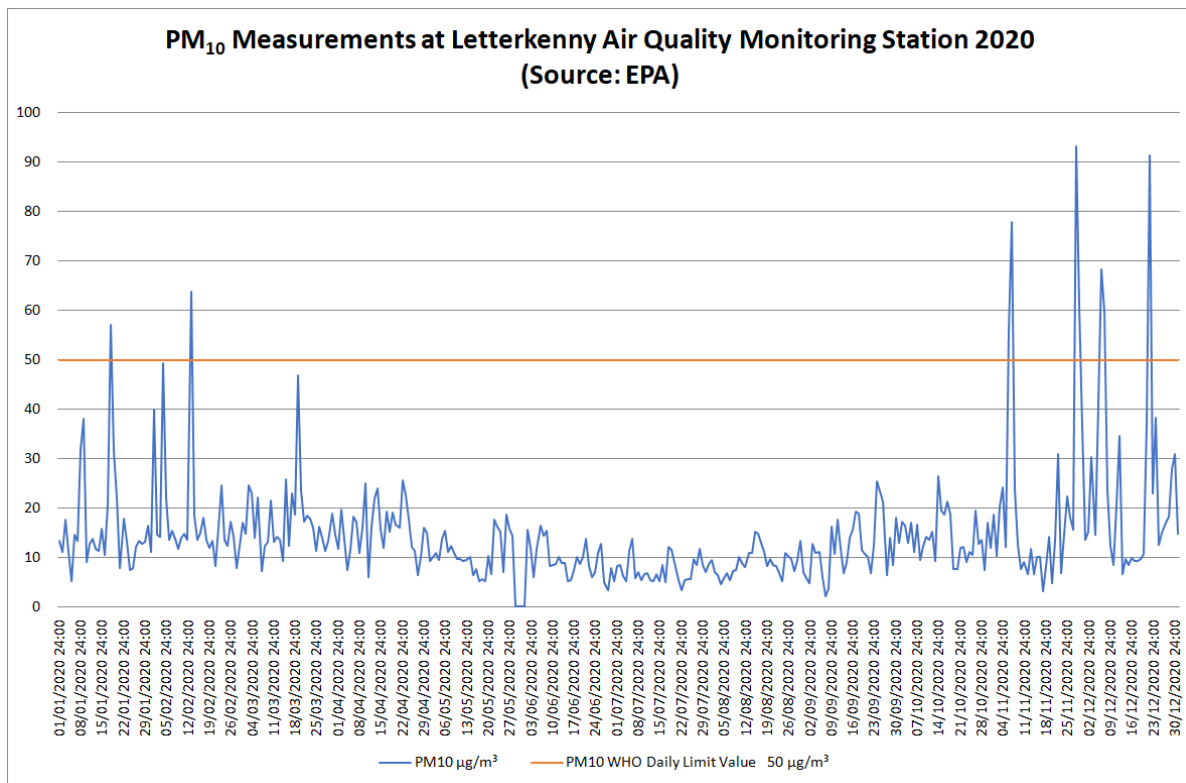
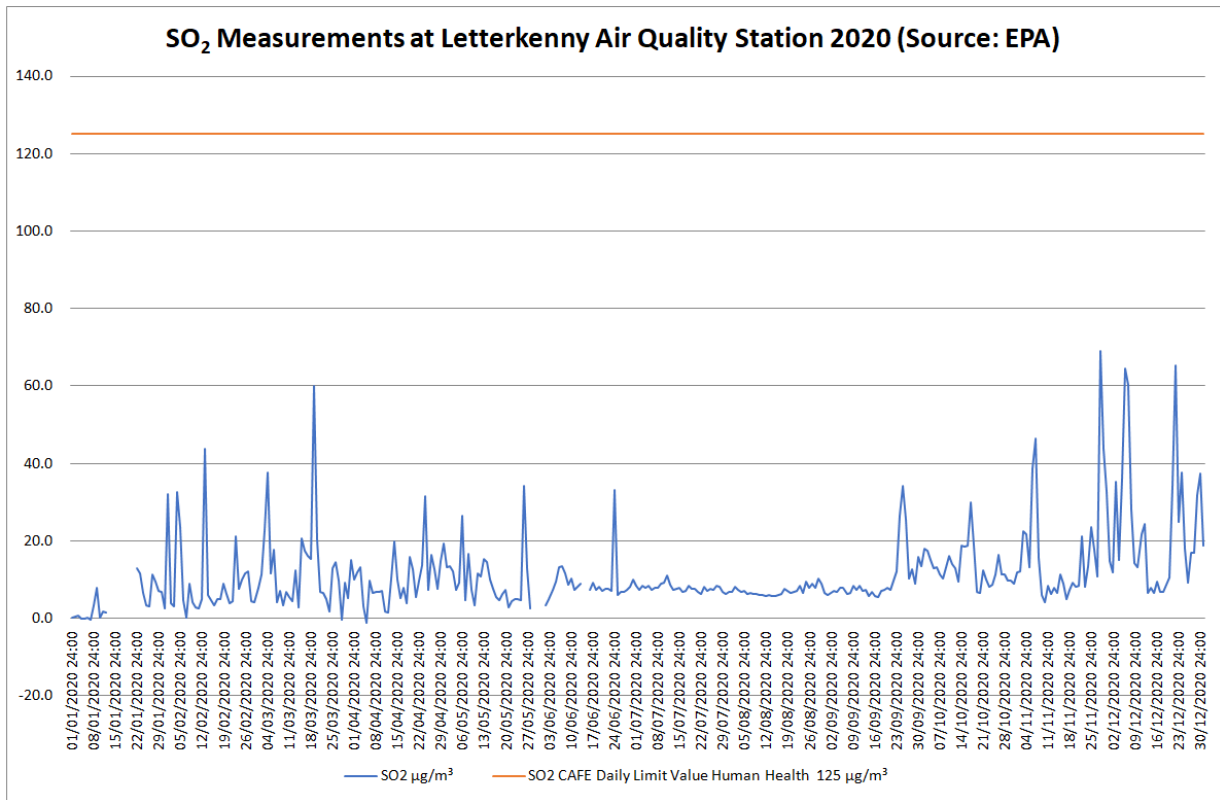
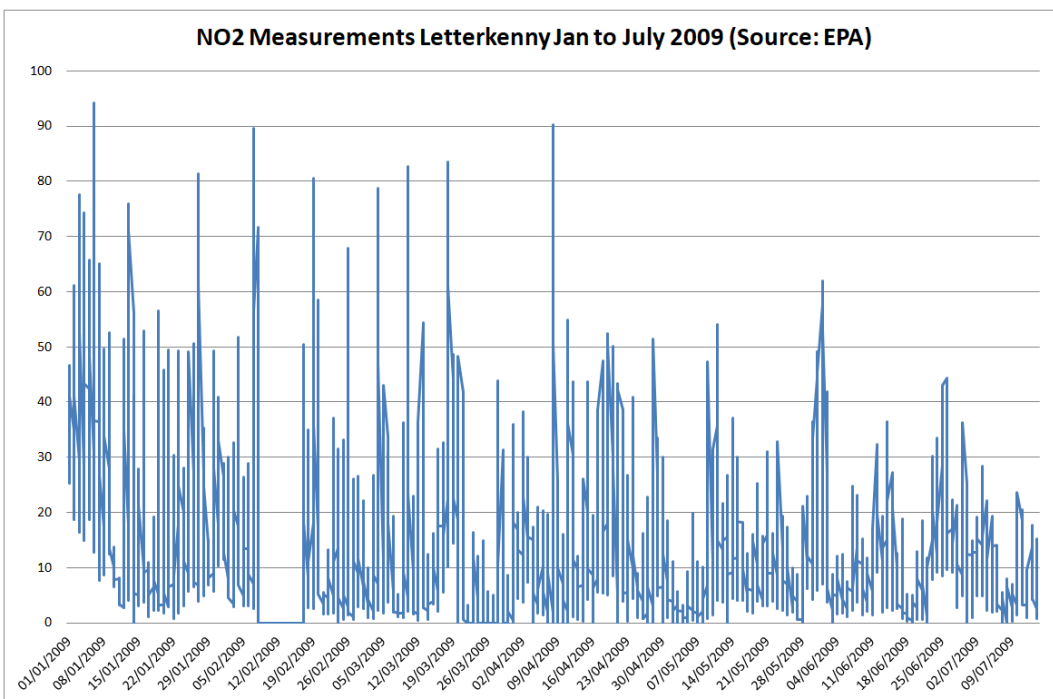


Figure 3.15 SO₂ Measurements at Letterkenny Air Quality Monitoring Station 2020 (Source: EPA)



In relation to NO₂ a small EPA dataset is also available for Letterkenny for part of 2009. Whilst it is acknowledged that this is an historical dataset this indicates that that the average NO₂ recording for this period of time (12.02 µg/m³) was significantly below the CAFE annual mean limit value of 40 µg/m³ and there were also no exceedances of the 1CAFE 1 hour limit value of 200 µg/m³.

Figure 3.16 NO₂ Measurements at Letterkenny Air Quality Monitoring Station 2020 (Source: EPA)

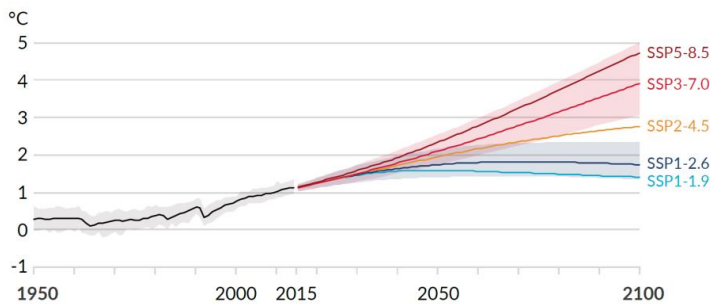


3.6 Climate Change

Current and Future Trends

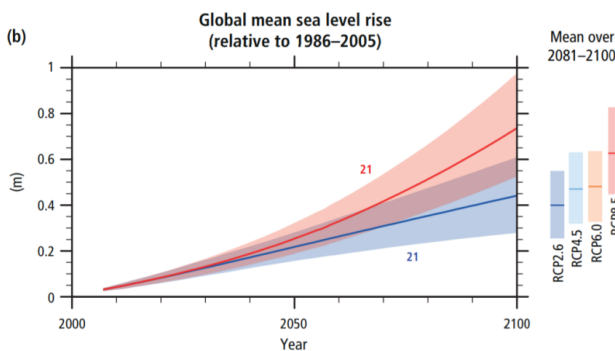
It is a scientifically established fact that human related green house gas emissions (e.g. Carbon Dioxide (CO₂), Methane (CH₄) and Nitrous Oxide (N₂O)) are causing global warming through an artificial greenhouse effect and that warming is impacting on the climate system. In this regard atmospheric concentrations of: CO₂ have increase by 50% from pre-industrial levels to 419ppm, CH₄ has increased by 170% from pre-preindustrial levels to 1940ppb, and N₂O has increased by 20% to 330ppb¹⁵. In 2020 Global temperatures were 1.2oC higher than pre-industrial levels. Future climate change scenarios vary depending on the volume of greenhouse gases (GHG) emitted in the years to come but indicate global surface temperature could increase (relative to preindustrial levels) by 1c in a low emissions scenario to 4c in a high emissions growth scenario by 2100¹⁶.

Figure 3.17 Global Surface Temperative Change (Relative to 1850-1900)



In terms of impact global warming is likely to result in significant climate related impacts including: sea level rises by 2081-2100 of between 0.26 and 0.55 (low emission scenarios) to between 0.45 to 0.82m (high emission scenarios), an increase in the frequency and duration of heat waves, an increase in the frequency and intensity of extreme precipitation events in many regions, changes in rainfall patterns, a decrease in global glacier volume and a reduction in sea ice, negative impacts on ecosystems including species extinction (as plant, animal and marine species cannot shift their natural ranges sufficiently quickly to adapt), ocean acidification, and disruptions to food production¹⁷. In particular the 2018 IPCC report¹⁸ highlighted the benefits and importance keeping warming to 1.5°C instead of 2°C including: preventing the complete loss of ecosystems such as coral reefs, a 10cm lower sea level rise, and keeping the likelihood of ice free summers in the arctic ocean to 1% rather than 10%. However, said report stated that limiting warming below or close to 1.5 °C would require a decrease in net emissions by around 45% by 2030 and reach net zero by 2050.

Figure 3.18 Global Sea Level Rise Projections



¹⁵ Walther C.A. Cámaro García and Ned Dwyer, 2020, The Status of Ireland’s Climate 2020, EPA

¹⁶ IPCC, 2021, Climate Change 2021 The Physical Science Basics Summary for Policy Makers.

¹⁷ IPCC, 2015, Climate Change 2014 Synthesis Report, IPCC

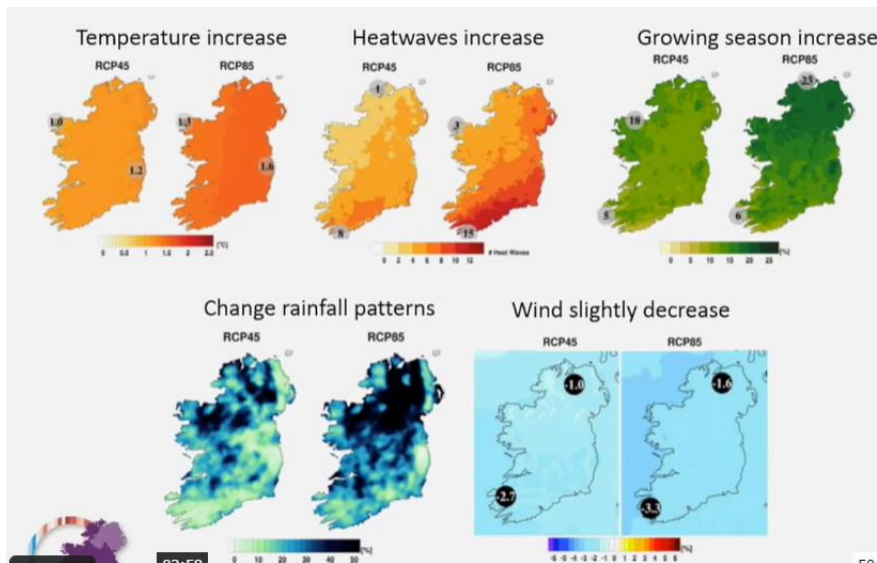
¹⁸ IPCC, 2018 SPECIAL REPORT: GLOBAL WARMING OF 1.5 °C, IPCC

In Ireland the air temperature has risen by 0.9c over the last 120 years, annual precipitation was 6% higher in the period 1989 to 2018 (compared to 1961 to 1990), the sea level has risen by approximately 2-3mm/year since the early 1990s, the average sea surface temperature at Malin Head between 2009 and 2018 was 0.47°C above the 1981-2010 mean¹⁹.

In addition, in Ireland the abovementioned Global Warming scenarios are likely to also result in a number of significant impacts including²⁰:

- Temperature increases of 1–1.6°C compared with the baseline period (1981–2000), with the largest increases in the east.
- Enhanced warming at the extremes (i.e. hot days and cold nights), with summer daytime and winter night-time temperatures projected to increase by 1–2.4°C;
- Substantial decrease in the number of frost and ice days of approximately 50%
- More frequent summer heat wave events with the largest increases in the south.
- More variable precipitation, with substantial projected increases in the occurrence of both dry periods and heavy precipitation events with the large increases in dry events in the summer and largest increase in heavy precipitation events in the autumn and winter.
- Substantial decrease in snowfall by the middle of the century (over 50%)
- Decrease in the energy content of the 120 m (turbine height) wind for all seasons with the largest decreases noted for summer.
- An increase in the length of the growing season by between 12% and 16%.

Figure 3.19 Key Impacts of Climate Change on Ireland



In Donegal a number of extreme rainfall events have occurred over the past decade including the July 2013 Flooding of Letterkenny University Hospital which caused extensive damage including to the new accident and emergency department costing almost €40m in repairs and flooding in Inishowen in 2017 wherein 63mm of rain was recorded at Malin Head within a six-hour period and which caused localised landslides, the damage destruction of local bridges and roads and extensive damage to Swan Park Buncrana. Whilst it is difficult to attribute single events to climate change the abovementioned report indicates that the frequency and intensity of such precipitation events are likely to increase in the future.

In relation to local sea levels as stated above satellite indications that sea levels around Ireland are generally rising. However the north eastern part of Ireland has also been rising over recent millennia

¹⁹ Walther C.A. Cámaro García and Ned Dwyer, 2020 The Status of Ireland Climate, EPA and others

²⁰ Paul Nolan and Jason Flanagan, 2020, High Resolution Climate Projections for Ireland, A Multi-model Ensemble Approach, EPA

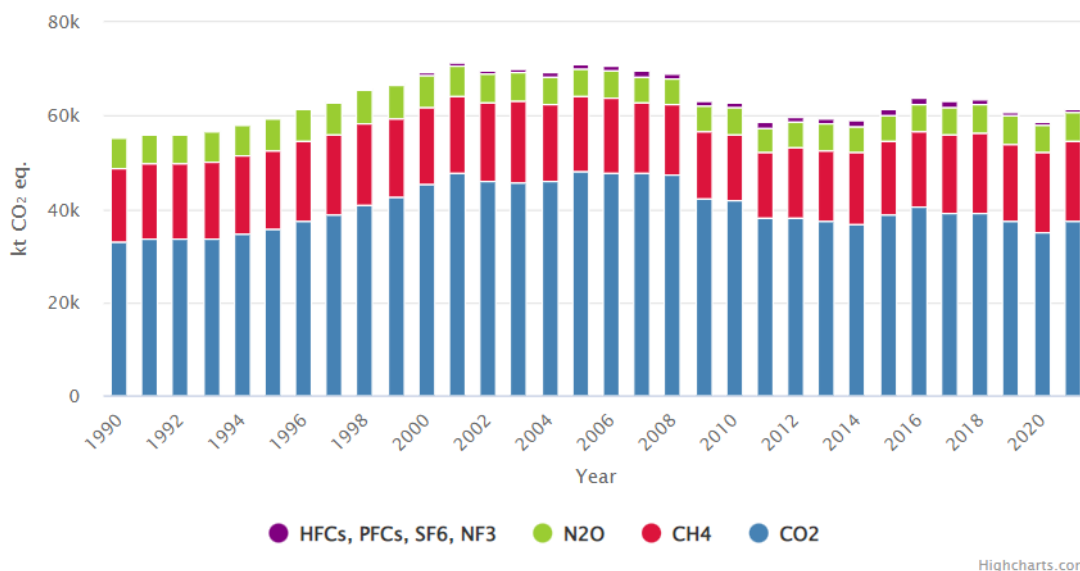
due to post glacial isostatic uplift (i.e. the gradual rising of the land after the last ice age due to the melting of the overlying ice sheet) as evidenced by the raised beaches at Malin Head and this process may attenuate the relative sea level rise. However the most recent academic analysis²¹ of the Malin Head sea level data indicates that the smoothed data trends 'could suggest that recent and near-future RSLC trends may be moving from the overall falling linear trend estimate, and that long-term trends may be moving into a positive (rising RSL) mode'. In other words global climate related sea level rise may be starting to outstrip the abovementioned post glacial rebound and we may therefore be moving from a relative falling to a relative rising sea level trend in North Donegal.

The IMCORE Lough Swilly and Climate Change 2008-2011 study (funded under the EU Interreg IVB programme) identified the main climate change impacts likely to affect Lough Swilly to be sea level rise and increases in sea temperature, although an increased storminess may also have detrimental effects. In particular Letterkenny was identified as the area in which sea level rise and increased storminess will have the most significant impact in Lough Swilly. Its low-lying location is at risk of flooding and agricultural areas located on reclaimed land around the Lough, such as Inch Levels, are also at risk of flooding as a result of higher sea levels and increased storminess. Higher sea levels may also impact on the social structure of the wider Lough Swilly area as erosion and/or flooding of coastal infrastructure may persist. Coastal infrastructure will require management to address erosion and the loss of coastal habitats. The commercial centre of Letterkenny and the infrastructure associated with it are at risk in the short term and this is a priority issue in terms of climate change impacts.

Ireland’s Climate Change Emissions: Current and Future Trends

In 2021 Ireland Ireland’s Greenhouse gas emissions were estimated to be 61.53kt CO2 equivalent of which carbon dioxide (CO₂) accounted for 61.0%, methane (CH₄) accounted for 27.9% and Nitrous Oxide (N₂O) accounted for and 9.9% respectively²². Taking a longer term view Ireland’s greenhouse gas emission reached a peak during the economic boom of the mid 2000’s, declined during the subsequent recession and increased slightly again in recent years although a decline was recorded in 2019 relative to 2018²³.

Figure 3.20 Ireland’s Greenhouse Gas Emissions 1990-2021



²¹ Julian D Oxford, Joanne Murdyand Robert Freel, 2006, Developing Constraints on the Relative Sea Level Curve for the North East of Ireland from the mid-holocene to the Present Day, Philosophical Transactions of The Royal Society 364, P.857-866

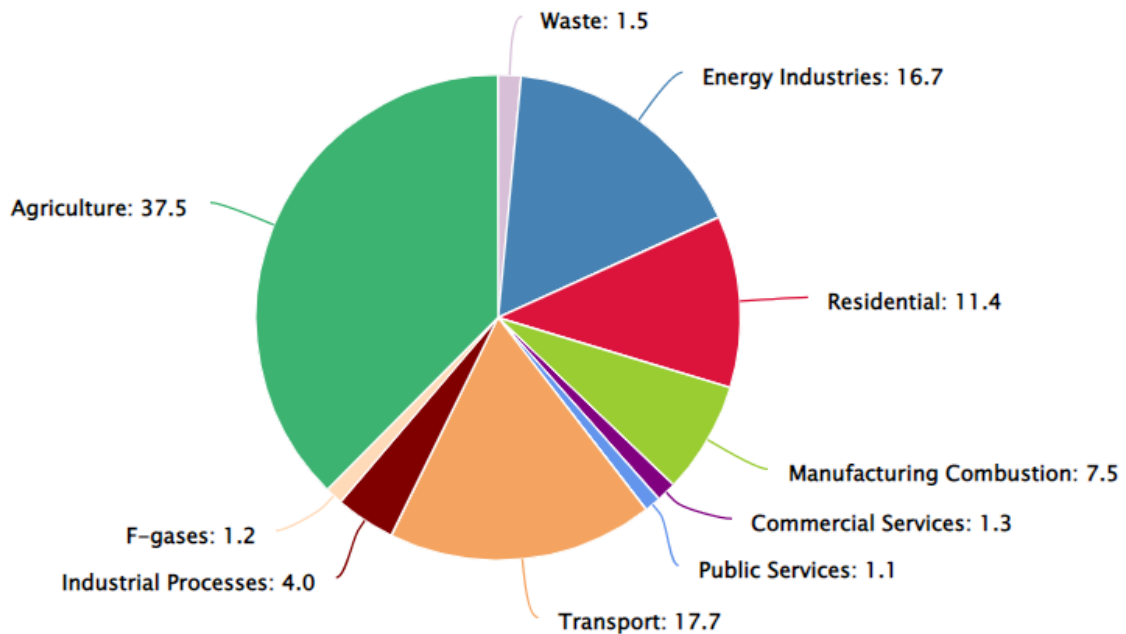
²² <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/summary-by-gas/#d.en.84355>

²³ <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/summary-by-gas/#d.en.84355>

In this regard the EPA estimates that Ireland missed its 2020 greenhouse gas emissions target to achieve a 20% reduction of non-Emissions Trading Scheme emissions (i.e. for agriculture, transport, residential, commercial, waste and non-energy intensive industry sector) relative to 2005 levels set under the EU's Effort Sharing Decision (Decision No 406/2009/EC).

On a sectoral basis the largest emitters of Greenhouse Gases in Ireland in 2021 were: agriculture at 37.5% (arising primarily from methane from livestock, manure management, and nitrogen application to soils), transport at 17.7% (arising primarily from road transport), energy industries 16.7% (arising primarily from electricity generation) and residential at 11.4% (arising primarily from burning oil, gas, coal and peat for home heating and hot water)²⁴.

Figure 3.21 Ireland’s Greenhouse Gas Emissions by Sector in 2021



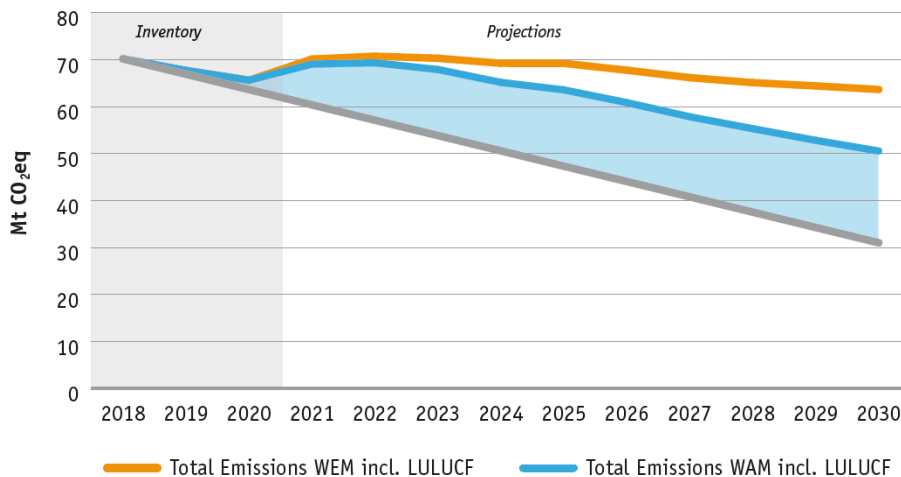
Highcharts.com

Furthermore the EPA Report *'Ireland's Greenhouse Gas Emissions Projections 2021-2040'* indicates that even with implementation of additional measures set out in government plans (including those set out in the Climate Action Plan 2021) (see below) Ireland's total Greenhouse Gas Emissions will only decrease by 28% (relative to 2018) by 2030. (See Graph below). In particular this report estimates that with said additional measures by 2030 (compared to 2018 emissions):

- Agricultural emissions are expected to decrease by 22.4%.
- Transport emissions are expected to decrease by 39.3%.
- Energy emissions are expected to decrease by 58.1%.
- Residential Emissions are expected to decrease by 41.5%.

²⁴ <https://www.epa.ie/our-services/monitoring--assessment/climate-change/ghg/latest-emissions-data/>

Figure 3.22 Ireland’s Greenhouse Gas Emissions Projections to 2030 under With Existing Measures and with Additional Measures Scenarios



In this regard in a 2021 Press release²⁵ the EPA indicated that such projected decrease only equates to a 24% reduction relative to 2018 emissions and in order to achieve a 51 per cent emissions reduction by 2030 (i.e. the reduction target in the 2021 Climate Action Act) significant new measures will need to be identified and implemented across all sectors.

Climate Change Targets and Actions

At an **International** level the 2015 Paris Climate Change Agreement governments agreed inter alia to:

- A long-term goal of keeping the increase in global average temperature to well below 2°C above pre-industrial levels.
- To aim to limit the increase to 1.5°C since this would significantly reduce risks and the impacts of climate change.
- The need for global emissions to peak as soon as possible, recognising that this will take longer for developing countries and to undertake rapid reductions thereafter in accordance with the best available science, so as to achieve a balance between emissions and removals in the second half of the century.
- Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production.
- Prepare and Submit nationally determined contributions (i.e. by each country to reduce national emissions and adapt to the impacts of climate change).

At a **European** level under the European Green Deal and the Climate Target Plan the European Commission aims to achieve a target of no net emissions of greenhouse gases by 2050, to reduce reducing net greenhouse gas emissions by at least 55% below 1990 levels by 2030, to make Europe a climate-resilient society by 2050, fully adapted to the unavoidable impacts of climate change.

At a **National** level the following key climate related targets and actions can be identified in the following documents:

- **National Planning Framework Project Ireland 2040** establishes the transition to a low carbon and climate resilient society as a national strategic outcome.

²⁵ <https://www.epa.ie/news-releases/news-releases-2021/ireland-will-not-meet-its-2020-greenhouse-gas-emissions-reduction-targets-action-is-needed-now-to-meet-2030-eu-targets.php>

- **Climate Adaption Framework** aims to reduce the vulnerability of the state to the negative impacts of climate change, and set out a number of key actions including the formulation of sectoral adaption plans (e.g. flooding transport, electricity and gas), the adoption of Local Authority Adoption Strategies, the establishment of regional climate action offices, and integration of climate adaption within all relevant national policy/legislation.
- **Programme for Government** commits to an average **7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade)** and to achieving net zero emissions by 2050.
- **Low Carbon and Climate Change Act 2021** inter alia: establishes in law a 'national climate objective', which commits to pursue and achieve no later than 2050, the transition to a climate resilient, biodiversity-rich, environmentally-sustainable and climate-neutral economy, and requires: government to adopt a series of economy-wide five-year carbon budgets including sector specific targets, the preparation of a Climate Action Plan including sectoral actions, the preparation a national long term climate action strategy, and requires that the first two five year carbon budgets should result in a **51% reduction in Greenhouse gases by 2030 (relative to 2018 emissions)**
- **Climate Action Plan 2021** provides a detailed plan for taking decisive action to achieve a 51% reduction in overall greenhouse gas emissions by 2030 and setting us on a path to reach net-zero emissions by no later than 2050 including inter alia the following actions: 80% electricity generation from renewable sources, retrofitting insulation in 500,000 homes, 500,000 extra sustainable transport journeys and electrifying public transport, reducing agricultural emissions etc.
- **Carbon Budgets** were adopted in April 2022 pursuant to the above Act namely:
 - 2021-2025 Average reduction of 4.8% PA.
 - 2026-2030 Average reduction of 8.3% PA

At the local level Donegal County Council's 'Climate Adaptation Strategy' (published in 2019) contains a number of planning related actions including

- Continue to integrate climate change and the Climate Change Adaptation Strategy into the County Development and Local Area Plans, and apply planning policies to reduce the vulnerability of County Donegal to the impacts of climate change;
- Support national reviews of design requirements of Sustainable Urban Drainage Systems (SUDs) and consider their inclusion in future reviews of the County Development and Local Area Plans;
- Ensure new developments are considered in the context of best practice as it relates to flood risk management.
- Develop sustainable land use planning policies which facilitates transportation efficiency, economic returns on transport investment, minimisation of environmental impacts and a general shift towards the use of low carbon public, transportation throughout the county.

3.7 Material Assets

Annex I(f) of the directive requires that the information on likely significant effects include 'material assets'. However, what constitutes material assets is not clearly defined in legislation or guidance and therefore open to interpretation. The Scottish EPA's document *Guidance Note 4 Guidance On Consideration Of Material Assets In Strategic Environmental Assessment* indicates that material assets broadly includes built assets such as energy/heat infrastructure, heat/energy efficiency management, flood protection, water supply, wastewater, transport, telecommunications, waste management, housing, healthcare facilities, schools, greenspace, paths etc and natural assets such as minerals, watercourses, natural flood management processes, forestry and woodlands, and agricultural land. On a related topic Table 3.1 of the EPA guidance document *Guidelines On The Information To Be Contained In Environmental Impact Assessment Reports* lists the following sub topics under Material Assets: Roads and Traffic and Built Services including electricity, telecommunications, gas, water supply and sewerage.

Material assets can therefore be broadly interpreted to mean built or natural assets to enable a society to function, live and work including: transport, energy, water and wastewater and waste infrastructure,

housing, healthcare facilities, and green infrastructure and natural assets such as quarries, flood defences, green spaces and agricultural lands. Cultural and built heritage including architectural and archaeological heritage are dealt with separately in this report.

Transport Infrastructure:

Currently the strategic road transport infrastructure in the Letterkenny area includes parts of the:

- N13 National Primary Route consisting of a type 1 dual carriageway commencing at N56/N13 Dry Arch roundabout and traversing through Drumany and Dromore and providing links Derry, Dublin and Belfast and forming part of the Comprehensive Trans European Transport Network (TEN-T).
- N13 National Primary Route consisting of a single carriageway road with climbing lane/right turning lane commencing at the N56/N13 Dry Arch roundabout traversing through Bunnagee and Drumany, providing connections to Sligo and Galway and forming part of the Atlantic Economic corridor and the Comprehensive Trans European Transport Network (TEN-T).
- N56 National Secondary Route consisting of a 4 lane road between the N56/N13 Dry arch and Pole Star/Port Bridge roundabouts which is the only strategic access to Letterkenny from the north east and south east.
- N56 National Secondary Route consisting of primarily of a single carriageway road but also notably a climbing lane on the N56 relief road commencing at the Port Bridge roundabout, traversing through roundabouts at Ballyraine, Kiltoty and Knocknamona and Mountain Top and providing connections to North West Donegal.

The TEN-T Priority Route Improvement Project, Donegal aims to upgrade 3 sections of the TEN-T road network in Donegal. Section 2 of the project provides for a new alignment of the N13 between Listellian and the N13 dual carriageway at Dromore and the provision of a new strategic access across the River Swilly at Ballyraine. The project is currently a Phase 3 Design and Environmental Evaluation.

Key Regional Roads and urban roads include the:

- R245 Ramelton Road consisting of a single carriageway road, serves the NE of the plan area and provides links to North Donegal.
- R229 Port Road consisting of a single carriageway road with right turning lanes which serves as the main access into Letterkenny from the south east.
- R229 De Valera road and High Road consisting mainly of a single carriageway but with climbing lane on the De Valera Road and provides connectivity to Letterkenny University Hospital and the urban core from traffic from the north Donegal.
- R250 consisting a single carriageway road commencing at the Pole Star roundabout and traversing through the south and west of the town town centre extension area of Letterkenny and provides links to West Donegal.
- The Circular Road from the Hospital Roundabout to the roundabout at Glencar.

There is a well-established network of footpaths within Letterkenny. There are also limited dedicated cycle lanes including on-carriageway cycle lanes on Pearse Road and R940 Ramelton road (both directions) and shared raised footpath/cyclepaths on the Paddy Harte Loop Road, Neil T Blaney Road and Port Road, and on the N56 Relief Road.

The traditional town centre has several publicly accessible car parks including: multi storey car parks at Mc Ginleys and the Courtyard Shopping Centre and surface car parks at Justice Walsh Road, Courthouse Car Park, Pork Road Car Park An Grianan Theatre, the Cathedral Car Park, High Road Letterkenny and Cathedral Car Park. The town centre extension area has a large amount of publicly accessible car parks at Letterkenny Retail Parks 1-4. There are Electric Vehicle charging locations in the town namely at Letterkenny Hospital car park, Justice Walsh car park, An Grianán Theatre car park, Tobin's Service Station on Port Road, and the Radisson Blu on Paddy Harte Road.

Energy/Electricity Infrastructure

Letterkenny is served by the 110kV electricity transmission grid through a line running from the to the 100Kv substation at Listellian just to the south of the Plan area. This 100Kv substation is connected to the wider 110Kv Eirgrid network in the Republic of Ireland via the Barnesmore gap and the Northern

Ireland network via a 100Kv link to the Strabane station in Co. Tyrone. There is no Natural Gas network in Letterkenny or County Donegal.

Broadband Infrastructure

The high speed broadband map available through <https://www.gov.ie/en/publication/5634d-national-broadband-plan-map/> indicates commercial operators are either currently delivering, or have plans to deliver, high speed broadband for the majority of the Letterkenny Plan area. There are only a few peripheral areas marked on said map that are targeted areas for State intervention to provide high speed broadband under the National Broadband Plan.

Waste:

There are a number of licenced private waste/recycling facilities in Letterkenny including: Bryson Waste Recycling on the N56 Relief Road at Carnamuggagh Lower and Letterkenny Skip Hire at Ballyraine. In addition, there are a number of bring banks (i.e. for bottle/can recycling) within Letterkenny including at Letterkenny Public Service Centre, Old Dunnes Store Car Park, Aura Leisure Complex, Simpsons Supermarket Letterkenny, Pine Hill Industrial Estate, Alcorns Garden Centre Loughnagin. There are no landfill sites within the plan area or zone of influence.

Water and Wastewater Infrastructure

The majority of the Plan area north of the River Swilly is served by a mains sewerage network. This network discharges to the Letterkenny Wastewater Treatment Plant. The 2020 Annual Environmental Report for said plant states that it has a treatment capacity for 40,000PE, a remaining organic capacity of 16729PE. However, there is currently no mains sewerage network in the majority of the town centre extension area to the east of the Isle Burn and to the east of the Port Bridge and commercial premises in these areas are therefore reliant on independent wastewater treatment systems. In addition, other individual premises and one-off dwellings on periphery of the plan area are also served by independent WWTS.

Healthcare Facilities

Letterkenny has a range of primary and secondary healthcare facilities including: Letterkenny University Hospital at High Road Letterkenny is an acute general and maternity Hospital providing intensive care, coronary care, general medicine, geriatric care, renal dialysis, general surgical and urology, obstetrics and gynaecology, paediatric care, orthopaedics and most recently consultant-led oncology and haematology services. There number of primary healthcare facilities in the Town Centre and at Ballyraine.

Housing

The Letterkenny plan area contains a significant existing housing stock including areas of high density within and adjacent to the Traditional town centre (e.g. Ard O Donnell, Lower Main Street) and significant clusters of suburban housing developments along/at: Newline Road, Ballyboe/Glencar, Circular Road, Longlane, Glencar Irish/Glencar Scotch, Killyclug/Killyastin, Carnamuggagh Upper, Carnamuggagh Lower/Gortlee/Ballyraine, Lisnenan, Adrawer/Loughnagin/Castlewray, Magherenan, Creeve, and at Woodpark/Lismonaghan. In addition, there are also significant clusters of one-off housing developments at Upper Woodlands/Knockybrin, Glebe, and Drumnaoagh/Bunangee/Drumany and Dromore.

Retail, Commercial and Industrial Premises

Letterkenny has a significant volume range of convenience and comparison retail premises located within the traditional town centre including along the Port Road and the Main Street, in the town centre extension area (including 4 significant retail parks and premises at Pearse Road and Port Road) at Letterkenny shopping centre and at the Mountain top. In addition, there are neighbourhood level retail facilities at Mountain Top, Ballyraine, Glencar and Killyclug/Killyastin. There are a number of large IT and Insurance and health care related service premises located at IDA business and technology park and on the Kilmacreanan Road Letterkenny (e.g. Tata Consultancy Services, SITA, and Optum). Key light industrial premises include the Zeus and Optibelt manufacturing plants at the IDA business and technology park and a currently unused manufacturing facility at Kiltyoy. Otherwise there a significant number and variety of other commercial, services and industrial premises (e.g. wholesale, logistic,

waste recycling, light manufacturing, fuel depots etc) located in the town centre extension area, to the east of the Port Bridge at Drumnahoagh/Bunagee/Dromore, at Ballyraine Industrial Estate, and Lisnenan Industrial estate.

Education Infrastructure

The Letterkenny area currently has a wide range of primary, secondary and third level education facilities including: the Letterkenny Institute of Technology Campus on Port Road, the ETB's Letterkenny Training Centre at Ballyraine Industrial Estate, Rossan College at Ballyraine, St Eunan's College, Loreto Convent on Convent Road, Errigal College on High Road, Colaiste Ailigh at Old Farm Road, Scoil Colmcille Primary School on College Road, Scoil Muire Gan Smál on Sentry Hill Road, Educate Together at Kilttoy, Illistrin National School, Woodland National School and St Patricks National School at Lurgybrack.

Green Infrastructure

Letterkenny currently has a variety of publicly accessible green spaces including most notably Letterkenny Town Park (which includes an Outdoor Gym, a playground and bowling green), Ballymacool Town Park (which includes a playground and all weather sports facility), and other parks and green spaces including on the Circular Road Letterkenny, Glenwood Park. In addition there are a number of sports facilities/playing fields located at the Aura Leisure Centre, LYIT, Letterkenny Community Centre, at local schools (e.g. St Eunan's College, Loreto College, Errigal College) and at local sport clubs (e.g. St Eunan's GAA at Ballymacool, Letterkenny Gaels/Letterkenny Rugby Club at the Glebe, Bunnagee United FC, Swilly Rovers FC to the rear of Letterkenny retail park.

Flood Risk Areas and Flood Defences.

'The Planning System and Flood Risk Management Guidelines for Planning Authorities and Technical Appendices, 2009', were issued under Section 28 of the Planning and Development Act 2000 as amended, and require Planning Authorities to introduce flood risk assessment as an integral and leading element of their development planning functions. It sets out that development plans and local area plans, must establish the flood risk assessment requirements for their functional area.

Flooding is a natural process which cannot be prevented entirely but it can generally be managed to reduce its social and economic consequences and to safeguard the continued functioning of services and infrastructure.

As part of the preparation of the Letterkenny Plan, a Strategic Flood Risk Assessment Report (SFRAR) has been prepared in accordance with the above guidelines and is included as a separate document. The SFRAR identifies the following areas fall within either Flood Zone A (equal or greater than 1% AEP river and 0.5% AEP coastal) or Flood Zone B (equal to 0.1% AEP or between 0.1% and 1% AEP river and equal to 0.1% or between 0.1% and 0.5% AEP coastal). Note: the SFRA includes certain areas identified as 'defended areas' on the CFRAMs mapping in these flood zones in accordance with the flood risk management guidelines).

- Areas of the River Swilly Flood Plain to the East of Port Bridge including parts of the townlands of Milk Isle, Bunnagee, and Drumnahoagh and Glebe.
- Much of the town centre extension area to the East of the Isle Burn including commercial area adjoining the Joe Boner Link
- Areas of the River Swilly Flood Plain on the western side of the town including the original Dunne Stores Site, and parts of the Aura Leisure Centre and St Eunan's GAA Ground.
- Areas adjacent to the Sprack Burn/Isle Burn streams including parts of the Letterkenny University Hospital Site, the Old Oatfield Sweets Site, parts of Letterkenny Shopping Centre and commercial premises on the Port Road.
- Areas adjacent to a culverted stream on the old Unifi Factory site, Educate Together and Lisnennan business park.

The SFRAR identifies several areas **existing developed areas zoned for development** in the plan **in flood risk areas** in the plan area including:

- Areas of highly vulnerable development including parts of Letterkenny University Hospital on

Kilmacrennan Road, the rear of the Fire Station in De Valera Road, parts of the Letterkenny WWTP, the existing Letterkenny Institute of Technology (LYIT) on Port Road and the location of a new Educate Together school at Kilttoy, (on part of the old UNIFI site).

- Areas of less vulnerable development accommodating existing established development including lands adjacent to the Swilly River and opposite the Mount Errigal Hotel and south of Letterkenny Skip Hire and lands at Bonagee and established development along the four lane carriageway.

The SFRA also identifies **undeveloped areas** which have been **reserved/zoned for new development** in the plan which are also **in flood risk areas** including:

- Strategic Road Infrastructure Reservations including: The Section 2 TEN-T PRIPD Preferred Route Corridor in the vicinity of Milk Isle/Bunnagee, part of the Southern Network Road Project Corridor on the River Swilly flood plain, and parts of the strategic road corridors on the western and northern side of the town where they interact with local watercourses.
- Part of the Town Centre Extension Area to the east of the Isle Burn.
- Parts of Opp Site 11 (Old Oatfields Factory)
- Parts of Opp Site 3 and parts of the General Employment zoning at Lisnenan.
- Developer led roads at Bunnagee and Ballymacool.

Letterkenny's existing flood defences consist of the existing Lough Swilly embankments which extend along the banks of the River Swilly and shoreline of the Swilly Estuary. The abovementioned SFRAR specifically notes that these assets are considered as non Area Potential Significant Risk (APSR) defence assets as their primary function is not for formal flood defence.

Agricultural Lands

The Letterkenny plan area contains a significant quantum of agricultural lands including improved grasslands, tillage/arable fields and semi improved grasslands. These agricultural lands are located in the following broad areas:

- Windy Hall which contains predominately large fields improved grassland and some semi improved grassland at higher elevations.
- Carnamuggagh Upper which includes poor quality semi-improved grasslands.
- Carnamuggagh Lower and Lisnenan which includes large improved grassland and tillage fields and some semi improved grassland at higher elevations.
- Castlebane and Ardrawer which includes a mixture of improved and semi improved grasslands.
- Loughnagin and Kilttoy which includes a mixture of improved and semi improved grasslands.
- Glebe which predominately includes improved grasslands including a large number of low lying fields.
- Pockets of the flood plain to the east of the Port Bridge which predominately includes low lying agricultural grasslands.
- The southern valley slopes at Drumnahoagh/Scribely/Leck which includes some relatively large fields used for tillage and otherwise mainly includes improved grassland.
- Parts of the townlands of Cullion and Carreygalley which primarily include improved grasslands.
- Woodpark, Creeve and Lismonaghan which generally includes small fields of improved grasslands.
- Ballymacool/Whinney and Hill which predominately includes small fields of grasslands and flat low lying grassland on the flood plain of the River Swilly.
- Glencar Scotch which includes small fields of improve grasslands.

Quarries/Aggregate Potential

There are currently no operational quarries or mines within the Letterkenny plan area. However the aggregate potential mapping available through <https://www.gsi.ie/en-ie/data-and-maps/Pages/default.aspx> indicates that the much of the Letterkenny area in particular including the hills to the north and south of the River Swilly valley have a high and very high crushed rock aggregate potential whilst the flood plain of the River Swilly has high granular aggregate potential.

3.8 Cultural, Archaeological and Architectural Heritage

Heritage is described by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) as “our legacy from the past, what we live with today and what we pass on to future generations”. Cultural Heritage refers to monuments, groups of buildings and sites with historical, aesthetic, archaeological, scientific, ethnological or anthropological value.

Architectural Heritage

Letterkenny’s built heritage is a fundamental part of its cultural heritage and for example includes: St Eunan’s Cathedral, Conwal Parish Church, St Eunan’s College, Mount Southwell Terrace, the Ecclesiastical Quarter Architectural Conservation Area (ACA) (also now referred to as the Cathedral Quarter ACA), Ballymacool House, St Conal’s Hospital, historic streetscapes, and various other structures on the Record of Protected Structures (RPS) and the National Inventory of Architectural Heritage (NIAH).

At a European level the 1985 ‘European Convention on the Protection Heritage’ (Granada Convention), ratified by Ireland 1997, obliges Ireland to take statutory measures to protect architectural heritage.

The Planning and Development Act 2000(as amended) requires local authorities produce and maintain a Record of Protected Structures (RPS) consisting of structures, or parts of structures “*which form part of the architectural heritage and which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.*” The act only provides for exempted development works which would not materially affect the character of the RPS structure and prohibits the granting of permission for the demolition of RPS structures save in exceptional circumstances. A list of RPS structures located within the Letterkenny plan area is contained within the table below.

Said Act also provides for the designation of Architectural Conservation Areas (ACAs), restricts exempted developments provisions in ACAs and obliges planning authorities to take into account the effect proposed developments would be likely to have on their character. Map 12.1A and Section 12.6.1.3 of Part C of the CDP 2018-2024(As Varied) identifies and protects respectively The Ecclesiastical Quarter ACA which includes St Eunan’s Cathedral, Conwal Parish Church, Cathedral Square, Church Lane and Mountsouthwell terrace and represents one of Letterkenny’s most important tourism and cultural assets.

Figure 3.23 Map of the Ecclesiastical Architectural Conservation Area



The NIAH is an inventory of architectural heritage compiled by the Department of Culture Heritage and the Environment to identify, record, and evaluate the post-1700 architectural heritage of Ireland, uniformly and consistently as an aid in the protection and conservation of the built heritage (NIAH handbook 2017). A list of structures on the NIAH in the Letterkenny plan area is contained within the table below.

Other cultural heritage features in Letterkenny include remnants of historic railway lines to Strabane, Derry and Burtonport which traverse part of the south eastern, central and south western part of the plan area.

The County Development Plan 2018-2024(as varied) sets out a number of objectives and policies in relation to the protection of architectural heritage in Donegal including the protection of structures contained in the Record of Protected Structures and vernacular and historic structures not on the RPS and the management of development within the Ecclesiastical Quarter ACA.

Table 3.10: Structures on the Record of Protected Structures in the Letterkenny Plan Area

Ref:	Ref. No.	Name	Description	Address	Rating
1.	40501170	1 Mount Southwell Place	End-of-terrace, 3 bay, 1865-1870. 2 Storey over basement house.	1 Mount Southwell Place	Regional
2.	40501171	2 Mount Southwell Place	Terraced 3 bay, 2 storey over basement house. 1865-1870	2 Mount Southwell Place	Regional
3.	40503163	Mount Southwell Mews	End-of-terrace, 3-bay, 1865-1870 2 storey over basement house.	Mount Southwell Mews	Regional
4.	40504072	Rosemount House	Detached 4-bay, 2 storey house. Pre 1858.		Regional
5.	40500012	St. Conal's Psychiatric Hospital	Mid Victorian. 2-storey. Central section, 1860-1890 3-storey additions.	Kilmacrennan Road	Regional
6.	40501090	St. Eunan's College	3-Storey, symmetrically planned school building. 1900-1910.	College Road	Regional
7.	40504052	Bank of Ireland	Detached, 4-bay, 2-storey former house. 1875-1880.	Upper Main Street	Regional
8.	40502279	Courthouse	Detached, 3-bay, 2-storey over basement, 1825-1830 neo-Classical courthouse.	Upper Main Street	Regional
9.	40502086	Bank	End-of-terrace, 3 bay, 2-storey bank. 1900-1910.	Upper Main Street	Regional
10.	40501167	Conwal Church	Church of Ireland Parish Church. 1750-1790	Church Lane	Regional
11.	40501168	Cathedral of Saints Eunan & Columba	French Neo Gothic cruciform plan Cathedral. 1890-1905.	Sentry Hill Road	Regional
12.	40501199	Conwal Church	Conwal Parish Church graveyard. 1650-1940.	Church Lane	Regional
13.	40504036	Ernest Speer	Terraced 3-bay, 1875-1880. 2 storey shop retaining period shop front and interior.	Lower Main Street	Regional
14.	40503214	Oldtown Bridge	Triple-arch road bridge over River Swilly 1700-1740.	Oldtown	Regional
15.	40503215	Bridge	Disused single-span plated lattice-truss Railway Bridge. 1900-1905.	Oldtown	Regional
16.	40501164	Ardenaun	Detached six-bay, c.1900. Three-storey over-basement Bishop's Palace.	Cathedral Road	Regional
17.	40502222	Donegal County Museum	Detached Five-bay, c. 1845, two-storey former workhouse and infirmary.	High Road	Regional
18.	40501130	House	Single Storey stone wash cottage with thatch roof.	New line Road	Regional
19.	40905303	Ballymacool House	Detached, five-bay three-storey over basement built c.1825	Ballymacool	Regional
20.	40502274	Allied Irish Bank	Detached five-bay two-storey bank building, built in 1867	Upper Main St.	Regional

Table 3.11: National Inventory of Architectural Heritage Structures in the Letterkenny Plan Area

No.	Ref.	Name	Description (summary)	Address	Rating
1.	40905317	St. Conal's Psychiatric Hospital	Detached multiple-bay two-and-three-storey psychiatric hospital, built c. 1860-5.	Ballyboe Glencar	Regional
2.	40905315	The Vestry	Freestanding former hospital chapel associated with St. Conal's psychiatric hospital built 1935.	Ballyboe Glencar	Regional
3.	40905318	St. Conal's Psychiatric Hospital	Detached multiple-bay three-storey over basement former psychiatric hospital associated with St. Conal's built c. 1902-4.	Ballyboe Glencar	Regional
4.	40905319	St. Conal's Psychiatric Hospital	Former burial ground originally (on triangular-plan) serving St. Conal's psychiatric hospital (see 40905317), in use from c. 1866 until 1900.	Ballyboe Glencar	Regional

No.	Ref.	Name	Description (summary)	Address	Rating
5.	40905320	Tir Conaill House\Parkview House	Detached four-bay two-storey with dormer attic level former medical superintendent's house associated with St. Conal's psychiatric hospital (see 40905317), built c. 1890.	Ballyboe Glencar	Regional
6.	40500027	Gortlee House	Detached five-bay two-storey over basement house\country house with attic level, built c. 1800 and altered c. 1860.	Gortlee	Regional
7.	40905305	Gortlee Presbyterian Church	Freestanding gable-fronted former Reformed Presbyterian church, remodelled and dated 1904 and possibly containing fabric of earlier church\meeting house to site, built 1785, comprising a four-bay hall.	Gortlee	Regional
8.	40905321	Church of the Irish Martyrs	Freestanding multiple-bay double-height Catholic church on complex regular-plan, built 1994.	Ballyraine	Regional
9.	40905327	Kilttoy Church of Ireland Church	Freestanding former Church of Ireland church, built c. 1630 and altered c. 1750, comprising three-bay hall.	Kilttoy	Regional
10.	40905393	House	Detached three-bay single-storey vernacular house, built c. 1860.	Glebe	Regional
11.	40905336	The Thorn	Detached three-bay two-storey house, built c. 1820.	Glebe	Regional
12.	40905326	Bridge	Single-arch bridge carrying the former Burt Junction to Letterkenny narrow gauge railway line over former tributary of the River Swilly (river diverted), built c. 1883.	Bunnagee	Regional
13.	40905394	Bridge	Single-arch former railway bridge, built c. 1909, carrying road over the former Strabane to Letterkenny narrow gauge railway line.	Dromore	Regional
14.	40905339	House	Pair of semi-detached three-bay two-storey houses, built c. 1860, each having two-storey return to rear (east).	Dromore Lower	Regional
15.	40905301	Leck Church of Ireland Parish Church	Freestanding gable-fronted single-cell former Church of Ireland church, built c. 1840, comprising three-bay hall.	Drumany	Regional
16.	40905324	Holly Vale	Detached three-bay two-storey house, built c. 1860, with single-bay flat-roof porch extension to front, single-bay two-storey corrugated iron extension to rear.	Cullion	Regional
17.	40905380	Bridge	Triple-arched former railway bridge, built c. 1909, carrying road over the former Strabane to Letterkenny narrow gauge railway line.	Drumnaoagh	Regional
18.	40905322	Bridge	Single-arch former railway bridge, built c. 1883, carrying road over the former Derry Middle Quay to Burtonport narrow gauge railway line.	Drumnaoagh	Regional
19.	40905314	Old Leck Church	Remains of three-bay single-storey former Catholic church, built c. 1500, having bellcote over the west gable end.	Oldtown	Regional
20.	40503214	Oldtown Bridge	Triple-arch bridge carrying road over the River Swilly, built c. 1720.	Oldtown	Regional
21.	40503215	Oldtown Railway Bridge	Single-span railway bridge, built c. 1903, carrying former Letterkenny to Burtonport section of the Derry to Burtonport Railway over the River Swilly.	Oldtown	Regional
22.	40905311	Sallaghagrane House	Detached three-bay two-storey house, built c. 1870, having single-storey return to rear.	Sallaghagrane	Regional
23.	40905303	Ballymacool House -	Detached five-bay three-storey over basement former county house, built c. 1770 and altered c. 1830.	Ballymacool	Regional
24.	40905350	Mass rock	Mass rock, erected\in use c. 1690-1730, comprising an irregular-shaped stone slab set on rubble stone\bounder supports with small stone packing to top.	Ballymacool	Regional
25.	40905308	House	Semi-detached two-bay two-storey house, built c. 1925.	Glencar Irish	Regional
26.	40905309	House	Semi-detached two-bay two-storey house, built c. 1925.	Glencar Irish	Regional
27.	40502223	Graveyard/cemetery	Former union workhouse graveyard on rectangular-plan associated with Letterkenny Union Workhouse (see 40502222), in use c. 1845 - 51, containing unmarked graves of victims of the Great Famine.	New Line Road	Regional
28.	40502222	Donegal County Museum	Detached five-bay two-storey former workhouse administration block with attic storey, dated 1844.	High Road	Regional
29.	40502215	House	Detached three-bay single-storey vernacular house, built c. 1912.	High Road	Regional
30.	40502198	House	Terraced two-bay two-storey house, built c. 1886.	High Road	Regional
31.	40502318	building misc	Freestanding crane with cast-iron or steel winch, cast-iron or steel cog wheels and cast- and wrought-iron lifting arm\jib, erected c. 1883 or c. 1908.	Ramelton Road	Regional
32.	40502131	Bus Eireann Bus Station	Detached five-bay single-storey former railway station, dated 1908.	Ramelton Road	Regional

No.	Ref.	Name	Description (summary)	Address	Rating
33.	40502289	House	Detached five-bay two-storey house and former shop with attic level, built c. 1900.	Ramelton Road	Regional
34.	40502279	court house	Detached corner-sited seven-bay two-storey over basement courthouse, built c. 1828-31 and altered c. 2000.	Upper Main Street/Justice Walsh Road	Regional
35.	40502274	Allied Irish Bank	Detached five-bay two-storey bank building, built in 1867, having multiple modern single- and two-storey extensions attached to east, c. 1985.	Upper Main Street	Regional
36.	40502092	Trinity Presbyterian Church (First)	Freestanding double-height Presbyterian Church over basement level, built 1905-7 and rebuilt c. 1920.	Upper Main Street	Regional
37.	40502087	House	Attached three-bay two-storey house, built c. 1875.	Upper Main Street	Regional
38.	40502086	bank/financial institution	Attached corner-sited three-bay two-storey former bank, built or rebuilt c. 1905 and altered c. 1931 or 1933.	Upper Main Street	Regional
39.	40504076	House	Mid-terrace two-bay two-storey house, built c. 1900, having two-storey extension to the rear (south).	Rosemount Lane	Regional
40.	40504075	House	End-of-terrace two-bay two-storey house, built c. 1900	Rosemount Lane	Regional
41.	40504072	Rosemount House	Detached four-bay two-storey house with attic level, built c. 1830.	Rosemount Lane	Regional
42.	40504052	Bank Of Ireland	Detached four-bay two-storey bank, built c. 1876	Main Street	Regional
43.	40503173	house	Attached two-bay three-storey house, built c. 1864,	Lower Main Street	Regional
44.	40503174	House	Attached two-bay three-storey house, built c. 1864, having later shopfront inserted.	Lower Main Street	Regional
45.	40503185	House	Attached two-bay three-storey house, built c. 1860, with former shop to ground floor, c. 1953.	Lower Main Street	Regional
46.	40503186	House	Attached two-bay three-storey house, built c. 1860, with former shop to ground floor, c. 1970.	Lower Main Street	Regional
47.	40504012	Charles Kelly Ltd	Boundary wall associated with the former Letterkenny town corn market, erected 1852.	Lower Main Street	Regional
48.	40504036	Ernest Speer	Attached three-bay two-storey house with attic level, built c. 1877, having traditional timber shopfront to east elevation and extensions to the rear (west), c. 1900.	Lower Main Street	Regional
49.	40503157	Cullinane Steele Architects;	Detached three-bay double height former Methodist church/meeting house, built c. 1814.	Market Square	Regional
50.	40503163	House	End-of-terrace two-bay two-storey over basement house with dormer attic level, built c. 1866.	Mount Southwell Place	Regional
51.	40501171	Cara House	Mid-terraced three-bay two-storey over basement house with dormer attic level, built c. 1866.	Mount Southwell Place	Regional
52.	40501172	F. Monaghan & Company -	End-of-terrace two-bay two-storey over basement house with dormer attic level, built c. 1866.	Mount Southwell Place	Regional
53.	40501181	House	Corner-sited end-of-terrace four-bay two-storey former house, built c. 1900.	Castle Street/Church Lane	Regional
54.	40501198	Loreto Convent	Main gateway serving Loreto convent (see 40501188), erected c. 1861 or 1900.	Cathedral Square	Regional
55.	40501163	St Eunan's and Columba's Catholic Cathedral Monument	Memorial statue commemorating to Cardinal Patrick O'Donnell, erected c. 1930.	Cathedral Square	Regional
56.	40501168	St Eunan's and Columba's Catholic Cathedral -	Freestanding Catholic cathedral on complex irregular-plan, built 1891-1901.	Cathedral Square	National
57.	40501196	Post Box	Wall-mounted cast-iron post-box, cast c. 1890 and erected in current site in 1946.	Cathedral Road	Regional
58.	40501164	bishop's palace	Detached multiple-bay two- and three-storey over basement bishop's palace and parochial house on complex irregular-plan, built c. 1900.	Cathedral Road	Regional
59.	40503094	Letterkenny Loreto Convent – Graveyard Cemetery	Nuns' graveyard on irregular-plan associated with Loreto Convent (see 40501188) to the north-east, in use since c. 1864.	Convent Road	Regional
60.	40501098	House	End-of-terrace two-bay two-storey house, built c. 1910.	College Road	Regional
61.	40501097	St. Eunan's College - Gates	Main gateway serving St. Eunan's College (see 40501090), erected c. 1909.	College Road	Regional
62.	40501092	St. Eunan's College – chapel	Attached Catholic chapel associated with St. Eunan's College (see 40501092), built 1961.	College Road	Regional

No.	Ref.	Name	Description (summary)	Address	Rating
63.	40501090	St. Eunan's College	Detached ten-bay three-storey boys' secondary school and former Catholic seminary on complex rectangular-plan, built c. 1904-6.	College Road	Regional
64.	40501091	St. Eunan's College	Attached twelve-bay three-storey over basement extension to St. Eunan's College (see 40501090), built 1930-1.	College Road	Regional
65.	40501157	Raphoe Pastoral Centre	Detached seven-bay single-storey former national school, built 1895.	Monastery Avenue	Regional
66.	40501166	Trinity Hall	Detached gable-fronted three-bay double-height former Presbyterian church/meeting house, dated 1841 and remodelled in 1901	Cathedral Square	Regional
67.	40501167	Conwall Church of Ireland Parish Church	Freestanding gable-fronted Church of Ireland church, built c. 1776 and altered 1832 and 1865.	Cathedral Square	Regional
68.	40501199	Conwal Parish Church Graveyard	Graveyard associated with Letterkenny Church of Ireland church\Conwal Church of Ireland church (see 40501199), originally laid out c. 1636 and containing a collection of gravemarkers from seventeenth to twentieth centuries.	Church Lane/Cathedral Square	Regional
69.	40504049	Gerry's Barbers\MP3	Mid-terrace three-bay two-storey former house with half-dormer attic level, built c. 1865.	Upper Street	Main Regional
70.	40504117	Music Centre	End-of-terrace three-bay two-storey house with dormer attic level, built c. 1865.	Upper Street	Main Regional
71.	40826002	House of Harriet	Mid-terrace two-bay three-storey structure originally forming part of hotel with structures to either side (see 40826001 and 40826003), built c. 1899.	Upper Street	Main Regional
72.	40826003	John Robinson & Son	Attached end-of-terrace two-bay three-storey structure originally forming part of hotel with structures to the south (see 40826001 and 40826002), built c. 1899.	Upper Street	Main Regional
73.	40502025	House	Terraced two-bay two-storey house, built c. 1895.	Speer's Lane	Regional
74.	40502023	House	Terraced two-bay two-storey house, built c. 1895.	Speer's Lane	Regional
75.	40502020	House	End-of-terrace two-bay two-storey house, built c. 1908.	Speer's Lane	Regional
76.	40502018	House	Terraced two-bay two-storey house, built c. 1908.	Speer's Lane	Regional
77.	40502019	House	Terraced two-bay two-storey house, built c. 1908.	Speer's Lane	Regional
78.	40501134	Hill Mount House	Detached three-bay two-storey former Presbyterian manse on L-shaped plan, built c. 1896.	New Line Road	Regional
79.	40501130	house	Detached three-bay single-storey vernacular house, built c. 1820.	New Line Road	Regional

Protection of Archaeological Heritage

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. Examples of archaeological monuments in Letterkenny include souterrains (stone passages), cashels, enclosures, and churches. Archaeology in Ireland is protected framework of International conventions and national laws and planning policies.

The 1992 European Convention on the Protection of the Archaeological Heritage (the 'Valletta Convention') was ratified by Ireland in 1997. The aim of the Convention is to 'protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study' (Article 1). The Convention places certain obligations on Ireland including providing for statutory protection measures, including the maintenance of an inventory of the archaeological heritage and the designation of protected monuments and areas. Ireland is also a party to the UNESCO (United Nations Educational Scientific and Cultural Organisation) Convention Concerning the Protection of the World Cultural and Natural Heritage (the 'World Heritage Convention') which requires Ireland to take the appropriate legal, scientific, technical, administrative and financial measures for, inter alia, the identification and protection of the cultural heritage

Under Irish legislation there are 3 key categories of archaeological protection:

- Record of Monuments and Places (RMP):** This record comprises a list of recorded monuments and places and an accompanying map for each county which are designated under the National Monuments (Amendment) Act 1994 and is the most common type of archaeological protection. Monuments on the RMP are known as '**Recorded Monuments**'. There are 20 monuments recorded on the RMP within the Letterkenny Plan area which are detailed in the table below.

- **Register of Historic Monuments (RHM):** This register is a list of historic monuments which are designed under the National Monuments (Amendment Act) 1987. Monuments on the RHM are known as '**Registered Monuments**'. There are no monuments on the RHM within the Letterkenny Plan area.
- **National Monuments in ownership or guardianship of the Minister or local authority:** A National Monument is defined under the National Monuments Act 1930 as a monument 'the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' and can be in the ownership or guardianship of the state or Local Authority. There are no national monuments in the Letterkenny plan area.

Historic Graveyards are also an important element of our Archaeological Heritage. There are 2 historic graveyards recorded in the Letterkenny plan area, which are listed on the RMP and are listed separately below. In addition to the above there may be other archaeological structures artefacts and sites in the Letterkenny plan not listed in any of the above categories or not yet discovered.

The government guidance *Framework and Principles for the protection of the Archaeological Heritage*, (Department of Arts, Heritage, Gaeltacht and the Islands 1999) emphasises that archaeological heritage is a non-renewable resource and that the resource formed by the archaeological heritage requires careful and responsible management. The County Donegal Development Plan 2018-2024(as varied) contains a range of Archaeological protection objectives and policies including for: recorded monuments (RMP), national monuments, unrecorded archaeological objects or sites, monuments identified since the publication of the RMP, and historic graveyards.

In addition to architectural and archaeological heritage there is intangible heritage such as linguistic and cultural heritage within Letterkenny.

Table 3.12: Sites on the Record of Monuments and Places (RMP) in the Letterkenny Plan Area

No.	RMP Map Ref:	Mon. No.	Townland	Classification
1	15	DG053-015---	Castlebane	Cashel
2	17	DG053-017---	Lisnenan	Holy Well
3	18	DG053-018---	Kiltoiy	Bullaun Stone
4	19	DG053-019-	Kiltoiy	Church
5	21	DG053-021--	Carnamogagh Lower	Bullaun Stone
6	22	DG053-022---	Ballymacool	Cashel
7	23	DG053-02301-	Ballymacool	Enclosure Site
8	23	DG053-02302	Ballymacool	Souterrain
9	24	DG053-024---	Ballymacool	Enclosure Site
10	25	DG053-025--	Sallaghagrane	Standing Stone Site
11	26	D6053-026---	Ballyraine	Enclosure Site
12	30	DG053-030--	Ballymacool	Souterrain
13	31	DG053-031--	Ballymacool	Souterrain
14	32	DG053-032--	Oldtown	Standing Stone Site
15	33	DG053-033---	Oldtown/Drumnaoagh	ECCLESIASTICAL REMAINS
16	33	DG053-03301-	Oldtown	Church And Graveyard
17	33	DG053-03302	Drumnaoagh	Holy Well Site
18	33	DG053-03303	Drumnaoagh	Bullaun Stone
19	34	DG053-034--	Scribly	Enclosure Site
20	35	DG053-035--	Bunnagee	Bullaun Stone

Table 3.13: Historic Graveyards in the Letterkenny Plan Area

No.	Name	Townland	RMP Number
1.	Aghanunshin	Kiltoiy	DG053-019001-
2.	Leck	Drumnaoagh/Oldtown	DG053-033004

Register of Historic Monuments in the Letterkenny Plan Area

None

3.9 Landscape and Visual

This section outlines the baseline information regarding landscape and visual features of relevance to The Letterkenny Plan.

Landscape can be defined as 'an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors' (European Landscape Convention, Council of Europe 2000). Landscape covers natural, urban, peri-urban and rural areas, encompassing land, inland waters, coastal and marine areas. In addition townscape is a subset of landscape and can be defined 'landscape within the built-up urban area, including the buildings, the relationship between them, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces' (LI/IEMA, 2013).

Landscape and Visual Impact Assessment

Land and Visual Impact Assessment (LVIA) is a tool used to identify and assess the significance of effects or changes resulting from development on both the landscape as an environmental resource in its own right and on people's views and visual amenity²⁶. This LVIA in this report has been developed on the basis of the guidance set out in the *TII publication Landscape Character Assessment (LCA) and Landscape and Visual Impact Assessment (LVIA) of Specified Infrastructure Projects - Overarching Technical Document* (TII December 2020) and the guidelines detailed in footnote below.

LVIA involves inter alia the defining the scope of the proposed development, the establishment of a landscape and visual baseline and an assessment of the landscape and visual effects.

Landscape and Visual Impact Assessment (LVIA) involves two related but separate assessments, namely:

- **Assessment of Landscape Effects:** Changes to landscape character and landscape resource. This is concerned with the physical landscape and its characteristics.
- **Assessment of Visual Effects:** Changes to views, visual amenity and effect on viewers.

The broad scope of the plan including the contents, main objectives and land use zonings have been described in Section 2 of this report. The purpose of this Section of the Environmental Report is to establish a landscape and visual baseline in order to inform and enable the assessment of the Likely Significant effects on the environment of implementing the plan detailed in Section 7 of the report.

Consequently, in order to facilitate the abovementioned LVIA it is necessary to establish the:

- Landscape baseline: The main features, elements and characteristics of the landscape.
- Visual Baseline: The viewers, viewpoints, and visual receptors.

Once the landscape and visual baseline has been established it will then be possible to assess (i.e. identify, describe and assess the significance of) both the likely significant Landscape effects (i.e. the effects on landscape as a resource) and the likely significant visual effects (i.e. effects on views and visual amenity) of particular aspects of the Letterkenny Plan in Section 7.

Landscape Baseline: Key Features, Elements and Characteristics of the Landscape

Letterkenny is located within **Landscape Area 15, "Letterkenny Estuary and farmland"** of the Donegal Landscape Character Assessment (LCA). The assessment of this Landscape Character Area broadly identifies the following key features, elements and characteristics.

- A wide fertile valley River Swilly flowing through bog covered uplands eastwards towards Lough Swilly.
- A large intertidal estuary of the Swilly encircled by higher hills and mountains to the north and south and rolling arable lands to the east.

²⁶ Landscape Institute and Institute of Environmental Management and Assessment, 2013, Guidelines for Landscape and Visual Impact Assessment, 3rd Edition,

- Large primarily agricultural floodplain extending inland along the River Swilly through Letterkenny Town and beyond into Newmills.
- There is a substantial amount of residential sprawl radiating from Letterkenny and a considerable amount of one-off dwellings and linear development along the local road networks.
- Letterkenny is the largest town in the County is located west of the Swilly Estuary on the banks of the River Swilly and in recent times and expanded south across the river whereas the historic town fabric is located on higher lands just north of the river.
- Ecologically important landscape containing 315.4ha of Natura 2000 sites (SAC & SPA) and 368.7ha of pNHA sites.
- Important vernacular and built heritage containing 23 RPS structures and 95 NIAH structures including Castlegrove house and demense, Ballymacool house, Rockhill house, important local landmarks that give distinctiveness to this landscape.
- Hedgerows and deciduous tree bound fields are a predominant feature in this landscape providing biodiversity corridors throughout.
- Dispersed clumps of deciduous woodland, demense woodland and important historic woodland in this LCA.

Whilst the LCA does not ascribe a sensitivity rating to the landscape it identifies a number of forces for change including: pressure in the rural area for urban generated rural housing, linear development along the rural road network, renewable energy development, telecommunication and infrastructural development, coastal erosion, flooding, development and consolidation of the Letterkenny urban area.

In addition, Letterkenny also is partially located within the **Seascape Unit 6 "Lough Swilly"** of the Donegal Seascape Assessment. Said assessment highlights the following key characteristics which interact the Letterkenny Plan Area:

- mudflats which are edged in part by salt marsh,
- low lying agricultural land with higher bog covered mountains in the distance.

Finally the **Settlement Character Assessment for Letterkenny** (forming part of said overall Landscape Character Assessment) highlights the following key features elements and characteristics including:

- Built Heritage including: St Eunan's Cathedral (a dominant and iconic building within the town), Castlegrove house, Ballymacool House and Rockhill house, the historic streetscape network including structures on the RPS and NIAH.
- Natural Heritage and Biodiversity areas including: the River Swilly that flows along a low plain, the long tidal estuary at the mouth of Lough Swilly, significant areas of established Woodland at Kiltoy, Gortlee and Ballymacool, the Lough Swilly SAC and SPA, Whinney Hill, Rodgers Burn and Drum Hill.
- The Architectural Conservation Area including St Eunan's Cathedral, Conwall Parish Church and Church Lane and Castle Street.
- Views and Prospects: Identifies the following perspectives to be of particular importance in terms of landscape setting and the protection of views:
 - Views of the settlements skyline, from all approaches to the town.
 - Church spires visible from outside the town form local landmarks.
 - Streetscape views within, into and out of the ACA are important, particularly with reference to the character of Cathedral Square, Church Lane, and Castle Street.
 - Views projecting out to Lough Swilly provide a connection with the settlement and the surrounding landscape contributing to a strong sense of place.
 - Occasional views between buildings along the main street provide glimpses of the surrounding landscape setting.

In addition, the CDP 2018-2024(As Varied) defines 3 landscape amenity designations in Donegal namely: Especially High Scenic Amenity (EHSA), High Scenic Amenity (HSA) and Moderate Scenic Amenity (MSA). The Letterkenny Plan area adjoins area classified as High Scenic Amenity (to the North, North East, East, and South West) and Moderate Scenic Amenity (to the South East, West and North West) (See Map 7.1.1 of said plan). These landscapes are described and categorised in said plan as follows:

- **Areas of High Scenic Amenity** are landscapes of significant aesthetic, cultural, heritage and environmental quality that are unique to their locality and are a fundamental element of the landscape and identity of County Donegal. These areas have the capacity to absorb sensitively located development of scale, design and use that will enable assimilation into the receiving landscape and which does not detract from the quality of the landscape, subject to compliance with all other objectives and policies of the plan.
- **Areas of Moderate Scenic Amenity** are primarily landscapes outside Local Area Plan Boundaries and Settlement framework boundaries, that have a unique, rural and generally agricultural quality. These areas have the capacity to absorb additional development that is suitably located, sited and designed subject to compliance with all other objectives and policies of the Plan.

In turn based on the landscape significance and sensitivity rating set out in the abovementioned TII guidance it is possible to broadly categorise the abovementioned landscape/townscape features, elements and characteristics as set in Table 3.14 below. In this regard the landscape/townscape in the vicinity of the Letterkenny Plan broadly corresponds to 'a landscape of some quality and value but some adverse conditions' and is therefore a landscape of Medium significance and sensitivity. However as indicated below said landscape/townscape does contain some landscape/townscape elements which are considered to be of a high significance and sensitivity.

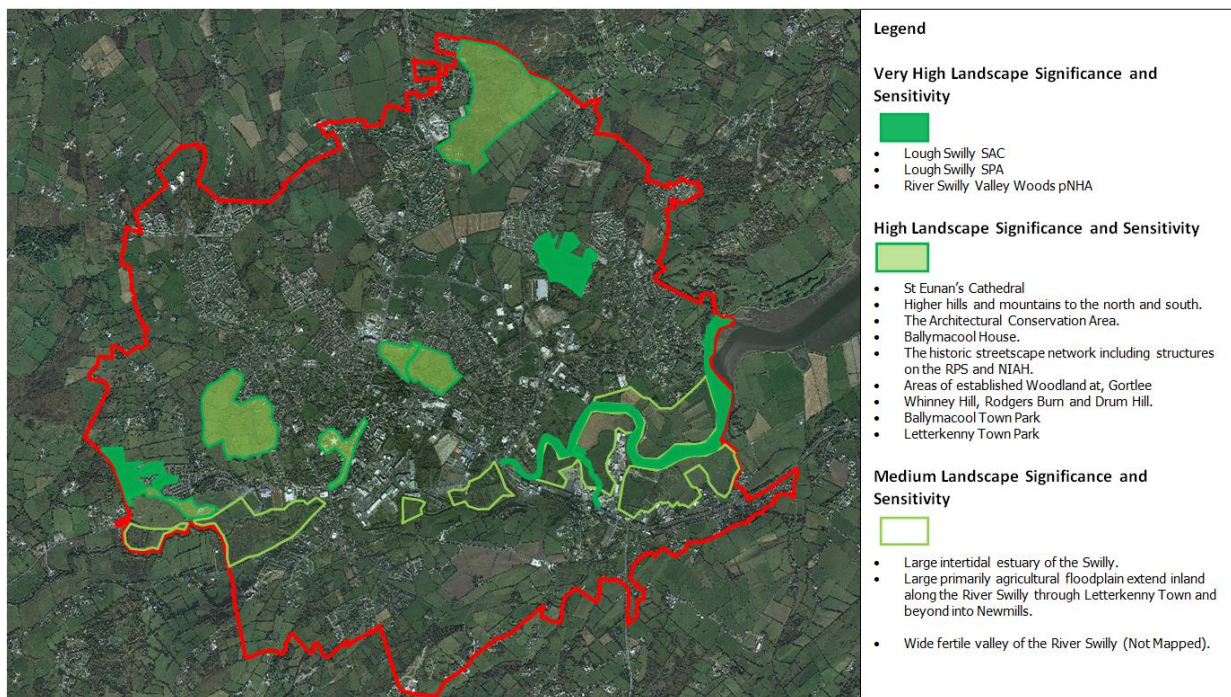
Table 3.14: Key Landscape Features, Elements and Characteristics Relevant to the Letterkenny Plan

Rating of Landscape Significance and Sensitivity	Landscape Feature/Element
Very High	<p>Landscapes Protected by an International or National Designation:</p> <ul style="list-style-type: none"> • Lough Swilly Special Area of Conservation • Lough Swilly Special Protection Area • Kilttoy Woods Proposed National Heritage Area • Lough Swilly Woods Proposed National Heritage Area.
High	<p>Regionally Important Historical Socio-cultural Features: St Eunan's Cathedral</p> <p>High Value Landscape/townscape features that cannot be replaced.</p> <ul style="list-style-type: none"> • Higher hills and mountains to the north and south. • The Architectural Conservation Area. • Ballymacool House. • The historic streetscape network including structures on the RPS and NIAH. • Areas of established Woodland at, Gortlee, Kilttoy, and Ballymacool • Whinney Hill, Rodgers Burn and Drum Hill. • Significant areas of established woodland at Kilttoy, Gortlee and Ballymacool <p>Community Sports and Recreational Landscapes which Cannot be Replaced Locally</p> <ul style="list-style-type: none"> • Letterkenny Town Park • Ballymacool Park
Medium	<p>Landscape Elements Important to Maintaining the Landscape/townscape Character of An Area:</p> <ul style="list-style-type: none"> • Wide fertile valley of the River Swilly. • Large intertidal estuary of the Swilly. • Large primarily agricultural floodplain extending inland along the River Swilly through Letterkenny Town and beyond into Newmills. • Dispersed clumps of deciduous woodland. <p>Note: These landscape elements have been categorised as having a medium landscape significance and sensitivity on the basis that:</p> <ul style="list-style-type: none"> • The landscape around Letterkenny is generally considered to be some quality and value but with some adverse conditions. • The landscape around Letterkenny is generally considered to have a character, pattern and scale which has the capacity to accommodate change. • The abovementioned landscape elements within the Letterkenny plan area only constitute a portion of said landscape elements within the broader Letterkenny Estuary and Farmland LCA they are therefore considered important but not critical for maintaining the landscape character of the area.
Low	<p>Elements Not Important to maintaining the landscape/townscape character of an area or Landscape where change is unlikely to be detrimental or Land uses without acknowledged landscape quality.</p> <ul style="list-style-type: none"> • General urban area of Letterkenny. • Suburban areas within Letterkenny.

	<ul style="list-style-type: none"> • Commercial areas within Letterkenny. • Infill sites within urban area. • Marginal land.
Very Low	<p>A degraded landscape or Brownfield sites with no associations of note or A landscape where change is likely to be positive.</p> <ul style="list-style-type: none"> • Brownfield site. • Semi developed sites.

The approximate spatial extent of most of these landscape features, elements and characteristics of Very High High, and Medium Landscape Significance and Sensitivity is mapped below. In this regard the Wide Fertile Valley of the River Swilly has not been mapped as it encompasses the vast majority of Letterkenny Plan area.

Figure 3.24 Letterkenny Plan Are: Landscape Features, Elements and Characteristics of Very High, High and Medium Landscape Significance and Sensitivity



Visual Baseline: Key Views, Viewpoints and Visual Receptors.

The Settlement Character Assessment for Letterkenny specifically identifies the following view and prospects as being of particular importance in terms of landscape setting and the protection of views:

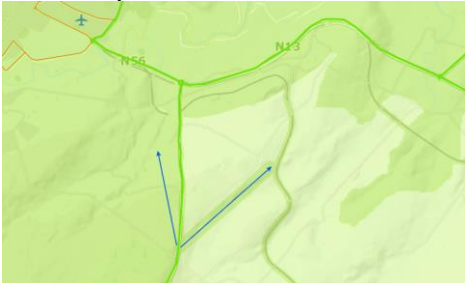

- Views of the settlements skyline, from all approaches to the town.
- Church spires visible from outside the town form local landmarks.
- Streetscape views within, into and out of the ACA are important, particularly with reference to the character of Cathedral Square, Church Lane, and Castle Street.
- Views projecting out to Lough Swilly provide a connection with the settlement and the surrounding landscape contributing to a strong sense of place.
- Occasional views between buildings along the main street provide glimpses of the surrounding landscape setting.



The CDP 2018-2024(as varied) identifies 2 designated views and prospects within the vicinity of the Letterkenny namely at Listellian and Manorcunningham (see details in table below). In turn it is an Objective of the abovementioned higher plan to 'Protect, Manage, and conserve the character, quality and value of the landscape including..... the preservation of views and prospects' (NH-O-5 refers). In




accordance with the abovementioned TII guidance it is considered that these views are of very high visual significance and sensitivity.



Furthermore on the basis of the field surveys of the Letterkenny area it is possible to identify a range of visual receptors (e.g. local residents, recreational walkers, tourists etc) and views (e.g. designated views, views high usage public spaces, non designated views of characteristic landscapes from the general road network, and other views to and from local ridge, hills, high points and buildings of note) which in accordance with the abovementioned TII guidance are considered to be of high and medium visual significance and sensitivity. These visual receptors and viewpoints are detailed in Table 3.15 below. Some of these views are specific (e.g. Manorcunningham Viewing point) whilst others are broadly representative (i.e. may show the effect of a number of viewpoints). In regard the views shown may not represent all of the views available within/of the plan area.

Table 3.15: Views, Viewpoints, and Visual Receptors Relevant to the Letterkenny Plan with a Very High or High Visual Significance/Sensitivity

Visual Significance and Sensitivity Rating	Views and Visual Receptors
Very High	<p>Designated Views, Viewpoints and Vistas.</p> <ul style="list-style-type: none"> <p>View 1: The N13 at Listellian: This view is orientated both north/north westward towards the northern fringes of the plan area around Knockybrin and north eastward down Lough Swilly toward the Inishowen Peninsula. (Tourists, Visitors and Local Residents).</p>   <p>View 2: The N13 at the Manorcunningham Viewing Point: This Wild Atlantic Way designated Discovery Point is orientated: west/north westward over the Swilly</p>



Visual Significance and Sensitivity Rating	Views and Visual Receptors
	<p>Estuary toward Knockybrin (encompassing in particular the Knockybin, Ardrawer Loughnagin, Magheranan and areas of the plan area) and northwards down Lough Swilly.</p>  
<p>Medium to High</p>	<p>Note: Having regard to the abovementioned TII Guidance it is considered that a number of views around Letterkenny contain <u>both</u> visual <u>elements</u> of a:</p> <ul style="list-style-type: none"> • High visual significant and sensitivity (e.g. views to local ridgelines, hills, views from high usage public spaces etc) <u>and</u> • Medium visual significant and sensitivity (e.g. views of characteristics elements of the landscape such as the southern Swilly valley slopes) <p>As such it is not possible to neatly categorise said entirety of said views and accordingly, they are categorised medium to high in this table. However, the visual elements within those views have been categorised in Figure 3.25</p> <p>Views from Open/Spaces Local Parks View 3: Letterkenny Town Park: South westwards towards the southern valley slopes and beyond.</p>



Visual Significance and Sensitivity Rating	Views and Visual Receptors
	 <ul style="list-style-type: none"> • View 4: Ballymacool Town Park: Eastwards encompassing the agricultural flood plain of the River Swilly, and the southern Swilly valley slopes  <p>View from High Usage Public Spaces</p> <ul style="list-style-type: none"> • View 5: Letterkenny Main Street: South westwards down the axis of the Lower Main Street towards parts of the southern Swilly Valley slopes, the Rann River valley and the hills to the southwest of the town. 

Visual Significance and Sensitivity Rating	Views and Visual Receptors
	<p>Non Designated Views of Characteristic Landscapes from General Road Network and Views of local Ridges Hills and High Points.</p> <ul style="list-style-type: none"> <p>View 6: N56 Kilmacrennan Road at Carnamuggagh Upper: South westwards encompassing the southern Swilly Valley slopes, and higher hills to the south west of the town. (Tourists, Visitors and Local Residents).</p>  <p>View 7: Lxxx Kilty Road at Kilty: South westwards encompassing views of the eastern part of the Letterkenny urban area, the southern Swilly Valley slopes and the hills to the west and northwest of Letterkenny (Local Residents).</p>  <p>View 8: R245 Ramelton Road at Magheranan: Westwards including part of the southern Swilly Valley slopes at Drumnahoagh/Sribley and the hills to the west of Letterkenny. (Tourists, Visitors and Local Residents).</p>

Visual Significance and Sensitivity Rating	Views and Visual Receptors
	 <ul style="list-style-type: none"> View 9: N13 Derry Road/Dual Carriageway at Trimeragh: Westwards including the higher hills to the west and north of the town in particular Knockybrin. (Tourists, Visitors and Local Residents)  <ul style="list-style-type: none"> View 10: N13 Derry Road/Dual Carriageway at Dromore: Westwards including the hills to the west and the ridgeline to the northwest of the town (Tourists, Visitors and Local Residents) 

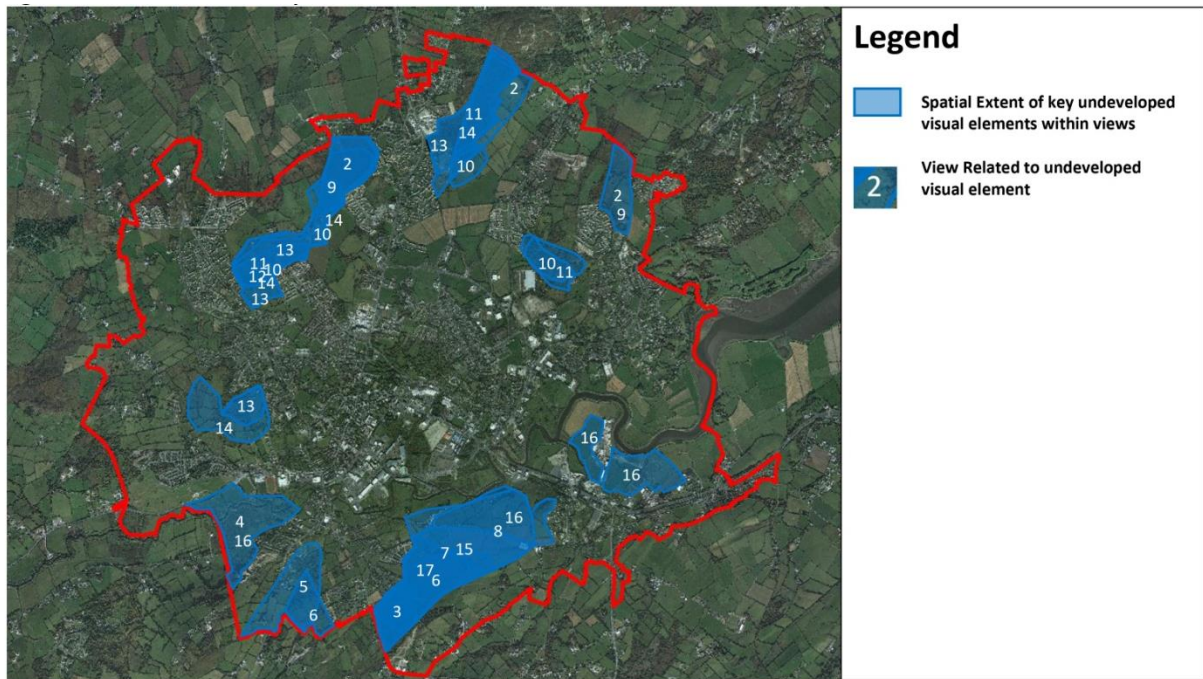
Visual Significance and Sensitivity Rating	Views and Visual Receptors
	<ul style="list-style-type: none"> <li data-bbox="368 304 1426 398"> <p>View 11: N13 Ballybofey/Stranorlar Road at Lurgybrack: North westwards including the townscape of Letterkenny, Knockybrin, and the ridgeline to the north west of the town. (Tourists, Visitors and Local Residents)</p>  <li data-bbox="368 757 1426 851"> <p>View 12: N56 4 Lane Derry Road at Polestar Roundabout: Westward encompassing the iconic Polestar monument, the urban core of Letterkenny and the high hills and ridgeline to the west of the town. (Tourists, Visitors and Local Residents)</p>  <li data-bbox="368 1361 1426 1518"> <p>View 13: Lxxx Leck Road: Northwards encompassing a panoramic view of Letterkenny and its rural backdrop including: the historic town core and St Eunan's Cathedral in the middle ground, Whinney hill to the south west, the high hills/ridgeline to the north west and Knockybrin to the north of the town. (Local Residents)</p> 

Visual Significance and Sensitivity Rating	Views and Visual Receptors
	<ul style="list-style-type: none"> <p>View 14: Lxxx Lismonaghan: North westwards providing a sweeping view of Letterkenny within the wider rural landscape including the Drum Hill, Rodgers Burn and Whinney Hill to the south west, the urban core of the town, the high hills and ridgelines to the north west, Knockybrin to the north and Kiltoy woods to the north east (Local Residents).</p>  <p>View 15: Glencar Road: South eastwards including the southern Swilly Valley slopes and beyond.</p>  <p>Note: The field assessment did also attempt to identify any potential non designated Views of Characteristic Landscapes within the plan area from General Road Network on approach from West of the town. However, the views on approach from the west were generally limited by the lowlying nature of the R250 Letterkenny to Glenties road.</p> <p>Views to and From Local Ridge, Hills, High Points and Buildings of Note.</p> <ul style="list-style-type: none"> <p>View 16: Knockybrin: South westwards towards Letterkenny providing a panoramic view of the urban area of Letterkenny within its wider landscape setting with the southern valley slopes and the eastern part of the flood plain particularly visible (Local Residents)</p>

Visual Significance and Sensitivity Rating	Views and Visual Receptors
	 <ul style="list-style-type: none"> <li data-bbox="371 712 1425 772">• View 17: St Eunan’s Cathedral: Southwards toward the southern River Swilly Valley slopes (Local Residents and Tourists) 

On the basis of the above it is possible to map the approximate spatial extent of some of the key visual elements of the abovementioned views of Very High and High and Medium Visual significance within the Letterkenny Plan Area (e.g. hills, ridgelines, valley slopes, woodlands) which in turn may be impacted by any development proposed under the plan (See Map below).

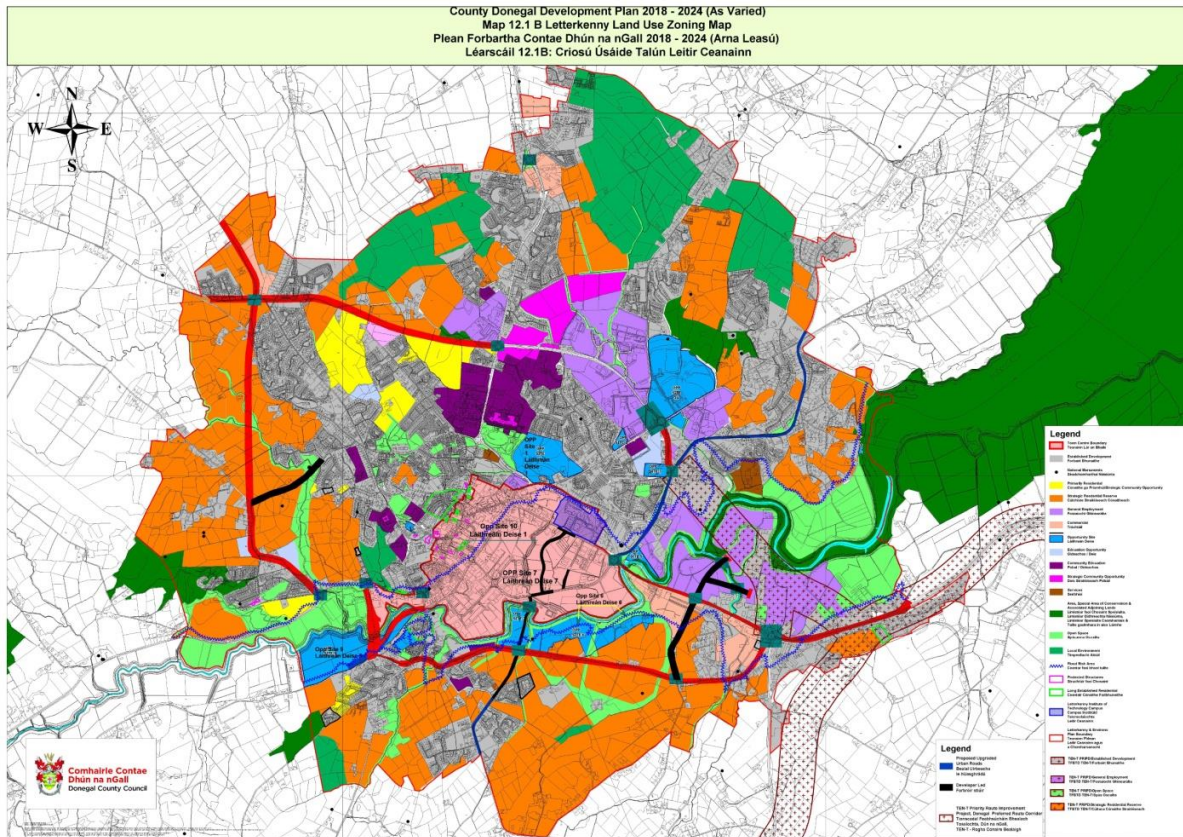
Figure 3.25 Approximate Spatial Extent of Key Undeveloped Visual Elements within Views of Very High and High Visual Significance and Sensitivity with Letterkenny Plan Area



3.10 Evolution of the Environment without the Implementation of the Letterkenny Plan

The SEA Directive requires the consideration of the likely evolution of the environment in the absence of the implementation of the Letterkenny Plan. In the absence of the Letterkenny Plan both the specific policies, objectives and land use zonings for Letterkenny contained in Chapter 12, Part C of the CDP 2018-2024(as varied) and wider policies of said plan would remain in effect and would continue to form the key basis for future planning and development decisions in the Letterkenny area. The existing Land Use Zoning for Letterkenny is shown below:

Figure 3.26 Existing Land Use Zoning Map for Letterkenny (Part C of the CDP 2018-2024 (As Varied))



The overall impact of said policies, objectives and land use zonings on the key aspects of the Environment listed in Annex1(f) of the SEA Directive is considered below.

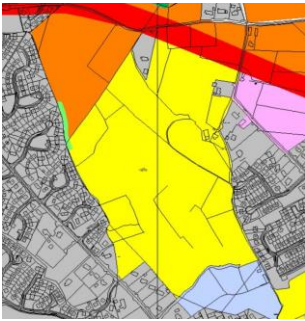
Table 3.16: Evolution of the Environment without the Implementation of The Letterkenny Plan.

Key Issue	Likely Evolution of the Environment
<p>Biodiversity, Flora & Fauna</p>	<p>The current CDP 2018-2024(as varied) does not facilitate development within key biodiversity assets within the Letterkenny area namely the Lough Swilly SAC, the Lough Swilly SPA or the River Swilly Valley Woods pNHA (including Kiltroy Woods or Ballymacool Woods). Consequently, the current plan will not have a significant direct impact (e.g. direct loss or fragmentation of habitat) on said biodiversity sites. In addition objectives NH-O-2, NH-O-3 and Policy NH-P-1 of the said plan would provide further protection to the abovementioned sites.</p> <p>In relation to the other special areas of biodiversity in Letterkenny identified in the Biodiversity Study for the Letterkenny and Environs Development Plan 2009 it is noted that under the current CDP 2018-2024(as varied):</p> <ul style="list-style-type: none"> • Both Whinney Hill and Drum Hill are zoned Strategic Residential Reserve whose zoning objective is <i>'to reserve said lands for residential development as a long term strategic landbank'</i>. • Rodgers Burn and the River Swilly Corridor are zoned Open Space whose zoning objective is inter alia <i>'to conserve and enhance land for informal and formal open space and amenity purposes'</i> <p>Consequently, said plan would not facilitate significant development on, and therefore not have a significant direct impact on, the biodiversity of said areas.</p>

Key Issue	Likely Evolution of the Environment
	<p>It is also noted that area of Gortlee Woods is zoned Opp. Site 1 under the current plan and the associated site specific Policy LK-OPP-1 provides for residential, offices, tourism, institutional uses or neighbourhood level retail. However on the basis development proposals would be required to <i>'demonstrate compatibility with the environmental setting of the site'</i> and <i>'the site is developed as a town park campus, retaining the substantive woodland cover of the site'</i> it is considered that said plan would not have a significant impact on the biodiversity of Gortlee Woods.</p> <p>The current plan also zones a number of peripheral rural areas Local Environment whose zoning objective is to provide for <i>'limited development only ensuring no significant negative impact on the landscape setting or biodiversity quality of the area'</i>. Consequently said zoning would largely protect the biodiversity of said areas. In addition area under the current plan some sections of the Flood Plain of the River Swilly and existing Green Areas in Letterkenny are also zoned Open Space and the plan would therefore protect the biodiversity of said areas.</p> <p>The current also zones facilitates a range a range of residential, retail, commercial, community and infrastructural development on greenfield lands throughout the plan area which contain areas of improved grassland, semi improved grassland and hedgerow environments and some small pockets of woodlands. Consequently the current plan could be expected to have some negative effects on biodiversity through the removal of such natural features to facilitate development. However given that such features do not have any specific statutory protection and represent a small subset of such features within the County overall it is not considered that this would represent a significant negative effect on biodiversity overall.</p>
Population/ Human Health	<p>The current CDP 2018-2024(as varied) facilities a range of objectives, policies and land use zonings which are likely to facilitate population growth and maintain and enhance human health including:</p> <ul style="list-style-type: none"> • The provision of 55.2ha of land zoned primarily residential to facilitate housing. • The provision of a significant quantum of lands zoned town centre, general employment and opportunity sites to facilitate economic development. • The reservation of lands for transport infrastructure (e.g. the TEN-T Priority Route Improvement Project, Donegal and local relief roads). • The zoning of lands as Open Space for amenity purposes and to facilitate new recreation, leisure and community facilitate. • The zoning of lands as strategic, community and opportunity to facilitate health, education and social/community developments. <p>Otherwise achieving further population growth and tackling health problems associated with social deprivation will be largely dependent on economic growth and employment generation, infrastructure investment, and social, community and educational interventions to tackle social deprivation and therefore difficult to predict in the medium to long term.</p>
Soil	<p>Section 3.3 provides an overview of soils within the Letterkenny Plan area. The current CDP 2018-2024(as varied) provides for development on a range of greenfield sites with undisturbed soils within Letterkenny including on lands with:</p> <ul style="list-style-type: none"> • NBP4 (0900NBP4) (i.e. Brown Podzol taxonomy) Soil types: including primarily residential sites at Glencar Irish, Windyhall and Ballymacool, general employment lands at Windy Hall, Carnamuggagh Lower and Strategic Community and Opportunity at Carnamuggagh Upper and Lower • River Alluvium Soil type: including General Employment lands at Bunnagee, Milk Isle and Dromore and Commercial lands at Drumnahoagh and Bunnagree.

Key Issue	Likely Evolution of the Environment
	<p>It is likely that the abovementioned development would cause the overbuilding and sealing (e.g. through construction of buildings and hard surfaces) and in some instances the partial removal of the abovementioned soil types. This in turn is likely to lead to a loss or reduction in certain soil functionality including food production/agriculture, habitats provision flood attenuation, nutrient cycling, water purification, and carbon sequestration. However said impacts are likely to be insignificant given the overall spatial extent of the soil types affected.</p> <p>Development on the abovementioned sites is also likely to have some impacts on Geology through for example the excavation of rock to accommodate building and roads. However, said impacts are likely to be insignificant given the overall extent of the rock types affected. In addition as Lough Swilly (including the Swilly Estuary) and its adjoining shoreline is designated as both a Special Area of Conservation and a Special Protection Area it is unlikely that the CDP2018-2024 will have any significant effect on the Lough Swilly County Geological Site.</p>
Water	<p>Section 3.4 provides an analysis of the current water quality in the Letterkenny area based on EPA water quality data. This data indicates that the Upper Swilly/Swilly Estuary has a moderate WFD Water Quality status, the River Glasagh has a poor WFD Water Quality status for the Glasagh River and there are water pollution problems in unsewered areas of the town (e.g. in the town centre east of the Isle Burn and east of the Port Bridge).</p> <p>Under the current plan both existing development and new development in sewered areas (which comprise the majority of the plan area) would continue to be treated by the Letterkenny Wastewater Treatment Plant which has significant additional treatment capacity. Consequently, such existing and new development in sewered areas is unlikely to cause a further deterioration in water quality.</p> <p>However under the current plan both existing development and new development in unsewered areas (in the town centre east of the Isle Burn and east of the port bridge (which suffers from a high water table and poor percolation)) would continue to rely on individual WWTS and is therefore likely to cause water pollution in these areas, which may in turn impact on water quality in the Swilly estuary.</p>
Air	<p>Section 3.6 provides an analysis of the current ambient air quality in Letterkenny based on EPA Air Quality monitoring data. In particular this indicates that the most significant form of air pollution in Letterkenny is Particulate Matter pollution linked to the burning of solid fuels for home heating.</p> <p>Consultations with the DCC Environment Section indicate that there are compliance issues with the Smoky Coal ban in the Letterkenny urban area. As the Smoky Coal ban was introduced in Letterkenny in 2013 and these problems continue to persist it is therefore likely that such compliance issues will continue in the short to medium term.</p> <p>The current Letterkenny Plan also provides for a variety of additional new development including residential, retail, commercial, light industrial etc. However, as the most significant air pollution problem in Letterkenny (PM) is directly related to the burning of fossil fuels for home heating it is unlikely that non residential development facilitated by the current plan will result in significant additional air pollution in Letterkenny. Furthermore as new buildings regulations require all new dwellings to achieve a Nearly Zero Energy Building Standard it is unlikely that home heating requirements for new dwellings will be met by the burning of solid fuels and consequently that new residential development will cause significant additional air pollution in Letterkenny.</p>

Key Issue	Likely Evolution of the Environment
Climate	<p>Section provides an overview of the current state of the environment related to climate. In the absence of the Letterkenny Plan global warming and associated impacts on the climate system would continue. The scale of this warming and the severity of these impacts over the medium to long terms will be largely dictated by the global success or otherwise of reducing greenhouse gas emissions including achieving 2030 greenhouse gas emission targets and achieving net zero emissions by 2050.</p> <p>In the absence of the Letterkenny plan the current policies, objectives and land use zonings for Letterkenny contained within the CDP 2018-2024 provide for a significant residential and commercial development and associated population growth (e.g. 55.2ha primarily residential zonings). This development and growth would in turn create the potential for additional greenhouse gas emissions (e.g. through construction, non renewable electricity demand, traffic related missions etc). The EPA predicts that even with the additional measures set out the Government’s Climate Action Plan 2019 Ireland will continue to emit significant volumes of Greenhouse gases across a range of sectors by 2030 including in areas related to such growth and development (e.g. energy, transport, commercial and public services). Consequently, in line with these projections the growth and development provided for Letterkenny under the current CDP 2018-2024 would be likely to result in significant additional greenhouse emissions.</p>
Material Assets	<p>The current objectives and policies of the CDP 2018-2024(as varied) including the Letterkenny specific provisions of said plan would facilitate both the redevelopment/regeneration and protection of existing material assets (including the existing built environment and infrastructure) as well as the provision of range of new material assets including:</p> <ul style="list-style-type: none"> • Housing: The provision of new residential development on sites zoned Primarily residential, on specific Opportunity sites, within the town centre, and on lands zoned established development. • Retail: The redevelopment of existing and the provision of new retail development on site zoned town centre at other locations subject to the retail sequential test (e.g. neighbourhood level retail developments). • Commercial/Industrial: The provision of a wide range of new commercial and industrial development on a range of sites zone general employment (e.g. IDA Business and Technology park, at Windy Hall and east of the Port Bridge) and on Opportunity sites (E.g. Gortlee, Donegal Creameries site, Old Unifi site). • Education: The expansion of the LYIT campus and the upgrading of existing/provision of new facilities on existing education sites. • Social/Community: The provision of new facilities at Letterkenny University Hospital and new healthcare/education/social or community infrastructure on land zoned Strategic community opportunity. • Environmental Assets: The protection of open space lands on within existing parks and green areas within the urban footprint of the town and on the River Swilly flood plain and corridor. • Transport Infrastructure: Section 2 of the TEN-T PRIPD, and strategic road corridors on the southern, western and northern side of the town. • Wastewater Infrastructure: The upgrading of the Letterkenny sewerage system through Irish Water Letterkenny <p>However it is specifically noted that the development of certain new material assets envisaged by the draft Letterkenny Plan may not be realised under the current plan:</p> <ul style="list-style-type: none"> • New pedestrian and cycling and public transport infrastructure and linkages, including an upgrading local transport system as envisaged in the Transport Plan. • The Southern Strategic and Sustainable Development Site: The development of a new high quality walkable neighbourhood with housing immediately south of the

Key Issue	Likely Evolution of the Environment
	<p>River Swilly (subject to the provision of the necessary waste and waste water infrastructure).</p> <ul style="list-style-type: none"> • Housing: The provision of new residential development at key infill/compact development sites (e.g. along New Line Road, at Creeve/Woodpark/Lismonaghan/Oldtown, and at Kiltyoy).
Cultural Heritage	<p>In the absence of The Letterkenny Plan Cultural heritage would continue to be protected by the statutory protections and the relevant objectives and policies of the current County Donegal Development Plan 2018-2024(as varied). In this regard:</p> <ul style="list-style-type: none"> • Architectural Heritage on the Record of Protected Structures within the Letterkenny ACA would continue to be protected by the provisions of the Planning and Development Act 2000(as amended) and the objectives and policies within current development plan whilst vernacular and/or historic structures (e.g. structures on the NIAGH) may also be protected by objectives and policies in said plan. • Archaeological Heritage on the Record of Monuments and Places (including Historic Graveyards) in Letterkenny would continue to be protected by statutory provisions of the National Monuments Acts and the objectives and policies in the current development plan. <p>However notwithstanding the above-mentioned statutory protections it is likely that the physical condition of some of the architectural heritage in the plan area is likely to deteriorate as a result of vacancy, dereliction, or neglect. Furthermore, deliberate damage to such heritage has occurred within the County and cannot therefore be ruled out in the Letterkenny plan area.</p>
Landscape and Visual	<p>It is considered that the Letterkenny specific policies, objectives, land use zonings contained in Chapter 12 of the CDP 2018-2024(as varied) and objectives and policies of said plan would broadly result in the following landscape and visual impacts:</p> <ul style="list-style-type: none"> • Continued pressure in the immediate rural hinterland of Letterkenny within the plan area (including within land zoned Strategic Residential Reserve and Local Environment) for urban generated rural housing and linear development on roads which detract from the rural character of the host Letterkenny Estuary and Farmland Landscape Character area and the rural landscape setting of the town. • Development on the higher hills and ridgeline to the northwest of the town in particular on the Residential Zoning at Glencar Irish (see below) which forms part of the the visual skyline for the town, represents a key landscape feature of said Landscape Character Area and also comprises an important visual element in key views of the town from the south and east.  <ul style="list-style-type: none"> • Scattered large scale commercial development on the agricultural floodplain of the River Swilly which forms a key landscape feature of the Letterkenny Estuary and Farmland Landscape Character area.

4 Environmental Characteristics of the Areas Likely to be Significantly Affected by the Letterkenny Plan

Specific aspects of the environment and distinct geographical areas are likely to be significantly affected due to the specific nature, type and location of development facilitated by the plan. The environmental characteristics of these areas are outlined in Table 4.1.

Table 4.1 Environmental Characteristics of Areas likely to be significantly affected by The Letterkenny Plan

Biodiversity, Flora & Fauna
<p>In relation to Biodiversity the Letterkenny Plan has the potential to affect the following areas related to Biodiversity Flora and Fauna:</p> <ul style="list-style-type: none"> ○ The Lough Swilly Special Area of Conservation (Site Code 002287): The Natura Impact Report notes that certain zonings (i.e. Open Space, Local Environment, and Open Space/TEN-T) and policies (e.g. LK-NBP-P-1 and LTP-AT-P-3) physically overlaps, or relate to development which may overlap with the above SAC. The SAC is also located immediately downstream and down slope, and predominately downwind of the urban area of Letterkenny. ○ Lough Swilly Special Protection Area (004075): The Natura Impact Report notes that certain zonings (i.e. Open Space, Local Environment, and Open Space/TEN-T) and policies (e.g. LK-NBP-P-1 and LTP-AT-P-3) physically overlaps, or relate to development which may overlap with the SPA. The SPA is located partially within the plan area are otherwise situated immediately downstream and downslope, and predominately downwind of the urban area of Letterkenny. ○ The River Leannan Special Area of Conservation (Site Code: 002176) which is hydrologically connected to the northern and north western fringes of the plan via the Glasagh River System. ○ The River Swilly Valley Woods pNHA (Site Code 002011) which is located within the proposed plan boundary in three distinct locations (Ballymacool to the west of the town centre, the Kiltroy area to the northeast and Creeve townland on the southwestern periphery of the plan boundary). ○ Lough Swilly Shellfish Area (IEPA A2_0042) within upper Lough Swilly which is hydrologically connected to the Letterkenny plan area via the Swilly Estuary. ○ Freshwater Pearl Mussel habitat within the Leannan River catchment which is hydrologically connected to the northern and north western fringes of the plan via the Glasagh River System. ○ 3 special areas of biodiversity at Ballymacool, Whinney Hill, Rodgers Burn, Drum Hill, and along the River Swilly (identified in the Biodiversity study commissioned for the Letterkenny and Environs Development Plan 2009). ○ The area of Gortlee Woods (Opportunity Site 1 refers). ○ Protected and threatened species occurring within the plan area as identified through National Biodiversity Data Centre’s Mapping portal. <p>The environmental characteristics of the above-mentioned areas related to Biodiversity have been extensively detailed in Section 3 Relevant aspects of the Current State of the Environment.</p>
Population and Human Health
<p>The 2016 Census recorded a population of 19,274 for Letterkenny. The Letterkenny Plan is likely to affect significant areas of residential population in both the urban and rural part of the plan area and their associated populations through changes in such areas as: quality of life, traffic flows, new infrastructure development, and the nature and location of new commercial and retail development. These residential areas can be broadly characterised as follows.</p>

Significant agglomerations of predominately low density residential development typified by semi detached and detached dwellings interspersed by green areas and access roads occur in the following broad areas:

- Ballymacool.
- Glencar Scotch/Killylastin/ Killyclug.
- Glencar Irish/Ballyboe Glencar.
- Carnamuggagh Upper and Lower.
- Carnamuggagh Lower/Ballyraine
- Lisnenan.
- Magherannan/Glebe/Loughnagin and Ardrawer.
- Lismonaghan.
- Sallaghgrane

Higher density residential development typified by apartments, terraced dwellings, occurs in the vicinity of the Main Street and adjoining lands. (e.g. lower Main Street, Ard O Donnell).

Additionally, pockets of low density one off residential development occur within the plan area in such areas as the Glebe, Knockybrin/Woodlands, and Dromore/Drumany/Bunnagee/Drumnahoagh.

Soil and Geology

Section 3.3 details the soil types which exist in the Letterkenny Plan Area. The Draft Letterkenny plan provides for development on greenfield sites at various locations throughout the plan area which is likely to affect these soils and their associated soil functionality. An overview of these soil types and the locations at which they may be affected by the plan is detailed in sub table below:

Soil Type and Description	Locations At Which Soil Type Is Likely To Be Affected
<p>NBP4 (0900NBP4): This soil type is located the northern and southern sides of the River Swilly Valley. It has: a fine loamy over shale and slate bedrock Texture Substrate Type, is well drained, and has a Loamy texture, a depth >80, and a typical Brown Podzolic soil taxonomy.</p>	<ul style="list-style-type: none"> • Primarily Residential Sites at Killyclug/Killylastin, Glencar Scotch, Glencar Irish, Ballymacool, Creeve, Woodpark, Lismonaghan, Kiltyoy and Glebe. • Southern Strategic and Sustainable Development Area at Sribley Drumnahoagh. • Opportunity Sites at Windyhall, Ballyboe Glencar, Gortlee, Ballyraine, and Carnamuggagh Lower. • General Employment lands at Windyhall, Carnamuggagh Upper and Lower, and more elevated part of Drumnahoagh. • Strategic Community Opportunity at Knocknamona and Carnamuggagh Lower.
<p>River alluvium (05RIV) This soil type forms is located in a central band running west to east through the plan area corresponding with the flood plain of the River Swilly. It is has poor drainage and a depth >80.</p>	<p>General Employment lands at Drumnahoagh, Bunnagee and Dromore.</p>

The key rock types prevalent in the Letterkenny Plan Area are detailed in Section 3.3 and include the following formations: Termon (Schist), Lower Crana Quartzite, Killeter Quartzite, and Aghyaran & Killygordon Limestone. The draft Letterkenny Plan provides for development on a number of greenfield sites and at various locations throughout the plan area (e.g. primarily residential sites, general employments lands and opportunity sites). The plan also has the potential to impact on the abovementioned geology through for example the excavation of rock to accommodate buildings and roads. However as Lough Swilly (including the Swilly Estuary) and its adjoining shoreline is designated

as both a Special Area of Conservation and a Special Protection Area it is unlikely that the draft Letterkenny Plan will have any significant effect on the Lough Swilly County Geological Site.

Water

The majority of the Letterkenny Plan area discharges to the River Swilly Catchment whilst small areas on the northern and Northern Western part of the plan area discharge to the River Leannan Catchment. The Plan area is also located within the Lough Swilly and Manorcunningham WFD Groundwater Waterbody units.

The Letterkenny Plan will facilitate a range of development including residential, commercial and light industrial and may give result in domestic and industrial effluent discharges which in turn have the potential to impact on water quality in said catchments. The existing status of these water bodies is described in Section 3.4. In particular:

- The River Swilly estuary had a moderate WFD water quality status and a 'At Risk' WFD risk status.
- The Glasagh River (in the Leannan Catchment) has a poor WFD water quality status and a 'At Risk' WFD risk status.
- Both the Lough Swilly and Manorcunningham Groundwater waterbodies have a good WFD status and a 'Not At Risk' WFD risk status.

Air

The Letterkenny Plan has the potential to affect air quality through traffic, residential or commercial related air pollution. Section 3.6 provides an analysis of the ambient air quality in Letterkenny based on EPA Air Quality monitoring data. This analysis shows that SO₂ and NO₂ levels were significantly below CAFE Limit values. However, there were 9 exceedances in the PM₁₀ WHO Air Quality Guidelines daily mean value of 50 µg/m³ and most significantly the annual mean value for PM_{2.5} (11.14 µg/m³) exceeded the WHO Guidelines annual mean value of 10 µg/m³.

Climate

Climate change can be expected to impact on the entirety of the Letterkenny plan area through, for example, climate change related heatwaves and rainfall events. In particular the following areas may be significantly affected by climate related future sea level rise or fluvial/pluvial flooding.

- Low lying parts of the town centre extension area: This area is characterised by a variety of low density retail and commercial development, access roads and car parks and undeveloped areas of land and includes retail units, retail warehousing, car sales areas, vehicle servicing units, light industrial developments, and some office developments.
- Low lying areas of the Flood plain to the east of the Port Bridge: This area is characterised to the south of the river by agricultural fields interspersed with low density commercial developments including, car and vehicles sales, vehicle servicing and recycling units, fuel depots, fillings stations, and a large hotel and to the north of the river by greenfield lands and playing pitches.
- Other areas adjacent to Local Rivers:
 - Areas adjacent to the Sprackburn including Letterkenny University Hospital, undeveloped lands at Ballyboe/Glencar and brownfield lands on the site of the Old Oatfield site.
 - Areas adjacent to the culverted river on the Old Unifi site which are brownfield in character.

Note: The CFRAM flood risk study identifies a number of areas in the town centre as 'defended' due to presence of agricultural level flood defences. However the flood risk management guidelines indicates that these areas are nevertheless vulnerable to flooding due to the speed of flooding when overtopping or a breach or other failure takes place.

Material Assets

The Letterkenny plan will facilitate development within greenfield agricultural lands for example at Carnamuggagh Lower and at Drumnaoagh/Scribley/Leck. The overall environmental characteristics of these lands are described in the Section 3 and in the 'Specific Geographical areas likely to be significantly affected' section below.

However, the plan is otherwise unlikely to significantly affect other existing built and natural material assets including: transport, energy/electricity, broadband, and waste infrastructure and existing healthcare housing, retail, commercial, industrial education developments and green/recreational infrastructure.

Cultural Heritage

The Letterkenny Plan area contains a range of cultural Heritage features including architectural Heritage (e.g. St Eunan's Cathedral and the Ecclesiastical Quarter ACA) and Archaeological Heritage (e.g. Souterrains, Cashels and churches) including:

- 20 Structures listed on the Record of Protected Structures (RPS)
- 79 Structures on the National Inventory of Architectural Heritage (NIAH)
- 20 Structures in total listed on the Record of Monument and Places. (RMP)
- 2 graveyards are listed as Historic Graveyards.

The location and details of these Cultural Heritage features have already been detailed in Section 3.

Landscape and Visual

The Letterkenny plan may affect both the urban and rural landscape of the plan area through the redevelopment of existing urban areas and the development of new retail, infrastructural and commercial development on greenfield sites.

The Letterkenny plan area is located predominately within River Swilly valley with moderately sloping valley sides and which are separated by a wide level agricultural flood plain. Much of the northern valley slopes are dominated by urban and suburban development although there are significant pockets of undeveloped agricultural lands and an area of deciduous woodland at Kiltyoy and Gortlee. A significant portion of the flood plain within the plan area is dominated by low density retail and commercial development. The southern valley slopes are mainly agricultural in character but contain pockets of suburban development. The North east of the plan area is physically dominated by the Knockybrin hill will rises to 256m OD. In the eastern end of the plan area the landscape is characterised by the estuary of the River Swilly and adjoining polderlands.

The key landscape features and visual elements of high or very high landscape and visual significance and sensitivity which may be significantly impacted by the Letterkenny Plan are detailed in Section 3.11

Specific Geographical Areas likely to be significantly affected

The Letterkenny Plan provides for new development in developed, semi developed and undeveloped area. The undeveloped areas zoned for new development are therefore likely to be significantly affected by the plan. The environmental characteristics of these undeveloped areas (including any potential environmental assets) are therefore of particular relevance to this report and are thus detailed in the Section below.

Undeveloped Areas Zoned for New Residential Development:

PR 1 Kiltyoy

This site consists of moderately sloping agricultural fields with a south westerly aspect dissecting by mature hedgerows/field boundaries lying between approximately 20 and 60m OD. The site is

bounded by commercial development to the south west, residential development to the south east and north east and a local road to the north west. The site is classified as 'discontinuous urban fabric' in the Corine 2018 Landcover dataset. The site does not contain any environmental (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no waterbodies on the site, and the OPW's Flood Map's map viewer does not indicate any flood risk areas within the site.

PR 2 Glebe

This site consists of gently sloping lands and comprises a long field and adjoining brownfield lands lying at approximately 40m OD. The site is bounded by low density residential development. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no waterbodies on the site and the OPW's flood risk map viewer does not indicate any flood risk areas within same.

PR 3 New Line Road # 1

This infill site is accessed off the New Line road lies between existing residential developments and consists of 2 no. agricultural fields bounded by mature field boundaries/hedgerows. The upper part of the site contains a small hill. The site is classified as 'discontinuous urban fabric' in the Corine 2018 Landcover dataset. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site is not dissected or bounded by any significant waterbodies and the OPW's Flood Map's map viewer does not indicate any flood risk areas within the site.

PR 4 New Line Road # 2

This small infill site is also accessed off the New Line road, lies between existing residential development and consists of 2 no. small fields (the easternmost of which lies immediately to the north of a residential property). The site is classified as 'discontinuous urban fabric' in the Corine 2018 Landcover dataset. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A small stream runs along part of the northern boundary and OPW's flood risk map viewer does not indicate any flood risk areas within the site.

PR5 Glencar Scotch

This sloping site (80m to 100m OD) has a southwesterly aspect and consists of series of small irregularly shaped agricultural fields with mature field boundaries of hedgerows and trees with a pocket of semi mature trees along the Glencar road. The site is bounded to the north east, east and south by existing residential development and to the west and north west by agricultural lands and is accessed from the Glencar road. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site is bisected by a small stream which discharges to Rodgers Burn thereafter. The OPW's flood risk map viewer does not indicate any flood risk areas within the site.

PR 6 Glencar Irish

This site is moderately sloping with south easterly aspect, is bounded to the south west and north east by existing residential development and can be broadly categorised into 2 main areas. The lower part of the site is moderately sloping consists of a farmyard and agricultural grassland dissected by hedgerows. The upper part of the site consists of rough grasslands, dissected by linear hedgerows mainly of Wynn buses. It is classified as 'pastures' in the Corine 2018 Landcover dataset. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site is not traversed or bounded by any significant waterbodies and the OPW's Flood Map's map viewer does not indicate any flood risk areas within the site.

PR7 Killylastin

This flat elevated (160m OD) infill site is located between existing low density residential development in the townland of Killylastin. It consists of rough grassland, heather with scattered semi mature trees and is classified as 'discontinuous urban fabric' in the Corine 2018 Landcover

dataset available on the EPA's mapviewer available at <https://gis.epa.ie/EPAMaps/>. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features.

However, the watercourse along the southern boundary of the site discharges to the Glasagh River catchment which has a 'poor' WFD waterbody status as recorded on said mapviewer and falls within the Leannan Freshwater Pearl Mussel catchment area. There are no waterbodies on the site and the OPW's flood risk map viewer (available at <https://www.floodinfo.ie/map/floodmaps>) does not identify any flood risk on the site.

PR9 Oldtown/Lismonaghan

This small site consists of moderately sloping agricultural fields (10-40m OD approx.) with a northerly aspect dissected by mature field boundaries/hedgerows. The site is bounded to the north by the L114 road, the west and south by existing low density residential development and to the east by agricultural fields. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site has no significant waterbodies and the OPW's flood risk map viewer does not indicate any flood risk on the site.

PR10 Lismonaghan #1

This small site consists of a small moderately sloping field (30-40m OD approx.) with a northerly aspect lying between a local road and low density residential development to the north and east. A hedgerow runs along the roadside boundary. The site does not contain any environmental (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site has no significant waterbodies and the the OPW's flood risk map viewer does not indicate any flood risk on the site.

PR11 Creeve/Woodpark/Lismonaghan

This site consists of small agricultural fields, with mature hedgerow/natural field boundaries. The site lies between 10m and 50m OD with the northern and central portions gently sloping and the southern portion steeply sloping. The site is bounded by residential development to the west, steeply sloping agricultural fields to the south, residential development to the east and one-off residential development and a local road to the north. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A stream traverses the centre of the site and the OPW's flood risk map viewer indicates that the area immediately adjoining the stream has both a high (i.e. 10% AEP) and medium (i.e. 1%) probability of flooding.

PR12 Creeve

This moderately elevated (90m approx) and sloping site forms part of a larger residential development currently under development. The site consists of cleared ground with mature field boundaries on the southern and eastern site boundaries. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are also no waterbodies on the site and the OPW's flood risk map viewer does not indicate any flood risk area on the site.

PR13 Ballymacool

This site consists of a low lying gently sloping agricultural field bounded by the R250 to the south, Ballymacool Park to the west and residential development to the north. It is classified as 'pastures' in the Corine 2018 landcover dataset. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no waterbodies on the site and the OPW's Flood risk map viewer does not indicate any flood risk areas within the site.

PR 14 Ballyraine (Ashlawn)

This small infill site (20-30m OD) lies between existing residential development and consists of a small field adjoining the road and a small wooded area with mature trees to the south east of same.

The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no waterbodies on the site and the OPW's flood risk map viewer does not indicate any flood risk areas within the site.

PR 16 Killastin

This gently sloping elevated site (160m to 170m) is largely overgrown with semi mature trees and scrub like vegetation but also contains some pockets of upland blanket bog type vegetation. The site is bounded to the north west by upland blanket bog type vegetation, to the north by agricultural fields, to the east and south east by blanket bog type vegetation to the south and west by low density residential development. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no waterbodies on the site and the OPW's flood risk map viewer does not indicate any flood risk areas within the site.

PR 17 Glencar Scotch

This gently to moderately sloping elevated site (140m to 160m OD) has a southerly aspect and consists of agricultural fields bounded by mature hedgerows. The parcel of land in the southerly corner of the site is bounded by semi mature trees and appears to have been previously filled. The site is bounded by local roads and by low density residential development to the north, by an agricultural field to the east and by agricultural lands to the south west. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site does not contain any water courses and the OPW's flood risk map viewer does not indicate any flood risk areas within the site.

PR 18 Glencar Scotch

This gently sloping elevated site (150m OD) consists of an open agricultural field. The site is bounded by local roads and by a retail/commercial development to the north, by residential development to the south east and by agricultural lands to the west. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site does not contain any water courses and the OPW's flood risk map viewer does not indicate any flood risk areas within the site.

Undeveloped Areas Zoned As Opportunity Sites

Opp. Site 1

This site principally consists of woodland (known locally as Gortlee Woods) interspersed by small fields/clearings and also contains Gortlee House. The Environmental Impact Statement which accompanied planning application 09/80091 found that the composition of this woodland was highly variable and predominately comprised of Beech, Sycamore and Ash with some Oaks. This EIS found that that the wooded consisted of no high-quality trees, 67% moderate quality trees and 12% low quality trees. Gortlee House is a Detached five-bay two-storey over basement house\country house with attic level, built c. 1800 and altered c. 1860 and associated which are listed on the National Inventory of Architectural Heritage. Otherwise the site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A small watercourse runs along the northwestern boundary of the site and the OPW's flood risk map viewer does not indicate any flood risk on the site.

Opp. Site 3

This site comprises the original Unifi Manufacturing site and lies between 20 and 60m OD. The southwestern and central parts of the site are low lying and flat and principally brownfield in nature, and the northern part of the site is more elevated and sloping and contains a large manufacturing warehouse building. However, there are significant pockets of woodland in the eastern and northern parts of the site. The site is bounded by commercial development, agricultural lands, the N56, and the kiltoy woods (a Proposed Natural Heritage Area). The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A large stream has been culverted under most of the site and the OPW's flood risk mapping indicates that significant portions of the south western and central parts of the site have both a high (i.e. 10% AEP) and medium (i.e. 1%) probability of river flooding.

Opp. Site 5

This site includes 2 modestly sized agricultural fields and pockets of deciduous woodland. The site is gently sloping and low lying. The site is bounded by low density residential development to the north west south west and north east, a hotel to the SW and the N56 to the south and south east. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site does not contain any water courses and the OPW's flood risk map viewer does not indicate any flood risk areas within the site.

Opp. Site 6

This site consists of a small lying agricultural field bounded by hedgerows and semi mature trees. The site is bounded to the north and west by residential development, to the south by commercial development and to the east by a local road. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site does not contain any water courses and the OPW's flood risk map viewer does not indicate any flood risk areas within the site.

Opp. Site 7

This site includes a field and a large area of semi mature vegetation along the course of the Sprackburn stream. The site is moderately sloping and has an elevation of between 20m and 40m OD. The site is bounded by the high Road to the north west, residential development to the south, and the R229 regional road and a Fire Station to the east. An archaeological feature namely DG053-054 Burnt Mount is located in the central part of the site, however same is not a protected archaeological feature. Otherwise The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. 2 significant watercourses traverse the site and the and the OPW's flood risk mapping indicates that that a significant portions of the western part of the site has a medium (i.e. 1%) flood risk whilst the area immediately alongside the channel of the Sprackburn stream has both a high and medium flood risk.

Opp. Site 8

This site comprises a large open gently sloping agricultural field lying between 20 and 30m OD. It is bounded by; the Church of the Irish Martyrs and residential development to the west and north west, commercial development to the south, and low density residential and the N56 to the east and north. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no waterbodies on the site and the OPW's Flood Map's map viewer does not indicate any flood risk areas within the site.

Opp. Site 9

This site is both moderately elevated (60m to 11m) and sloping with a southerly aspect. The site is bounded by residential development to the southwest, the Letterkenny University Hospital complex to the south, by Errigal College and Residential development to the east and by agricultural lands to the north. The site consists mainly of agricultural grasslands dissected by mature hedgerows. The Sprackburn stream, which is bounded by mature vegetation, runs along the south western boundary of the site. The site is classified as 'pastures' in the Corine 2018 Landcover dataset. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The OPW's flood risk map viewer indicates that the area immediately adjoining the river channel of the Sprackburn has both a high (i.e. 10% AEP) and medium (i.e. 1%) probability of flooding.

Opp. Site 12

This site is significant elevated (between 90 and 150m) and moderately sloping with a southerly aspect. The site principally comprises agricultural fields dissected by mature field boundaries, however the north western portion of the site is brownfield in nature and there is a single dwelling at the centre of the site. The site is bounded to the west and north by low density residential development to the east and south by agricultural fields. The site does not contain any ecological

designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A stream runs along the western boundary of the site but otherwise the site does not contain any significant water courses and the OPW's Flood Map's map viewer does not indicate any flood risk on the site.

Undeveloped Areas Zoned General Employment

Windyhall

This elevated (110m to 150m OD) and moderately sloping site consists of agricultural fields bounded hedgerows and semi mature trees. The site is bounded by the Windyhall road to the south west, one off residential development and agricultural fields to the north west, suburban residential development to the north east and commercial office development to the south east. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A small watercourse runs along the north eastern site boundary but the OPW's Flood Map's map viewer does not indicate any flood risk on the site.

Carnamuggagh Upper

This site is elevated (120m to 140m OD) and moderately sloping with a south easterly aspect and consists principally of rough grasslands. The site is bounded by suburban residential development to the south west, a car dealership and associated yard to the south east, one-off residential development to the east, and further residential development and upland vegetation to the north. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A small stream traverses through the upper part of the site. However, the OPW's Flood Map's map viewer does not indicate any flood risk on the site.

Carnamuggagh Lower #1

Part of this elevated site (150m to 170m OD) is undeveloped and located to the rear and east/south east of the Mountain Top/Pine Hill industrial estate and consists of undulating topography with a significant covering of coniferous trees, semi mature deciduous trees and blanket bog type vegetation. The developed part of the site is bounded by said industrial estate to the west, suburban residential development to the north, upland blanket bog to the east and south east and one-off residential development to the south west. The site does not contain any ecological designations (e.g. SAC's SPA's), archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no significant watercourses on the site and the OPW's Flood Map's map viewer does not indicate any flood risk on the site.

Carnamuggagh Lower #2

This site contains the undeveloped portion of the IDA industrial estate lands north east of the N56 at Carnamuggagh Lower. The lands consist of moderately sloping agricultural fields bounded by hedgerows/mature boundaries lying between 30m and 80m OD. The site is dissected by two watercourses which merge close to the vehicular access to Tata Consultancy Services. An archaeological monument DG053-053---- standing stone is located in the northern portion of the site, however same is not currently a protected archaeological feature. Otherwise the site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The OPW's flood risk mapping indicates that the lands immediately along the watercourses have a high (10% AEP) risk of flooding and additionally small areas adjacent to the watercourses also have a medium risk (1%) of flooding.

Carnamuggagh Lower #3

This site comprises the undeveloped lands to the south west of the N56 at Carnamuggagh Lower. The site comprises moderately agricultural fields dissected by hedgerows lying between 40m and 70m OD. The site wraps around commercial development alongside the N56 road and is otherwise bounded by suburban residential development to the south west and commercial development to the south east. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features.

There are no watercourses on the site and the OPW's Flood Map's map viewer does not indicate any flood risk on the site.

Ballyraine

This backland site is situated to the rear of existing commercial developments along the Ramelton road. The site comprises low lying (generally less than 10m OD) undulating agricultural fields interspersed with some mature trees. The site is bounded to the south east agricultural fields sloping down to the River Swilly embankments and to the south west by a commercial waste facility. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. However, the site does adjoin both the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area. There are no significant watercourses on the site and the OPW's flood risk map viewer indicates that the site falls outside any flood risk area either fluvial or coastal associated with the River Swilly.

Drumnahoagh #1

This low lying site located within a meander of the River Swilly adjacent to the N56 Polestar roundabout. The site is largely overgrown with semi mature trees and rough grassland. Otherwise the site is bounded by residential dwellings and the Portview Business Park to the south east. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. However, the site lies in adjacent to the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area. There are no significant watercourses on the site and the OPW's flood risk map viewer does not indicate any flood risk areas on the site.

Drumnahoagh #2

This site is located to the south of the N56 four lane road and comprises both flat and steeply sloping agricultural fields. The fields are dissected by hedgerows/mature field boundaries. The site is otherwise bounded by one-off residential development to the east and a local road and agricultural lands to the west. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. However, the north western site does lie in close proximity to the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area. There are no significant watercourses on the site and the OPW's flood risk map viewer does not indicate any flood risk areas on the site.

Drumnahoagh #3

This flat lowlying site is located to the rear of the Clanree Hotel and is dissected by a small river. The north western part of the site is overgrown with semi mature trees and rough grassland whilst the south eastern half consists of a hardcored yard. The site is bounded by one off residential development to the west and south and further commercial development to the north. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. However, the site does lie immediately upstream of the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area.

Dromore

This flat low lying site is located on the eastern end of the plan area. The site consists of low lying agricultural fields divided by hedgerows/semi mature field boundaries. The site is generally bounded by further commercial development to the south west, south east and north east and agricultural fields to the north west. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. However, the site does lie adjacent to the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area to the north. A stream traverses the central part of the site (discharging north west towards the River Swilly). The OPW's flood risk mapviewer does not indicate any areas of high (10% AEP) or medium (1% AEP) fluvial flood risk but does indicate that parts of the site are subject to a low (0.1% AEP) flood risk.

Bunnagee

This is a flat low lying site consisting of single agricultural field with no notable environmental features. The site is bounded by the Tinney's Fuel depot to the south, agricultural fields to the west, part of the Letterkenny Sewerage treatment works to the north and the River Swilly to the east. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. However, the site does adjoin the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area to the east. There are no significant waterbodies on the site. However, the OPW's flood risk map indicates that the site lies within 0.1% AEP fluvial and coastal flood risk areas.

Undeveloped Areas Zoned Town Centre**Area to North of R250**

This expansive flat low lying undeveloped area zoned Town Centre straddles the Isle Burn and consists of overgrown lands with semi mature trees, poor quality grasslands, and an area which has been ground loaded with hardcore. The site is generally bounded by a variety of low density retail and commercial development. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. The site is dissected by the Isle Burn stream which discharges to the River Swilly to the south. In particular the OPW's flood risk map viewer indicates that:

- Significant portions of the Centre and south east of the site have both a high (10% AEP) fluvial and coastal flood risk and a medium (1% AEP) fluvial and coastal flood risk.
- Much of the site also has a low (0.1% AEP) fluvial and coastal flood risk.

Area to South of R250

This expansive flat low lying undeveloped area zoned Town Centre lies to the south of the R250. The western corner of the site consists of a hardcored yard, the northern and north eastern portions of the site consists of filled lands, whilst part of the south of the site remains unfilled and largely overgrown. The site does not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. However, the site lies adjacent to the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area to the east at the Port Bridge. The OPW's flood risk map viewer indicates that a large part of the centre and south of the site is a medium risk (1% AEP) of coastal flooding, whilst a smaller portion is a medium risk (1% AEP) of fluvial flooding.

Southern Strategic and Sustainable Development Area

The extensive area of land is located on the southern river Swilly Valley slopes in the townlands of Scirbley, Drumnaogh and Cullion and is identified in the plan as a key future development area offering an opportunity to create a high quality walkable neighbourhood subject to the provision of the required infrastructure (i.e. water and sewer networks). The lands are moderately sloping with a northerly aspect and lie between 10m and 110m OD. The lands are agricultural in nature consisting of arable and improved pasture fields and dissected by mature hedgerows and field boundaries. Pockets of mature trees also occur around existing dwellings and farm buildings in the area. The site does not contain any ecological designations (e.g. SACs/SPAs or NHAs) or built heritage features (e.g. RPS, NIAH). However there are a number of recorded monuments on the lands including DG053-034 (Enclosure) in the eastern part of the site in Scirbley townland and DG053-03302 (Holy Well site) and DG053-03303 (Bullaun Stone) on north western fringes of the site in Drumnaoagh townland. There is a small stream on the north western fringes of the site but the OPW's flood risk map viewer does not indicate any significant flood risk on the site.

Undeveloped Areas Zoned Strategic Community Opportunity

These lands consist of gently sloping (80m to 100m OD) agricultural fields (generally of improved grassland) to the south of the N56 link road, to the north of the N56 link road, to the south east of the Ashfield and Brookfield heights housing estates, and to the west of Amalfi Court housing estate. The fields are generally bounded by mature hedgerows. In general, the lands are bounded by a variety of development including low density residential development to the north west and other agricultural lands and a recycling centre to the south east. The lands do not contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or

built heritage (e.g. RPS, NIAH) features. A number of watercourses transverse the lands in a southeasterly direction. The OPW mapviewer indicates small linear flood risk area along the banks of the 2 eastern most of these watercourses.

Undeveloped Areas Zoned Community Education

The Community Education Zoning in the vicinity of the Letterkenny University Hospital(LUH) includes undeveloped lands which contain: an agricultural field of improved grassland to the east of Kilmacrennan Road, and pocket of deciduous woodland to the north east of St Conal's hospital, an overground playing field and a field to the east of St Conal's Hospital and a pocket of semi mature woodland to the west of the LUH. Within said undeveloped lands there is a NIAH structure (40,905,319 Burial Ground) to the North East of St Conal's Hospital, however said lands do not otherwise contain any ecological designations (e.g. SAC's SPA's), or any other archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. There are no watercourses on the OPW flood risk mapviewer does not indicate any flood risk on same.

Undeveloped Areas Zoned TEN-T PRIPD/Open Space, TEN-T PRIPD/Local Environment and TEN-T PRIPD/General Employment

The abovementioned zonings provide for the development of the TEN-T PRIPD strategic roads project and contain undeveloped lands. These undeveloped lands include: flat low-lying agricultural fields on the flood plain of the River Swilly at Bunnagee, Milk Isle and Dromore, sites overgrown with semi mature trees at Dromore and sloping agricultural fields dissected by hedgerows to the south of the dual carriageway at Dromore. Small sections of these lands lie within or otherwise adjoin both the Lough Swilly Special Area of Conservation and Lough Swilly Special Protection Area. The old Letterkenny to Strabane railway corridor is located in the southern part of these lands. However, said lands do not otherwise contain any archaeological heritage (e.g. Recorded Monuments) or built heritage (e.g. RPS, NIAH) features. A small watercourse traverses the southern portion of these lands at Dromore. The OPW flood risk map viewer indicates that significant parts of these lands on the agricultural floodplain are subject to 1% AEP and 0.1% fluvial and coastal flood risk.

5 Existing Environmental Problems of Relevance to the Letterkenny Plan

The existing environmental problems relevant to the Letterkenny Plan area are provided in Table 5.1 below.

Table 5.1 Environmental Problems Relevant to The Letterkenny Plan

Biodiversity, Fauna and Flora
<ul style="list-style-type: none"> • Water pollution arising from ineffective wastewater treatment systems in unsewered areas of Letterkenny resulting in pressures on water quality in local rivers and the Swilly Estuary which forms part of the Lough Swilly SAC and SPA. • Water pollution arising from urban diffuse sources run-off (e.g. chemicals, oils, greases) resulting in pressures on water quality in the Swilly estuary. • Water pollution from agricultural sources (e.g. slurry spreading) resulting in pressures on water quality (e.g. eutrophication) in local rivers. • Water pollution from ineffective domestic waste water systems in the wider plan area resulting in pressures on water quality in local rivers. • Removal of locally significant habitats including pockets of woodland, hedgerows, field boundaries, and the culverting of water bodies/removal of associated riparian habitats to facilitate new commercial and residential developments. • Disturbance to species arising from noise pollution associated with urban development including construction, traffic and other commercial activities. • Spread of invasive species such as Himalayan Balsam and Japanese knotweed at various locations including along Rodgers Burn and the River Swilly.
Population and Human Health
<p>Population and Human Health related problems in Letterkenny currently include:</p> <ul style="list-style-type: none"> • Lack of new housing provision in recent years which has led to upward pressures on residential property prices and rental costs. • Urban sprawl leading to a spatial dislocation between the location of residential development and key services (e.g. education, recreational, retail, and commercial) resulting in a high car dependency, traffic congestion and poor social connectivity. • Substandard strategic roads provision (e.g. N56 lane road, Port bridge roundabout operating over capacity and lack of 2nd strategic crossing of the River Swilly) leading to traffic congestion and high journey times at peak times. • Inadequate local public transport provision throughout the urban area, an impermeable urban form in certain parts of the town (e.g. new town centre and north/south across the River Swilly) and a pedestrian and cycling unfriendly road design layout (e.g. one way system in town centre and roundabouts throughout the plan area) which collectively hinder the use of active/sustainable travel modes and exacerbates the abovementioned traffic congestion/car dependency. • Clusters of social deprivation in certain areas of the town leading to social problems and urban decay. • Poor quality urban environment in certain parts of the urban area (e.g. new town centre) and vacancy and dereliction in certain part of the town centre (e.g. Lower Main Street). • Lack of a sewage network in parts of the urban area (e.g. East of the Isle Burn and east of the Port Bridge) which has led to water pollution problems. • High noise levels near key strategic routes (e.g. N56 4 lane).

Soil

The existing soil types in the Letterkenny plan area are detailed in Section 3.3. Over recent decades a significant amount of residential and commercial development has occurred on greenfield sites in the Letterkenny plan area. It is likely that this has caused the following soil related environmental problems:

- Disturbance and depletion of the overall soil resource arising from construction.
- Loss of soil functionality including food production, habitat provision, flood attenuation, nutrient cycling, water purification, and carbon sequestration arising from the overbuilding of soils.
- Soil contamination arising from sewage pollution associated with development in unsewered areas of Letterkenny.

Water

The water quality of the main surface and groundwater bodies is described in Section 3.4. The main environmental problems related to Water Quality in the Letterkenny Plan Area include

- Wastewaters from individual commercial effluent treatment systems in unsewered areas in either within the town centre area east of the Isle Burn or east of the Port Bridge resulting in severe pollution of water courses in this area.
- Urban waste water arising from combined sewer overflows.
- Agricultural runoff within the Plan Area generally associated with the spreading of slurry.
- Diffuse sources runoff from urban surface water runoff.

Air

As detailed in Section 3.6 the most significant environmental problems related to Air Quality in Letterkenny related to particulate matter whereby that annual mean value for PM_{2.5} (11.14 µg/m³) exceeded the WHO Guidelines annual mean value of 10 µg/m³ and there were periodic exceedances of the PM₁₀ daily mean limit value. Particulate Matter air pollution in Letterkenny is predominately linked to the burning of sold fuel for home heating in particular during period of cold weather as indicated in the graphs in Section 3.6. However EPA data also shows that that SO₂ levels were significantly below CAFE Limit values in 2020 and that average NO₂ levels were also significantly below CAFE limit values in 2009.

Climate

- Urban sprawl, including the location of residential and commercial developments and certain primary schools at peripheral locations, which increase car dependency and hinder public transport provision and active travel modes (e.g. walking and cycling) and thereby increases greenhouse gas emissions.
- Current lack of an adequate local public transport system and a transport interchange hub increases car dependency and associated greenhouse gas emissions.
- Lack of quality pedestrian connectivity in the town centre (e.g. lack of direct connections, and safe pedestrian crossing points) which increases car usage and associated emissions.
- Developments on low lying areas of the River Swilly flood plain which may be at risk from future climate related sea level rise and/or fluvial or pluvial flooding.

Material Assets

- In terms of built assets there is a high level of commercial vacancy (17.9% in 2020²⁷) in Letterkenny. These properties represent an underutilized resource and if left idle, they can over time deteriorate and detract from the character of urban areas.
- A number of flood events have occurred in Letterkenny in recent years which have affected key built material assets including:

²⁷ Regional Vacancy and Dereliction Analysis, January 2022, Northern and Western Regional Assembly

- The July 2013 Flooding of Letterkenny general hospital which caused extensive damage to the hospital including the new accident and emergency department costing almost €40m in repairs arising from a significant pluvial flood event causing the overflowing of the Sprackburn stream.
- Flooding in the vicinity of the Aura Leisure Centre and adjoining lands in November 2015 which caused extensive flooding to the centre's sports facilities.



- A significant number of properties including both residential and commercial in Letterkenny are likely to be affected by defective blocks containing excessive levels of Mica. This is likely to result in a significant number of properties requiring either partial or complete rebuilding depending on the level of damage.

Cultural Heritage

In recent decades architectural heritage in particular vernacular and historic buildings and streetscapes have come under pressure for redevelopment. This pressure has resulted in the loss of certain vernacular buildings and streetscapes (e.g. vernacular buildings on Letterkenny Main Street, Gallagher's Hotel, Oatfields factory etc).

In addition, many existing vernacular buildings suffer from significant vacancy and dereliction (e.g. vernacular buildings on the Lower Main Street and at corner of Main Street/Market Square). Finally many of the vernacular buildings are underutilised with significant vacancy rates on upper floors in particular.

Landscape and Visual

On the basis of the Landscape and Visual Baseline detailed in Chapter 3 and general development trends prevalent in the Letterkenny area in recent years the following problems related to landscape character and visual amenity relevant to the Letterkenny Plan can be identified:

- Pressure in the immediate rural hinterland of Letterkenny for urban generated rural housing and linear development on roads which detract from the rural character of the host Letterkenny Estuary and Farmland Landscape Character Area (LCA) and the rural landscape setting of the town.
- Development on the higher hills and ridgeline to the northwest of the town which forms the visual skyline for the town, represents a key landscape feature of said LCA and also comprises an important visual element in key views of the town from the south and east.
- Development on the southern Swilly valley slopes to the south of the town which forms a key visual element of views from within the town and from the north and north east of the plan area.
- Scattered large scale commercial development on the agricultural floodplain of the River Swilly which forms a key landscape feature of said LCA.
- Linear upslope development on the slopes of Whinney Hill which detract from this key landscape element of the host LCA.
- Visually insensitive development within the urban core of Letterkenny which detracts from the pattern of traditional streetscapes and buildings.

6 Environmental Protection Objectives of Relevance to the Letterkenny Plan

6.1 Environmental Protection Objectives in other Plans, Programmes and Policies relevant to the Letterkenny Plan

Article 5(1) of the SEA Directive requires that an Environmental Report includes the information contained in Annex I of said directive and in turn Annex 1(e) requires that the report provides the following information:

(f) the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation;

There are a wide range of environmental protection objectives contained within a wide variety of International Conventions, EU and Irish legislation, EU and Irish level strategic plans, sectoral plans, management plans etc across a range of environmental topics (e.g. Biodiversity, Human Health, Air, Water, Climate, Landscape, and Land Use Planning) which are relevant to the Letterkenny Plan.

The relevant Environmental Protection Objectives, the convention/legislation/plan in which they originate from, the way in which those objectives and any other environmental considerations have been taken into consideration during the preparation of the Letterkenny Plan are all detailed in Table B1 of Appendix A of this report.

7 Assessment of Likely Significant Effects on the Environment of Implementing the Letterkenny Plan

7.1 Assessment Methodology

7.1.1 Legislative Requirements in relation to the assessment of 'Likely Significant Effects'

Article 5 of the SEA Directive (2001/42/EC) requires the preparation of an Environmental Report in which the ***'likely significant effects on the environment of implementing the plan or programme..... taking into account the objectives and the geographical scope of the plan or programme, are identified, described, and evaluated'***.

Specifically **Annex 1(f)** of said Directive further defines the **range of environmental aspects** which should be considered when assessing the likely significant effects namely ***'biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors'***. Annex 1(f) also lists the **types of effects** which should be assessed namely: *'secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.'*

Furthermore **Article 5** of said Directive broadly sets out what is the appropriate **level of assessment** for the Environmental Report stating that it shall include *'the information that may reasonably be required taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.'* In this regard as the Letterkenny plan is a strategic land use plan the assessment of the likely significant effects of the plan has been conducted at a strategic level and said assessment does not attempt to replicate the more detailed project level assessment of individual projects/developments which will occur as part of the normal development management process.

The requirements of the SEA Directive in relation to 'likely significant effects' have been transposed into and further replicated in Irish Legislation including, inter alia:

- Schedule 2B(f) of the Planning and Development Regulations 2001 (as amended) which requires that the Environmental Report includes an assessment of the *'likely significant effects on the environment'* across the range of environmental aspects listed in Annex 1(f).
- A.14D(1) of said regulations which requires that an Environmental Report in respect of a Local Area Plan *'shall identify, describe, and evaluate the likely significant effects on the environment of implementing the plan'*.
- A.14D(2) of said regulations reiterates the requirements of Article 5 of the SEA Directive in relation to the level of assessment required.

7.1.2 Guidance in Relation to the Assessment of Likely Significant Effects on the Environment in the Environmental Report.

A range of guidance exists on how to assess the likely significant effects on the Environment of a particular plan within the SEA process.

At the European level the publication 'Implementation of the Directive 2001/42 on the assessment of certain plans and programmes on the Environment' inter alia:

- States, in relation to the level of detail necessary that, the environmental report underpinning a town plan would certainly be expected to address its implications for rivers or other water bodies in or near the town. (Para 5.16 refers).
- Emphasises the importance of concentrating on issues related to the significant effect on the environment of the plan. (Para 5.19 refers).
- States that Environmentally related health issues such as exposure to traffic noise or air pollutants are obvious aspects to study, and emphasises the need for broad and comprehensive information on environmental factors and their interrelationship (Para 5.26 refers)
- Notes that a description of positive effects is essential in order to show the contribution of the plan to environmental protection. (Para 5.26 refers).

At the Irish level the departmental guidelines '*Implementation of SEA Directive (2001/42/EC) Assessment of Effects of Certain Plans and Programmes on Environment – Guidelines for Regional Authorities and Planning Authorities*' advises inter alia that:

- The development **objectives** within the Plan should be **subjected to assessment** in the context of each of the Environmental Protection Objectives selected.
- An **assessment** should also be **carried out** on the detailed **policies** which flow from the strategic objectives.
- The most common approach to demonstrating the results of the assessment to **create a matrix**, whereby the plan's development **objectives** are listed **on one axis** and the various **environmental protection objectives** are (e.g. the various environmental protection objectives) **on the other**.
- **Potential effects** within each box may be categorised into: significant beneficial impact, uncertain impact, significant adverse impact, no relationship or insignificant impact.
- The matrix should include a **comments section** which may indicate the mitigation measures, the change required to the wording of the development objective, or reasons why precise impacts may be difficult to identify.
- Positive or Positive impacts should also be identified.
- Significant effects may be assessment in terms of the type/scale of development envisaged by the plan and the sensitivity of the receiving environment.
- The environmental report should explain why certain impacts have been considered to be 'significant' or 'insignificant' and the geographical scale of such impact should be identified

In addition to the above departmental guidance the EPA publication '*Strategic Environmental Assessment Resource Manual for Planning Authorities*' also advises the following in relation to the assessment of the likely significant effects within the SEA process.

- That whilst the abovementioned Department Guidance promotes and objectives led assessment it is also possible to conduct an assessment led by the environmental problems identified in the baseline (i.e. current state of the environment section). However, if the baseline and the environmental protection objectives are intrinsically linked an objectives led assessment will be effective.
- That types of environmental effects which should be considered are outlined in the SEA Directive – **secondary, cumulative, synergistic, short, medium and long term, permanent and temporary, positive and negative effects**, the interrelationship between effects should also be considered.

7.1.3 Assessment Methodology Employed To Assess the Likely Significant Effects

Based on the abovementioned legislative requirements and best practice guidance the following methodology has been employed vis-a-vis the assessment of likely significant effects in this environmental report:

- Each development objective, policy and land use zoning (including in effect the associated land use objective) in the Letterkenny Plan has been subject to assessment in the context of consolidated Environmental Protection Objectives (EPOs) (detailed in Table 7.1 below) covering all of the environmental aspects identified in Annex 1 of the SEA Directive. These consolidated Environmental Protection Objectives (EPOs) are derived from the relevant Environmental Protection Objectives established at International, European Union or National Level listed in Table B.2 of Appendix A of this report.
 - In this regard as there was significant convergence of EPOs for the same environmental topic (e.g. several overlapping EPO's on Biodiversity) it was necessary to consolidate said EPOs into a more manageable environmental test criteria (i.e. consolidated EPOs) used to assess the likely significant effects of the Proposed Variation on those environmental aspects detailed in Schedule 2B(f) of the Planning and Development Regulations 2001 (as amended). These consolidated EPOs therefore combine the fundamental goals of a number of EPOs into a structured assessment criteria. In this way the assessment in this Environmental Report is directly linked to, and based upon, the relevant EPOs identified in Appendix A. Moreover as the consolidated EPOs are therefore intrinsically linked to the environmental issues in the baseline it is considered that an objective led assessment will be effective.
- The abovementioned assessment comprises both a **summary assessment matrix** wherein the plan's development **objectives** are listed **on one axis** and the various **consolidated environmental protections objectives** (e.g. Biodiversity, Flora, Fauna, Population, Air, Water, Climate etc) are **listed on the other and** a detailed and comprehensive **written assessment** which underpins this matrix.
- The **summary assessment matrix categorises the impact** of each development objective, policy and land use zoning (including associated land use objective) as follows: significant positive effect, uncertain effect, significant adverse effect, no relationship or insignificant effect.
- The **written assessment** provides a **rationale** for this categorisation and an analysis of the **type of effect** associated with said objectives policies and land use zonings (e.g.: short, long-term permanent and temporary, positive and negative effects). This assessment take into account the current state of the environment, local environment characteristics and the specific environmental problems for the Letterkenny area (e.g. air and water pollution) detailed in the preceding sections and has involved consultations with relevant competent experts (e.g. Executive Chemist DCC, Ecologists within the National Park and Wildlife Service).
- The significance of effects is based on inter alia: the specific nature type and location of development facilitated by particular objectives, policies and zonings, the sensitivity and importance of the receiving environmental receptors likely to be affected, existing environmental problems and trends, the probability, duration, frequency, reversibility, cumulative nature and spatial extent of the effects, risks to human health, the value and vulnerability of areas likely to be affected, and likelihood that relevant thresholds/targets will be exceeded.
- Measures to prevent and reduce the significant adverse environmental effects have been factored into the assessment where appropriate.
- As stated above this assessment has been conducted at a strategic level and said assessment does not attempt to replicate the more detailed project level assessment which will be required for individual projects/developments facilitated by the plan.
- The methodology for the assessment of cumulative effects is detailed in Section 7.4.

Table 7.1 Consolidated Environmental Protection Objectives

Environmental Component	SEO code:	Strategic Environmental Objective
Biodiversity, Fauna and Flora	BFF	To conserve, protect, maintain, and where appropriate restore biodiversity, flora and fauna, natural habitats and ecosystems particularly species and habitats subject to statutory protection.
Population and Human Health	PHH	To protect populations and human health by: promoting healthy lifestyles and quality of life, tackling socio-economic disadvantage, ensuring the sustainable use of resources, providing clean drinking water and safeguarding humans from environmental threats including air, water and noise pollution, climate change and flooding.
Soil (Including Minerals)	S	To protect soils and geology.
Water	W	<ul style="list-style-type: none"> Protect, avoid deterioration of and, as appropriate, restore/enhance the quality of surface, ground, and marine waters and their associated ecosystems including limiting the input of pollutants. Ensure the sustainable use and protection of water resources. Protect the coastal environment based on an ecosystem approach and taking ecological responsible coastal protection measures.
Air	A	Avoid, prevent and reduce air pollution and environmental noise in order to maintain and improve air quality and reduce harmful effects on human health and the environment.
Climatic Factors	CF	<ul style="list-style-type: none"> Reduce Greenhouse Gas emissions in order to help mitigate climate change and meet our relevant International, European and National climate change obligations and targets including achieving the National Climate Objective. Pursue development strategies which increase our ability to adapt to climate change and improve climate resilience.
Material Assets	MA	<ul style="list-style-type: none"> To sustainably develop existing and new material assets (e.g. the built environment, land and infrastructure) by promoting compact consolidated growth and efficient land use planning. Avoid inappropriate development in areas at risk of flooding, preventing new developments increasing flood risk elsewhere.
Cultural Heritage	CH	To protect and preserve cultural heritage including architectural and archaeological heritage
Landscape	L	To protect and manage the landscape in a sustainable manner.

7.2 Summary Assessment Matrix of the Likely Significant Effects on the Environment of Implementing the Letterkenny Plan.

Table 7.2 Summary Assessment Matrix of the Likely Significant Effects of Specific Objectives, Policies, and Land Use Zonings of the Letterkenny Plan.

Key to Assessment of Likely Significant Effects in Table 7.2

	Significant Positive Effect
	Positive Effect
	No Relationship/Insignificant Effect
	Negative Effect
	Significant Negative Effect
?	Uncertain Effect
N/A	Not Applicable

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
Chapter 7 General Development Management Approach										
Policy LK-DM-1	Support the principle of development proposals that are consistent with the zoning objectives on Map 7.1 and zoning matrix in Table 7.2									
Policy LK-DM-2	Implement all relevant policy provisions of the operative Development Plan in additional to the policy framework of the Letterkenny plan in assessment development proposals.									
Chapter 8 Economic Development and Employment										
Objectives and Policies										
LK-ED-O-1:	Build and strengthen Letterkenny as a key centre for economic growth.									
LK-ED-O-2	To safeguard the carrying capacity, functioning and safety of urban sections of the N56 National Secondary Route in Letterkenny as a key strategic transport corridor, lifeline route and multimodal urban connector. The Council will ensure that any development seeking direct access or that would result in the intensification of use of existing access points or junctions is designed and assessed to ensure that the capacity, operation and safe function of the N56 are preserved and/or improved. Where applicable, any development will tie in									

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
	with any established or developed Junction Strategy/Policy for this key route as and where such are set out.									
LK-EDE-P-1	To support in principle the appropriate expansion and development of the Atlantic Technological University									
LK-EDE-P-2	Avoid an ad-hoc proliferation of new or intensified existing access points along the N56 Four Lane Road.									
LK-EDE-P-3	Only support professional services provided principally to visiting members of the public within the defined town centre or within established neighbourhood centres.									
Economic Development and Employment Related Land Use Zonings										
General Employment Zoning: Windyhall										
General Employment Zoning: Carnamuggagh Upper										
General Employment Zoning: Carnamuggagh Lower (East of Pinehill Industrial Estate)										
General Employment Zoning: IDA Business Park										
General Employment Zoning: Carnamuggagh Lower										
General Employment Zoning: Lisnenan Business Park										
General Employment Zoning: Ballyraine 1										
General Employment Zoning: Ballyaine 2										
General Employment Zoning: Bunnagee										
General Employment Zoning: Dromore										

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
General Employment Zoning: Drumnahoagh & Bunnagee										
General Employment Zoning: Drumnahoagh 1										
General Employment Zoning: Drumnahoagh 2										
Chapter 9 – Town Centre Strategy										
Objectives and Policies										
LK-TC-O-1	Strengthen the urban form of the town centre.									
LK-TC-O-2	Create a vibrant town centre which is a multi-dimensional, inclusive and inviting place									
LK-TC-O-3	Establish the town centre as a gateway for business and enterprise, leading and driving a strong economy in the North West City Region.									
LK-TC-O-4	Create sustainable and restorative environments where environmental assets are created and enhanced, and climate change challenges addressed.									
LK-TC-P-1	New development proposals on streets and that provide physical connections to the town centres will only be supported where they would not prejudice public safety public realm, built and cultural heritage, accessibility character and provide an appropriate mix of uses									
LK-TC-P-2	Support the provision of additional appropriately located and designed residential accommodation in the town centre									
LK-TC-P-3	Support the provision of financial services, ICT and knowledge-based industries in the town centre									
LK-TC-P-4	Support projects that would contribute to climate change and biodiversity improvement agendas including carbon sinks, green corridors, pollination and SUDS initiatives									
LK-TC-P-5	Support urban design/public realm interventions in the town centre including subject to compliance with all relevant policies and standards contained in the plan and the CDP									
LK-TC-P-6	Require that development proposal adhere to specific design criteria									
LK-TC-P-7	Ensure the retention of traditional shop front, only approve alterations to traditional shop front where they an improvement on what exists etc									
LK-TC-P-8	Only support car parking proposals within the town centre for commercial developments in exceptional circumstances where they would not prejudice the									

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
	objectives of the Letterkenny Plan, residential and other developments where they can be discretely accommodated within the development.									
LK-TC-P-9	Policy requirements for amusement arcades, bookmakers, casinos and food take-away units within the 'Town Centre'									
Land Use Zoning										
Town Centre Zoning										
Chapter 10 – Housing										
Objectives and Policies										
LK-H-O-1:	Ensure an appropriate quantum and mix of housing types, tenures, densities and sizes in suitably located residential areas and in appropriate brownfield/infill areas subject to compliance with all relevant policies and standards contained in the plan and the CDP.									
LK-H-O-2	To secure the provision of all necessary physical and social infrastructure, commensurate with the needs of new residential development subject to compliance with all relevant policies and standards contained in the plan and the CDP.									
LK-H-P-1:	Support the principle of multiple residential development where the zoning objective, zoning matrix and/or policy wording pertaining to the subject lands support, or are consistent with, such a use.									
LK-H-P-2:	Determine appropriate residential densities for housing sites having regard to departmental guidelines, Circular Letter: NRUP 02/2021, the specific nature of the development proposed and the site location and context.									
LK-H-P-3:	Manage the appropriate release of 'Strategic Residential Reserve' lands on the basis of a transparent, evidence-led approach and pursuant to an amendment to the Letterkenny Plan.									
LK-H-P-4:	Consider limited residential development proposals in areas identified as 'Local Environment' subject to specific requirements.									
LK-H-P-5:	Consider limited residential development proposals in areas identified as 'Strategic Residential Reserve' subject to specific requirements.									
LK-H-P-6:	Require residential development layouts to be designed and constructed having regard to best practice in terms of Universal Design.									
LK-H-P-7:	Require that all new multiple housing developments comprising 7 or more units in Letterkenny contain a minimum of 30% residential units that are built to universal design standards.									

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
LK-H-P-8:	Require residential development proposals to prioritise and facilitate walking, cycling, and public transport.									
LK-H-P-9a-n	Require developers to comply with site specific requirements for Primarily Residential Sites									
LK-H-P-10	Support significant development proposals within the Southern Strategic and Sustainable Development Site only where inter alia : a comprehensive strategic has been agreed addressing Swilly bridge crossing, wastewater and water connections, surface water drainage, and a layout masterplan has been agreed.									
Land Use Zonings										
Primary Residential Zoning 1: Kiltroy										
Primary Residential Zoning 2: Glebe										
Primary Residential Zoning 3: New Line Road										
Primary Residential Zoning 4: New Line Road										
Primary Residential Zoning 6: Glencar Irish										
Primary Residential Zoning 7: Glencar Irish										
Primary Residential Zoning 8: Windyhall										
Primary Residential Zoning : Oldtown										
Primary Residential Zoning 1: Lismonaghan										
Primary Residential Zoning 11: Woodpark/ Creeve/Lismonaghan										
Primary Residential Zoning 11: Creeve										

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
Primary Residential Zoning 11: Ballymacool		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Primary Residential Zoning 14: Ballyraine/Oldtown		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Primary Residential Zoning 15: Killyclug		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Primary Residential Zoning 16: Killylartin		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Primary Residential Zoning 17: Glencar Scotch/Killyclug		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Primary Residential Zoning 18: Glencar Scotch		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Southern Strategic and Sustainable Development Site		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Orange
Strategic Residential Reserve Zonings All		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Chapter 11 Opportunity Sites										
Objectives and Policies										
Policy LK-OPP-P-1:	Specific development types supported on Opp. Site 1 namely: residential (over a maximum of 50% of the total site area), offices, restaurant/pub/guesthouse/hotel use, tourism, and institutional use and adherence to design guidance for the site.	Green	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Opp. Site 1 Zoning: Gortlee		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Policy LK-OPP-P-2:	Specific development types supported on Opp. Site 2 namely: residential offices, local neighbourhood level retail activity and commercial use.	Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow
Opp. Site 2 Zoning: Ballyraine		Yellow	Green	Yellow	Yellow	Yellow	Orange	Green	Yellow	Yellow

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
Policy LK-OPP-P-3:	Specific development types supported on Opp. Site 3 namely: employment and commercial use, car showrooms, medical related facilities/services, leisure use, sports (except sports retail), wholesale warehousing, bulky goods retail warehousing and residential use (max 2 ha and outside flood risk area, requirement for detail Flood Risk Assessment and protection of mature belt of trees on site.									
Opp. Site 3 Zoning: Old Unifi Site										
Policy LK-OPP-4:	Specific development types supported Opp. Site 4 namely: employment and commercial use, residential, local neighbourhood level retail activity in accordance with the provisions of the County Development Plan.									
Opp. Site 4 Zoning: Ballyraine (Old Donegal Creameries)										
Policy LK-OPP-5:	Specific development types supported on Opp. Site 4 namely: residential, use as a guest house/hostel/hotel/nursing home, community and recreational use, education and childcare facilities, office development, light industry, medical/healthcare uses.									
Opp. Site 5 Zoning: Ballyraine										
Policy LK-OPP-6:	Specific development types Supported Opp. Site 6 namely: residential, local neighbourhood level retail activity, restaurant use, pub use, offices, community use, medical/healthcare and other uses deemed to be appropriate by the planning authority, having regard to the need to both enhance the service needs of the locality and the need to protect residential amenities.									
Opp. Site 6 Zoning: Oldtown										
Policy LK-OPP-7:	Specific development types supported on Opp. Site 7 namely: residential (outside the flood risk area), local neighbourhood level retail activity in accordance with the provisions of the County Development Plan, offices, commercial use and requirement for detailed flood risk assessment.									
Opp. Site 7 Zoning: Ballyboe Glencar										
Policy LK-OPP-8:	Specific development types supported Opp. Site 8 namely: residential, commercial use, offices, educational use.									
Opp. Site 8 Zoning: Ballyraine										

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
Policy LK-OPP-9:	Specific development types supported on Opp. Site 9 namely: residential, commercial and general employment use that is in keeping with the nature of established development in the nearby IDA Business Park, community and recreational use, educational use, nursing home use.									
Opp. Site 9 Zoning: Windyhall										
Policy LK-OPP-10:	Specific development types supported on Opp. Site 10 namely: residential, commercial use, educational use.									
Opp. Site 10 Zoning: Oldtown										
Policy LK-OPP-11:	Specific development types supported on Opp. Site 11 namely: commercial use, retail (subject to the provisions of the retail strategy of the CDP). recreational use and requirement for detailed flood risk assessment with all development proposals.									
Opp. Site 11 Zoning: Old Oatfields Site										
Policy LK-OPP-12:	Specific development types supported on Opp. Site 12 namely: residential, local neighbourhood level retail activity, commercial and general employment in keeping with nearby IDA Business Park, educational use in accordance with a masterplanned approach.									
Opp. Site 12 Zoning: Carnamuggagh Lower										
Chapter 12 – Climate Adaption and Mitigation										
Objectives and Policies										
CAM-LK-O-1	To ensure Letterkenny transitions to a low carbon, competitive, climate resilient and environmentally sustainable settlement by 2050.									
CAM-LK-O-2	To work in partnership with Inland Fisheries Ireland and National Parks and Wildlife Service on the construction of any flood alleviation measures.									
CAM-LK-P-1	Facilitate the switch to Electric Vehicles through the roll-out of additional electric charging points at appropriate locations									
CAM-LK-P-2	Increase native tree coverage and pollinator friendly planting in Letterkenny									
CAM-LK-P-3	Support in principle the development of renewable sources of energy within the plan area.									
CAM-LK-P-4	Actively promote and encourage high biodiversity value nature-based approaches and green infrastructure solutions as viable mitigation and adaptation measures.									

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
CAM-LK-P-5	Support in principle the utilisation and sharing of waste heat in new or extended industrial and commercial developments									
CAM-LK-P-6	Encourage the use of SUDS within public and private developments and within the public realm,									
CAM-LK-P-7	Require the provision of energy efficient street lighting in all developments.									
CAM-LK-P-8	Require new residential and commercial developments to give due consideration to environmental sustainability and energy efficiency in terms of their siting, orientation, design and construction.									
Chapter 13 – Natural and Built Heritage										
Objectives and Policies										
LK-NBH-O-1	To ensure that an Appropriate Assessment, in accordance with Article 6(3) and Article 6(4) of the Habitats Directive and with DEHLG guidance (2010), is carried out in respect of any plan or project not directly connected with or necessary to the management of a Natura 2000 site to determine the likelihood of the plan or project having a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects and to ensure that projects which may give rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites will not be permitted (either individually or in combination with other plans or projects) unless for reasons of overriding public interest.									
LK-NBH-P-1:	Support the principle of the creation of new amenity spaces, amenity corridors and natural biodiversity and wetlands systems adjacent to the River Swilly corridor. Require adjacent to the River Swilly to 'address' the river in line with relevant environmental designations and policies and standards contained in this plan and the CDP.									
LK-NBH-P-2:	Protect and enhance the special character of the Letterkenny Cathedral Quarter ACA									
LK-NBH-P-3:	Specific development management requirements in relation to the ACA including carefully controlling development to protect, safeguard and enhance its special character, streetscape views are maintained, enhanced and protected, and RPS structures are protected.									
LK-NBH-P-4:	Protect the architectural, cultural and historic value of residential communities within and on the edge of the town centre that are identified as 'Long Established Residential Areas' on the Zoning Map.									
Local Environment Zonings All										

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
Chapter 14 – Social Community and Culture										
Objectives and Policies										
LK-SCC-O-1	To deliver all social infrastructure (including, but not limited to, childcare and education facilities, healthcare, social, community and recreational facilities, parks and open spaces) necessary to support the growth of the Regional Centre subject to compliance with all relevant policies and standards contained in this plan and the CDP.									
LK-SCC-O-2	To support the development of cultural attractions and venues at appropriate locations in Letterkenny.									
LK-SCC-P-1	Require the provision of appropriately located and purpose-built early learning and childcare facilities to meet the pro-rata childcare needs of housing development.									
LK-SCC-P-2	Support new childcare facilities to serve existing established residential and commercial areas.									
LK-SCC-P-3	Support the continued growth and expansion of the Atlantic Technological University campus in the town centre subject to specific development management criteria subject to compliance with all relevant policies and standards contained in this plan and the CDP.									
LK-SCC-P-4:	protect land of recreation and open space value in order to ensure the provision of sufficient lands and amenities for the use and enjoyment of the public.									
Strategic Community Opportunity Zonings All										
Open Space Zonings All										
Community Education Zoning: Letterkenny University Hospital & Knocknamona										
Community Education Zoning: Ballyraine #1										
Community Education Zoning: Ballyraine #2										

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
Community Education Zoning: Oldtown										
Community Education Zoning: Scoil Colmcille										
Community Education Zoning: St Eunan's College										
Community Education Zoning: Old Boys School/Bishops Palace										
Community Education Zoning: Gaelscoil Adhamhnáin/St Bernadette's Special School										
Other Zonings										
Established Development: All Zonings										
TEN-T PRIPD Established Development						?	?			
TEN-T PRIPD General Employment and Commercial						?	?			
TEN-T PRIPD/Open Space						?	?			
TEN-T PRIPD/Local Environment						?	?			
TEN-T PRIPD/OPP Site 4						?	?			
Southern Network Project						?	?			

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
Part B Letterkenny Local Transport Plan										
Chapter 19: Active Travel Strategy										
LTP-AT-O-1	Provide for an increase in active travel through an expansion of the strategic, inter-connecting and permeability walking and cycling networks in Letterkenny.									
LTP-AT-P-1	Not to permit development that would prejudice the implementation of any active travel scheme set out the on the Land Use Zoning map or Map 1.2 Active Travel Proposals, incorporate active travel proposals into strategic Roads Projects and utilize existing footpaths and roads and off-line routes identified on those maps for the purpose of the development of 'Local Scale' and 'Interconnecting Arterial' walking and cycling routes.									
LTP-TP-P-2	Require that development identify desire lines by incorporating filtered pedestrian permeability links to adjoining land uses and ensure that ensure new residential and commercial development(s) shall be designed to the latest DMURS standards									
LTP-AT-P-3	Support the development of the Letterkenny to Burtonport Greenway route as it affects the lands within the Letterkenny Plan boundary									
Chapter 20: Strategic Roads Strategy										
LTP-T-O-1	TEN-T PRIPD shall take priority over all or any other provisions of the Local Area Plan in the event of any ostensible or apparent conflict between the said plan and said project					?	?			
LTP-T-P-1	Support and facilitate the appropriate development, extension and improvement of the TEN-T network within Letterkenny including: progressing and implementing the TEN-T PRIPD within Letterkenny (subject to approval), reserving the Section 2 TEN-T PRIPD preferred route corridor and not permitting other development within said route corridor which may prejudice said project, and facilitating any development related to said project within TEN-T PRIPD specific zonings.					?	?			
LTP-T-O-2	To develop the Strategic Roads programme for Letterkenny.					?	?			
LTP-T -P-2	Support and facilitate the appropriate development, extension and improvement of Letterkenny's transport network including projected identified in Table 21.2 namely: Section 2 TEN-T Priority Route Improvement Project,					?	?			

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
	Southern Network Project, the Northern Relief Road, the Western Relief Road and Urban Improvement Projects.									
LTP-T-P-3	Address the inadequate strategic road network serving the town, support the removal of non-strategic traffic from the town through strategic road projects, manage future traffic interventions to ensure reprioritizing from the private car to sustainable modes and protect the corridors and routes and acquire the lands necessary for new roads and road improvement projects.					?	?			
Chapter 21: Town Centre Strategy										
LTP-TC-0-1	To deliver a multi-functional, centrally-located regional transport hub for Letterkenny.									
LTP-TC-0-2	To create a dynamic, connected and accessible town centre, anchored by a centrally-located local transport hub, enabling transitional shift to public transport, walking and cycling.									
LTP-TC-0-3	Support urban regeneration projects in Upper and Lower Main Streets and Port and Pearse Roads and the incorporation of active travel measures into same.									
LTP-TC-P-1	Support sustainable transport interventions in the town centre and the development of a centrally located transport hub/interchange.									
LTP-TC-P-2	Support the development of the public realm/active travel routes within the town centre core and the development of the Swilly Way as identified in the Land Use Zoning Map									
Chapter 22: Public Transport Strategy										
LTP-PT-O-1	To deliver significantly enhanced public transport services and facilities for Letterkenny									
LTP-PT-P-1	<ul style="list-style-type: none"> Collaborate with the NTA and all other stakeholders to develop and provide an efficient, frequent, effective, and legible public transport bus services to serve the needs of the town. Connect origins and destinations throughout the town Support the bus priority infrastructure particularly in the town centre Provide new bus shelter infrastructure to include real time passenger information. 									
LTP-PT-O-2	Support the provision of rail links between Letterkenny and Derry, and Letterkenny to Sligo.									

Objective, Policy, or Land Use Zoning Ref.	Summary of Objective or Policy	BFF	PHH	S	W	A	CF	MA	CH	L
LTP-PT-P-2	<ul style="list-style-type: none"> Support the provision of a Rail link between the Letterkenny and Derry and Letterkenny to Sligo; and to regionally support the reopening of the Western Rail Corridor from Athenry to Sligo, Not to protect the abandoned historic railways corridors within the Letterkenny Plan area boundary for strategic infrastructure provision (such as rail/road/greenway projects) or for recreational development. 	Yellow	Green	Yellow	Yellow	Green	Green	Green	Orange	Yellow
Total Effects of Plan										
Total Effects of the plan (including all objectives, policies and zonings)		Yellow	Green	Yellow	Orange	Yellow	Orange	Green	Green	Orange

7.3 Overall Assessment of Likely Significant Effects on Key Environmental Aspects

7.3.1 Biodiversity, Flora and Fauna

Impacts on Natura 2000 Sites.

Natura 2000 sites represent the most significant biodiversity assets related to the Letterkenny Plan. In particular the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area are partially located within the plan boundary along the River Swilly estuary whilst the Leannan River Special Area of Conservation (which is a key habitat for the Freshwater Pearl Mussel) is hydrologically linked to the northern and north western fringes of the plan area via the Glasagh River System. In accordance with the requirements of the habitats directive a Natura Impact Report (NIR) comprising a professional scientific examination of the plan or project and the relevant Natura 2000 sites, to identify and characterize any possible implications for the site in view of the site's conservation objectives, taking account of in combination effects has been prepared.

The NIR notes that the plan has the potential to give rise to:

- Direct Effects arising from land take and habitat degradation arising from zonings which physically overlap with the Lough Swilly SAC/SPA (i.e. Open Space, Local Environment and TEN-T/Open Space zonings) and policies related to development along the river corridor in the SAC/SPA boundaries.
- Indirect Effects arising from:
 - Deterioration in water quality arising from construction related hydrocarbon and silt pollution, commercial and industrial discharges, insufficient wastewater treatment capacity, and changes to the river regime. Noting that residential and opportunity sites close to watercourses or sites at risk from pluvial flooding have the largest potential for adverse effects.
 - Habitat Degradation via airborne pollutants arising from construction activities and an increase in traffic and air pollution associated with population growth of the town and industrial expansion.
 - Disturbance and displacement, with developments along the River Swilly (largely zoned Open Space) having the largest potential for adverse effects due to the presence of habitat for the majority of species which may potentially be affected.

However, the NIR notes that the proposed plan has incorporated significant environmental mitigation measures in the form of proactive objectives and policies as well as zoning considerations. It also identifies the objectives, policies and zonings of the CDP and the Letterkenny Plan which aim to protect European Sites and safeguard the environmental sensitivities of the area including those relating to: protection of designated sites, water quality deterioration, air pollution, changes to river regime, and disturbance/displacement. In particular in relation to the Letterkenny Plan the NIR notes that LK-NBH-O-1 will help to protect designated sites, and LK-H-P-9d and LK-H-P-9j, CAM-LK-P-6 will provide mitigation in relation to water quality deterioration.

The NIR also carries out an assessment of residential effects of the plan (following the implementation of the mitigation measures) on each of the qualifying interests of the Lough Swilly SAC, Lough Swilly SPA and the Leannan River SPA (e.g. Estuaries, Atlantic Salt Meadows, Otter, specific bird species etc) which inter alia concludes there will be no decline in habitat, water quality, sediments regime, increase in connectivity barriers, change in bird species population trends or species in said Natura 2000 sites. The NIR also examines a range of other plans (e.g. NWRA RSES, CDP 2018-2024) and projects (e.g. TEN-T PRIPD, recent commercial and residential permissions) and concludes that there is no potential for the plan to contribute to any cumulative adverse effects on any European Sites when considered in combination with other plans, programmes and major projects.

In turn the NIR concludes that the Letterkenny Plan, individually or in combination with other plans, programmes or projects, will not adversely affect the integrity of any European Site.

The Natura Impact Report also recommends that additional text be added to certain policies/objectives/actions to clarify that all development proposals in Letterkenny will be subject to compliance with County Development Plan policy as well as Letterkenny Plan policy in order to provide absolute certainty in terms of compliance with the EU Habitats Directive namely: LK-TC-05, LK-H-O-1, LK-H-O-2, LK-NBH-P-1, LK-SCC-P-3, LK-SCC-O-1 and GC-A-1.

Furthermore the Natura Impact Report also recommended the addition of objectives CAM-LK-O-2 (to work in partnership with the IFI and the NPWS on the construction of any flood alleviation measures) and LK-NBH-O-1 (to ensure that Appropriate Assessment(AA) is carried out in respect of plans and projects). It is considered that that said objectives will help to safeguard Natura 2000 sites and confirms the statutory requirements in respect of AA respectively and will therefore have a positive effect on biodiversity.

Impacts on the River Swilly Proposed Natural Heritage Area.

In addition to the abovementioned Natura 2000 sites parts of the River Swilly Valley Woods proposed Natural Heritage Area are contained within the plan boundary specifically at Ballymacool Woods, Kiltoy Woods, and at Creeve. However on the basis that that the plan does not zone these areas for development it is considered that whilst short term negative effects (e.g. noise disturbance from construction activity) may arise from development on adjoining sites the plan will not have a long term negative effect on said proposed Natural Heritage Area.

Impacts on Other Special Areas of Biodiversity.

In addition to the above designations the Biodiversity study commissioned for the Letterkenny and Environs Development Plan 2009 also identified Whinney Hill, Rodgers Burn and Drum Hill, and along the River Swilly as area of special biodiversity habitats.

Drum Hill is zoned strategic residential reserve under the draft plan and the associated zoning objective is *'to reserve a quantum of land primarily for residential development as a long term strategic landbank'*. The associated policy (LK-H-P-5) and the land use zoning matrix does not provide for multiple residential development on these lands within the lifetime of the plan but does provide for single housing, agricultural buildings, community recreational sports facilities, farm shops on said lands. Such development has the potential to give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local surface waters) and limited long term negative effects (e.g. loss of trees/hedgerows/habitats within the immediate development footprint) on biodiversity. However on the basis of: the limited quantum of development which said zonings and policy will provide for, and the biodiversity safeguards contained in Policy CAM-LK-P-4 of the plan (namely to 'actively promote and encourage high biodiversity value nature-based approaches and green infrastructure solutions within development proposals') and in Objective NH-O-1 of the CDP 2018-2024(as varied) (namely to 'protect, sustainably manage and enhance the rich Biodiversity of Donegal') which any development proposals will be subject to and which may mitigate impacts on biodiversity, it is considered that the plan will not have a significant direct long term impact on biodiversity, flora and fauna of Drum Hill. The land use zoning plan also provides for a 'developer led' road traversing Drum Hill. The development of this road is most likely to be associated with the future development of the lands zoned Strategic Residential Reserve at this location, is unlikely to be developed during the lifetime of the plan and will therefore have no effect on biodiversity at this location during the lifetime of the plan.

Whinney Hill is zoned Local Environment in the draft plan. The associated zoning objective states: *To provide for limited development only ensuring no significant negative impact on the landscape setting or the biodiversity quality of the area.* The associated land use zoning matrix only provides for: agricultural

buildings, community/recreational/sports, and parks/playgrounds. The area of Rodgers Burn is zoned Open Space in the draft plan. The associated zoning objective states: *To conserve and enhance land for formal and informal open space and amenity purposes, and to make provision for new recreation, leisure and community facilities.* The associated land use zoning matrix only provides for community/recreational/sports facilities, park/playgrounds and playing fields on said lands. Consequently on the basis of: the very limited nature of the development provided for on land zoned Local Environment and Open space, the topographical constraints within said sites, and the abovementioned biodiversity related policy safeguards it is considered that the plan will not have a significant direct long term impact on the biodiversity flora and fauna of Whinney Hill or Rodgers Burn.

The River Swilly corridor including the river and the adjoining embankments and part of the adjoining floodplain to the west of the Port Bridge are zoned Open Space in the draft plan. To the east of the Port Bridge the River Swilly and adjoining embankments form part of the Lough Swilly SAC. On the basis of the limited nature of development provided for on land zoned Open Space (see above), and the abovementioned biodiversity related policy safeguards, it is considered that the plan will not have a significant long term direct impact on the biodiversity flora and fauna of the River Swilly corridor located outside the Lough Swilly SAC.

Impacts of Specific Land Use Zonings On Biodiversity

A significant area of Woodland is located at **Gortlee woods** which contains a variety of trees species including Beech, Sycamore Acer and Horse Chestnut. This area is zoned **Opportunity Site 1** in the plan and the associated site specific Policy LK-OPP-1 provides for residential, offices, and restaurant/pub/guesthouse/hotel use. Such development has the potential to give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local surface waters) and limited long term negative effects (e.g. direct loss of trees/hedgerows/habitats) on biodiversity. However on the basis of the site specific development guidance for this site contained in the plan including that *'proposals will be required to demonstrate compatibility with the environmental setting of the site'* and *'the site is developed as a town park campus, retaining the substantive woodland cover of the site'* it is considered that the plan will not have a significant long term direct impact on the biodiversity flora and fauna of Gortlee Woods.

The sites zoned **Primarily Residential** in the plan provide for multiple residential development. These sites are predominately located on agricultural lands consisting either of tillage and improved grassland (considered in the abovementioned biodiversity study to be of low to moderate biodiversity) or semi improved grasslands and hedgerow environments (considered by the abovementioned report to be of moderate to high biodiversity value) including: PR1 Kiltroy, PR2 Glebe, PR3 and PR4 Newline Road, PR9 Oldtown/Lismonaghan/Scribely, PR10 Lismonaghan, PR11 Woodpark/Creeve) PR13 Ballymacool, PR12 Creeve PR14 Ashlawn, PR 16 Killylastin, PR17 and PR18 Glencar Scotch. Residential development may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during groundworks/construction activities) and limited long term negative effects (e.g. direct loss of trees and hedgerows) on biodiversity. However notwithstanding the moderate to high biodiversity value likely to be contained in some hedgerow and semi improved grassland environments on these lands, on the basis: that these natural features do not have any specific statutory protection, would not constitute a significant portion of such features in the county, and the abovementioned biodiversity related policy safeguards it is considered that said specific zonings will not have a significant long term impact on biodiversity flora and fauna. Otherwise as PR7 Killlastin and PR15 Killyclug are predominately brownfield in nature with limited scrub vegetation said zonings would not have a significant impact on biodiversity.

The lands in the **Southern Strategic and Sustainable Development Site** consists of tillage and improved grasslands dissected by hedgerows and field boundaries. The plan provides for the development of this area as a high quality walkable neighbourhood including housing childcare, neighbourhood level retail services schools and business units subject to the provision of the required

strategic infrastructure (i.e. water and sewer networks). Such development may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during ground works/construction activities) and limited long term negative effects (e.g. direct loss of trees and hedgerow) on local biodiversity. However notwithstanding the moderate to high biodiversity value likely to be contained in some hedgerow and field boundaries on these lands, on the basis that: these natural features do not have any specific statutory protection, would not constitute a significant portion of such features in the county, the abovementioned biodiversity related policy safeguards, and the specific Masterplanning principles for the site including that '*landscaping shall be designed to ... promote diversity*', it is considered that the development of said site will not have a significant long term direct impact on biodiversity flora and fauna.

The **General Employment** zonings in the plan provide for commercial, retail and non retail purposes and car sales. These sites occur on a variety of areas namely:

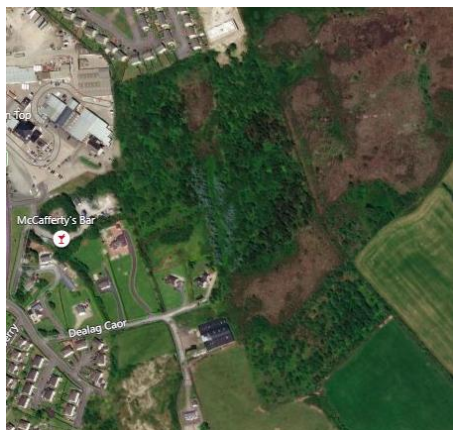
- Agricultural lands consisting of either of tillage and improved grasslands or semi improved grasslands and hedgerow environments at IDA business park at Carnmuggagh Lower, to the south west of the N56 relief road, Ballyraine, Drumnahoagh, Dromore, and on the majority of the general employment lands at Windyhall.
- Undeveloped brownfield and greenfield lands in the vicinity of Lisneanan Industrial estate.
- The existing Pinehill Industrial Estate.
- Semi mature deciduous trees/coniferous planting and heath/upland blanket bog type vegetation to the east of the Pine Hill Industrial Estate.

On agricultural lands these zonings may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during ground works or a result of construction activities) and long term negative effects (e.g. direct loss of trees and hedgerows). However notwithstanding the moderate to high biodiversity value likely to be contained in hedgerow environments and semi improved grassland on the basis that: these natural features do not have any specific statutory protection, would not constitute a significant portion of such features in the county, and the abovementioned biodiversity related policy safeguards, it is considered that the development of said lands will not have a significant direct impact on biodiversity, flora and fauna overall.

The development of the undeveloped greenfield and brownfield lands at Lisenan Industrial estate and any further redevelopment within the Pinehill Industrial Estate are unlikely to have a significant direct impact on biodiversity, flora and fauna.

The semi mature environment of deciduous trees, coniferous planting, heath upland blanket bog type vegetation to the east of the Pinehill Industrial Estate is likely to have a higher biodiversity value than other greenfield agricultural areas. It is not clear that the biodiversity related policy safeguards would supersede the development facilitated by said zoning and therefore protect the abovementioned biodiversity. In this regard general employment type development (e.g. the construction of warehousing, industrial units, offices, storage yards and parking areas etc) is likely to necessitate significant site clearance and the associated removal of existing habitat and said policy safeguards would only provided limited protection to the host biodiversity. It must be concluded that general employment zoning of this particular area would have a negative long term and permanent effect on the host natural environment/biodiversity which cannot be significantly mitigated.

Figure 7.1 Semi mature deciduous trees/coniferous planting/heath/upland blanket bog type vegetation to the east of the Pinehill Industrial Estate



There are a significant number of other **Opportunity sites** are identified within the plan. The associated policies for these lands provide for a wide variety of development including inter alia residential, commercial, health, sports, wholesale warehousing, retail warehousing, community recreational, light industrial etc on these lands. These sites predominately consist of agricultural lands of improved grassland and some hedgerow environments (e.g. Opp. Site 9 Windyhall and Opp Site 4 Ballyraine and Opp site 12 Carnamuggagh Upper) or brownfield lands (e.g. Opp. Sites 2 and 4 Ballyraine, Opp. site 11, Opp. Site 11 Old Oatfields factory). The development of these sites is may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during ground works or a result of construction activities) and limited long term negative effects (e.g. loss of trees and hedgerows) on local biodiversity. However on the basis of: the relatively low biodiversity value of the improved grassland environment, the fact that any hedgerow environments do not have any statutory protection and constitute a small proportion of such environments in the county and the specific safeguards contained within Policy LK-OPP-3 (i.e. the retention of the existing belt of mature trees on this site) it is considered said zonings will not have a significant long term direct impact on the biodiversity, flora and fauna.

A number of areas are zoned **Strategic Community Opportunity** in the plan at Knocknamona and Carnamuggagh Lower. These areas are predominately agricultural in nature and consist of improved grassland and hedgerow environments. The associated zoning objective provides for inter alia: health, educational, recreational, community health, childcare facilities, affording housing, student accommodation, and community support housing on these lands. Such development may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during ground works/construction activities) and limited long term negative effects (e.g. direct loss of trees and hedgerows) on local biodiversity. However notwithstanding the likely loss of hedgerow environments that such development would entail on the basis of the fact that such environments do not have any statutory protection and constitute a small proportion of such environments in the county, and the abovementioned biodiversity related policy safeguards it is considered that said zonings will not have a significant direct impact on the biodiversity, flora and fauna.

A number of areas are zoned **Community and Education** in the plan. These areas predominately consist of existing education or health facilities (e.g. Letterkenny University Hospital, primary and secondary schools), and small fields of improved grassland. The associated zoning objective provides for community educational, institutional, cultural recreational, healthcare development on said lands. Development on the existing footprint of the healthcare and educational site or on the abovementioned small fields of improved grassland are to give rise to any significant impacts on biodiversity flora and fauna.

There are a number of **TEN-T Priority Route Improvement Project, Donegal** dual zonings in the plan area (e.g. TEN-T PRIPD/Open space). These zonings are designed to reserve and protect parts of

the Section 2 Preferred Route Corridor of said project, provide the necessary strategic planning framework for the project and facilitate non TEN-T specific development in said corridor if not required by the project (e.g. Open Space). The impact of said project has already been assessed at strategic level through the Strategic Environmental Assessment Appropriate Assessment of the associated recent Variation to the County Donegal Development Plan 2018-2024. The Environmental Report found that the strategic objective providing for the overall project would not have any conflict with Biodiversity related Strategic Environmental Objectives (SEOs) which could not be mitigated to an acceptable level. In this regard said Environmental Report highlighted a range of measures which can be taken to prevent, reduce and offset any significant adverse environmental effects of the project including locating, designing and constructing the project in a manner which avoids likely significant effects on the environment (e.g. undertaking ecological surveys, maximising setback from and utilising clear span bridges to avoid direct impacts on Natura 2000 sites, and designing structures, drainage systems, construction compounds and deposition areas and implementing construction and environmental management plan to avoid loss/fragmentation of habitats, impacts on water quality, or disturbance to species). Furthermore the Natura Impact Report concluded beyond reasonable scientific doubt that the variation would not, either individually or in combination with other plans and projects, adversely affect the integrity of any Natura 2000 site having regard to the mitigation measures outlined in the Report. In this regard said report highlighted a range of project level mitigation measures to inter alia avoid or minimise deterioration in water quality and disturbance and displacement to qualifying species including: implementation of erosion and sedimentation control plans, pollution control measures, use of settlement ponds, timing of work to avoid impacts on Bird Species etc. The TEN-T PRIPD will be subject to further project level environmental assessment (including the preparation of an Environmental Impact Assessment Report) as part of the overall application process for the project. It is considered that this assessment is also applicable to the portion of the project occurring within the plan area.

The plan identifies a number of **Strategic Road Corridors** including the Western Relief Road, the Northern Relief Road, the Southern Network Project and other Urban Road Improvements. These corridors are predominately located on agricultural lands consisting of either improved grassland (considered to be of low to moderate biodiversity) or semi improved grasslands and hedgerow environments (considered to be of moderate to high biodiversity value) or are located within the existing urban footprint which has a low biodiversity value. The development of these strategic road corridors may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during groundworks/construction activities) and limited long term negative effects (e.g. direct loss of trees and hedgerow) on local biodiversity.

However, on the basis that: said road corridors do not interact with Natura 2000 sites or the abovementioned local special areas of biodiversity, the Natura Impact Report for this plan concluded that it will not adversely affect the integrity of any natura 2000 site, any local biodiversity which may be affected (e.g. hedgerows and semi improved grassland) does not have any specific statutory protection and would not constitute a significant portion of such features in the county overall and such road projects are likely to adopt project level mitigation measures to avoid or minimise deterioration in water quality and disturbance and displacement to qualifying species it is considered that that said strategic road corridors will have an insignificant effect on biodiversity, flora and fauna overall.

In addition to Whinney Hill and Drum Hill a number of other areas are also zoned **Strategic Residential Reserve** (e.g. Glencar Scotch, Glencar Irish and Windyhall). These lands are predominately agricultural in nature consisting of improved grassland, semi improved grassland and hedgerow environments. The associated zoning objective provides for limited development on said lands including single housing, agricultural buildings, community/recreational/sports facilities, and farm shops. Such development may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during ground works/construction activities) and limited long term negative effects (e.g. direct loss of trees and hedgerows) on local biodiversity. However, on the basis of the

limited development provided by said zonings and abovementioned biodiversity related safeguards it is considered that said zonings will not have a significant direct impact on biodiversity, flora and fauna.

A significant amount of land within the urban footprint of Letterkenny is zoned **Established Development**. The abovementioned 2009 Biodiversity study indicates that: the urban core in Letterkenny has a low to moderate biodiversity including trees providing niche habitats for passerine bird and building providing a nesting habitat for house martins, swallows and swifts, the existing retail and commercial areas has a low to moderate biodiversity including trees and shrub planting whilst residential estates have a low to moderate biodiversity with older residential estates having mature and semi mature gardens providing a niche habitat for passerine birds. The associated Zoning objective states '*conserve and enhance the character of the area, to protect residential amenity and allow development appropriate to the sustainable growth of the settlement*'. Consequently on the basis of the limited new development which said zoning will provide for and the low to moderate biodiversity value of such areas it is not considered that that said zoning will have a significant impact on biodiversity, flora and fauna.

A significant amount of land on the periphery of the plan area is zoned **Local Environment**. These sites consist of a wide variety of habitats including improved grasslands, semi improved grasslands, hedgerow environments, pockets of deciduous woodland (e.g. Woodpark and Carreygalley, and upland blanket bog type vegetation (e.g. Carnamuggagh Upper and Lower, and Knockybrin). The associated zoning objective is to '*provide for limited development only ensuring no significant negative impact on the landscape setting or the biodiversity quality of the area,*' and the plan's zoning matrix and Policy LK-H-P-4 collectively only provide for agricultural buildings, community/recreational/sports facilities, and in limited circumstances one off housing developments on said lands. Such developments may give rise to short term construction related negative effects (e.g. noise disturbance, contamination of local aquatic ecosystems during ground works/construction activities) and limited long term negative effects (e.g. direct loss of trees and hedgerows) on local biodiversity. However, on the basis of the limited amount new development said zoning will provide for it is considered that that said zonings will not have a significant long-term direct impact on the biodiversity flora and fauna of said areas.

Other than at Rodgers Burn and along the River Swilly corridor (assessed above) a variety of lands are zoned **Open Space** areas within the plan. These sites consist of public parks and open areas in the urban core (e.g. Letterkenny Town Park, the public park adjoining circular road, playing fields at St Eunan's College and adjoining Glenwood Park), on areas the River Swilly floodplain and at Letterkenny Golf Club. The biodiversity within publicly managed grassland and improved agricultural grasslands within these areas is likely to be low. However, biodiversity within wooded areas of Letterkenny town park and Letterkenny Golf Club is likely to be significantly more diverse. However on the basis that the associated zoning objective is '*conserve and enhance land for formal and informal open space and amenity purposes and to make provision for new recreation, leisure and community facilities*' and Policy LK-OCC-P3 states that '*there will be a presumption against development on open space*' it is considered that said zoning will have a positive impact on the biodiversity, flora and fauna of said areas.

Other Impacts on Biodiversity

Other impacts on biodiversity may also arise during the operational phases of development facilitated by the plan (e.g. impacts on water quality and disturbance to species). In relation to water quality the majority of the development facilitated by the plan will be connected to the Letterkenny Wastewater Treatment Plan which has significant additional treatment capacity and therefore is unlikely to give rise to significant water pollution. However, the plan also facilitates commercial development in unsewered areas east of the Isle Burn and east of the Port Bridge which would be reliant on individual wastewater treatment systems. On the basis that the water table is high and percolation therefore ineffective in this area and there are already significant compliance issues with wastewater discharges licences and resultant pollution of local watercourses in these areas it is therefore considered likely that development in these specific would give rise to further water pollution and would therefore have a long term negative impact on aquatic biodiversity. New residential, commercial and transport development facilitated by the

plan is also likely to result in disturbance to species arising from general noise, human activities and vehicular movements and therefore give rise to some long-term negative effects on biodiversity overall.

Impacts of Specific Policies and Objectives on Biodiversity

A number of policies and objectives can be identified which, because of their specific biodiversity safeguards or provisions, would have a positive effect on biodiversity flora and fauna namely as set out below:

- LK-TC-O-4: Create sustainable and restorative environments where environmental assets are created and enhanced
- LK-TC-P-4: 'Support projects that would contribute to..... biodiversity improvement'
- LK-TC-P-5: Delivery of parkland infrastructure as part of public realm interventions in town centre.
- LK-H-P-4: Requirements in Local Environment zonings including retaining trees and hedgerows
- LK-H-P-10: Requirements for Southern Strategic and Sustainable Development Site including promotion of high quality of green and blue infrastructure
- LK-OPP-P-1: Design guidance requirement to 'retain the substantive woodland cover of the site'
- LK-OPP-P-3: Design Guidance Requirement to 'Retain and protect the existing belt of mature trees'
- CAM-LK-O-1: Objective to transition to inter alia a 'environmentally sustainable settlement' including seeking 'enhanced ecological biodiversity'.
- CAM-LK-P-2: 'Increase native tree coverage' as part of development proposals.
- CAM-LK-P-4: 'Encourage high biodiversity value nature-based approaches within development proposals.
- CAM-LK-P-6: 'Require use of SuDS ...in public and private developments'
- LK-NBH-P-1: Support the creation of 'natural biodiversity and wetlands systems adjacent to the River Swilly'
- LK-SCC-P-4: 'Protect land of recreation and open space value'

Otherwise it is considered that other individual policies and objectives either have no direct relationship with biodiversity (e.g. those related to access onto the N56, technical requirements for specific housing sites, parking requirements for the town centre, development guidance for opportunity sites or childcare policies) or will have an insignificant impact on biodiversity (e.g. those related urban design, expansion of the LYIT campus, development types permitted on opportunity sites, development types permitted on strategic community opportunity sites, active travel, strategic roads, town centre and public transport). Specifically it is considered that objectives and policies which provide for various strategic roads projects within the plan area (e.g. LTP-T-O-1, LTP-T-O-2, LTP-T-P-1, LTP-T-P-2, and LTP-T-P-3) will have an insignificant effect on biodiversity, flora and fauna for the reasons outlined in the sections on the dual zonings related to the TEN-T PRIPD and other strategic roads projects.

Conclusion on Biodiversity Impacts

The abovementioned assessment has identified negative effects on Biodiversity in relation to certain zonings including in particular: loss of habitat on parts of the general employment zonings at Carnamuggagh Lower, negative impacts on aquatic ecosystems arising from water pollution from general employment zonings within unsewered areas and short term negative effects related to construction across a range of land use zonings. However, on the basis that

- Natura Impact Report for the plan has concluded that the plan individually or in combination with other plans, programmes or projects, will not adversely affect the integrity of any European Site.
- The above assessment has concluded that the plan will not have long term negative effects on the River Swilly Valley Woods proposed Natural Heritage Areas, Gortlee Woods, or other special areas of Biodiversity within the plan area.
- Specific objectives and policies of the plan would have a positive effect on biodiversity flora and fauna in so far as they would actively protect or enhance biodiversity (e.g. LK-H-P-4, LK-OPP-P-1, CAM-LK-P-4, and LK-NBH-P-1) whilst other objectives and policies would have no direct relationship or an insignificant effect on same.

it is concluded that on balance **the total effects of the plan on consolidated EPO related to Biodiversity, Flora and Fauna will be insignificant overall.**

7.3.2 Population and Human Health

Overall the **town centre, economic development and employment and opportunity site, objectives and land use zonings** of the Draft Letterkenny Plan will facilitate economic development including retail (e.g. convenience, comparison and retail warehousing) commercial services (e.g. financial, IT, and health), light manufacturing, logistics, as well as the expansion of the ATU campus and the future implementation of the Letterkenny 2040 Regeneration Strategy. They would thereby result in long term positive effects including employment generation, population growth, a higher standard of living, improved psychological well being and lower socio-economic disadvantage. Such development is also likely to cause short term construction related effects (e.g. noise, contamination of surface water runoff) and longer term effects (e.g. operational noise and traffic congestion) related to human health. With regard to traffic congestion it is specifically noted that the transport modelling report undertaken in association with the transport plan found that even in Scenario 4 (where the TEN-T and the Southern Network Projects were completed and sustainable mobility projects resulted in a 10% decrease in car usage) the development facilitated by the plan would still result in a significant increase in journey times vis-à-vis a 2017 traffic baseline. Notwithstanding this it is considered that overall said objectives, policies and land use zonings would have a **positive effect** on population and human health.

The **transport and infrastructure related objectives, policies and land use zonings** of the plan will facilitate the provision of new strategic, local and sustainable travel infrastructure, namely: part of the Section 2 of the TEN-T Priority Route Improvement Project, Donegal, the Southern Network Project, strategic road corridors in the northern and western part of the plan area, a centrally located transport hub/interchange, an enhanced public transport system and new active travel (i.e. walking and cycling) infrastructure. Such transport related objectives policies and land use zonings would therefore result in long term benefits for population and human health including: easing traffic congestion and reducing journey times over and above what would otherwise occur, and facilitating sustainable mobility and active travel (e.g. public transport walking and cycling) and thereby improving quality of life and visitor experience vis-à-vis a scenario where such transport related measures were not undertaken. However, again it must be emphasised that the above transport modelling report found that traffic volumes and journey times would increase as a result of development facilitated by the plan. The development of such transport infrastructure is also likely to cause short term construction related impacts (e.g. noise, contamination of surface water runoff) and long term impacts (e.g. traffic noise) related to human health. However overall, it is considered that said objectives, policies and land use zonings would have a **positive effect** on population and human health.

The **urban design, urban regeneration and built and archaeological heritage related policies objectives of the plan** are likely to improve the built environment and public realm in the town centre protect and enhance built heritage (e.g. Policy LK-NBH-P-2 & 3) and protect archaeological heritage. These objectives and policies are therefore likely to make Letterkenny a more attractive place to live, work and visit, and improve quality of life generally. Some short-term construction impacts may arise as a result of development related to regeneration projects (e.g. noise and traffic congestion). However, overall it is considered that said objectives, policies and land use zonings would have a **positive effect** on population and human health.

The **housing related objectives policies and land use zonings** of the plan (including those related to specific opportunity sites) will inter alia facilitate the provision of: a significant quantum of new housing units on land zoned primarily residential and established development, a mix of housing types (LK-H-O-1 refers), physical and social infrastructure in line with new residential development (LK-H-O-2 refers) disability access (LK-H-P-6 refers), walking and cycling infrastructure within residential development (LK-

H-P-8 refers) and generally promote high quality design, neighbourhood permeability and recreation facilities (site specific housing policies refer). These objective, policies and land use zonings are therefore likely to encourage population growth, promote social inclusion and improve quality of life. In addition Policy LK-H-P-9 specifically requires that development proposals in the SSDS will be only be supported where there is effective integration with both the TEN-T and Southern Network Projects and this should significantly lessen traffic congestion related human health impacts that might otherwise arise in this area. However, housing development is also likely to cause short term construction related impacts (e.g. noise, contamination of surface water runoff) and long term impacts (e.g. traffic noise and increased traffic congestion arising from increased traffic volumes) related to human health. Overall, it is considered that said objectives, policies and land use zonings would have a **positive effect** on population and human health.

The **Heritage** related objective, policies and land use zonings of the plan will inter alia facilitate new amenity spaces and amenity corridors (LK-NBH-P-1 refers), protect the character of the Letterkenny Cathedral Quarter ACA (LK-NBH-P-2 and 3 refer), and protect the architectural, cultural, and historic value of residential communities in the town centre (LK-NBH-P-4 refers). Such objectives and policies would therefore provide additional recreational opportunities, and by maintaining aesthetic and environmental of the town would have a positive impact on quality of life. Consequently, it is considered that said objectives, policies and land use zonings would have a **positive effect** on population and human health.

The climate change related objectives and policies of the plan will help to mitigate climate change (e.g. CAM-L-K-O-1, CAM-LK-P-2, CAM-LK-P-3, CAM-LK-P-5, CAM-LK-P-8), adapt to climate change (e.g. CAM-LK-P-6 and CAM-LK-P-6) otherwise promote biodiversity/green infrastructure and would therefore have a positive effect on population and human health.

The **social, community and cultural** related objectives, policies and land use zonings of the plan will facilitate: hospital, educational, recreational, community health childcare, affordable housing, student accommodation or community support housing on land zoned Strategic Community Opportunity at Knocknamona, the expansion of ATU (LK-SCC-P-3 refers), the protection of land recreational and open space value (LK-SCC-P-4 refers) and the provision of childcare (LK-SCC-P-1 refers). Such development is likely to cause short term construction related impacts (e.g. noise, contamination of surface water runoff) and long term impacts (e.g. traffic congestion arising from increased traffic volumes) related to human health. However overall, it is considered that said objectives, policies and land use zonings would have a **positive effect** on population and human health.

Consequently on the basis of the wide ranging positive effects of the plan on population and human health including: economic growth, town centre development/urban regeneration, delivery of new transport infrastructure, housing provision, the protection/enhancement of built and natural heritage, mitigation and adaption to climate change, and the provision of new social community and culture development it is considered that the **total effects of the plan on consolidated EPO related to Population and Human Health will be positive overall.**

7.3.3 Soils and Geology

Section 3.3 details the soil types which exist in the Letterkenny Plan Area. The draft Letterkenny plan provides for development on greenfield sites at various locations. An overview of these soil types and the locations at which they may be affected by the plan is detailed in sub table below:

Table 7.3 Soil Types Which May Be Affected By the Letterkenny Plan

Soil Type and Description	Locations At Which Soil Type Is Likely To Be Affected
<p>NBP4 (0900NBP4): This soil type is located the northern and southern sides of the River Swilly Valley. It has: a fine loamy over shale and slate bedrock Texture Substrate Type, well drained, a Loamy texture, a depth >80, and a typical Brown Podzolic soil taxonomy.</p>	<p>Primarily Residential Sites at Killyclug/Killylastin, Glencar Scotch, Glencar Irish, Ballymacool, Creeve, Woodpark, Lismonaghan, Kiltyoy and Glebe. Southern Sustainable Development Area at Sribley Drumnaoagh. Opportunity Sites at Windyhall, Ballyboe Glencar, Gortlee, Ballyraine, and Carnamuggagh Lower. General Employment lands at Windyhall, Carnamuggagh Upper and Lower, and more elevated part of Drumnaoagh. Strategic Community Opportunity at Knocknamona and Carnamuggagh Lower.</p>
<p>River alluvium (O5RIV) This soil type forms is located in a central band running west to east through the plan area corresponding with the flood plain of the River Swilly. It is has poor drainage and a depth >80.</p>	<p>General Employment lands at Drumnaoagh, Bunnagee and Dromore.</p>

Development on the abovementioned greenfield sites and in other locations in the Letterkenny plan area is likely to impact on soils and soil functionality in a variety of ways including:

- Disturbance and depletion of the overall soil resource arising from construction activities.
- Loss of key soil functionality including food production (through the loss of agricultural lands), as well as habitats, flood attenuation, nutrient cycling, water purification, and carbon sequestration arising from the overbuilding of soils.
- Soil contamination arising from sewage pollution associated with development in unsewered areas of Letterkenny.

The exact severity of these impacts may depend on the specific nature of the development (e.g. the overall amount of excavation required, the amount of hard surface area provided). However, the loss of agricultural land for food production is likely to be negative, permanent and irreversible. In addition, where overbuilding occurs as a result of new development the resultant impacts on habitats, flood attention, habitats, flood attenuation, nutrient cycling, water purification, and carbon sequestration are also likely to be negative, permanent and irreversible.

Notwithstanding these impacts, on the basis that:

- The overall amount of land zoned for new greenfield development (e.g. primarily residential, general employment, opportunity site or strategic road development) is a small fraction of overall amount of the abovementioned soil types occurring both in Donegal and in Ireland generally.
- The abovementioned soils types do not have any statutory protection and there are no specific environmental thresholds sets down at either a European or a National level for the protection of soils.
- The areas zoned for significant development do not correspond with areas identified at being at risk from moderately high or high landscape susceptibility on GSI’s landslide susceptibility map viewer.
- The fact that the Environmental Report for the Variation to the County Development Plan in respect of the TEN-T PRIPD concluded that whilst said project could give rise to short term construction phase negative effects on the SEO related to the quality of soils, said effects could be mitigated to an acceptable level through an avoidance and mitigation strategy including project level mitigation measures (e.g. construction management plans and techniques) and it is considered that this assessment is also broadly applicable to the portion of said project occurring within the plan area.

It is considered that the abovementioned impacts on soil would not be significant, either for individual sites or for the plan overall. Consequently, it is considered that the total effect of the plan on soils would be insignificant overall.

In addition **a number of individual policies and objectives** can be identified which it is likely to retain, regenerate soils, or result in less overbuilding of soils that might otherwise occur, and would therefore have a long term **positive impact** on soils and the abovementioned consolidated EPO namely: LK-TC-O-4 (Create sustainable and restorative environments), LK-TC-P-4 (Support projects that would contribute to climate change biodiversity improvement agendas), CAM-LK-P-2 (increase native tree coverage), CAM-LK-P-4 (Encourage high biodiversity value nature based approaches and green infrastructure solutions), CAM-LK-P-6 (Encourage the use of SuDS within public and private developments), and LK-NBH-P-1 (Support the principle of new amenity spaces, amenity corridors and natural biodiversity and wetland systems).

As detailed in Section 3.3 the geology in the Letterkenny Plan Area consists of the following rock formations: Termon Formation (Schist), Lower Crana Quartzite, Killeter Quartzite, and Aghyaran & Killygordon Limestone Formation. It is also noted that Lough Swilly (including the Swilly Estuary) is designated as a County Geological site. The development provided for in the plan on greenfield sites (e.g. primarily residential, general employment and opportunity sites) and in other parts of the plan area (e.g. established development and local environment zonings) is likely to have impacts on geology for example the excavation of rock to accommodate building and roads. However, on the basis that:

- The overall amount of development provided by the plan on either new greenfield development or other parts of the plan area represents a small fraction of the abovementioned rock formations in Donegal.
- The abovementioned rock types do not have any statutory protection and there are no specific environmental thresholds sets down at either a European or a National level for the protection of geology.
- Lough Swilly (including the Swilly Estuary) and its adjoining shoreline is designated as both a Special Area of Conservation and a Special Protection Area and it is unlikely that the CDP2018-2024 will have any significant effect on the Lough Swilly County Geological Site.

It is considered that the impact of the plan on geology would be insignificant overall.

On the basis of the above assessment it is considered that the **total effect of the plan on consolidated EPO related to Soils and Geology would be insignificant overall.**

7.3.4 Water

The Letterkenny Plan will facilitate a wide range of new development (e.g. residential, commercial, retail, infrastructure, light industrial, strategic roads etc) through inter alia; general employment, residential, town centre, opportunity site, and transport related objectives, policies and land using zonings. The facilitation of such development has the potential to impact on water quality both in the short term (e.g. contamination/sedimentation of surface waters during construction) and in the long term (e.g. additional wastewater and industrial discharges). The Surface Water Quality data detailed in Section 3.4.4 indicates that the Swilly Estuary (into which the surface waters discharging from the majority of the plan area will discharge to) has a Moderate WFD water quality status, has an 'At Risk' WFD risk status and that pressures on said waterbody include urban wastewater, urban runoff and domestic wastewater.

The **majority of the plan area** (excluding the Southern Strategic and Sustainable Development Site, certain lands zoned Town Centre East of the Isle Burn, and the plan area east of the Port Bridge) is either currently serviced or serviceable by the existing wastewater/sewerage network which discharges to the Letterkenny Wastewater Treatment Plant. The 2020 Annual Environmental Report for said plant states that it has a treatment capacity for 40,000PE, a remaining organic capacity of 16,729PE, is compliant with

the emission limit values in its Wastewater Discharge Licence and the plant did not have an observable impact on water quality. Consequently it is considered that wastewater and industrial discharges from new residential, commercial, retail and light industrial development facilitated by the Letterkenny Plan in the majority of the plan area, will, subject to proper connection to said sewerage network, be treated to a satisfactory standard and therefore will have an **insignificant long term impact** on Water Quality. However short-term impacts on water quality may arise from construction activities in these areas including sedimentation of surface water during groundworks or surface water contamination, for example, due to spillage of hydrocarbons or cements arising from poor construction management practices.

Figure 7.5 Unsewered Areas in Southern Sustainable Development Area, In the Town Centre East of the Isle Burn and East of the Port Bridge.



The plan identifies the **Southern Strategic and Sustainable Development Site** for new residential development but states that said area is currently constrained by the absence of water and sewer networks and that significant structural challenges must be overcome if such development is to be realised. Nevertheless Policy LK-H-P-10 specifically requires that development proposals will only be supported in this area where, inter alia, funding and implementation mechanisms for the required strategic infrastructure (including foul sewer connections) have been identified and detailed arrangements for the provision of said strategic infrastructure have been established to the satisfaction of the Planning Authority. Consequently, development of said site will only proceed in tandem with the provision of the necessary sewerage infrastructure and the development of residential development in said area is therefore likely to have an **insignificant** long term effect on water quality. However short-term impacts on water quality may arise as a result of construction activities.

As stated **certain lands zoned town centre lands East of the Isle Burn, and the plan area east of the Port Bridge** are currently not serviced by the sewage network and consequently existing commercial development in these areas is reliant on individual wastewater treatment systems (which require, and are subject to, wastewater discharge licences under the Water Pollution Act) and there are no current plans to extend the sewer network into these areas. Consultations with the DCC Environment Section indicate that: the water table is high and percolation is ineffective in these areas, there are significant compliance issues with commercial wastewater discharge licences in this area and the above situation results in highly polluted watercourses including in particular in the Bunnagee area. This experience indicates that in it is, in practice, difficult to mitigate the impacts of commercial development on water quality in these particular areas. It is therefore considered that the development facilitated by the plan in unsewered areas (i.e. certain areas East of the Isle burn and the lands east of the Port Bridge

(including on the lands zoned town centre and on lands zoned General Employment at Drumnahoagh, Bunnagee and Dromore)) is likely to result in further discharges of effluent to these surface waters. Consequently, and having regard to the 'At Risk' WFD status of the River Swilly Estuary, it is considered that development facilitated by the plan in these areas is likely to have a **negative long term effect** on Water Quality and the associated consolidated EPO related to same.

In relation to the policies, objectives and zoning which specifically facilitates part of Section 2 of the **TEN-T Priority Route Improvement Project, Donegal** within the plan area the Environmental Report for the Variation to the County Development Plan in respect of said project noted that the strategic objective to facilitate the project had the potential to cause short term temporary construction phase and long term recurring operational phase negative effects on Water. However said report also concluded said effects could be mitigated to an acceptable level. In this respect said report outlined a range of measures to prevent and reduce such effects including with regard to the design of the drainage system, construction compounds, borrow pits, deposition areas and the implementation of Construction Environmental Management Plan and Erosion and Sediment Control Plans. It is considered that this assessment is also broadly applicable to the portion of said project occurring within the plan area.

The plan facilitates a number of **Strategic Road Corridors** through zonings and policies including the Western Relief Road, the Northern Relief Road, the Southern Network Project and other Urban Road Improvements. The facilitation of such development has the potential to cause short-term construction phase (e.g. contamination/sedimentation of surface waters during ground works) and long term operational phase (e.g. oil/hydrocarbon spillages) negative effects on water quality. However as with the TEN-T PRIPD strategic roads project such negative effects could be significantly lessened by the adoption of normal project level mitigation measures in the design and construction of such schemes.

In relation to specific objectives and policies within the plan the majority of these are general or technical in nature or are unrelated to, and would therefore have, an **insignificant impact** on water quality. For example: (e.g. LK-EDE-O-1 (Build and strengthen Letterkenny as a centre for economic growth), LK-EDE-P-2 (Avoiding proliferation along the N56 Four Lane Road), LK-TC-O-1 (Strengthen urban form of the town centre), LK-H-0-1 (Ensure an appropriate mix of housing types, tenures), specific policies and objectives for opportunity sites, childcare policies, active travel, and public transport.

However **certain objectives and policies** can be identified which due to their specific environmental provisions would have a **positive impact** on water quality including through the natural filtration of contaminated surface water runoff, for example:

- LK-TC-P-4 (Support the principle of projects that would contribute to the climate change and biodiversity improvement agendas.... including projects in relation to ... green corridors, and sustainable urban drainage initiatives).
- CAM-LK-O-1 (Ensure Letterkenny transitions to a ...environmentally sustainable settlement by 2050.....enhanced ecological biodiversity, sustainable urban drainage systems).
- CAM-LK-P-4 (To actively promote and encourage high biodiversity and value nature based approaches and green infrastructure solutions within development proposals).
- CAM-LK-P-6 (Encourage the use of SuDS within public and private developments).
- CAM-LK-P-8 (Policy to require new residential and commercial development to give due consideration to environmental sustainability and energy efficiency).
- LK-NBH-P-1 (Support the principle of new amenity spaces, amenity corridors, and natural biodiversity and wetland systems adjacent to the River Swilly corridor).

In relation to the total effects of the plan on water quality, it is noted that the majority of development facilitated by the plan will be connected to and adequately serviced by the Letterkenny WWTP. However on the basis that:

- The Swilly Estuary (into which any surface waters discharging from the majority of the plan area will discharge to) currently has a 'Moderate' Water Framework Directive (WFD) water quality status and a

'At Risk' WFD risk status and the purpose of said directive is to, inter alia, prevent further deterioration and protect and enhance the status of aquatic ecosystems (Article 1 refers).

- The plan is likely to have a negative effect on water quality arising from development zonings in unsewered areas of the town (i.e. certain lands zoned town centre lands East of the Isle Burn, and the plan area east of the Port Bridge) which have existing water pollution problems related to developments connected to individual WWTS and high water tables making adequate percolation and therefore effluent treatment difficult to achieve.
- Short term construction related impacts on water quality may arise due to sedimentation of surface water during ground works or surface water contamination due to spillage of hydrocarbons/cements arising from poor construction management practices.

It is considered that the **total effects of the plan on the consolidated EPO related to water will be negative overall.**

7.3.5 Air

The EPA report Air Quality in Ireland 2020 identifies Particular Matter (predominately from the burning of solid fuels for home heating) and Nitrogen Oxides (predominately from traffic emissions) as key problematic sources of air pollution in Ireland and in particular cites PM_{2.5} and NO₂ as the more harmful versions of these pollutants. Appendix A of said report also highlights that high SO₂ concentrations can cause short term temporary breathing difficulties and aggravate cardiovascular disease and respiratory illness in the long term and indicates that such pollution in Letterkenny may also arise from the burning of solid fuels for home heating possibly with sulphur content in excess of the legal limit.

The EPA air quality monitoring data for Letterkenny detailed in Section 3.6 of this report indicates that the annual mean value for PM_{2.5} in 2020 (11.14µg/m³) exceeded the WHO air quality Guideline mean value of 10 µg/m³ and there were several exceedances of the of the WHO daily main guideline value of 25µg/m³. In addition, the air quality data also showed that for PM₁₀ there were a number of exceedances of the WHO daily (24hr) mean guideline value of 50 µg/m³. In addition, this data shows a strong correlation between higher PM_{2.5} and PM₁₀ emissions and periods of colder weather further collaborating the link between these air pollutants and the burning of solid fuels for home heating. The above air quality does show that there were relatively large spikes of SO₂ observed during the winter heating season and this is also highlighted in the above EPA report.

However this EPA data also indicates that the annual mean value for PM₁₀ in Letterkenny in 2020 (14.74 µg/m³) did not exceed the WHO Air Quality Guideline annual mean value of 20 µg/m³, and there were no exceedances of the CAFE Daily (24hour) mean limit value of 125 µg/m³ for SO₂ in 2020. In addition EPA emissions data also indicates that the average NO₂ emissions for Letterkenny in 2009 (12.02 µg/m³) was significantly below the CAFE annual mean limit value of 40 µg/m³ and there were also no exceedances of the 1CAFE 1 hour limit value of 200 µg/m³. Since this NO₂ data was collected in 2009 light passenger and commercial vehicles sold in the EU have had to meet increasingly stringent NO_x emissions limits²⁸. Furthermore TII traffic count figures in the vicinity of Letterkenny do not show a significant increase in traffic volumes in recent years²⁹ (e.g. the N13 Dual Carriageway was 18,481 AADT in 2013 and, 20,888 AADT in 2019 whilst N56 at Illistrin was 10,666AADT in 2013 and 2019 11,622 AADT 2019). Consequently, it is unlikely that NO₂ emissions have increased significantly in Letterkenny since 2009.

²⁸ For example: The Euro 5 Emission Regulations for Light Passenger and Commercial Vehicles (Jan 2011) NO_x emissions limits were 0.06g/km for Petrol and 0.23g/km Diesel, whilst the Euro 6 (Sept 2015) NO_x emissions limits were 0.06g/km for Petrol and 0.08g/km for Diesel.

On the basis of the above it is considered that PM_{2.5} and to a lesser extent PM₁₀ and SO₂ (arising from the burning of solid fuels for home heating) are the most significant air pollution problem in Letterkenny and that NO₂ emissions (arising primarily from road transport) is not a significant air pollution problems in the area.

The Draft Letterkenny Plan will provide a variety of new development residential, retail, commercial, light industrial, strategic road etc. However the as the most significant air pollution problems in Letterkenny (PM or SO₂) are directly related to the burning of fossil fuels for home heating it is unlikely that the non residential development provided by the plan (retail, commercial, light industrial, strategic roads etc) will result in a significant increase in air pollution in Letterkenny. Furthermore it is noted that Part L of the Building Regulations now requires inter alia that new dwellings achieve a Nearly Zero Energy Building Standard including limiting the energy consumption and CO₂ emissions to nearly zero, providing that any energy requirements are covered to a very significant extent by energy from renewable sources, and that heat loss is limited through the fabric of the buildings. It is therefore likely that home heating requirements for new dwellings will be significantly reduced and importantly these requirements will not be met by the burning of solid fuels. Consequently, new residential development facilitated by the Letterkenny plan is unlikely to result in significant additional PM or SO₂ emissions. Furthermore (and notwithstanding the fact that NO_x is not currently a significant source of air pollution in Letterkenny) the active travel and public transport strategies detailed in the plan and the gradual shift towards electric vehicles in the coming decade will help to further reduce any such transport related air pollution.

With specific reference to the policies, objectives and zoning which facilitate part of Section 2 of the **TEN-T Priority Route Improvement Project, Donegal** and **other strategic road corridors** (e.g. including the Western Relief Road, the Northern Relief Road, the Southern Network Project and other Urban Road Improvements. It is noted that the Environmental Report for the Variation to the County Development Plan 2018-2024 in respect of the TEN-T PRIPD noted that the strategic objective to facilitate the project had **uncertain** impacts on the SEOs related to Air quality as the easing of traffic congestion is expected to lead to a reduction in traffic emissions but there was also potential for short term construction phase negative effects and long term negative effects related to increase in emissions along the route corridor. It is considered that this assessment is also broadly applicable to the portion of said project occurring within the plan area and to the abovementioned strategic road corridors which the plan will facilitate.

On the basis of the above analysis it can therefore be concluded that **overall** the Letterkenny plan is unlikely to cause significant additional air pollution and therefore will have an **insignificant effect** overall on the consolidated EPO related to Air.

In turn the majority of the individual objectives and policies and landuse zonings (whether related to economic development, residential development, opportunity sites etc) in the Draft Letterkenny plan are therefore likely to have either no relationship with, or an insignificant effect on air quality. Nevertheless **a number of individual policies and objectives** can be identified which, for example by: facilitating a shift to more sustainable transport modes, reducing private car usage, aiding the transition to electric vehicles, promoting energy efficiency in new buildings, may help to reduce transport emissions and would therefore have a **positive effect** on air quality namely:

- CAM-LK-O-1 (Ensure Letterkenny transitions to a low carbon, competitive, climate resilient and environmentally sustainable settlement by 2050.....seek to deliver compact growth).
- CAM-LK-P-1 (Facilitate provision and roll out of additional electric charging points).
- CAM-LK-P-3 (Support the development of renewable energy sources).
- CAM-LK-P-5 (Support in principle the utilisation and sharing of waste heat).
- CAM-LK-P-8 (Require new residential and commercial development to give due consideration to environmental sustainability and energy efficiency).
- LTP-AT-O-1 (To increase active travel through and expansion of strategic, inter-connecting and permeability walking and cycling networks).

- LTP-AT-P-1 (Not to permit developments that would prejudice the implementation of any active travel schemes set out on the land use zoning map, incorporate active travel proposals into strategic road projects etc).
- LTP-AT-P-2 (Require that developments identify desire lines by incorporating pedestrian permeability links to adjoining land uses).
- LTP-AT-P-3 (Support the development of the Letterkenny to Burtonport Greenway route).
- LTP-TC-O-1 (Deliver a multifunctional, centrally located regional transport hub for Letterkenny).
- LTP-TC-O-2 (Create aconnected and accessible town centre anchored by a centrally located transport hub).
- LTP-TC-O-3 (Support the incorporation of active travel measures in specific urban regeneration projects).
- LTP-TC-P-1 (Support walking and cycling routes, public transport priority measures, and re-allocation of road space/road corridors in the town centre).
- LTP-TC-P-2 (Support the development of active travel routes in the town centre as identified in the land use zoning map).
- LTP-PT-O-1 (To deliver significantly enhanced public transport services and facilities for Letterkenny)
- LTP-PT-P-1 (Collaborate with the NTA and all other stakeholders to develop and provide an efficient, frequent, effective, and legible public transport bus services to serve the needs of the town).
- LTP-PT-O-2 (Support the provision of rail links between Letterkenny and Derry and Letterkenny and Sligo).
- LTP-PT-P-2 (Support the provision of rail links between Letterkenny and Derry and Letterkenny and Sligo, the re-opening of the Western Rail Corridor not to protect historic railway corridors).

Consequently, on the basis of the above assessment it can therefore be concluded that the **total effects of the plan on the consolidated EPO related to Air will be insignificant overall.**

7.3.6 Climatic Factors

It is considered that any assessment of the Letterkenny plan vis-a-vis climate factors should consider whether the plan would give rise to significant additional greenhouse gas emissions and whether the plan would facilitate adaptation to climate change.

Overall in terms of climate adaption the objectives, policies and land use zonings of the plan would broadly facilitate greater climate resilience/adaptation including: the general avoidance of areas at risk from fluvial and coastal flooding, the use of SUDS in private and public development (CAM-LK-P-6 refers).

In terms of climate mitigation, the 2021 greenhouse gas emissions figures for Ireland (61.53 Mt CO₂eq) embody emissions arising from inter alia existing levels of construction, population, economic activity (including associated emissions from heating and electricity generation) and transport. In this regard existing emissions in Letterkenny are a subset of this overall national figure.

In line with the National Planning Framework, CDP 2018-2024 and the Regional Spatial and Economic Strategy for the Northern and Western Region the Letterkenny plan seeks to develop Letterkenny as a strategic regional growth centre and therefore provides for significant additional; residential (e.g. on primarily residential zonings), retail (e.g. on town centre zonings), and commercial development (general employment and opportunity sites), new strategic roads infrastructure and associated population growth. This in turn will require the production of new construction materials, result in additional construction activity, create extra electricity and heating demands, and generate additional traffic (e.g. commuting and commercial traffic) over and above that which is occurring/required in Letterkenny at present. In turn this creates the potential for additional greenhouse gas emissions over and above the town's current emissions profile.

The Climate Action Plan 2021 details a range of measures to be achieved by 2030 to help Ireland meet its climate change obligations/targets (e.g. 80% of electricity production from renewable sources, 500,000 sustainable journeys, increasing the number of electric vehicles to 1m, a national insulation retrofitting plan etc). The active travel strategy and the public transport strategies contained in Part B: Letterkenny Local Transport Plan will also help to facilitate more sustainable transport modes (e.g. public transport, walking and cycling) and are therefore likely to reduce transport related greenhouse gas emissions that would otherwise occur.

However, many of these national and local measures will take a significant time to implement. Furthermore, the EPA publication *Ireland's Greenhouse Gas Emissions Projections 2021-2040* (EPA June 2022) indicates that even in an With Additional Measures (WAM) scenario (including implementing the measures provided for in the Climate Action Plan 2021 Ireland's emissions will only reduce by 28% relative to 2018. In this regard from 2018-2030 agricultural emissions will reduce by 22.4%, transport emissions will reduce by 39.3%, energy emissions will reduce by 58.1%, and residential emissions will reduce by 41.5%, and commercial public services will reduce by 44.7%. Consequently, even in a With Additional Measures (WAM) scenario the EPA projects that Ireland will not achieve its 2030 emissions targets.

The Letterkenny plan in only providing for new residential and commercial buildings (which are required to adhere to new more efficient buildings standards) is likely to result in better emissions scenario for the 'residential' and 'commercial and public services' sectors than detailed in the above EPA emissions projections (which also take into account existing less efficient buildings). These sectors are expected to make up (10% and 2% of emissions in 2030). However otherwise emissions arising from the additional construction activity, economic activity, population growth, and infrastructure provision facilitated by the Letterkenny Plan (including the production of building materials, construction, electricity demand for new buildings, energy demand for transport etc) are likely to broadly adhere to the EPA national greenhouse gas emission projections which assume the implementation of the Climate Action Plan 2021. Consequently, it can be concluded that overall the Letterkenny plan would be likely to generate additional greenhouse gas emissions over and above Letterkenny's current emissions.

The question then arises as to whether such additional emissions generated by the plan are significant. The IPCC has highlighted the narrow window of opportunity available to avoid exceeding a 1.5C rise in global temperatures as provided for in the Paris agreement and the importance of achieving said target. The EPA has reported that Ireland did not meet its 2020 target for Greenhouse gas emissions. The CSO indicates that Ireland also has the 3rd highest per capita emissions in Europe (13.3 tonnes of CO₂ per person). In 2019 the Oireachtas declared a Climate Change emergency. As stated above the EPA has projected that, even with the best case scenario with all the implementation of all the measures set out in the Climate Action Plan 2021, in 2030 Ireland's Greenhouse Gas emissions will only be 28% lower than 2018 levels. This would fall significant short of the legally binding target of a 51% reduction in Greenhouse gases by 2030 (relative to 2018) set out in the Low Carbon and Climate Change Act 2021. As stated above emissions resulting from the Letterkenny plan are, with some exceptions, likely to broadly reflect these projected national emission profiles. In this context it is therefore considered that the additional greenhouse gas emissions likely to be generated by the Letterkenny Plan are significant.

Having regard to the above approach it is also possible to identify the specific effects of particular policies, objectives and land use zonings on climate factors.

Firstly it is possible to identify certain objectives, policies and objectives which would actively help to reduce greenhouse gas emissions or climate adaption and therefore would have a **positive effect** namely:

- CAM-LK-01 (Ensure Letterkenny transition to a low carbon, competitive and climate resilient.... settlement by 2050).
- CAM-LK-P-1 (Facilitate additional electric charging points).
- CAM-LK-P-2 (Increase native tree coverage).

- CAM-LK-P-3 (Support the development of renewable sources of energy).
- CAM-LK-P4 (Encourage High Biodiversity value nature based approaches and green infrastructure solutions within development proposals ... to reduce greenhouse gas emissions).
- CAM-LK-P-5 (Support Waste Heat in new or extended industrial and commercial developments).
- CAM-LKP-6 (Use of SUDS within public and private developments).
- CAM-LK-P-7 (Use of energy efficient street lighting).
- CAM-LK-P-8 (Require new residential and commercial developments to give consideration to ... energy efficiency in siting, orientation and design).
- LK-TC-O-4 (To create sustainable and restorative environments ... and climate change addressed).
- LK-TC-P-4 (To support the principle of projects that contribute to the climate change and biodiversity agendas).
- LK-H-P-8 (Residential development proposal to prioritise walking cycling and public transport).
- LK_NBH-P-1 (Creation of natural and biodiversity and wetland systems).
- LK-SCC-P-4 (Protection of existing open space).
- LTP-AT-O-1 (To increase active travel through and expansion of strategic, inter-connecting and permeability walking and cycling networks).
- LTP-AT-P-1 (Not to permit developments that would prejudice the implementation of any active travel schemes set out on the land use zoning map, incorporate active travel proposals into strategic road projects etc).
- LTP-AT-P-2 (Require that development identify desire lines by incorporating filtered pedestrian permeability links to adjoining land uses).
- LTP-AT-P-3 (Support the development of the Letterkenny to Burtonport Greenway route).
- LTP-TC-O-1 (Deliver a multifunctional, centrally located regional transport hub for Letterkenny).
- LTP-TC-O-2 (To create a dynamic, connected and accessible town centre, anchored by a centrally located local transport hub, enabling transitional shift to public transport, walking and cycling).
- LTP-PT-O-1 (To deliver significantly enhanced public transport services and facilities for Letterkenny).
- LTP-PT-P-1: (Collaborate with the NTA and all other stakeholders to develop and provide an efficient, frequent, effective, and legible public transport bus services to serve the needs of the town).

Secondly it is possible to identify specific objectives, policies and zonings whether due to their general of technical nature of the specific nature, type or location of development they would facilitate which would have **no relationship or an insignificant effect** on Climate Change and the associated consolidated EPO (C) namely:

- LK-DM-P-1 (General development management approach).
- LK-DM-P-1 (Implement all relevant provisions of the CDP).
- LK-EDE-P-1 (Support the expansion of ATU).
- LK-EDE-P-2 (Avoid ah-hoc proliferation of new or intensified access points along the N56 4 lane road).
- LK-TC-O-1 (Strengthen the Urban form of the town centre).
- LK-TC-O-2 (Create a town centre which is a multi dimensional, inclusive and inviting place).
- LK-TC-O-3 (Establish the town centre as a gateway for business and enterprise).
- LK-TC-P-6 (Require that development proposals adhere to specific design criteria).
- LK-TC-P-7 (Requirements for shop fronts)
- LK-TC-P-9 (Proposals for amusement arcades, bookmakers casinos).
- LK-H-O-1 (Ensure Appropriate quantum and mix of housing types).
- LK-H-O-2 (Ensure provision of infrastructure for new residential development).
- LK-H-P-1 (Locations at which new housing development would be permissible).
- LK-H-P-2 (Residential densities for housing sites in accordance with Departmental guidelines).
- LK-H-P-3 (Release of strategic residential reserve lands).
- LK-H-P-4 (Limited residential development on local environment lands).
- LK-H-P-5 (Single dwellings on strategic residential reserve).
- LK-H-P-6 (Best practice Universal Design requirements for residential development).
- LK-H-P-7 (Universal Design requirements for multiple residential developments).

- LK-NBH-P-2 (Protect and Enhance the special character of the Cathedral Quarter).
- LK-NBH-P-3 (Specific development management requirements in the ACA).
- LK-NBH-P-4 (Protect residential communities within and on edge of town centre).
- LK-SCC-O-1 (Deliver all social infrastructure necessary to support the growth of the regional centre).
- LK-SCC-O-2 (Support the development of cultural attractions and venues at appropriate locations).
- LK-SCC-P-1 (Require the provision of early learning and childcare facilities to meet the needs of housing development).
- LK-SCC-P-2 (Support new childcare facilities in established residential and commercial areas).
- LK-SCC-P-3 (Support the continued growth and expansion of the ATU campus).
- LK-SCC-P-4 (Protect long established residential communities at edge of town centre).

Thirdly in relation to the policies, objectives and zoning which specifically facilitate part of Section 2 of the **TEN-T Priority Route Improvement Project, Donegal** and **other strategic road corridors** (e.g. including the Western Relief Road, the Northern Relief Road, the Southern Network Project and other Urban Road Improvements. It is noted that the Environmental Report for the Variation to the County Development Plan 2018-2024 in respect of the TEN-T PRIPD noted that the strategic objective to facilitate the project had **uncertain** impacts on the SEOs related to Climate as the easing of traffic congestion is expected to lead to a reduction in traffic emissions but there was also potential for short term construction phase negative effects and long term negative effects related to increase in emissions along the route corridor. It is considered that this assessment is also broadly applicable to the portion of said project occurring within the plan area and to the abovementioned strategic road corridors which the plan will facilitate.

Fourthly it is possible to identify specific policies, objectives and land use zonings which cumulatively would facilitate significant residential or economic development, thereby lead to additional greenhouse gas emissions (through either construction, population growth, additional non renewable electricity demand, additional economic activity, or increased traffic volumes) and therefore having regard to the above assessment have a **negative effect** on the consolidated EPO related to climate namely: LK-ED-O-1 (build and strengthen Letterkenny as a key centre for economic growth), General Employment zonings, Primarily Residential Zonings, Southern Sustainable Development Area, and Opportunity Sites zonings facilitating new residential or economic development.

Consequently, notwithstanding the plan's wider socio-economic benefits and climate change mitigation (e.g. active travel and public transport) and adaptation measures, it must be objectively concluded that the **total effects of the plan on the consolidated EPO related to Climate would be negative overall.**

7.3.7 Material Assets

As outlined in Section 3 Material Assets include a wide range of built and natural assets including inter alia transport, energy/electricity, waste, water and wastewater and green/recreational infrastructure, and healthcare, housing education, retail, commercial developments, agricultural land and quarries.

In terms of the impact on existing built development and infrastructure the plan the Letterkenny Plan would facilitate the redevelopment and regeneration of existing built environments and infrastructure (e.g. regeneration of the town centre, improvements to existing water, wastewater and roads infrastructure, redevelopment of existing housing development etc). It is considered that this would result in positive effects on these material assets overall.

However, it is acknowledged that the new greenfield development facilitated by the plan (e.g. on Primarily Residential Sites, General Employment Lands and the Southern Sustainable Development Area, new strategic Road Corridors (e.g. including the Western Relief Road, the Northern Relief Road, the Southern Network Project and other Urban Road Improvements) will result in the loss of existing

agricultural lands at these locations. However on the basis that: said lands are of low to moderate agricultural value, represent a small percentage of such agricultural lands within the county as a whole and are not subject to any statutory protection or designation it is considered that the loss of this particular material asset will be insignificant overall and such losses would be strategically balanced by the provision of other material assets.

In addition it is also acknowledged that in facilitating the TEN-T Priority Route Improvement Project, Donegal (TEN-T PRIPD) the plan is also has the potential to impact on existing material assets including agricultural land, and residential, commercial and agricultural properties. The exact number of properties impacted will depend on the finalised detailed design of the project which is still in preparation. However, analysis of the draft detailed design indicates that within the Letterkenny Plan area 4 residential properties and 5 commercial properties will require acquisition as part of said project. Notwithstanding these likely impacts it is important to note that the Preferred Route Corridor for the project was selected on the basis of a detailed route selection process which was designed to minimise impacts on environmental receptors including agricultural and non agricultural materials assets.

The policies, objectives and zonings of the Letterkenny plan will facilitate the development of a wide range of new material assets in the following ways:

- Transport Infrastructure: By reserving lands for the TEN-T PRIPD, the Southern Network project, strategic relief roads in the north and west of plan area, and policies which provide for new transport interchange hub and the development of walking and cycling infrastructure.
- Water and Wastewater Infrastructure: By requiring the provision of new water and sewer infrastructure as an integral part of the development of the South Compact Growth Area.
- Residential Development: By zoning a significant quantum of lands as Primarily Residential and otherwise facilitating housing on specific opportunity sites.
- Commercial: By zoning a significant amount of lands as General Employment and otherwise facilitating a variety of new commercial development on specific Opportunity sites.
- Retail: By providing for new retail development within the area zoned town centre and at neighbourhood retail centres.
- Education: By reserving land for the expansion of LYIT campus in the town centre and otherwise facilitating the expansion of primary and secondary schools on lands zoned Community and Education.
- Healthcare: By zoning lands Strategic Community Opportunity in the vicinity of LUH.
- Childcare Facilities: By facilitating quality, sustainable and adaptable childcare facilities at a variety of locations (Policy LK-CS-O-1 refers).
- Urban Regeneration/Public Realm Improvements: By strengthening the urban form of the town centre and physical enhancements to the public realm.
- Green/Recreation Infrastructure: By requiring the provision of green infrastructure within new housing development.

The interaction of new material assets facilitated by the plan vis-a-vis flooding must also be considered. The Flood Risk Management Guidelines recommends an overall sequential approach of avoidance, substitution, justification and mitigation in relation to the consideration of new development in relation to flooding. As detailed in Section 3 a number of areas within the plan area are located within Flood Zone A and Flood Zone B (as defined in said guidance) including areas to the River Swilly flood plain to the east of Port Bridge and in the vicinity of Glebe, much of the town centre extension area to the East of the Isle Burn, the area of the River Swilly flood plain on the western side of the town, areas adjacent to the Sprackburn and Isle Burn streams and an area adjacent to the old Unifi factory site.

In accordance with the abovementioned sequential approach the plan avoids zoning land for new development in flood risk locations where possible. In this regard the significant areas of the River Swilly flood plain to the east of the Port Bridge and at Glebe, and to the west of the Aura leisure centre and along the River Swilly Corridor have been zoned Open space which does not provide for significant new development in accordance with these guidelines. In addition, the extents of other zonings have been

deliberately reduced to exclude flood risk areas (e.g. Windyhall, the IDA Business Park, Bunnagee, Dromore etc).

It is noted that the Strategic Flood Risk Assessment (SFRA) of the plan identifies **flood risk areas within:**

- **Existing developed zoned areas** including at:
 - Letterkenny University Hospital, the rear of the Fire Station on De Valera Road, the Letterkenny WWTP at Magheranan, ATU, Educate Together Primary School (on the old Unifi site) where limited highly vulnerable development may be facilitated (e.g. extensions to existing buildings).
 - Lands adjacent to the Swilly River and opposite the Mount Errigal Hotel and south of Letterkenny Skip Hire and developed lands at Bonagee and established development along the four lane carriageway where limited additional less vulnerable development may be facilitated (e.g. extensions to existing buildings).
- **Undeveloped areas reserved/zoned for new development** including: the Section 2 TEN-T PRIPD Preferred Route Corridor in the vicinity of Milk Isle/Bunnagee, other strategic road corridor where they interact with the River Swilly Flood Plain and local watercourses, undeveloped parts of the Town Centre Zoning including areas in both Flood Zone A and Flood Zone B, parts of Opp Site 11 (Old Oatfields Factory), parts of Opp Site 7 at High Road/De Valera road, parts of Opp Site 3 at Ballyraine/Lisnenan/Kilttoy and parts of the General Employment zoning at Lisnenan and developer Led roads at Bunnagee and Ballymacool.

However, in relation the abovementioned flood risk areas.

- In **Existing Developed Areas:** It is noted that the plan would facilitate additional limited development (including highly and less vulnerable developments) such as extensions to existing buildings in flood risk areas. However consistent with Circular PL 2/2014 as such development proposals relate to existing developed areas the sequential approach cannot be used to locate same in lower risk areas and the Justification test therefore does not apply. However, such proposals will be subject to detailed project level Flood Risk Assessment.
- In relation to the following **Undeveloped Areas reserved/Zoned for development:**
 - TEN-T PRIPD Section 2 Preferred Route Corridor: This project has been subject to a strategic level justification test in accordance with the Flood Risk guidelines as part of the SFRA prepared for the variation to the CDP 2018-2024 in respect of same. Said justification test concluded inter alia that the Proposed Variation (and the associated Preferred Route Corridors) satisfies the criteria for such tests outlined in Section 4.23 of the Flood Risk Management Guidelines including that:
 - The Proposed Variation is required to achieve the Proper Planning and Sustainable Development of the area.
 - There are no suitable alternative lands for this specific development in areas at lower risk of flooding.
 - Flood Risk to the development can be adequately managed and the development will not cause unacceptable adverse impacts elsewhere subject to the implementation of project level Flood Risk Assessment, design and mitigation measures.
 - Furthermore, the TEN-T PRIPD will be subject to a detailed project level flood risk assessment inclusive of the identification of appropriate flood risk management provision to ensure flood risk is minimised that the project does not exacerbate flood risk elsewhere.
 - Other strategic roads corridors identified in the plan: The SFRA sets out the strategic justification for the provision of these road corridors where they interact with any flood risk areas. In addition, these roads which will subject to detailed project level flood risk assessments.
 - Opp Site 3 Ballyraine/Lisnenan/Kilttoy (Old Unifi Site): The flood risk in this area is related to a local culvert issue. The extent of this site has been revised to exclude the flood risk area. The

SFRA sets out the strategic justification for this site and any development proposals will require the submission of a detailed flood risk assessment.

- Opp Site 7 High Road/De Valera Road: The hydraulic modelling carried out as part of the SFRA indicated that, by excluding a 5m buffer along the adjoining watercourse from the site, flood risk to development on the remaining site could be adequately managed and such development would not cause unacceptable adverse impacts elsewhere.
- Opp. site 11 Old Oatfields Factory Site: The hydraulic modelling carried out as part of the SFRA indicated that, by excluding a 5m buffer along the adjoining watercourse from the site, flood risk to development on the remaining site could be adequately managed and such development would not cause unacceptable adverse impacts elsewhere.
- Parts of the General Employment zoning at Lisnenan: The SFRA found that by rezoning the flood risk portion of the lands to Open Space flood risk to development on the remaining General Employment lands could be adequately managed and such development would not cause unacceptable adverse impacts elsewhere.

However, in relation to undeveloped parts of the town centre extension area to the east of the Isle Burn at risk from flooding: The SFRA noted that the topography of the town centre is extremely flat, any increase in water levels can have a significant implication in the overall extent of flooding and therefore carried out dedicated modelling to investigate this. This modelling involving running a number of computer model simulations to determine the impact of developing some of the undeveloped town centre sites that are affected by flooding, particularly Flood Zone A. This analysis confirmed how sensitive the town centre is to the displacement of water with all simulations indicating a significant increase in flooding extents resulting in properties not previously at risk of flooding to be impacted. The SFRA therefore concluded that the entire town centre was not going to pass the development plan justification test for any undeveloped sites that are within flood zone A and it would be necessary to that these sites be zoned for water compatible uses only to comply with the Flood Risk Management Guidelines. It is therefore considered that the zoning of these specific undeveloped lands for non-water compatible development would have a negative effect on local material assets as a result of flooding.

Consequently with the exception of the town centre extension area to the east of the Isle Burn it is considered that the plan will ensure that new material assets are either not located in flood risk areas, or where they do interact with flood risk areas, they can be strategically justified, and any residual flood risk can suitably mitigated in accordance with the Flood Risk Management Guidelines. In addition, it is noted that the plan does not facilitate any development that may interfere with Letterkenny's existing flood defences.

In addition, a number of policies and objectives can be identified which will have a **positive effect** in terms of the protection of existing or the provision of new material assets including those related to:

- Economic Development and Employment: LK-EDE-O-1 (Build and Strengthen Letterkenny as a key centre of economic growth), LK-EDE-P-1 (Expansion of ATU), LK-EDE-P-2 (Avoid proliferation access points on the N56 4 lane road).
- Town Centre including: LK-TC-O-1 (Strengthen the urban form of the town centre), LK-TC-O-2 (Create a vibrant town centre), LK-TC-O-3 (Establish the town centre as a gateway for business and enterprise), LK-TC-O-4 (Create sustainable and restorative environments) and (LK-TC-P-5 (Support urban design and public realm interventions), LK-TC-P-2 (Support residential accommodation in the town centre), LK-TC-P-3 (Support the provision of financial services, ICT and knowledge based industries in the town centre), LK-TC-P-4 (Support climate change and biodiversity projects), LK-TC-P5 (Support urban design/public realm interventions in the town centre). LK-TC-P-6 (Require development proposals adhere to specific design criteria).
- Housing: LK-H-O-1 including (Ensure an appropriate quantum and mix of housing types), LK-H-O-2 (Provide necessary physical and social infrastructure commensurate with the needs of new residential development), LK-H-P-8 (Require residential proposals to facilitate walking, cycling and public

- transport), LK-H-P-9a-n (Requirements for specific residential development sites), LK-H-P-10 (Requirements for the Southern Strategic and Sustainable Development Site).
- Opportunity Sites all objectives and policies which will provide for a variety of new material assets (including residential, retail, commercial, community and education type developments).
 - Climate Adaptation and Mitigation including: CAM-LK-0-1 (Ensure transition to a low carbon... climate resilient settlement), CAM-LK-P-1 (Additional Electric Charging Points), and CAM-LK-P-4 (Encourage... green infrastructure solutions).
 - Natural and Built Heritage: NBH-LK-P-1 (Support Creation of new amenity spaces, amenity corridors), NBH-LK-P-1 (Protect and enhance Cathedral Quarter ACA).
 - Social Community and Culture all objectives and policies including: LK-SCC-O-1 (Deliver all social infrastructure necessary to support the growth of the regional centre), LK-SCC-O-2 (Support the development of cultural attractions), LK-SCC-P-2 (Support new childcare facilities), LK-SCC-P-3 (Support growth and expansion of ATU).
 - Active Travel all objectives and policies including LTP-AT-O-1 (Expansion of ...walking and cycling networks), LTP-AT-P-3 (Support the development of the Letterkenny to Burtonport Greenway Route).
 - Strategic Roads all objectives and policies including LTP-T-O-1 (Support the development of the TEN-T PRIPD), LTP-T-O-2 (Develop the strategic roads programme).
 - Town Centre Strategy all objectives and policies including: LTP-TC-O-1 (Deliver regional transport hub), LTP-TC-P-1 (Support sustainable transport interventions in the town centre).
 - Public Transport Strategy all objectives and policies including: LTP-PT-P-1 (Deliver ... enhanced public transport services and facilities), LTP-PT-O-2 (Support provision of rail links between Letterkenny and Derry and Letterkenny and Sligo).

Consequently, on the basis of the above assessment including:

- The wide ranging benefits of the plan in terms of the creation of new material assets such as housing, transport infrastructure, retail, services, education, healthcare, recreational, and community facilities, the enhancement of existing assets (e.g. urban regeneration).
- The fact that the plan will not have significant impacts on existing material assets.
- The fact the plan manages the impact of flood risk on new material assets in accordance with the guidance set out in the flood risk management guidance.

It can be therefore concluded that the **total effects of the plan on the consolidated EPO related to material assets will be positive overall.**

7.3.8 Cultural Heritage

As detailed in Section 3.9 the Letterkenny Plan Area contains a range of Cultural Heritage features including those on the Record of Protected Structures (RPS), the National Inventory of Architectural Heritage (NIAH), the Record of Monuments and Places (RMP), within the Cathedral Quarter Architectural Conservation Area (ACA), other archaeological features not on the RMP and historic railway corridors. These features are located on various zonings throughout the plan area.

As detailed in Section 3.9 structures on the RPS, RMP and within the above ACA benefit from significant **statutory protections**. In addition the **built heritage policies of the County Donegal Development Plan 2018-2024**(as varied) already provide for the protection of the architectural heritage of the County (BH-O-1 refers) and inter alia all structures and sites contained in the Record of Protected Structures (BH-P-1 refers).

The **Built Heritage related policies** of the Letterkenny plan also explicitly provide for the protection of, and therefore would have a positive effect on, Built Heritage. For example: LK-NBH-P-2 (protect and enhance the special character of the Letterkenny Cathedral Quarter ACA), LK-NBH-P-3 (development management requirements for the ACA).

It is noted that **other objectives, policies and land use zonings** of the plan provide for development on lands on which Cultural Heritage features are located, for example within: the town centre, TEN-T PRIPD/Established Development (RMP Enclosure Site and NIAH structures 40905394 and 40905339), Southern Strategic and Sustainable Development Site (RMP Enclosure Site), Southern Network Project at Drumnaaogh (RMP Ecclesiastical Remains), Established Development at Oldtown (RMP Standing Stone), Primarily Residential at Ballymacool (RMP Souterrain), and Opportunity Site 3 Kilty (RMP Holy Well). However, on the basis that: said objectives, policies and land use zonings do not supersede either the above statutory protections or built heritage policies, and the draft design of the TEN-T PRIPD indicates that the above NIAH structures will be unaffected by said project it is considered that they would have an **insignificant effect** on cultural heritage.

Otherwise there are policies and objectives of a technical nature (e.g. LK-EDE-P-2 Avoiding ad-hoc proliferation of access points onto the N56) and development management requirements in relation to specific residential sites in the plan which it is considered would have **no relationship** with cultural heritage features.

However, it is specifically noted that Policy LTP-PT-T-2 does not protect historic railway corridors within the plan boundary for strategic infrastructure provision or recreational development (as these corridors have already been compromised by development) and it is considered that this policy would have a **negative effect** on these cultural heritage features.

Consequently, on the basis of the above assessment it is considered that the **total effect of the plan on the consolidated EPO related to Cultural Heritage would be positive overall.**

7.3.9 Landscape and Visual

As stated in Section 3.9 Landscape and Visual Impact Assessment (LVIA) involves defining the scope of the plan/project, the establishment of a landscape and visual baseline and an assessment of landscape and visual effects of a plan/project. The broad scope of the Letterkenny Plan including the contents, main objectives and land use zonings have been described in Section 2 of this report. A landscape and visual baseline for Letterkenny is detailed in Section 3.11 of this report. In particular this baseline identified:

- Landscape, features, elements and characteristics of differing landscape significance and sensitivity within the plan area (e.g. higher hills and mountains to the north and south, established woodland at Gortlee, Kilty, the wide fertile valley of the River Swilly etc).
- Key views, related viewpoints and visual Receptors (i.e. types of people) of differing visual significance and sensitivity within the plan area (e.g. views of the plan area from designated views and key approach roads).

This landscape and visual baseline informs and enables an overall assessment of the likely significant landscape and visual effects of the land use zonings, policies and objectives of the Letterkenny Plan. This Landscape and Visual Assessment is a qualitative assessment as the consideration of the likely significant landscape and visual effects are not a measurable objective science.

From the abovementioned Landscape and Visual Baseline the following fundamental points emerge:

- The importance of the visual skyline afforded by the higher hills and ridgeline to the north west of Letterkenny when viewed on approach from the east and south and from the southern valley slopes.
- The role which the southern Swilly Valley Slopes play in providing a rural backdrop/setting for the town when viewed from on approach from the north east and from within the town itself notwithstanding their modest elevation relative to the town.

- The importance other notable landscape and townscape features (i.e. St Eunan’s Cathedral, Whinney Hill/Drum hill, the woodlands at Kilttoy and Gortlee and the undeveloped agricultural flood plain) in defining the landscape and townscape character of Letterkenny.

A broad strategic assessment of the likely significant landscape and visual effects of the land use zonings within the Letterkenny Plan was carried out based on the assessment methodology set out in the publication *Guidelines for Landscape and Visual Impact Assessment, 3rd Edition* (Landscape Institute and Institute of Environmental Management and Assessment (LIIEMA), 2013).

In summary the landscape assessment involved judging the overall significance of the landscape effect of each land use zoning (e.g. the Southern Strategic and Sustainable Development Site) on the relevant landscape receptors (e.g. the wide fertile valley of the River Swilly) by: assessing the magnitude of the landscape effect (i.e. in terms of size and scale, geographical extent and duration/reversibility of the effect) against the sensitivity of the particular landscape receptor involved (i.e. the susceptibility and value of the receptor).

The visual assessment also involved judging the overall significance of the visual effect of each land use zoning (e.g. the Southern Strategic and Sustainable Development Site) on visual receptors (e.g. local residents) by: assessing the magnitude of the visual effect (i.e. in terms of size and scale, geographical extent and duration/reversibility of the effect) against visual sensitivity (i.e. the susceptibility of visual receptors and value of views).

Tables setting out said landscape and visual assessments on each land use zoning are provided in the following (Tables 7.5 and 7.6 refer).

Separately an assessment was also made of the likely overall landscape and visual effect of each policy and objective.

A summary of overall landscape and visual effects of all land use zonings, policies and objectives is provided in the table 7.4 below.

Table 7.4: Summary of Overall Landscape and Visual Effects of All Zonings, Policies and Objectives.

	Negative Effect	Insignificant Effect/No Relationship	Positive Effect
Landscape	<ul style="list-style-type: none"> Southern Strategic and Sustainable Development Site. TEN-T/PRIPD Open Space. Southern Network Project. 	All other zonings, policies and objectives.	Opp. Site 3: Old Unifi Site CAM LK-O-1 LK-NBH-P-1
Visual	<ul style="list-style-type: none"> Southern Strategic and Sustainable Development Site. TEN-T/PRIPD Open Space. Southern Network Project. General Employment Zoning: Carnamuggagh Lower (East of Pinehill Industrial Estate). 	All other zonings, policies and objectives.	Opp. Site 3: Old Unifi Site LK-OPP-P-3 LK-TC-P-4 LK-TC-P-5 LK-TC-P-8 CAM-LK-P-2 CAM-LK-P-4 LK-NBH-P-1 NBH-LK-P-2 NBH-LK-P-3 NBH-LK-P-4 LK-SCC-P-4

The rationale for the **negative effects** of certain zonings identified above can be summarised as follows.

- **Southern Strategic Sustainable Development Site:**

- **Landscape:** In terms of sensitivity this zoning has a medium susceptibility and value as it is located within the southern slopes of the wide fertile valley of the river Swilly. In terms of the magnitude of effect the size/scale of change in the landscape will be moderate as the site is large and the zoning will result in the loss of a significant portion of, and significantly extend the urban area into, the wide fertile valley of the river Swilly landscape which is an important element and a key characteristic of the host Letterkenny Estuary and Farmland LCA, geographically the effect will be visible from a significant portion of the urban area of Letterkenny and the effect will be long term and permanent.
- **Visual:** In terms of sensitivity this zoning has a high susceptibility as it can only be viewed by a high number of residents and a medium value as it is located within the wide fertile valley of the river Swilly. In terms of magnitude of effect the zoning will have a moderate effect as it introduce large scale urban development into an predominately undeveloped rural agricultural area, geographically the effect will be felt over large parts of the urban area of Letterkenny to the north and the effect will be long term and permanent.

- **TEN-T/PRIPD Open Space:**

- **Landscape:** In terms of sensitivity this zoning has a medium sensitivity and value as it is located within the large primarily agricultural flood plain. In terms of the magnitude of effect the size/scale of change in the landscape will be moderate as the zoning will provide for infrastructural development which will dissect a visually exposed and undeveloped part of the floodplain and further fragment this landscape element, geographically the effect will be visible from other parts of the Landscape Character Area, and the effects will be long term and permanent.
- **Visual:** In terms of sensitivity this zoning has a medium susceptibility as it can be viewed by a moderate number of residents and a medium value as it is located within the large primarily agricultural floodplain of the River Swilly. In terms of magnitude of effect the zoning will have a moderate effect as it will provide for large scale infrastructural development across a large, open and visually exposed agricultural flood plain, geographically the effect

will in particular be felt over the north eastern and south eastern part of the plan area and the effects will be long term and permanent.

- **Southern Network Project**

- **Landscape:** In terms of sensitivity: this zoning has a medium susceptibility and value as it is located within the wide fertile valley of the river Swilly. In terms of the magnitude of the effect: the size/scale of change in the landscape will be moderate as the zoning will visibly dissect and extend development into a currently undeveloped portion of the wide fertile valley of the river Swilly, geographically the landscape effect will be visible from a significant part of the highly populated main urban area of Letterkenny to the North, and the landscape effect is likely to be long term and permanent.
- **Visual:** In terms of sensitivity this zoning has a medium susceptibility as the road corridor is likely to be visible by large no. of residents from the main urban area of Letterkenny on the opposite side of valley to the north and a medium value as it is located within the wide fertile valley of the river Swilly. In terms of the magnitude of the effect: the size and scale of the visual effect is likely to be moderate as the road corridor will visibly dissect and extend development into a currently undeveloped portion of the wide fertile valley of the river Swilly, the visual effect would be felt over a medium sized area particularly to the north and north east, and the effect will be long term and irreversible.

- **General Employment Zoning: Carnamuggagh Lower:**

- **Visual:** In terms of sensitivity this zoning has a high susceptibility as it can be viewed by a large number of local residents and has a high value as is it located in on the ridgeline/high hills above Letterkenny. In terms of magnitude of effect the zoning will result in a moderate change on the view as whilst limited in scale the zoning will involve the replacement of upland vegetation with commercial development at a prominent location on the ridgeline/skyline above Letterkenny which is visible on approach into the town particularly from the N13 to the south, geographically it will in particular affect views from the southern and south eastern part of the plan area, including on approach on the N13, and the will be long term and permanent.

In terms of the total effects on the landscape and visual baseline the abovementioned assessment has identified a number zonings which would have a negative effect on landscape and/or visual baseline, one zoning and a number of policies and objectives which would have a positive effect on same, whilst the remainder of the policies and objectives and zonings of the plan would have an insignificant effect on/no relationship with said baselines.

However, on the basis that:

- As the zonings identified as having a negative effect are located in sensitive locations, have a large spatial extent and/or would facilitate a significant amount of development, it is considered that the negative effects of said zonings would ultimately outweigh the positive effects of the other zonings, policies and objectives identified above (which in the main would be limited to the conservation of certain built and natural heritage features).
- Other zonings (which may individually have minor effects on the landscape and/or visual baseline) may collectively result in moderate negative effect on said baseline (e.g. the development of Opportunity Site 12, Opportunity Site 9, General Employment Zoning at Windyhall).

It is considered that, on balance, the **total effects of the plan** on the landscape and visual baseline would be **negative** overall.

Legend for Assessment of Landscape Effects Table

Term	Definition/Explanation (as per LI, IEMA 2013)	Rating	
Sensitivity			
Susceptibility	Ability of the landscape receptor to accommodate the proposed development without undue consequences for the maintenance of the baseline situation and/or achievement of landscape planning policies and strategies.	Very Low	
		Low	
		Medium	
		High	
		Very High	
Value	The Value of the landscape receptors as per Table 3.14.	Low	
		Medium	
		High	
		Very High	
Magnitude			
Size/scale	The size/scale or change <u>in the landscape</u> that is likely to be experienced as a result of the effect. Including: <ul style="list-style-type: none"> The extent of existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape. The degree to which aesthetic or perceptual aspects of the landscape are altered by the removal of existing landscape components or additions of new ones. Whether this effect changes the key characteristics of the landscape which are critical to its distinctive character. 	None/Insignificant	
		Minor	
		Moderate	
		Major	
Geographical extent.	The geographical extent over which the landscape effect will be felt.	Not Applicable	
		Site level	
		Immediate Setting of Site	
		Within host LCA Area	
		Across several LCA Areas.	
Duration/ Reversibility	<ul style="list-style-type: none"> Duration: Timeframe over which landscape effect will be felt. Reversibility: Prospect/practicality of particular effect being reversed within a generation (e.g. housing permanent, Wind energy reversible). 	Not Applicable.	
		Short term	
		Medium term	
		Long Term	
		Permanent	P
		Reversible	R
Total Landscape Effects			
	Overall Assessment of landscape effect combining sensitivity and magnitude	Significant Positive	
		Positive	
		No Relationship/Insignificant	
		Negative	
		Significant Negative	

Table 7.5 Assessment of Landscape Effects of Specific Land Use Zonings

Land Use Zoning Ref.	Landscape Receptor	Sensitivity of Receptor		Magnitude of Effect			Overall Effect
		Susceptibility	Value	Size/Scale	Geographic Extent	Duration/Reversibility	
General Employment Zoning: Windyhall	Wide Fertile Valley of the River Swilly					P	
General Employment Zoning: Carnamuggagh Upper	Wide Fertile Valley of the River Swilly						
General Employment Zoning: Carnamuggagh Lower (East of Pinehill Industrial Estate)	Higher Hills and mountains to the North and South					P	
General Employment Zoning: IDA Business Park	Wide Fertile Valley of the River Swilly, Infill lands, and existing commercial						
General Employment Zoning: Carnamuggagh	Wide Fertile Valley of the River Swilly						
General Employment Zoning: Lisnenan Business Park	Marginal Land						
General Employment Zoning:	Infill Site						
General Employment Zoning:	Wide Fertile Valley of the River Swilly						
General Employment Zoning:	Large Primarily Agricultural Flood						
General Employment Zoning:	Large Primarily Agricultural Flood					P	
General Employment Zoning: Drumnahoagh & Bunnagee	Marginal Land and Brownfield land						
General Employment Zoning:	Wide Fertile Valley of the River Swilly					P	
General Employment Zoning:	Large Primarily Agricultural Flood						
Town Centre Zoning	Town Centre Area of Letterkenny					P	
Primary Residential Zoning 1:	Wide Fertile Valley of the River Swilly						
Primary Residential Zoning 2: Glebe	Marginal land/Infill Site						
Primary Residential Zoning 3:	Infill Site						
Primary Residential Zoning 4:	Infill Site						
Primary Residential Zoning 6:	Wide Fertile Valley of the River Swilly						
Primary Residential Zoning 7:	Marginal land						
Primary Residential Zoning 8:	Marginal land						
Primary Residential Zoning 9: Oldtown/Lismonaghan	Wide Fertile Valley of the River Swilly						
Primary Residential Zoning 10: Lismonaghan	Infill Site						
Primary Residential Zoning 11:	Wide Fertile Valley of the River Swilly						

Land Use Zoning Ref.	Landscape Receptor	Sensitivity of Receptor		Magnitude of Effect			Overall Effect
		Susceptibility	Value	Size/Scale	Geographic Extent	Duration/Reversibility	
Primary Residential Zoning 12:	Wide Fertile Valley of the River Swilly						
Primary Residential Zoning 13:	Wide Fertile Valley of the River Swilly						
Primary Residential Zoning 14:	Infill Site						
Primary Residential Zoning 15:	Marginal land						
Primary Residential Zoning 16:	Marginal land						
Primary Residential Zoning 17:	Wide Fertile Valley of the River Swilly						
Primary Residential Zoning 18:	Marginal land						
Southern Strategic and Sustainable Development	Wide Fertile Valley of the River Swilly					P	
Strategic Residential Reserve Zonings All	Wide Fertile Valley of the River Swilly,						
Opp. Site 1 Zoning: Gortlee	Established Woodland						
Opp. Site 2 Zoning: Ballyraine	Commercial Area						
Opp. Site 3 Zoning: Old Unifi Site	Brownfield Site					P	
Opp. Site 4 Zoning: Ballyraine (Old Donegal	Commercial Area						
Opp. Site 5 Zoning: Ballyraine	Infill site						
Opp. Site 6 Zoning: Oldtown	Infill site						
Opp. Site 7 Zoning: Ballyboe Glencar	Infill site						
Opp. Site 8 Zoning: Ballyraine	Infill site						
Opp. Site 9 Zoning: Windyhall	Wide Fertile Valley of the River Swilly					P	
Opp. Site 10 Zoning: Oldtown	Infill site						
Opp. Site 11 Zoning: Old Oatfields Site	Brownfield Site					P	
Opp. Site 12 Zoning: Carnamuggagh Lower	Wide Fertile Valley of the River Swilly					P	
Local Environment Zonings All	Higher Hills and Mountains to the North and South And						
Open Space Zonings All	Letterkenny Town Park, Ballymacool Park and Other Local Parks						
Community Education Zoning:	General urban area						
Community Education Zoning:	General urban area						
Community Education Zoning:	General urban area						
Community Education Zoning:	General urban area						
Community Education Zoning:	General urban area						

Land Use Zoning Ref.		Landscape Receptor	Sensitivity of Receptor		Magnitude of Effect			Overall Effect
			Susceptibility	Value	Size/Scale	Geographic Extent	Duration/Reversibility	
Community Zoning:	Education	General urban area						
Community Zoning:	Education	General urban area						
Community Zoning:	Education	General urban area						
Strategic Opportunity:	Community	Infill Site						
Strategic Opportunity:	Community	Wide Fertile Valley of the River Swilly					P	
Established Development: All Zonings		General urban area						
TEN-T PRIPD/Established Development		General urban area						
TEN-T PRIPD/General Employment and		Large Primarily Agricultural Flood					P	
TEN-T PRIPD/Open Space		Large Primarily Agricultural Flood					P	
TEN-T PRIPD/Opportunity Site 4		General urban area						
TEN-T PRIPD/Local Environment		Wide Fertile Valley of the River Swilly					P	
Western Relief Corridor	Road	Wide Fertile Valley of the River Swilly					P	
Northern Relief Corridor	Road	Wide Fertile Valley of the River Swilly					P	
Southern Network Project		Wide Fertile Valley of the River Swilly					P	

Legend for Visual Assessment Summary Table

Term	Definition/Explanation (as per LI, IEMA 2013)	Rating	
Sensitivity			
Susceptibility	<p>The susceptibility of different receptors (i.e. people) to changes in views and visual amenity is mainly a function of: the occupation of activity of people experiencing the view at particular locations and the extent to which their attention may be focused on views and visual amenity they experience at specific locations.</p> <p>The visual receptors most susceptible to change include: residents, people engaged in outdoor recreation which attention or interest is likely to be focused on the landscape or views, visitors to heritage assets, communities where views contribute to the landscape setting enjoyed by residents in the area, travellers on scenic routes.</p>	Very Low	
		Low	
		Medium	
		High	
		Very High	
Value	<p>Recognition of the value attached to particular views. Indicators of the value attached to views by visitors.</p> <p>The Value of the visual receptors as per Table 3.14.</p>	Low	
		Medium	
		High	
		Very High	
Magnitude			
Size/scale	<p>The scale of the change in the view with respect to the loss or addition of features in the view and the changes in its composition, including the proportion of the view occupied by the proposed development.</p> <p>The degree of contrast or integration or any new features or change in the landscape with the existing or remaining landscape elements and characteristics in terms of form, scale, and mass, line height colour and texture.</p> <p>The nature of the view of the proposed development in terms of the relative amount of time over which it will be experienced and whether views will be full partial or glimpses.</p>	None/Insignificant	
		Minor	
		Moderate	
		Major	
Geographical extent.	<p>The geographical extent of a visual effect will vary with different viewpoints and is likely to reflect: The angle of view in relation to the main activity or the receptor.</p> <p>The distance of the viewpoint from the proposed development.</p> <p>The extent of the area over which the changes would be visible.</p>	None	
		Small	
		Medium	
		Large	
Duration / Reversibility	<p>Duration: Timeframe over which visual effect will be felt.</p> <p>Reversibility: Prospect/practicality of particular effect being reversed within a generation (e.g. housing permanent, Wind energy reversible).</p>	Not Applicable.	
		Short term	
		Medium term	
		Long Term	
		Permanent	P
		Reversible	R
Total Visual Effects			
	Overall Assessment of visual effect combining sensitivity and magnitude	Significant Positive	
		Positive	
		No Relationship/Insignificant	
		Negative	
		Significant Negative	

Table 7.6: Assessment of Visual Effects of Specific Land Use Zonings

Land Use Zoning:	Sensitivity of Receptor		Magnitude of Effect			Overall Visual Effect
	Suscep-tibility	Value	Size/Scale	Geographic Extent	Duration/ Reversibility	
General Employment Zoning: Windyhall					P	
General Employment Zoning:						
General Employment Zoning:					P	
General Employment Zoning: IDA Business Park						
General Employment Zoning:						
General Employment Zoning: Lisnenan						
General Employment Zoning: Ballyraine 1						
General Employment Zoning: Ballyaine 2						
General Employment Zoning: Bunnagee						
General Employment Zoning: Dromore						
General Employment Zoning:						
General Employment Zoning: Drumnahoagh					P	
General Employment Zoning: Drumnahoagh						
Town Centre Zoning						
Primary Residential Zoning 1: Kiltyoy					P	
Primary Residential Zoning 2: Glebe						
Primary Residential Zoning 3: New Line						
Primary Residential Zoning 4: New Line						
Primary Residential Zoning 6: Glencar Irish						
Primary Residential Zoning 7: Glencar Irish						
Primary Residential Zoning 8: Windyhall						
Primary Residential Zoning 9:					P	
Primary Residential Zoning 10:						
Primary Residential Zoning 11: Woodpark/					P	
Primary Residential Zoning 12: Creeve					P	
Primary Residential Zoning 13: Ballymacool					P	
Primary Residential Zoning 14:						
Primary Residential Zoning 15: Killyclug						
Primary Residential Zoning 16: Killylastin						
Primary Residential Zoning 17: Glencar						
Primary Residential Zoning 18: Glencar						
Southern Strategic and Sustainable					P	
Strategic Residential Reserve Zonings All						
Opp. Site 1 Zoning: Gortlee						
Opp. Site 2 Zoning: Ballyraine						
Opp. Site 3 Zoning: Old Unifi Site					P	
Opp. Site 4 Zoning: Ballyraine (Old Donegal						
Opp. Site 5 Zoning: Ballyraine						
Opp. Site 6 Zoning: Oldtown						
Opp. Site 7 Zoning: Ballyboe Glencar						
Opp. Site 8 Zoning: Ballyraine						
Opp. Site 9 Zoning: Windyhall					P	
Opp. Site 10 Zoning: Oldtown						
Opp. Site 11 Zoning: Old Oatfields Site						
Opp. Site 12 Zoning: Carnamuggagh Lower					P	
Local Environment Zonings All						

Land Use Zoning:	Sensitivity of Receptor		Magnitude of Effect			Overall Visual Effect
	Suscep-tibility	Value	Size/Scale	Geographic Extent	Duration/ Reversibility	
Open Space Zonings All						
Community Education Zoning: Letterkenny						
Community Education Zoning: Ballyraine #1						
Community Education Zoning: Ballyraine #2						
Community Education Zoning: Oldtown						
Community Education Zoning: Scoil						
Community Education Zoning: St Eunan's						
Community Education Zoning: Scoil Mhuire						
Community Education Zoning: Gaelscoil						
Strategic Community Opportunity:						
Strategic Community Opportunity:						
Established Development: All Zonings						
TEN-TPRIPD/Established Dev.						
TEN-T PRIPD/General Employment and						
TEN-T PRIPD/Open Space					P	
TEN-T PRIPD/Opportunity Site 4						
TEN-T PRIPD/Local Environment						
Western Relief Road					P	
Northern Relief Road					P	
Southern Network Project					P	

7.4 In-combination and Cumulative Impacts

7.4.1 Cumulative Assessment Methodology

Article 5 of the SEA Directive requires that the Environmental Report assesses the likely significant effects of implementing the plan or programme taking account its objectives and geographical scope. Furthermore, Annex I(f) of the directive states that likely significant effects include inter alia cumulative effects. The departmental SEA Guidance advises that SEA 'has the potential to assess cumulative effects which the case-by-case approach of project EIA may not be fully equipped to do'.

In particular The EPA publication 'Good Practice Guidance on Cumulative Effects Assessment in Strategic Environmental Assessment (January 2020) states that:

- *Cumulative effects result from a combination of two or more individual effects on a receptor. Such effects can occur as a result of plans, programmes, projects and other actions ... in the past, present and the reasonably foreseeable future. They can result from impacts that may be individually insignificant, but collectively significant.*

The guidance notes that cumulative impacts include:

- Additive: Where impacts can be simply added together.
- Synergistic: Where 2 impacts together have a greater impact than adding up the individual impacts.

In summary this guidance advises that Cumulative Effects Assessment should adopt the following approach:

- **Task 1: Identify Receptors:** For example: Climate change, flooding, biodiversity, air quality, landscape etc, including scoping in impacts that, along might be insignificant but cumulatively may be significant.
- **Task 2: Identify Limits/Threshold/Standards** in relation to the key environmental receptors. (e.g. Climate Change Targets, Natura 2000 sites, Water Framework Directive Targets etc).

- **Task 3:** Discuss the current state of the environment without implementing the plan including:
 - Describing the **current state of the environment** and past trends.
 - **Identifying other actions** that could have cumulative effects. In this regard the guidance suggests limiting the analysis to existing and reasonably foreseeable actions including: continuation of past trends, projects under construction, permitted and subject projects not yet built, CDP's, national plans and other plans which set the framework for future development consents. The guidance also suggest that the relevance of the other actions depends on; the probability of affecting the receptors, the likelihood that the action will undermine efforts to keep receptor within standards/limits or otherwise impact on environmental commitments and whether the action jointly with the plan have a significant cumulative effect on the receptor.
 - **Describing the likely environmental impacts of these other actions.**
- **Task 4: Assess the impacts of the plan plus those of other actions** and compare these against the limits/thresholds to assess significance including:
 - Identifying the total effects of the plan. Note: The total effect of the plan are those of all of the plan policies and subcomponents together.
 - Identifying the cumulative effects (i.e. the total effects of the plan plus the effects of other actions).
- **Task 5: Mitigate** Significant Cumulative Impacts.
- **Task 6: Monitor** for Significant Cumulative Impacts.

The above approach has been used to assess the cumulative effects of the Letterkenny Plan.

7.4.2 Assessment of Cumulative Effects

Task 1: Identification of Key Environmental Receptors:

The key environmental receptors relevant to specific environmental aspects are identified within the current state of the environment section of this report and are summarised in the table below:

Table 7.7 Key Environmental Receptors.

Environmental Aspects	Key Receptor
Biodiversity, Flora and Fauna	<ul style="list-style-type: none"> • Natura 2000 sites including; Lough Swilly SAC, Lough Swilly SPA , and Leannan River SAC • River Swilly Valley Woods Proposed Natural Heritage Area. • Special area of Biodiversity in Ballymacool Woods/Whinney Hill/Drum Hill, Kiltroy Woods and the River Swilly • Other threatened and protected species.
Population and Human Health	Populations within Letterkenny and within the Zone of Influence of the Plan and human health factors related to air, water and noise and social deprivation.
Soils and Geology	NBP4 (09000NB4) and River Alluvium (05RIV) soil types, and local rock formations (See Section 3.3)
Water	River Swilly Catchment (including the Swilly Estuary), Leannan River Catchment.
Air	Humans, Flora and Fauna.
Climatic Factors	Humans, Flora and Fauna.
Material Assets	Existing and new: <ul style="list-style-type: none"> • Housing, retail, commercial, industrial, healthcare and education developments, • Transport, water, wastewater, waste, infrastructure.
Cultural Heritage	<ul style="list-style-type: none"> • Architectural Heritage: Structures on the Record of Protected Structures and National Inventory of Architectural Heritage within the plan area.

	<ul style="list-style-type: none"> Archaeological Monuments: Record of Monuments and Places and Historic Graveyard within the plan area.
Landscape:	<ul style="list-style-type: none"> Lough Swilly SAC and SPA, River Swilly Valley Woods Proposed Natural Heritage Area. River Swilly Valley, Higher Hills to the north and south of the town, Swilly Estuary, River Swilly flood plain, St Eunan’s Cathedral, Architectural Conservation Area, Ballymacool House, the historic streetscape, established woodlands, town parks. Visual Receptors associated with the following views: designated Views (Listellian and Manorcunningham viewing point), high usage public spaces (town park, Ballymacool, Letterkenny Main Street), key approach roads, views from Knockybrin and St Eunan’s cathedral.

Task 2: Key Limits/Threshold/Standards in relation to the key environmental receptors

The key environmental receptors are identified within the current state of the environment section of this report and are summarised in the table below:

Table 7.8 Key Limits/Thresholds/Standards In Relation To the Key Environmental Receptors.

Environmental Aspects	Limit/Threshold/Standard
Biodiversity, Flora and Fauna	<ul style="list-style-type: none"> The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. The qualifying interests for the Lough Swilly and Leannan River SACs are detailed in Section 3.1. Article 4(1) of the Bird Directive requires that Annex I species be the subject of special conservation measures and similar measures for regularising occurring migratory species. The qualifying interests of the Lough Swilly SPA is listed in Section 3.1. The Wildlife Act 1976 provides general protection to certain birds, animals and flora.
Population and Human Health	No specific relevant limit/threshold/standard
Soil	No specific relevant limit/threshold/standard
Water	Under the WFD Member states are required to achieve at least good status in all waters and must ensure that status does not deteriorate
Air	WHO and CAFE emission limits values (See Section 3.5)
Climatic Factors	Paris Agreement, European and Irish Greenhouse Gas Emission Targets (See Section 3.6)
Material Assets	No specific relevant limit/threshold/standard.
Cultural Heritage	<ul style="list-style-type: none"> Record of Protected Structures: S57(10(b) of the Planning and Development Act 2000(as amended) that a planning authority shall not grant permission for the demolition of RPS structure save in exceptional circumstances. Record of Monuments and Places: The National Monuments (Amendment) Act 1994 legally protects structures on the RMP.
Landscape:	No quantifiable limit/threshold/standard.

Task 3: Current State of Environment (including Other Relevant Actions which could have cumulative effects and likely environmental impacts of said actions)

- The current state of the environment (including key trends) for the various environmental aspects are detailed for the various environmental aspects in Section 3.
- Other actions which could have cumulative effects with the plan are identified in the above below.

Table 7.9 Other Actions Which Could have Cumulative Effects With the Plan.

Environmental Aspects	Other Actions (Other than Letterkenny Plan)
Roads Projects Under Construction	PG17/12 Four Lane Road, Letterkenny PG21/01 11 Social Housing Units, Killylastin
Local Authority Housing Projects	PG21/03 34 Social Housing Units Kilmacrennan Road. PG21/01 11 Social Housing Units, Killylastin, Letterkenny
Other Local Authority Development	PG17/07 Social Enterprise Centre and Linear Park/Greenway (1st Phase)
Permitted Developments (Uncommenced or Uncompleted).	Key Residential Developments: 12/80077 11 Dwellings Carnamuggah Upper 16/50281 4 Dwellings Loughnagin 17/50953 46 Residential Units Ardrawer 17/51883 36 Apartments Carnamuggah Lower 18/51939 98 Residential Units Killylastin 19/50809 18 Residential Units Glencar Scotch 19/51064 50 Residential Units Carnamuggah Upper 19/51588 8 Residential Units Lisnenan 20/50479 99 Residential Units Creeve 20/50778 8 Dwellings Glebe
CDP Plans and Projects	<ul style="list-style-type: none"> TEN-T Priority Route Improvement Project, Donegal Southern Network Project, Letterkenny
Other plans and projects which set the framework for future development consents	<ul style="list-style-type: none"> Regional Spatial and Economic Strategy National Planning Framework

Task 4: Assess the Impact of the Plan plus those of Other Actions

The total effects of the plan were identified and categorised in Table 7.2 and these findings are incorporated into the table below. The total effects of other relevant actions which may also impact on environmental receptors in the Letterkenny area are also detailed, assessed and categorised in the table below. Collectively this facilitates a cumulative assessment (i.e. an assessment of the total effect of the plan plus those of other actions) across a range of environmental categories as detailed in the table below.

Task 5: Mitigation:

The measures envisaged to prevent and reduce any significant adverse effects related to the Letterkenny Plan are detailed in Section 8 of this report.

Task 6: Monitor

The measures to monitor the effects of the Letterkenny Plan are detailed in Section 10 of this report.

Table 7.10: Description of Environmental Impacts of Other Actions related to the Letterkenny Plan (i.e. Actions Other than the Letterkenny Plan)

Key

++	Significant Positive Effect
+	Positive Effect
0	No Relationship/Insignificant Effect
-	Negative Effect
--	Significant Negative Effect
?	Uncertain Effect
N/A	Not Applicable

Action Type	Specific Other Action	Biodiversity	Population	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
		Flora Fauna	Human Health								
Roads Projects Approved or Under Construction	PG17/12 Four Lane Road, Letterkenny This project provides for a central median barrier, redesign of the road layout, a pedestrian crossing, new cycle lane and footpath on the N56 4 lane road.										The planner's recommendation for this development noted the following: <ul style="list-style-type: none"> The application was accompanied by an AA Screening report which concluded that the development alone or in combination with other developments would not have a significant effect on the integrity of European Sites. The development provides for traffic safety improvements for all road users including pedestrians and cyclists. There were no visual amenity concerns
	PG20/15 Letterkenny Traffic Management Project. This project provides for: <ul style="list-style-type: none"> New signalised junctions Civil work. Updaring of footpaths Realignment of junctions. Provision of new road markings signage, drainage and landscaping works. 										<ul style="list-style-type: none"> The AA Screening Report concluded that the project would not individually or in combination with other plans and project have a significant effect on European sites. The planner's report otherwise concluded: <ul style="list-style-type: none"> The development would not give rise to any direct adverse impacts on residential amenity and the project should enhance road safety and minimise traffic congestion. The development does not give rise to any public health concerns. The development would not impact on archaeological or built heritage.
Local Authority Housing Developments	PG21/03 34 Social Housing Units										Planner's recommendation inter alia

Action Type	Specific Other Action	Biodiversity Flora Fauna	Population Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
Uncompleted or Under Construction	Kilmacrennan Road, Upper, Carnamuggagh Letterkenny										<ul style="list-style-type: none"> Noted the development is located over 2.4km from, and had no direct hydrological link with the nearest Natura 2000 site. Stated that the quality of the scheme was acceptable. Noted the development would be serviced by mains water and sewer connections. Did not note the presence of any cultural heritage features. Stated the site had the capacity to accommodate the overall scale of the development and the design standard was acceptable. <p>Note: It is considered that the construction of housing is likely give rise to additional greenhouse gas emissions during the construction phase e.g. (production of building materials and construction activities) and operational phase (e.g. from the associated additional electrical and transport demands) which are considered significant and negative in view of the Ireland overall emission profile and failure to meet past emission targets.</p>
	PG21/01 11 Social Housing Units, Killylastin, Letterkenny										<p>Planner's recommendation inter alia:</p> <ul style="list-style-type: none"> Noted the development is located over 2.4km from, and had no direct hydrological link with the nearest Natura 2000 site. Stated that the development would be connected to mains water and sewer connections. The development provided for a satisfactory form of design and the site had the capacity to accommodate the scale of the development. <p>See note on housing and climate change above.</p>
Other Local Authority Development	PG17/07 Social Enterprise Centre and Linear Park/Greenway (1 st Phase)										<p>The Planner's recommendation stated/noted that:</p> <ul style="list-style-type: none"> The development will utilise existing mains water and sewer. The development would enhance the community facilities in the town. There were no recorded monuments or protected buildings on the site. That the building was of a high architectural standard. The site specific flood risk assessment concluded that the proposed building would not be a risk from flooding and the proposed development will not increase the risk of fluvial or pluvial flooding elsewhere.
Permitted Developments	12/80077 11 Dwellings Carnamuggah Upper										<p>The impact of the developments opposite on the following environmental topics can be summarized as follows:</p>

Action Type	Specific Other Action	Biodiversity Flora Fauna	Population Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
(Uncommenced or Uncompleted).											
	16/50281 4 Dwellings Loughnagin										<ul style="list-style-type: none"> Biodiversity/Flora/Fauna: Will not have an adverse affects the integrity any Natura 2000 sites, and will not interfere with other areas of biodiversity (e.g. proposed NHAs). Population and Human Health: Will facilitate population growth, provide additional housing choice etc. Soil: Will not have a significant impact on soils. Water: Will be serviced to the Letterkenny municipal Wastewater Treatment Plant which has significant additional capacity. Air: Will be completed to NZEB building, standards and therefore are unlikely to be reliant on the burning of solid fuels for home heating and result in PM pollution. Climate: Will likely result in additional Greenhouse Gas Emissions as a result of construction, electricity, energy and transport demands, and therefore given the current and future likely exceedance of GHG emission targets have a negative impact on climate. Material Assets: Said development will provide new housing assets for Letterkenny. Cultural Heritage: Said developments will not interfere with any architectural or archaeological built heritage assets. Landscape: With the exception of 19/51064 it is not considered that these developments will have a significant impact on any landscape character elements.
	17/50953 46 Residential Units Ardrawer										
	18/51939 98 Residential Units Killylastin										
	19/50809 18 Residential Units Glencar Scotch										
	19/51064 50 Residential Units Carnamuggagh Upper										
	19/51588 8 Residential Units Lisnenan										
	20/50479 99 Residential Units Creeve										
	20/50778 8 Dwellings Glebe										
CDP Plans and Projects	TEN-T PRIPD (Strategic level)		?			?	?	?	?		<p>This project is currently at Phase 3 Design and Environmental Evaluation. The finalised design of the project will be subject to detailed project level EIAR. However, the Variation to the CDP 2018-2024 in respect of said project, which provided the strategic planning framework for the project, was subject to both an Environmental Report and Natura Impact Report.</p> <p>Said Environmental Report found that the strategic objective providing for the overall project did not identify any conflict with any Strategic Environmental Objective (SEO) which could not be mitigated to an acceptable level and otherwise found a number of uncertain impacts vis-a-vis said SEOs.</p> <p>Said Natura Impact Report concluded beyond reasonable scientific doubt that Variation would not adversely affect the integrity of any Natura 2000 site having regard to the mitigation measures outlined in the report.</p>

Action Type	Specific Other Action	Biodiversity Flora Fauna	Population Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
	Southern Relief Road, Letterkenny (Strategic Level)	?	?	?	?	?	?	?	?	?	This project is currently at the Option Selection Stage and consequently the impacts of the project on various environmental aspects is uncertain.
Other plans and projects which set the framework for future development consents	County Donegal Development Plan 2018-2024(As varied)										<p>The Natura Impact for the County Donegal Development Plan 2018-2024 concluded a finding of 'No Significant Effects following the completion of stage 2 of the process. Any potential impact on the Natura 2000 network has been mitigated against through amendments of existing policies and objectives'</p> <p>The Environmental Report for said plan identifies a variety of effects arising from the various objectives and policies of the plan but concluded that:</p> <ul style="list-style-type: none"> • The implementation of the County Donegal Development Plan will have an overall positive effect on the environmental status of the County; • Whilst a number of objectives and policies would have an overall positive impact, there may be certain elements of them that could also contain potential for conflict; where this arises the objectives and policies should be mitigated to an acceptable level*; • The impact of some objectives and policies may be uncertain; • The Implementation of the Plan will not give rise to probable environmental conflicts that are unlikely to be mitigated to an acceptable level*. <p>In addition the addendum to said report in respect of the Material Alterations to the plan stated that said alterations 'had Potential Conflict with the status of the SEOs but were likely to be mitigated to an acceptable level through other objectives and policies contained within the Draft Plan.'</p> <p>As such it is not possible to neatly categorise the effects of said plan on the various environmental topics overall but said findings have been considered within this overall cumulative assessment.</p>
	Regional Spatial and Economic Strategy for the Northern and Western Region										The Natura Impact Statement for the RSES concludes that 'the NW RSES would not adversely affect the integrity of a European site (whether individually or in combination with other plans or projects) subject to application of all of the mitigation measures identified in this NIR.'

Action Type	Specific Other Action	Biodiversity Flora Fauna	Population Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
											<p>Otherwise the Environmental Report for the RSES identifies a variety of positive, neutral and negative effects in each of the environmental categories. It is therefore difficult to neatly categorise the effects of the RSES on all environmental categories opposite.</p> <p>However Section 8.4 Cumulative Effects of the Environmental Report for the RSES (which takes into account the 'interaction of regional policy objectives within the RSES') states that: '<i>the greatest cumulative benefit should be in relation to PHH</i>', and otherwise states that '<i>there is potential for cumulative negative impacts on receptors such as biodiversity, water, soils, cultural heritage and landscape</i>,'.</p> <p>Negative impacts on biodiversity, and water arising from the RSES outside Letterkenny may also negatively impact on said environmental receptors in the Letterkenny Plan area as the plan area is inherently linked to wider ecosystems and hydrological systems. (e.g. additional development within the wider Lough Swilly catchment may impact on water quality in the Swilly Estuary, and loss of species elsewhere may also negative impact on species within the Letterkenny area).</p> <p>However, given the emphasis on the 'sustainable growth of more compact urban and rural settlements' contained within the RSES it is considered that the strategy will not have a negative effect on landscape receptors within or adjacent to Letterkenny. Consequently, the effect of the RSES on landscape has been rated as insignificant.</p> <p>In addition, negative impacts on receptors which are geographically specific to the Letterkenny area such as its soil resource, and cultural heritage are unlikely to be significantly impacted by any negative effects arising from the RSES elsewhere. Consequently, the impact of the RSES on these receptors has rated as insignificant.</p>
	National Planning Framework:										<p>The Natura Impact Statement for the NPF concludes that subject to the mitigation proposed in the NIS being incorporated, there will be no adverse effects on the integrity of any European Sites as a result of implementation of the NPF.</p>

Action Type	Specific Other Action	Biodiversity Flora Fauna	Population Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
											<p>Otherwise the Environmental Report for the NPF identifies a variety of positive, neutral and negative effects in each of the environmental categories. It is therefore difficult to neatly categorise the effects of the RSES on all environmental categories opposite.</p> <p>However Section 8.3.10 Cumulative Impacts of said Report states that <i>'the greatest cumulative benefit should be in relation to Population and Human Health'</i> and otherwise states that <i>'there is potential for cumulative negative impacts on receptors such as biodiversity, water, soils, cultural heritage and landscape'</i>.</p> <p>Negative effects arising from the NPF on Biodiversity and Water may also impact on said receptors in the Letterkenny area and are thus categorised as negative in the assessment opposite. However it is unlikely that the NPF will give rise to negative impact on landscape receptors in the Letterkenny area given its emphasis on compact growth, and otherwise any negative effect arising from the NPF on soils and cultural heritage elsewhere are unlikely to affect said receptors within the Letterkenny area. Consequently the impact of the NPF on these receptors is categorised as insignificant.</p>
Total Effects Of Other Actions											<p>The abovementioned assessment of local level projects (including local housing and transport projects indicates that, in general, they are likely to have: positive effects in relation to population, human health and materials, assets, insignificant effects on biodiversity, soil, air, water, cultural heritage and landscape but a negative impact on climate factors.</p> <p>The abovementioned assessment of the CDP 2018-2024 found that, in general, it would <i>overall positive effect on the environmental status of the County</i> and that any conflict with SEOs could be mitigated to an acceptable level.</p> <p>The assessment of the RSES and the NPF indicates that they may have negative effect on biodiversity and water receptors linked to the Letterkenny plan but otherwise are not likely to</p>

Action Type	Specific Other Action	Biodiversity Flora Fauna	Population Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
											<p>impact on landscape, soil, and cultural heritage receptors linked to the Letterkenny plan.</p> <p>Consequently it considered that the cumulative effects of these other actions (including local projects and strategic plans) can be broadly categorised as opposite.</p>
Total Effects of the Plan (See Last Row Table 7.2).											<p>The total effects for the Letterkenny Plan area identified at the end of Table 7.2 are replicated opposite.</p>
Cumulative Impact of the Letterkenny Plan plus Other Actions											<p>It is therefore considered that the cumulative effects of the Letterkenny Plan and other plans can be categorised as opposite. In this regard in relation to:</p> <ul style="list-style-type: none"> • Biodiversity: Individually the plan is not expected to give rise to negative effects on biodiversity. However negative effects elsewhere (e.g. species loss) may impact negatively on biodiversity receptors related to the Letterkenny plan. • Population and Human Health: The positive effects of the Letterkenny plan are likely to be reinforced by the positive effects of other actions in relation to same. (e.g. population and economic growth elsewhere). • Soil: The plan and other actions within the plan area are not expected to give rise to negative effects on soils. In addition, negative effects on soils arising from other plans is unlikely to impact on the soil resource within the Letterkenny area. • Water: Individually the plan is likely to have a negative effect on water quality. This negative effect is likely to be exacerbated by negative effects of other actions (e.g. water pollution arising from outside the plan area). • Air: The plan is not likely to have a negative effect on Air quality and negative effects arising from other actions have not been identified.

Action Type	Specific Other Action	Biodiversity Flora Fauna	Population Human Health	Soil	Water	Air	Climate	Material Assets	Cultural Heritage	Landscape	Comments
											<ul style="list-style-type: none"> • Climate: The negative effects of the Letterkenny plan on greenhouse gas emission are likely to be exacerbated by emissions generated by other actions elsewhere. • Material Assets: The positive effects of the Letterkenny plan are likely to be reinforced by the positive effects of other actions in relation to same. (e.g. strategic roads projects elsewhere). • Cultural Heritage: Individually the plan is likely to have a positive effect on Cultural Heritage. Negative effects of other actions elsewhere will not impact on cultural heritage receptors within Letterkenny. • Landscape: Individually the plan may have negative effects on local landscape receptors. Other actions are unlikely to significantly affect said landscape receptors.

8 Measures Envisaged to Prevent, Reduce and as Fully as Possible Offset Any Significant Adverse Environmental Effects on the Environment of the Letterkenny Plan

8.1 Introduction

Article 5(1) of the SEA Directive requires that an Environmental Report contains the information referred to in Annex 1 of the Directive. In turn Annex 1(g) of the Directive requires that 'the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme' be contained within the Environmental Report. The SEA Guidelines states that where the environmental assessment identifies significant adverse effects consideration should be given in the first instance to preventing such impacts or, where this not possible for stated reasons to lessening or offsetting those effects.

Significant adverse environmental effects can be prevented, reduced and offset through a wide range of plan making and implementation measures including:

- Environmentally sensitive land use zonings/spatial frameworks which avoid or reduce environmental effects in the first instance (e.g. avoiding developments on or adjacent to Natura 2000 sites, providing for compact growth and ensuring new residential development is located within walking distance of services).
- The formulation and application of environmental protection policies and objectives (e.g. policies which require the retention of existing trees and hedgerows or the provision of Sustainable Urban Drainage Systems (SUDS) in new developments).
- The imposition and enforcement of planning conditions which prevent or reduce environmental impacts during the construction and operational phases of development (e.g. construction management and effluent treatment conditions).
- Policies and objective and spatial frameworks which offset other environmental effects of the plan by creating new environmental assets (e.g. policies which provide for carbon sinks, new green corridors, wetlands, new tree planting in new development etc).

As such the following measures have been taken into account in the plan making phase, and may be taken in the plan implementation phase, to prevent, reduce and as fully as possible offset any significant adverse environmental effects related to the Letterkenny Plan.

8.2 Measures to prevent, reduce and as fully as possible offset any significant adverse environmental effects related to the Letterkenny Plan

Avoidance and Reduction of Significant Adverse Environmental Effects through Land Use Zonings:

Environmental issues were fully integrated into the plan making process from the outset to ensure that the plan minimises impacts on key environmental receptors and otherwise promotes sustainable

development. In this regard SEA scoping with the environmental authorities, desktop assessment, the collation of environmental data, and on the ground research, enabled the identification and consideration of potential impacts on key environmental receptors. Such receptors include: Natura 2000 sites, proposed Natural Heritage Areas and Woodlands, at risk waterbodies, flood risk areas, built and archaeological heritage and landscape features. In addition, the plan making team took best practice and planning guidance into account with regard to the promotion of sustainable development (e.g. National Planning Framework, Flood Risk Management Guidelines). This allowed the formulation of a land use zoning framework which helps to avoid and reduce significant adverse environmental effects by inter alia:

- Avoiding direct impacts on the Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area (e.g. Loss or fragmentation of habitat) by not facilitating development within said biodiversity areas.
- Avoiding direct impact on the River Swilly Valley Woods Natural Heritage Area at Kilty Woods and Ballymacool Woods by not facilitating development within said biodiversity areas.
- Avoiding flood risk to new development and not exacerbating flood risk area elsewhere by generally not facilitating development in Flood Zone A and Flood Zone B unless strategically justified.
- Reducing impacts on the landscape, rural character and associated natural biodiversity assets (e.g. local flora and fauna) by zoning rural and more elevated part of the plan area as Local Environment whose associated zoning objectives provides for *'limited development ensuring no significant negative impact on the landscape setting or the biodiversity quality of the area'*.
- Reducing landscape and visual impacts by zoning significant area of the flood plain of the River Swilly as Open Space whose associated zoning objective is to *'conserve and enhance land for formal and informal open space'*.
- Reducing effects on air quality and human health by facilitating walking, cycling and public transport and by providing for new residential development in areas close to retail, healthcare and education services within the town Centre, on infill and brownfield sites, close to neighbourhood centre and on future local public transport routes.

Avoidance and Reduction of Significant Adverse Environmental Effects through Policies and Objectives

Environmental protection policies and objectives in land use plans are also important measures in avoiding and reducing adverse environmental effects in both the design and approval stages of new private and public developments. For example they can support projects which actively reduce environmental effects (e.g. public transport and active travel projects), at preplanning stage they can lead to the formulation of more sustainable siting and design proposals (e.g. retaining existing on site environmental assets or achieving setbacks from water courses), whilst at planning assessment/approval stage they can be utilised to either modify design proposals to result in more environmental friendly developments or as appropriate to prevent unsustainable developments occurring. In addition, policies and objectives within land use plans can facilitate projects which in turn enable the avoidance or reduction environmental effects (e.g. the provision public transport, walking and cycling infrastructure).

As part of the plan making process a range of policies and objectives were devised which either directly or indirectly avoid or reduce impacts on key environmental receptors including:

- LK-H-P-4: Requirements for residential development in Local Environment zonings including:
 - Would integrate harmoniously with the local landscape, utilising and retaining key landscape features such as trees and hedgerows and;
 - Would not have an adverse impact on the existing character of the area or the residential amenity of adjoining properties.
- LK-H-P-8: Require residential development proposals to prioritise and facilitate walking, cycling, and public transport and to include provision for links and connections to existing facilities and public transport nodes in the wider neighbourhood.
- LK-H-P-9a-n Site specific policies for residential development sites including provision of walking and cycling infrastructure.

- LK-H-P-10: Masterplanning principles for the Southern Strategic and Sustainable Development Area including protection of the river corridor and provision of walking and cycling infrastructure.
- LK-OPP-P-1: Design guidance including retaining the substantive woodland cover of the site and conservation of the existing mature woodland cover.
- LK-OPP-3: Including requiring the submission of a detailed flood risk assessment and retain and protect the existing belt of mature trees on the site.
- CAM-LK-O-1: Ensure Letterkenny transitions to a low carbon, competitive, climate resilient and environmentally sustainable settlement by 2050.
- CAM-LK-P-1: Facilitate the switch to Electric Vehicles through the roll-out of additional electric charging points at appropriate locations.
- CAM-LK-P-3: Support in principle the development of renewable sources of energy within the plan area.
- CAM-LK-P-6: Require the use of SUDS within public and private developments and within the public realm.
- LK-NBH-O-1: Ensure that appropriate assessment is carried out in accordance with the Habitat's Directive and DEHLG guidance of any plan or project
- LK-NBH-P-2: Protect and enhance the special character of the Letterkenny Cathedral Quarter ACA
- LK-SCC-P-3: Policy setting out the requirement for expansion of ATU campus including: (c) That any new development makes provision for permeability, ease of access and provision of appropriate infrastructure that will support walking, cycling and public transport.
- LTP-PT-O-1: Deliver significantly enhanced public transport services and facilities for Letterkenny.
- LTP-TC-O-1: Deliver a multi-functional, centrally-located regional transport hub for Letterkenny.
- LTP-AT-O-1: Provide for an increase in active travel through an expansion of the strategic, inter-connecting and permeability walking and cycling networks in Letterkenny.

Avoidance and Reduction of Significant Adverse Environmental Effects through Planning Approvals

In approving new developments planning authorities have the statutory power to impose environmental protection conditions which can avoid and reduce the environmental effects of such developments.

Examples of the measures contained in such planning conditions include:

- Control measures to avoid/reduce sedimentation of surface waters such as avoiding impacts on existing watercourses, diversion of surface waters away from work areas, careful stockpiling of spoil material away from watercourses, silt traps, and sedimentation ponds, controlled release to vegetation etc.
- Control measures to avoid/reduce water pollution including the provision of bunded storage facilities for hydrocarbons and chemicals significantly removed from watercourses.
- Adherence of site preparation and construction to best practice and the Inland Fisheries Ireland Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites.
- Provision of suitable specific effluent treatment system and approximately sized percolation areas.
- Direction and interception of surface waters from hardcore/concreted/tarmacadam via serviced sediment and oil interceptor traps.
- The timing of works to avoid any potential noise impacts on the qualifying interests of Natura 2000 sites (e.g. wintering birds).
- The timing of construction works to avoid noise impacts on local residential populations (e.g. specific days and times).
- The retention of existing trees, hedgerows and waterbodies within development sites.
- The provision of landscaping (e.g. planting of hedgerows trees etc) to help screen and reduce the visual impact of new developments.
- Archaeological monitoring during site excavation works.
- Invasive species management plans to control the spread of such species.

Measures to Offset Significant Adverse Environment

Land use plans can also play in role in offsetting the other adverse environmental effects of the plan by facilitating projects and planning measures which actively enhance existing or create new environmental assets. The Letterkenny plan contains a range of policies and objectives to this effect namely:

- LK-TC-P-4: support the principle of projects that would contribute to the climate change and biodiversity improvement agendas including carbon sinks and green corridors,
- CAM-LK-P-2: Increase native tree coverage and pollinator friendly planting in Letterkenny.
- CAM-LK-P-4: Actively promote and encourage high biodiversity value nature-based approaches and green infrastructure solutions as viable mitigation and adaptation measures.
- LK-NBH-P-1: Support the principle of the creation of new amenity spaces, amenity corridors and natural biodiversity and wetlands systems adjacent to the River Swilly.

9. Selection of Alternatives for the Letterkenny Plan

9. Alternatives to the Letterkenny Plan.

9.1 Introduction:

There may be a range of potential alternatives to achieve the strategic objectives of a land use plan and each of these alternatives may have varying levels of environmental impact. In this regard the assessment of alternatives is a key part of the overall Strategic Environmental Assessment process and the Environmental Report should broadly seek to document how key strategic decisions have been made including examining the environmental impacts of each alternative.

Article 5 of the Strategic Environmental Assessment Directive requires the Environmental Report identify, describe and evaluate, “*reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*”. Furthermore, the Schedule 2B(h) of the Planning and Development Regulations 2001(as amended) requires that the Environmental Report contains ‘*an outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken*’.

The SEA Guidelines acknowledges that lower tier plans, such as Local Area Plans, ‘*will be framed in a policy context set by the level(s) above them, and strategic options may be limited*’ (P.36 refers). Furthermore, The EPA’s Guidance document *Developing and Assessing Alternatives in Strategic Environmental Assessment* advises that alternatives should be realistic, reasonable, viable and implementable and they should promote environmental benefits whilst fulfilling the plan’s/programmers objectives (see below):

Figure 9.1 Core Criteria for the Development of Alternatives (Extract from Developing and Assessing Alternatives in Strategic Environmental Assessment, EPA 2015)



The above guidelines also state that alternatives should reflect the objectives and geographical scope of the plan, not conflict with higher level plans include both strategic (e.g. different settlement patterns) and geographic (e.g. various locations for residential, industrial, amenity development) alternatives.

In this regard both the scope of alternatives available for consideration and the suitability of said alternatives are in effect constrained and informed by a range of factors such as: legislative requirements, national regional planning frameworks and planning guidelines, and geographic and environmental constraints (e.g. Natura 2000 site, flood zones, and topography) as outlined below.

9.2 Key Factors Influencing Alternatives

The scope and suitability of alternatives for the Letterkenny Plan is influenced by a range of factors including:

9.2.1 Legislative

S.19(2) of the Planning and Development Act 2000(as amended) states that a Local Area Plan: *shall be consistent with the objectives of the development plan, its core strategy, and any regional spatial and economic strategy that apply to the area of the plan.*

9.2.2 National, Regional and Countywide Planning Frameworks

The Letterkenny Plan is therefore informed and guided by higher level planning frameworks and ministerial guidelines which limit the alternatives actually available for the plan. For example:

- **The National Planning Framework Project Ireland 2040:** Set outs National Strategic Outcomes including Compact Growth, Sustainable Mobility, Enhanced Amenity and Heritage, and Transition to a Low Carbon and Climate Resilient Society, targets 40% of all new housing to be delivered within the existing built-up areas of cities, towns and villages on infill and/or Brownfield sites and recognizes Letterkenny as a Key Regional Centre for the North West.
- **Climate Change Strategy:** The Low Carbon and Climate Change Act 2021 establishes a 'national climate objective', which commits to pursue and achieve no later than 2050, the transition to a climate resilient, biodiversity-rich, environmentally-sustainable and climate-neutral economy. The Climate Action Plan 2021 sets out a number of 2030 goals including: 80% electricity generation from renewable sources, retrofitting insulation in 500,000 homes, and 500,000 extra sustainable transport journeys.
- **Regional Spatial and Economic Strategy for the Northern and Western Regional Assembly area :** Envisages a population uplift of 4,400 by 2026 and a further population uplift of 2,200 by 2031 for Letterkenny and set the following Regional Policy Objectives for the town:
 - RPO 3.7.20 *Grow Letterkenny to a Regional Centre to a minimum of 27,300 residents by 2040.*
 - RPO 3.7.22 *ensure that at least 40% of all newly developed lands (Residential, Enterprise and Employment) are within the existing built-up urban area of Letterkenny.*
 - RPO 3.7.23 refers *To provide an additional 3,000 - 4,000 residential units within Letterkenny to facilitate the growth as set out in RPO 3.7.20 ()*
- **The Retail Planning Guidelines:** Aims to enhance the vitality and viability of city and town centres through sequential development. In this regard the guidelines identify town centres as the overall preferred location for new retail development.
- **The Flood Risk Management Guidelines:** Seeks to avoid development in areas at risk of flooding, particularly floodplains, unless it can be strategically justified and where the flood risk can be reduced or managed to an acceptable level without increasing flood risk elsewhere;
- **The County Donegal Development Plan 2018-2024(As Varied):** Contains inter alia the following policies and objectives:
 - UB-O-2: To deliver new urban residential development in towns in a sequential manner, outwards from the core making best use of infrastructure (Objective refers).
 - NH-O-1: To comply with Article 6 of the Habitats Directive (92/43/EEC) and have regard to the relevant conservation objectives, management plans, qualifying interests and threats to the integrity of Natura 2000 sites.
 - BH-P-1: To conserve and protect all structures (or parts of structures) and sites contained in the Record of Protected Structures.
 - NH-O-5: To protect, manage and conserve the character, quality and value of the landscape

9.2.3 Geographic and Environmental:

The future development alternatives for Letterkenny are further constrained and limited by:

- Natura 2000 sites (i.e. The Lough Swilly Special Area of Conservation and the Lough Swilly Special Protection Area) which precludes developments which would have an adverse effect on these sites in accordance with the Habitats and Birds Directive
- The Flood Plain of the River Swilly which, in accordance, with the Flood Risk Management Guidelines, effectively restricts most development types on the flood plain.
- The topography/ground conditions in certain part of the plan area (e.g. steep gradients in on Whinney Hill and soft alluvial soils on the flood plain of the River Swilly).

9.2.5 Existing Strategic Infrastructure Projects

There are a number of strategic infrastructure projects which any alternative for the Letterkenny plan need to incorporate namely the:

- TEN-T Priority Route Improvement Project, Donegal: Section 2 N56/N13 Letterkenny to Manorcunningham of this project provides for a new strategic road from the N13 at Dromore, across the River Swilly to the existing N56 at Ballyraine.
- Southern Network Project: Aims provide a strategic relief road from the existing N56 to the R250 on the western side of the town.

9.3 Assessment Methodology

The overall alternatives for the Letterkenny Plan were developed through the following process:

- **Initial Public Consultation:** Between May and June 2018 and February 2019, approximately 700 people took part in consultation events to inform the preparation of a Local Area Plan for Letterkenny. The events focused primarily on the preferred strategic direction of the town. Arising from this consultation 9 key strategic themes were identified as essential activity/measures/approaches to deliver on the vision. Namely: Sustainable Neighbourhoods, Rebalance the footprint, Regenerate and infill, Choice in Housing type and Location, A Strong town centre, Improve Liveability through our natural assets, Prioritize Key Physical Infrastructure, Plan for public transport, support economic development through placemaking. These themes significantly informed the overall approach taken to the plan.
- **Consultation with Environmental Authorities/Key Stakeholders:** As part of both SEA Scoping and the initial research for the plan extensive took place with environmental authorities and other key stakeholders including the Environmental Protection Agency, Department of Culture Heritage and the Gaeltacht. National Transport Authority, Transport Infrastructure Ireland, Irish Water etc.
- **Assessment of Possible Strategic Alternatives:** A range of broad strategic objectives were identified and were broadly assessed against the 4 key criteria set out in the EPA's Guidance document *Developing and Assessing Alternatives in Strategic Environmental Assessment* namely whether the alternatives were: Realistic, Reasonable, Viable and Implementable. On the basis of this assessment a preferred strategic alternative was identified.
- **Assessment of Geographic Specific Alternatives:** Having identified the preferred strategic alternative a range of geographic specific alternatives to provide for various forms of development were then assessed against a broad range of criteria (e.g. flooding, transport, water and wastewater infrastructure availability, sequential development, cultural heritage etc – see details below).

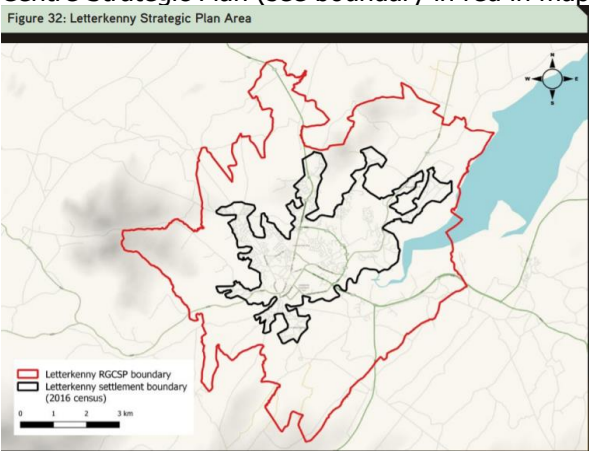
9.4 Assessment:

9.4.1 Assessment of Strategic Alternatives:

Initially a range of broad strategic alternatives were developed and assessed in order to identify the most sustainable strategic development option for the plan. These strategic alternatives were broadly assessed against vis-à-vis 4 key criteria in the EPA's guidance document 'Developing and Assessing Alternatives in Strategic Environmental Assessment namely that they are realistic, reasonable, viable and implementable.

Table 9.1 Assessment of Strategic Alternatives for the Letterkenny Plan

Description of Alternative	Assessment of Alternative	
<p>Low Growth: This alternative would broadly involve facilitating a minimum of new residential, retail, and commercial development on Greenfield sites and the redevelopment of existing sites.</p>	Realistic	This Scenario would broadly facilitate the National Strategic Outcome (NSO) of compact growth. However it would also: undermine Letterkenny’s status as a Regional Centre of scale and the growth ambition of the North West City Region in the National Planning frame, generally hinder the achievement of the growth targets for Letterkenny set out in the Regional Spatial and Economic Strategy (i.e. 27,300 residents by 2040) and hinder the achievement of a critical mass of population to facilitate viable sustainable transport options (e.g. bus and rail), attract inward investments and justify new infrastructural development.
	Reasonable	A low growth scenario would limit environmental impacts arising from greater residential and commercial development (e.g. domestic effluent, industrial emissions and traffic related air pollution). However in doing so it would limit the availability of land for housing and new commercial and retail development and would therefore: limit housing choice and availability, place an upward pressure on rent and residential property prices and demand for housing in unsustainable location, result in business costs (e.g. land acquisition and lease costs), restrain future economic development, and would hinder the achievement of the necessary critical mass to justify infrastructural spending and attract inward investment.
	Viable	The facilitation of a low growth development scenario would not involve significant levels of additional infrastructural investment in roads, water or wastewater and would thus be technically viable within the lifetime of the plan.
	Implementable	A low growth development scenario is likely to be implementable within the lifetime of the plan.

<p>Business as Usual</p> <p>Based on the extensive settlement boundary and zoning regime Letterkenny has developed in an expansive, dispersed, non-sequential and low density manner with a significant amount of new residential and commercial developments at peripheral sites (e.g. Killylastin/Killyclug, Mountain Top, etc) in recent decades.</p> <p>This alternative would involve a continuation of this development pattern with large scale commercial and residential development facilitated on Greenfield lands within existing settlement framework boundary or the more expansive boundary in the Letterkenny Regional Growth Centre Strategic Plan (see boundary in red in map below).</p> <p>Figure 32: Letterkenny Strategic Plan Area</p>  <p>The map shows the Letterkenny settlement boundary (black outline) and the Letterkenny RGSP boundary (red outline). The settlement boundary is irregular and follows the existing urban form. The RGSP boundary is a more expansive, roughly rectangular area that encompasses the settlement and extends into surrounding greenfield areas. A legend in the bottom left corner identifies the boundaries. A scale bar indicates 0 to 3 km, and a north arrow is present in the top right corner.</p>	Realistic	<p>This alternative would hinder the achievement of NPF National Strategic Outcomes of Compact Growth and Sustainable Mobility. It would also be contrary to the Objective UB-O-2 of the County Development Plan in relation to sequential development and would not accord with to the overall sequential approach set out in the Retail planning Guidelines. However, the alternative would provide sufficient land for the population growth targets set out in the Regional Spatial and Economic Strategy.</p>
	Reasonable	<p>This alternative is likely to hinder social inclusion and neighbourhood development as new residential development would be geographically removed from key services and existing residential communities</p> <p>An expansive development pattern is likely to restrain land acquisition costs for residential, commercial, and retail development. However, it would result in higher long term economic costs such greater infrastructural costs (e.g. roads, water, sewerage and broadband). In addition, such a development pattern would likely have a negative impact on the visual attractiveness of the urban area thereby lowering its attractiveness for inward investment and tourism.</p> <p>This scenario is likely to result in further environmental impacts including:</p> <ul style="list-style-type: none"> • Traffic congestion, car dependency and associated air pollution and greenhouse gas emissions. • Loss of biodiversity through the development of rural lands on the periphery of Letterkenny • Loss of visual and scenic amenity through continued urban sprawl. • Vacancy and dereliction in the urban core.
	Viable	<p>The 'business as usual' scenario may not be viable as it would require the further expansion of water, wastewater and roads infrastructure and may also obstruct future strategic infrastructure projects.</p>

	Implementable	The continuation of the business as usual scenario is realizable in the plan’s timeframe. Furthermore, an expansive growth pattern is likely to require significant developer or state led infrastructural investment in water, wastewater or roads infrastructure.
<p>Higher Residential Density Urban Development This alternative would involve applying higher density requirements for residential development and focusing new residential development on existing urban brownfield and infill sites thus significantly reducing the need for additional Greenfield lands to satisfy the growth targets for Letterkenny within the Regional Spatial and Economic Strategy.</p>	Realistic	<p>By focusing new residential development on existing urban brownfield and infill development sites this alternative would facilitate the NPF National Strategic Outcome of Compact Growth. By creating a critical mass of population close to the town centre and key transport corridors this alternative would also facilitate walking, cycling and bus transport and therefore the National Strategic Outcome of sustainable mobility.</p> <p>However focusing exclusively on higher density residential development would significantly limit the availability of choice in housing location and type for future residents and would therefore be incompatible with the following aspects of the Letterkenny Regional Growth Centre Strategic Plan (within the Regional Spatial and Economic Strategy for the NWRA):</p> <ul style="list-style-type: none"> • The vision of said plan to ‘offer sustainable choices in housing’. • RPO 3.7.22: <i>To ensure that at least 40% of all newly developed lands (Residential, Enterprise and Employment) are within the existing built-up urban area of Letterkenny.</i> <p>Furthermore, the provision of exclusively high density urban developments may not be compatible with the character of existing low density residential developments. In any event applying a requirement for only higher density residential development may prove problematic for the viability of housing schemes as there may not sufficient demand for units within exclusively high density residential developments.</p>
	Reasonable	This alternative would promote social inclusion by providing a range residential types/units within a limited geographical

		<p>area and new development would be likely to be located close to existing services. This scenario is likely to raise residential property land prices but would result in lower long term infrastructural costs (e.g. roads, water, wastewater). It would also result in reduced: land take, loss of existing environmental amenities, car dependency, etc and therefore have a lower environmental impact than more expansive alternatives.</p>
	Viable	<p>There would be no significant technical barriers to a higher density residential development option. In this regard new development would be likely to avail of existing road, water and wastewater infrastructure.</p>
	Implementable	<p>Development of this higher residential density alternative could be realized within the timeframe of the plan and resources likely to be available within said timeframe.</p>
<p>Sustainable Consolidation with Urban Expansion South of the Swilly This strategic option broadly involves:</p> <ul style="list-style-type: none"> • Focusing new housing development on brownfield and infill sites within walking /cycling distance of the town centre and the remainder directly adjoining the existing urban footprint. • Facilitating new retail development on regeneration and infill sites in the historic town centre and within infill sites in the part of the town centre extension area adjoining the historic town centre. • Providing for new commercial development opportunities at accessible and serviceable locations within existing urban footprint. • The development of a high quality walkable neighbourhood (including housing, childcare, neighbourhood level retail and services school and business units south of the Swilly) on the basis of detailed masterplanning including the provision of a bridge crossing of the River Swilly, the upgrading of the local road 	Realistic	<p>This alternative would support the objectives of the plan and higher level plan in the following ways:</p> <ul style="list-style-type: none"> • Promote the achievement of the NPF’s National Strategic Outcomes of Compact Growth and Sustainable mobility by focusing on brownfield and infill development within walking/cycling distance of the town centre and/or close to key transport corridors. • Facilitate social inclusivity and sustainable neighbourhoods by promoting more mixed communities and ensuring that new residential developments are located close to existing services. • Support the growth of a strong town centre and urban regeneration by ensuring that new retail development is focused on regeneration/infill sites within or adjacent to the historic town centre rather than being further dispersed. • Provide for a more geographically balanced, sequential yet compact growth of the town in the line with the growth ambitions set out in the NPF and RSES through the provision of a high quality walkable neighbourhood South of the Swilly

<p>network and subject to the provision of the necessary water and wastewater infrastructure.</p>	<p>Reasonable</p>	<p>This alternative would promote social inclusion by ensuring a more socially mixed urban environment and ensuring that new developments are located as close as possible to existing services. It would be economically sustainable by making efficient use of existing roads, water and wastewater whilst also ensuring a sufficient supply of land for new development. By reducing the amount of development on greenfield lands it will also reduce land take, loss of existing environmental amenities, car dependency, etc and would therefore have a lower environmental impact than a more expansive development alternative.</p>
	<p>Viable</p>	<p>In general, this scenario would be technically viable as new residential, retail and commercial development would be largely serviced by existing road, water and wastewater infrastructure. However, the development south of the Swilly would require the provision of new road, water and wastewater infrastructure. Institutionally there may be a requirement for the Council to use statutory measures (e.g. CPO) to free up land for development where brownfield/infill sites are not coming forward for development or to assemble lands in multiple ownerships.</p>
	<p>Implementable</p>	<p>This alternative could be realized within the timeframe of the plan and resources likely to be available within said timeframe. However the development of lands south of the Swilly would require strategic prioritisation and financial resources from both central government and Irish water.</p>

On the basis of the above assessment the **Sustainable Consolidation with Urban Expansion South of the Swilly Growth alternative emerged as the most suitable overall strategic alternative** for the plan. In this regard it is:

- Realistic: It can achieve the overall objectives of the plan and higher level plans (e.g. compact growth, sustainable mobility and the growth ambitions for Letterkenny set out in the Regional Spatial and Economic Strategy)
- Reasonable: It would promote social inclusion, make efficient use of existing infrastructure and is likely to have lesser environmental impact than more spatially expansive alternatives.
- Viable: For the most part there are no significant technical barriers to its implementation as it will primarily rely on existing infrastructure. In addition, it will allow for further sustainable/compact growth (e.g. South of the Swilly) in line with the provision of new infrastructure.
- Implementable: It could be realized within the timeframe of the plan and likely resources available within said timeframe.

In this regard the other alternatives considered all had significant difficulties. For example: the low growth alternative would not satisfy the growth ambition for Letterkenny as a Regional Centre set out in the NPF, RSES, the Business as usual scenario would be contrary to best planning guidance and cause further social, economic and environmental impacts, and a high residential density option would limit housing type and choice.

9.4.2 Assessment of Geographic Alternatives

Following the identification of the preferred strategic alternative a comprehensive range of geographic alternatives (sites) were assessed against a range of planning criteria in accordance with the Methodology for a Tiered Approach to Land Zoning set out in Appendix 3 of the National Planning Framework. These criteria included:

- Flood Risk.
- Availability of Transport Infrastructure (e.g. roads, footpaths, lighting)
- Availability of Wastewater infrastructure.
- Availability of Water Supply infrastructure.
- Surface Water.
- Overall location/sequential development.
- Cultural heritage.
- Planning history.
- Overall suitability for specific forms of development.

This assessment helped to inform the identification of specific land use zonings for specific forms of development (e.g. Primarily Residential, General Employment, Strategic, Community, Opportunity etc). This inherently recognised there was a range of possible geographic alternatives to deliver the selected strategic alternative for the plan and took into account environmental, social and economic issues such as flooding, effluent treatment etc, proximity to services, transport infrastructure, compatibility with adjoining uses etc. This assessment covered an extensive number of possible geographic alternatives for development zonings. The key reasons for rejecting and selected sites for development:

- Lands along the River Swilly Corridor to the east of the Port Bridge were excluded as development sites on the basis of their designation as Natura 2000 sites.
- The proposed Natura Heritage Areas at Kilty Woods and Ballymacool woods were excluded as development sites on the basis of their ecological/environmental value.
- Significant areas of the flood plain of the River Swilly including to the east of the Port Bridge, along the River Swilly Corridor and to the west of the town were excluded as development sites on the basis of their inherent flood risk.
- Whinney Hill was excluded on the basis of its biodiversity sensitivity, unsuitable topography, rural character and lack of suitable road access notwithstanding its relative proximity to the urban core of the town.
- Undeveloped lands on the periphery of the plan area (e.g. lands at Ardrawer, Knockybrin, Upper Windyhall, western Glencar Scotch, western Balymacool, parts of Carrygalley and Cullion) were excluded were zoned Local Environment on the basis of their inability to deliver compact/sequential growth and their overall rural character.

- A number of infill and brownfield sites (e.g. PR3 and PR4 at New Line Road, PR6 at Glencar Irish, PR14 Ballyraine) and on sites directly adjoining the existing urban footprint of the town (e.g. PR1 Kilty, PR9 Oldtown/Lismonaghan/Scribley, PR10 Lismonaghan, PR11 Woodpark/Creeve, PR12 Creeve and PR13 Ballymacool) were identified on the basis to deliver compact residential growth and serviceability by existing infrastructure.
- Land on the campus of, and adjacent to, Letterkenny University Hospital was zoned Strategic Community and Opportunity sites on the basis of their inherent suitability to deliver inter alia additional healthcare and community related developments.
- Land within, and adjacent to, the IDA business and technology park was zoned General Employment on the basis of the need to provide sufficient land for employment related developments and the availability of quality transportation linkages.
- The Southern Strategic and Sustainable Development Area was identified as the most lands to deliver the urban expansion south of the Swilly as it represented the only available undeveloped block of lands located directly adjacent to the existing town centre extension area capable of facilitating sequential and compact growth (subject to the provision of a new bridge over the River Swilly and the upgrading/extension of the water and wastewater network).

10 Monitoring of Significant Environmental Effects

Legislative Requirements

Article 10 of the SEA Directive requires that member states '*monitor the significant environmental effect of the implement of plan in order to **identify at an early stage unforeseen adverse effects** and to be able to **undertake appropriate remedial action***'. In addition, Schedule 2B(i) of the Planning and Development Regulations 2001(as amended) requires the Environmental Report to include '*a description of the measures envisaged concerning monitoring the significant environments effects of the implementation of plan or programme*'.

Why Monitor?

The SEA Guidelines states that primary purpose of monitoring is to cross check significant environmental effects which arise during implementation stage against those predicted during the plan preparation stage. The EPA SEA Guidance document '*Guidance on Strategic Environmental Assessment Statements and Monitoring*' states inter alia that monitoring can reveal the 'real' effects implementing a plan/programme, identify long term positive and negative changes, any unforeseen effects, and the need for additional mitigation measures and inform plan review.

Who Monitors and When?

The SEA guidelines state that planning authorities should be responsible for devising monitoring programmes, collecting monitoring data and evaluating the results and that monitoring should begin when the plan is adopted and should in general continue over the period of the plan.

How and What to Monitor?

The SEA guidelines state that: the scope, depth and method of monitoring will **depend on the type of plan**, monitoring does not necessarily require new research, that **existing sources of information can be used** and that one monitoring arrangement may cover several plans. The guidelines also state that monitoring must be **linked to** earlier stages in the SEA process in particular the **environmental objectives and issues** identified during the preparation of the environmental report and should **concentrate on the significant environmental effects**, and the measures to prevent, reduce and offset any significant adverse effects. Said Guidelines also advise that monitoring is often based on indicators which measure changes in the environment especially changes which are critical in terms of environmental quality (such as air or water pollution levels).

The abovementioned EPA guidance inter alia also states that monitoring should:

- Typically entail measuring established indicators on a regular basis.
- Focus on the environmental impacts of the plan rather than plan implementation.
- Focus on monitoring identified potential significant environmental effects not the strategic environmental objectives used in the assessment.
- Include a suitably small set of highly relevant and meaningful indicators which monitor/measure potential environment impacts of the plan and which are aligned to the scope and nature of the plan. In this regard local-level plans should focus on both local issues (e.g. specific areas of poor air quality) and larger scale problems that are relevant to the plan area (e.g. proportion of car journeys made by car).
- Utilise existing monitoring programmes and use spatial information for spatial plans.
- Set out the frequency at which indicators should be monitored.
- Identify who is responsible for carrying out monitoring.
- Test and document a plan's impact in relation to targets and thresholds. (e.g. climate, air, water quality) and use international and national thresholds.
- Set out the thresholds/targets/indicators above which remedial action is required.
- Define remedial actions should involve and who is responsible.
- Include a commitment to reporting on findings.
- Refer to previous monitoring programmes.
- Include a monitoring programme in the plan.

- Not be used as a mitigation measure.

As such monitoring of the implementation of the Letterkenny Plan is required in order to properly consider the effects of the implementation of the plan, and identify remedial actions, and areas that need to be considered for review.

In this regard the Letterkenny Plan is one of many plans and projects which may affect the achievement of specific environment targets (e.g. maintaining and restoring the favourable conservation status of species listed in Habitat Directive or achievement of 'Good' Water Framework Directive Water quality status). Consequently, the remedial actions identified below are those in which the Donegal County Council has a direct statutory role in delivering or an indirect role in helping to deliver.

Table 0.1: Monitoring Programme for the Letterkenny Plan

Environmental Category	Targets/Thresholds (e.g. Good Water Quality Status)	Indicators (e.g. WFD Water Quality Status)	Monitoring Agency (e.g. DCC, NPWS etc)	Monitoring Frequency (e.g. Annual)	Remedial Actions
Biodiversity	Maintain or restore of favourable conservation status of the Qualifying Interests of all Natura 2000 sites. (Article 2 of Habitats Directive Refers)	Status and Trends of Qualifying Interests (Habitats and Species) related to Natura 2000 sites affected by the Letterkenny Plan detailed in reports and conservation assessments prepared under Article 17 of the Habitats Directive.	NPWS	Article 17 Reporting every 6 years	Rigorous assessment of proposed developments and enforcement of planning requirements related to permitted developments within the zone of influence of Natura 2000 sites or likely to impact upon the Qualifying Interests of Natura 2000 sites.
	Take the requisite measures to maintain the population of the species referred to in Article 1 at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level. (Article 2 of Bird Directive refers) Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1 of the Bird Directive. (Article 3 of Bird Directive refers).	Status and trends of bird species related to Natura 2000 sites affected by the Letterkenny Plan detailed in reports prepared under Article 12 of the Bird Directive Irish Wetland Bird Survey (I-WeBS) Results in relation to bird species constituting the qualifying interests of the Lough Swilly Special Protection Area	NPWS	Article 12 Reporting every 6 years	Rigorous assessment of proposed developments and enforcement of planning requirements related to permitted developments within the zone of influence of Natura 2000 sites or likely to impact upon the Qualifying Interests of Natura 2000 sites.
	Protect the habitat and species of the River Swilly Valley Woods proposed Natura Heritage Area	Overall extent of woodland habitat and diversity of species within River Swilly Valley Woods proposed Natura Heritage Area	NPWS and DCC	Biannual	<ul style="list-style-type: none"> Rigorous assessment of proposed developments and enforcement of planning requirements related to permitted developments to ensure that do not negatively impact on the River Swilly Valley Woods proposed Natural Heritage Area
	Compliance with the Pollution Reduction Programme for the Lough Swilly Designated Shellfish Area (IEPA2_0042) refers.	<ul style="list-style-type: none"> Lough Swilly (IE_NW_220_0100) Transitional Waterbody WFD Status. Annual Environment Reports for the Letterkenny WWTP. DCC compliance data arising from the National Inspection Plan for Domestic Wastewater Treatment Systems. 	EPA and DCC	Annual Every 5 Years Annual Ongoing	<ul style="list-style-type: none"> Collaborate with Irish Water to ensure compliance with Letterkenny WWTP Wastewater Discharge Licence Emission Limit Values. Rigorous assessment of proposals for domestic WWT systems vis-a-vis EPA Code of Practice Wastewater Treatment Systems for Single Houses.

Environmental Category	Targets/Thresholds (e.g. Good Water Quality Status)	Indicators (e.g. WFD Water Quality Status)	Monitoring Agency (e.g. DCC, NPWS etc)	Monitoring Frequency (e.g. Annual)	Remedial Actions
		<ul style="list-style-type: none"> Information from DCC Environment Section with regard to compliance with Section 4 Wastewater Discharge Licences. Quality of shellfish Growing Areas as reported by DEHLG. 			<ul style="list-style-type: none"> Ensure compliance with relevant Water Pollution legislation vis-a-vis domestic WWT systems through DCC environment section. Ensure compliance with Commercial Wastewater Discharges Licences to Groundwater issued under Section 4 of the Water Pollution Act through DCC environment section.
	Maintain or Restore the favourable conservation status of the Freshwater Pearl Mussel of all affected Natura 2000 sites. Compliance with Leannan Sub-Basin Management Plan Catchment Plans for Freshwater Pearl Mussel. Compliance with NW RBD.	Freshwater Pearl Mussel status and Trends detailed in reports and conservation assessments prepared under Article 17 of the Habitats Directive.	NPWS	Every 5 Years	
	Ensure conservation of species protected under the Wildlife Act 1976(as amended)	Species data available on the National Biodiversity Data Centre website: https://www.biodiversityireland.ie/	Heritage Council, Department of Housing, Local Government and Heritage	Ongoing	Rigorous assessment of proposed development and enforcement of planning requirements/conditions related to permitted developments in relation to species Protected Under the Wildlife Act.
	Conserve and restore biodiversity and ecosystem services in the wider countryside and the marine environment in accordance with National Biodiversity Action Plan 2017-2021	Species data available on the National Biodiversity Data Centre website: https://www.biodiversityireland.ie/	Heritage Council, Department of Housing, Local Government and Heritage	Ongoing	Ensure minimal impact on existing biodiversity and provision of additional biodiversity assets through the rigorous protection of biodiversity in the development management and planning enforcement systems.
Population and Human Health	Increase population in Letterkenny in accordance with growth projections set out in the Regional Spatial and Economic Strategy for the Northern and Western Region	Census Results for Letterkenny 2027.	CSO	Every 5 Years	<ul style="list-style-type: none"> Ensure full implementation of the Housing for All Plan at the local level including as appropriate the utilisation of site activation measures (e.g. Compulsory Purchase Orders). Ensure delivery of key transport infrastructure projects (e.g. TEN-T PRIPD, Southern Network Project). Ensure implementation of the Letterkenny Regeneration Project 2040.
	Growth in employment opportunities	Employment Growth	CSO	Monthly	

Environmental Category	Targets/Thresholds (e.g. Good Water Quality Status)	Indicators (e.g. WFD Water Quality Status)	Monitoring Agency (e.g. DCC, NPWS etc)	Monitoring Frequency (e.g. Annual)	Remedial Actions
					<ul style="list-style-type: none"> Collaborate with Irish Water to ensure delivery of the requisite Water and Wastewater infrastructure to facilitate the development of the Southern Strategic Sustainable Development Area). Review spatial allocation of residential and general employment lands.
	Promotion of Social Inclusion and reduction in social deprivation.	<ul style="list-style-type: none"> Mix of housing types, tenures, densities, and size (including proportion of social and affordable housing) in newly permitted developments. Distance from newly permitted residential areas to local services (e.g. schools, neighbourhood centre, healthcare facilities etc). 	DCC and Department of Housing,	Annual	<ul style="list-style-type: none"> Ensure appropriate mix of housing types, tenures densities and sizes (including the provision of social and affordable housing) is provided in suitably located residential areas through the Development Management process. Ensure deliver of the Housing For All plan at the local level including provision of social and affordable housing projects. Utilise state funding mechanisms such as the Buy and Renew Scheme to refurbish vacant housing for social housing use.
	Growth in active travel	Proportion of people walking and cycling to work/school etc in Letterkenny AREA	DCC, CSO		Ensure delivery of walking and cycling infrastructure within Letterkenny Plan area.
	Compliance with the European Drinking Water Directive.	EPA Annual Drinking Water Quality Reports	EPA	Annual	Collaborate with Irish Water with regard to delivering the infrastructure necessary to improve drinking water supplies.
	Limit Noise Pollution	Noise Mapping prepared for the Draft Donegal Noise Action Plan 2018-2023.	DCC	Every 5 Years	Ensure full implementation of the measures contained in the Draft Donegal Noise Action Plan 2018-2023 as appropriate and where practicable.
	Air Quality	See Section on Air Quality			
	Water Quality	See Section on Water Quality			
Soil	To Protect Soils and Geology	EPA/Teagasc Soil Mapping Project. Geological Heritage Sites	Teagasc, Geological Survey of Ireland		Ensure minimal impact on soils and geology through rigorous assessment of new development proposals within the development management system.
Water	<ul style="list-style-type: none"> Compliance with the Water Framework Directive in respect of surface waters, transitional bodies and ground water including achieving 'good' status in all waters and otherwise ensuring that water quality does not deteriorate. Compliance with the Emission Limit Values for the 	<ul style="list-style-type: none"> Water Framework Directive Surface Water and At Risk Status for the: <ul style="list-style-type: none"> Swilly Estuary Transitional Water Body Swilly (Donegal)_010 Surface Water Body Corravaddy Burn_010 Surface Water Body Knockybrin_010 Surface Water Body Glashagh (Lower)_010 Surface Water Body 	EPA and DCC	Every 5 Years	<ul style="list-style-type: none"> Collaborate with Irish Water to ensure compliance with Letterkenny WWTP Wastewater Discharge Licence Emission Limit Values. Rigorous assessment of proposals for new domestic and commercial independent WWT systems vis-a-vis relevant EPA Code of Practices. Ensure compliance with relevant Water Pollution legislation vis-a-vis existing domestic WWT systems through DCC environment section. Ensure compliance with individual Commercial Wastewater Discharge Licences to Groundwater

Environmental Category	Targets/Thresholds (e.g. Good Water Quality Status)	Indicators (e.g. WFD Water Quality Status)	Monitoring Agency (e.g. DCC, NPWS etc)	Monitoring Frequency (e.g. Annual)	Remedial Actions
	<ul style="list-style-type: none"> Letterkenny Wastewater Treatment Plan. Compliance with individual Commercial Wastewater Discharge Licences to Groundwater in Letterkenny issued under Section 4 of the Water Pollution Act 1977. 	<ul style="list-style-type: none"> Lough Swilly Ground Water Body Manor Cunningham Ground Water Body Annual Environment Reports for the Letterkenny WWTP. DCC compliance data arising from the National Inspection Plan for Domestic Wastewater Treatment Systems. DCC Compliance data with regard individual Commercial Wastewater Discharge Licences to Groundwater issued under Section 4 of the Water Pollution Act 1977 	Irish Water DCC DCC	Annual Ongoing Ongoing	issued under Section 4 of the Water Pollution Act 1977 through DCC environment section. <ul style="list-style-type: none"> Review approval of further independent WWT systems for commercial premises.
Air	<ul style="list-style-type: none"> Compliance with the Ambient Air Quality and Cleaner Air For Europe (CAFE) Directive including associated limit values for specific pollutants (e.g. PM_{2.5}, PM₁₀ and SO₂) Compliance with the WHO Air Quality Guidelines for specific pollutants 	<ul style="list-style-type: none"> Air Quality Index for Health (AQIH) rating for the Letterkenny Air Quality Monitoring station. PM_{2.5}, PM₁₀ and SO₂ emission levels as measured at the Letterkenny Air Quality Monitoring station. 	EPA	Ongoing	<ul style="list-style-type: none"> Reduce PM pollution by ensuring full implementation of the Smokey Coal ban in Letterkenny including fuel supply, distribution and use of fuels through the DCC Environment Section. Reduce transport related air pollution by promoting more sustainable modes of transportation through full implementation of transport related elements of plan including: <ul style="list-style-type: none"> Compact growth through strict adherence to the zoning and policy framework within the plan. The provision of a local transport interchange hub. The delivery of a local public transport system. The provision of a local walking and cycling links including intra neighbourhood links. Provision of public electric charging infrastructure.
Climate	<ul style="list-style-type: none"> Contribute toward achievement of International, European and National Greenhouse Gas Emission targets (e.g. 51% reduction in Greenhouse gases by 2030 and a climate neutral economy by 2050) 	<ul style="list-style-type: none"> National greenhouse gas emission data. Increase in no. of persons commuting by sustainable travel modes (e.g. public transport walking and cycling). Proportion of new residential units granted within walking (400m) or cycling (800m) distance of public transport or local services. 	EPA CSO DCC	Annual Ongoing Biennial	<ul style="list-style-type: none"> Reduce transport related Greenhouse Gas Emissions by promoting more sustainable modes of transportation through full implementation of transport related elements of plan including: <ul style="list-style-type: none"> Compact growth through strict adherence to the zoning and policy framework within the plan. The provision of a local transport interchange hub.

Environmental Category	Targets/Thresholds (e.g. Good Water Quality Status)	Indicators (e.g. WFD Water Quality Status)	Monitoring Agency (e.g. DCC, NPWS etc)	Monitoring Frequency (e.g. Annual)	Remedial Actions
		<ul style="list-style-type: none"> • No. of developments permitted within Flood Zones A and B. • No. of developments permitted utilising SUDS flood attenuation solutions. 	<p>DCC</p> <p>DCC</p>	<p>Biennial</p> <p>Biennial</p>	<ul style="list-style-type: none"> ○ The delivery of a local public transport system. ○ The provision of a local walking and cycling links including intra neighbourhood links. ○ Provision of public electric charging infrastructure. • Reducing greenhouse gas emissions in new residential and commercial developments through achieving greater energy efficiency in the siting, orientation and design of new developments through rigorous application of Policy CAM-LK-P-8. • Carbon sequestration through the provision of tree planting and the retention of existing trees as an integral part of new developments as part of the development management process. • Rigorous assessment of new development proposals vis-a-vis climate related flood risk (e.g. fluvial, pluvial and coastal). • Enhanced use of SUDS flood attenuation measures through rigorous application of Policy CAM-LK-P-6 in new developments.
Material Assets	<ul style="list-style-type: none"> ○ Delivery of strategic road projects (e.g. TEN-T PRIPD, the Southern Network Project and strategic relief road on the western and north eastern periphery of the town). ○ Delivery of new walking and cycling and public transport infrastructure including a local transport hub. ○ Delivery of key urban regeneration projects including within the Letterkenny 2040 Regeneration Strategy (e.g. Lower Main Street, Market Square, ESB site) ○ Delivery new of public and private housing units completed in line with growth 	<ul style="list-style-type: none"> ○ Progress on strategic road projects (e.g. TEN-T PRIPD, the Southern Network Project and strategic relief road on the western and north eastern periphery of the town). ○ Progress on new walking and cycling and public transport infrastructure including a local transport hub. ○ Completion of key urban regeneration projects including under the Letterkenny 2040 Regeneration Strategy (e.g. Lower Main Street, Market Square, ESB site). ○ No. of new of public and private housing units completed. ○ No. and floor space of new retail and commercial developments. ○ Retail and commercial vacancy levels. ○ Extension of the water and wastewater infrastructure to poorly or unserved areas (e.g. Southern 	<p>DCC, OPW, TII and NWRA</p>	<p>Ongoing</p>	<ul style="list-style-type: none"> ○ Collaborate with strategic partners (e.g. TII, Department of Transport etc) to ensure full delivery of strategic roads projects. ○ Collaborate with strategic partners (e.g. National Transport Authority, Department of Transport) to ensure delivery of new walking and cycling and public transport infrastructure. ○ Utilise funding streams such as the Urban Regeneration and Development Fund to ensure delivery of key urban regeneration projects. ○ Ensure full implementation of the Council’s public housing programme including collaborating with the Department of Housing. ○ Collaborate with private developers in relation to the provision of new private housing development including the provision of enabling infrastructure. ○ Collaborate with Irish Water in relation to the upgrading and provision of water and wastewater infrastructure to facilitate new residential and commercial development.

Environmental Category	Targets/Thresholds (e.g. Good Water Quality Status)	Indicators (e.g. WFD Water Quality Status)	Monitoring Agency (e.g. DCC, NPWS etc)	Monitoring Frequency (e.g. Annual)	Remedial Actions
	<ul style="list-style-type: none"> ambition for the Letterkenny plan. ○ No. and floor space of new retail and commercial developments. ○ Reduction in retail and commercial vacancy levels. ○ Extension of the water and wastewater infrastructure to poorly or unserved areas (e.g. Southern Strategic and Sustainable Development Area, east of the Port Bridge). ○ Provision of new green infrastructure (e.g. LK Green Connects project). ○ Delivery of the Letterkenny Flood Relief scheme. ○ Reduction in flood damage to buildings and infrastructure. 	<ul style="list-style-type: none"> Sustainable Development Area, east of the Port Bridge). ○ Completion of the Letterkenny Flood Relief Scheme. ○ No. of buildings and infrastructure assets damaged by flooding. 			<ul style="list-style-type: none"> ○ Collaborate with strategic partners to ensure delivery new green infrastructure including the LK Green Connects project. ○ Collaborate with strategic partners (e.g. OPW) to ensure delivery of the Letterkenny Flood Relief Scheme.
Cultural Heritage	<ul style="list-style-type: none"> ○ Protect and preserve architectural heritage including structures on the Record of Protected Structures, vernacular and historic structures. ○ Protect and enhance the Cathedral Quarter Architectural Conservation Area. ○ Protect and enhance the integrity of Archaeological Monuments. 	<ul style="list-style-type: none"> ○ No. and condition of structures on the Record of Protected Structures and other vernacular and historic structures within the Letterkenny plan area. ○ No. and condition of historic structures within the Cathedral Quarter Architectural Conservation Area. ○ No. and condition of archaeological monuments within the Letterkenny plan area. 	DCC, Department of Housing, Local Government and Heritage	Ongoing	<ul style="list-style-type: none"> ○ Utilise built heritage funding (e.g. Built Heritage Investment Scheme and Historic Structures Fund) to maintain and improve the condition of existing built heritage. ○ Ensure compliance of new developments proposals with built heritage protection policies of the plan (e.g. LK-NBP-P-1 and 2) through the development management process. ○ Expedient use of the planning enforcement system to prevent unauthorised loss of built and archaeological heritage.
Landscape	To protect and manage the local landscape including landscape and visual features elements and characteristics of specific relevance to the Letterkenny Plan area.	Impact of new developments on landscape and visual features elements and characteristics.	DCC	Biennial	<ul style="list-style-type: none"> ○ Ensure rigorous assessment of development proposals in areas zoned Local Environment in accordance with Policy LK-H-P-4. ○ Ensure compliance with the landscape and open space masterplanning principles for the Southern Strategic and Sustainable Development Area in accordance with LK-H-P-10. ○ Ensure compliance with the development guidance for Opportunity Site 1: Gortlee Woods.

Environmental Category	Targets/Thresholds (e.g. Good Water Quality Status)	Indicators (e.g. WFD Water Quality Status)	Monitoring Agency (e.g. DCC, NPWS etc)	Monitoring Frequency (e.g. Annual)	Remedial Actions
					<ul style="list-style-type: none"> ○ Review zonings on lands which spatially interact with key landscape and visual features, elements and characteristics as necessary.

11 Non-Technical Summary and Conclusion

Annex I(j) of the SEA Directive requires that an Environmental Report contain a non-technical summary of the information provided in the report under the other Annex I headings (e.g. outline of the plan, the current state of the environment, the likely significant effects on the environment of implementing the plan etc). Consequently, a non-technical summary of this report including the key conclusions reached within same is therefore provided underneath. In particular the non-technical summary of Section 7 contains the conclusions of the report in respect of the likely significant effects of the plan on the key aspects of the environment.

Section 1: Introduction.

This section notes that:

- The Letterkenny Plan is a statutory land use plan which sets out detailed planning objectives, policies and land use zonings for the Letterkenny area having regard to National and Regional Planning Frameworks and guidance.
- Strategic Environmental Assessment (SEA) is a systematic and multi stage process to ensure environmental issues are taken into account in the preparation, implementation, monitoring and review of plans. The preparation of this Environmental Report is a key part of the SEA process. An Environmental Report of the Letterkenny Plan was required as the plan is a Local Area Plan for a population of more than 5000 persons. SEA scoping in relation to the scope and level of detail to be included in the report was carried out prior to, and taken into account during, the preparation of this report.

Section 2: Outline of the Content of the Main Objectives of the Plan and Relationship with Other Plan.

This section outlines the main objectives of the plan and its relationship with other plans including outlining the strategic objectives of Compact Growth and Climate Change which underpin the plan, and detailing the key objectives, policies and land use zonings of the plan in relation to the development management approach, economic development and employment, town centre, housing, opportunity sites, climate adaptation and mitigation, natural and built heritage, and social community and culture issues.

Section 3: Relevant Aspects of the Current State of the Environment and Likely Evolution thereof without Implementation of the Plan.

This section outlines the Current state of the Environment in relation to the following Environmental topics:

- **Biodiversity:** Details the Natura 2000 sites likely to be affected by the Letterkenny Plan, outlines the status and trends for the Annex I habitats and the Annex II species nationally occurring with said Natura 2000s sites (noting that most of said habitats and species have an inadequate or bad status nationally), notes that recent bird counts for the qualifying interests within the Lough Swilly SPA do not indicate a significant overall decline, and otherwise provides information on designated Shellfish Waters Freshwater Pearl Mussel Catchment Areas and other biodiversity Flora and Fauna assets in the Letterkenny area.
- **Population and Human Health:** Outlines the key populations statistics and trends and key environmental pressures affecting human health in the Letterkenny area.
- **Soils and Geology:** Details the location and extent of the major soil types and geological formations with the Letterkenny area.
- **Water Quality:** Notes that the Water Framework Directive (WFD) requires the achievement of good status in all waters and that the status of water bodies does not deteriorate, provides the WFD status information for surface and groundwater bodies in the Letterkenny area (noting inter alia that the Swilly Estuary had a *moderate* WFD status and a *At Risk* WFD Risk status with pressures on said waterbody arising from urban waste water, urban runoff and domestic run-off).
- **Air Quality:** Notes that Particular Matter (PM) (mainly from the burning of fossil fuels for home heating) and Nitrogen Oxides (NO) (mainly from traffic emissions) are the key sources of air

pollution in Ireland. Provides air quality data for Letterkenny in 2020 which indicates that: for PM_{2.5} the annual mean value exceeded the WHO Air Quality Guideline annual mean value of 10 µg/m³, for PM₁₀ there were a number of exceedances of the WHO daily (24hr) mean guideline value of 50 µg/m³ but previous measurements for NO₂ in 2009 indicate that the average emissions (12.02 µg/m³) were significantly below the CAFE annual mean limit value of 40 µg/m³.

- **Climate Factors:** Details current and future climate changes trends including the likely impacts on Ireland (e.g. a temperate increase of 1-1.6°C, more extreme weather events), outlines Ireland's greenhouse gas emissions profiles, trends, projections and targets including noting that Ireland has missed its 2020 emission targets and even with the additional measures in the Climate Action Plan is likely to miss its 2030 emissions targets.
- **Material Assets:** Details the key existing material assets in Letterkenny (e.g. transport, electricity, broadband, water and wastewater, healthcare, education etc) and flood risk issues. Specifically notes that the TEN-T PRIPD aims to provide a new strategic access across the River Swilly at Ballyraine, that the existing Letterkenny Wastewater Treatment Plant has significant additional treatment capacity, and there are significant unsewered areas and flood risk areas with the plan area.
- **Cultural Heritage:** Notes that Letterkenny's cultural heritage includes the Cathedral Quarter Architectural Conservation Area, 20 structures on the Record of Protected Structures, 79 structures on the National Inventory of Architectural Heritage, 20 sites on the Record of Monuments and Places and 2 historic graveyards.
- **Landscape and Visual:** Provides a landscape and visual baseline from which the following fundamental points emerge:
 - The importance of the visual skyline afforded by the higher hills and ridgeline to the north west of Letterkenny when viewed on approach from the east and south and from the southern valley slopes.
 - The role which the southern Swilly Valley Slopes play in providing a rural backdrop/setting for the town when viewed from on approach from the north east and from within the town itself notwithstanding their modest elevation relative to the town.
 - In addition to the above the importance other notable landscape and townscape features (i.e. St. Eunan's Cathedral, Whinney Hill/Drum hill, the woodlands at Kiltyoy and Gortlee and undeveloped flood plain) in defining the landscape and townscape character of Letterkenny.

Section 4: Environmental Characteristics of Areas Likely to be Significantly Affected

This section inter alia notes the specific environmental characteristics of undeveloped areas which are designed for development under the plan.

Section 5: Existing Environmental Problems of Relevance to the Letterkenny Plan

This section outlines a number of environmental problems relevant to the Letterkenny area including inter alia: removal of locally significant habitats to facilitate new development, lack of new housing provision in recent years, urban sprawl, substandard strategic roads and inadequate public transport, social deprivation in key areas, water pollution from ineffective commercial and domestic wastewater treatment system and agricultural sources, PM_{2.5} and PM₁₀ air pollution, transport related greenhouse gas emissions arising from dispersed urban form, a lack of public transport and pedestrian connectivity in the town centre, flooding events, loss of cultural heritage and landscape pressures such as rural housing development in the rural hinterland, development on the higher hills, southern valley slopes and the agricultural flood plain.

Section 6: Environmental Protection Objectives of Relevance to the Letterkenny Plan.

This section and the associated Table in Appendix A details the wide range of Environmental Protection objectives contained within a wide variety of International Conventions EU and Irish Legislation. This section also sets out the way in which those objectives have been taken into account in the Letterkenny Plan (e.g. not zoning biodiversity areas for development, protecting environmental assets through specific policy safeguards, the zonings of lands for housing, community, education and employment generating purposes, the provision of new strategic transport links, the provision of a compact development form and new public transport services to aid sustainable mobility, aligning new residential development with the provision of the necessary water and waste infrastructure, the zoning of land as local environment to protect the rural hinterland of Letterkenny).

Section 7: Assessment of the Likely Significant Effects on the Environment of Implementing the Letterkenny Plan

This section outlines the assessment methodology including detailing the consolidated Environmental Protection Objectives (EPOs) which are derived from the wide variety of EPOs and are used as the Environmental Test Criteria for the assessment of each environmental topic. This section also provides an assessment of the likely significant effects of the plan in relation to key environmental aspects including in combination with other relevant actions. The conclusions of this assessment are summarised in text the table below and are also colour coded on the basis of their overall cumulative effect (in combination with other actions).

Key

	Significant Positive Effect
	Positive Effect
	No Relationship/Insignificant Effect
	Negative Effect
	Significant Negative Effect

Key Environmental Aspect	Summary of Assessment of Likely Significant Effects of the Letterkenny Plan (including cumulatively in combination with other relevant actions).
Biodiversity, Flora & Fauna	Localised impacts may occur in relation to loss of habitats at General Employment Zonings at Carnamuggagh Lower. However on the basis that: the NIR found the plan would not adversely affect any Natura 2000 site, there would not be negative effects on the River Swilly Woods pNHA, Gortlee Woods or other special areas of Biodiversity, negative effects may be avoided and reduced through the biodiversity policy safeguards of the plan, and other plan provisions would have a positive effect on biodiversity, the total effects on the consolidated EPO related to Biodiversity will be insignificant overall. Nevertheless, cumulative negative effects on biodiversity will arise as a result of other actions in combination with the Letterkenny Plan (e.g. other strategic plans).
Population/ Human Health	On the basis of the wide ranging benefits of the plan on population and human health including economic growth, town centre development/urban regeneration, new transport infrastructure, housing provision, the protection/enhancement of built and natural heritage, mitigation and adaption to climate change, new social community and culture, the total effects of the plan on the consolidated EPO related to Population and Human Health will be positive overall. In relation to cumulative effects the positive effects of other actions (i.e. plans and projects) are likely to reinforce the positive effects of the Letterkenny Plan.
Soil and Geology	The plan is likely to have impacts on soils (e.g. disturbance, depletion, loss of functionality and contamination) and geology (e.g. excavation of rock). However on the basis that: the overall amount of land zoned for development is a small portion of these soil and geology types, said soil and geology types do not have statutory protection, the land zoned for development do not correspond with areas at risk from moderately high or high landscape susceptibility, the Lough Swilly Geological site is not zoned for development and negative effects on soil could be mitigated by inter alia project level mitigation measures, the total effects of the plan on the consolidated EPO related to Soils and Geology will be insignificant overall. In relation to cumulative effects other actions are not likely to significantly affect soils and geology in the Letterkenny area.
Water	The majority of the plan area is connected to the Letterkenny municipal WWTP which has significant additional capacity and the Southern Sustainable Development Area will be developed in tandem with the provision of the necessary wastewater infrastructure. However on the basis that: the Swilly Estuary has a moderate WFD status, negative impacts are likely to arise from development facilitated in unsewered areas of the town east of the Isle Burn and east of the Port Bridge and short term negative effects on

Key Environmental Aspect	Summary of Assessment of Likely Significant Effects of the Letterkenny Plan (including cumulatively in combination with other relevant actions).
	water quality may arise from construction activities, the total effects of the plan on the consolidated EPO related to water will be negative overall. In relation to cumulative effects the negative effects of other actions on water are likely to reinforce this negative effect.
Air	On the basis of air quality data showing exceedances in the relevant WHO guidelines values PM _{2.5} and PM ₁₀ been identified as the most significant air pollution problems in Letterkenny. PM pollution arise primarily from the burning of solid fuels for home heating. Consequently, new non residential development facilitated by the plan (e.g. retail, commercial, light industrial) is unlikely to result in significant additional PM pollution in Letterkenny. Furthermore, as new residential development facilitated by the plan will conform to strict NZEB standards their home heating requirements are unlikely to result in the burning of solid fuels for home heating and will therefore not contribute to significant additional PM Pollution. Otherwise the impact of the TEN-T PRIPD on air quality is uncertain but other transport and climate related policies and objectives of the plan would have a positive effect on air quality. Consequently, the total effects of the plan on the consolidated EPO related to air quality will be insignificant overall. In relation to cumulative effects other actions are not likely to significantly affect air quality in the Letterkenny area.
Climate	The Letterkenny plan creates the potential for significant additional greenhouse gas emissions by developing Letterkenny as a strategic growth centre including providing for significant new residential, retail and commercial development. EPA greenhouse gas emissions projections indicate that even with the additional measures in the Climate Action Plan 2021 Ireland will not achieve its 2030 emissions targets. With some exceptions the Letterkenny Plan is also likely to broadly adhere to said emission projections. In view of the climate crisis and the likelihood that Ireland will miss its 2030 emissions targets the additional greenhouse gas emissions resulting from the Letterkenny plan are therefore considered significant. Consequently, notwithstanding benefits accruing from the climate change mitigation and adaption objectives, policies, and measures in the plan, the total effects of the plan on the consolidated EPO related to climatic factors would be negative overall. In relation to cumulative effects the effects of other actions are likely to reinforce this negative effect.
Material Assets	On the basis that the plan: will create a wide range of new material assets (e.g. housing, transport infrastructure, retail, services, education, healthcare, recreational, and community facilities), will enhance existing assets (e.g. urban regeneration), will not have significant impacts on existing material assets, manages the impact of flood risk on new material assets in accordance with the flood risk management guidance, it is concluded that the total effects of the plan on material assets will be positive overall. In relation to cumulative effects the positive effects of the plan on material assets will be reinforced by the positive effects of other actions on material assets.
Cultural Heritage	On the basis that cultural heritage features benefit from significant statutory protections, are also protected by the built heritage policies of the CDP 2018-2024(as varied), are further protected by the policies of the Letterkenny Plan, and the other policies, objectives and zonings of the plan do not supersede said statutory protections or policies, it is considered that, notwithstanding the negative effect of Policy LK-PT-P-2 on the historic Letterkenny-Strabane railway line, the total effects of the plan on the consolidated EPO related to cultural heritage will be positive overall. In relation to cumulative effects other actions would not affect cultural heritage in the Letterkenny area.
Landscape and Visual	A number of zonings, policies and objectives of the plan would either have a positive (e.g. Opp Site 3, town centre and natural heritage policies) or insignificant (e.g. local environment and strategic residential reserve zonings) effect on the landscape and visual baseline. However certain zonings (i.e. the general employment zonings at Carnamuggagh Lower, Southern Strategic and Sustainable Development Area, TEN-

Key Environmental Aspect	Summary of Assessment of Likely Significant Effects of the Letterkenny Plan (including cumulatively in combination with other relevant actions).
	<p>T/PRIPD/Open Space) will negatively interact with key landscape features and visual elements including the higher hills and ridgeline to the north west of Letterkenny, the southern Swilly Valley slopes, and the flood plain of the River Swilly. On the basis that: the zonings identified as having a negative effect are located in sensitive locations, have a large spatial extent and/or would facilitate a significant amount of development, it is considered said negative effects would ultimately outweigh the positive effects of other zonings, policies and objectives on the landscape and visual baseline and other zonings may also collectively result in moderate negative effect on said baseline, it is considered that, on balance, the total effects of the plan on the landscape and visual baseline would be negative overall. In relation to cumulative effects other actions would not significantly affect the landscape and visual baseline in the Letterkenny plan area overall.</p>

Section 8: Measures Envisaged to Prevent, Reduce, and as Fully as Possible Offset Any Significant Adverse Environmental Effects on the Environment of the Letterkenny Plan.

This section outlines a range of measures which have been, and can be, employed to prevent and reduce and offset the adverse environmental effects of the Letterkenny Plan including:

- Avoidance and Reduction of Significant Adverse Environmental Effects through:
 - Land Use Zonings: For example; avoiding direct impacts on Natura 2000 and pNHA sites by not facilitating development on said lands, avoiding vulnerable development in flood risk areas, and reducing landscape impacts by zoning land as Open Space and Local Environment).
 - Policies and Objectives: For example; Policy LK-H-P-4 (specific biodiversity and landscape requirements for single dwellings in Local Environment Zonings), LK-OPP-P-1 (requirement to retain the substantive woodland cover of the site), CAM-LK-P-6 (Require the use of SUDS in private and public developments), LK-NBH-P-2 (Protect and enhance special character of the Cathedral Quarter ACA), LTP-PT-O-1 (Deliver significantly enhanced public transport services and facilities).
 - Planning Approvals: For example planning conditions to; reduce impacts on water quality during construction, provide specific effluent treatment systems, provide system to intercept and treat surface water prior to discharge and retain existing trees and hedgerows.
- Offsetting of Significant Environmental Effects: For example through; Policy LK-TC-O-4 (support projects such as carbon sinks, and green corridors Policy CAM-LK-P-2 (increase native tree coverage and pollinator friendly planting), and Policy LK-NBH-P-1 (Support the creation of new amenity spaces, amenity corridors and natural biodiversity and wetlands systems adjacent to the River Swilly corridor).

Section 9: Selection of Alternatives for the Letterkenny Plan

This section outlines: the key constraints influencing the selection of alternatives for the Letterkenny Plan (e.g. legislation, national and regional frameworks, ministerial guidelines, geography, topography, infrastructure projects), details how key strategic alternatives were assessed, why the strategic alternative of Sustainable Consolidation and Urban Expansion South of the Swilly was selected, and how geographical alternatives were assessed.

Section 10: Monitoring of Significant Environmental Effects

This section outlines the legislative requirements and best practice guidance in respect of SEA Monitoring. It also provides a detailed monitoring programme for all environmental aspects of the plan (biodiversity, water, air, etc) in accordance with the abovementioned best practice this monitoring programme includes inter alia:

- Specific environmental indicators: For example; Article 17 and Article 12 Reports on the status and trends of habitats and species related to the Lough Swilly SAC and SPA, the Water Framework Directive water quality status for the Lough Swilly Estuary, census population data, EPA air quality monitoring data for PM_{2.5}, PM₁₀ and SO₂ pollution levels in Letterkenny, EPA greenhouse gas

emissions, DCC data on the number and conditions of structures on the Record of Protected structures etc.

- Remedial Actions: For example: Rigorous assessment of proposed developments and enforcement of planning conditions related to permitted developments which may affect Natura 2000 sites, ensuring compliance with water pollution legislation in respect of domestic and commercial independent WWTS, ensuring the implementation of regional transport hub, local public transport services and new walking and cycling infrastructure and utilising built heritage funding to improve the conditions of existing built heritage.

Appendix A:
Environmental Protection Objectives
and the way those objectives have
been taken into account during the
preparation of the Letterkenny Plan

Table A.1 Environmental Protection Objectives Established at An International, European Union or National Level Which Are Relevant To The Letterkenny And The Way Those Objectives And Any Environmental Considerations Have Been Taken Into Account During The Preparation Of The Letterkenny Plan.

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
Biodiversity, Flora and Fauna			
International			
UN Convention on Biological Diversity (1992)	The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity. the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.	Environmental Protection Objectives and associated environmental considerations related to Biodiversity have been taken into account during the preparation of the Letterkenny Plan through the following measures: <ul style="list-style-type: none"> ○ Not facilitating development within the Lough Swilly Special Area of Conservation (Site Code 002287). ○ Not zoning any part of the Lough Swilly Special Protection Area (004075) for development. ○ Not facilitating development within the River Swilly Valley Woods proposed Natura Heritage Area. (Site Code 002011) (located at Ballymacool, Kilty and Creeve) for development. ○ Only facilitating limited development within 3 special areas of biodiversity at Ballymacool, Whinney Hill, Rodgers Burn, Drum Hill, and along the River Swilly (identified in the Biodiversity study commissioned for the Letterkenny and Environs Development Plan 2009). ○ The specific development requirements for Opportunity Site 1(Gortlee Woods) namely <i>'proposals will be required to demonstrate compatibility with the environmental setting of the site'</i> and <i>'the site is developed as a town park campus, retaining the substantive woodland cover of the site'</i> 	The various Environmental Protection Objectives listed opposite are reflected in the consolidated EPO related to Biodiversity Flora and Fauna namely: <i>To conserve, protect, maintain, and where appropriate restore biodiversity, flora and fauna, natural habitats and ecosystems particularly species and habitats subject to statutory protection.</i>
Bern Convention (Convention on European Wildlife and Natural Habitats) 1982	The aims of this Convention are to conserve wild flora and fauna and their natural habitats, especially those species and habitats whose conservation requires the co-operation of several States, and to promote such co-operation.		
European Union			
EU Biodiversity Strategy to 2030	Aims to ensure that Europe's biodiversity will be on the path to recovery by 2030 for the benefit of people, the planet, the climate and our economy. It contains 3 key nature protection commitments: 1. Legally protect a minimum of 30% of the EU's land area and 30% of the EU's sea area and integrate ecological corridors, as part of a true Trans-European Nature Network. 2. Strictly protect at least a third of the EU's protected areas, including all remaining EU primary and old-growth forests. 3. Effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately.		In this regard for example the fundamental objective of: <ul style="list-style-type: none"> • The UN Convention on Biological diversity 1992 is embodied in the text 'Conserve' and 'Biodiversity'. • The EU Biodiversity Strategy is embodied in the text 'restore' and 'biodiversity'. • The Habitats Directive is embodied in the text 'conserve', 'maintain', and 'restore', 'biodiversity' 'natural habitats' and 'species and habitats subject to statutory protection'. • The Birds Directive is embodied in the text 'Conserve' 'maintain' and 'restore' and 'species and
Freshwater Fish Directive (2006/44/EC)	The aim of this Directive is to protect or improve the quality of those running or standing fresh waters which support, or		

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
	<p>which, if pollution were reduced or eliminated, would become capable of supporting, fish belonging to:</p> <ul style="list-style-type: none"> a) indigenous species offering a natural diversity; b) species the presence of which is judged desirable for water management purposes by the competent authorities of the Member States. 	<ul style="list-style-type: none"> o Policy LK-OPP-P-3 (Old Unifi Site) specifically requires developers to: <i>retain and protect the existing belt of mature trees that runs generally from the south-eastern corner of the former Unifi 'plant 2' building to the Kilty Road.</i> 	<p>habitats subject to statutory protection'.</p> <ul style="list-style-type: none"> • The Wildlife Act is embodied in the text 'Conserve' and 'species and habitat subject to statutory protection'.
<p>The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or "The Bonn Convention" [L210, 19/07/1982 (1983)])</p>	<p>Article II 3. of the convention states that the parties to the convention</p> <ul style="list-style-type: none"> • Should promote, co-operate in and support research relating to migratory species; • Shall endeavour to provide immediate protection for migratory species included in Appendix I; and • Shall endeavour to conclude AGREEMENTS covering the conservation and management of migratory species included in Appendix II. 	<ul style="list-style-type: none"> o Objective CAM-LK-O-1 which states that the plan will seek to deliver 'enhanced biological diversity'. o Policy CAM-LK-P-2 which states that: it is a policy of the Council to '<i>increase native tree coverage and pollinator friendly planting in Letterkenny by promoting the planting of suitable native trees and hedgerows and flowers at appropriate locations</i>' 	<ul style="list-style-type: none"> • The National Biodiversity Action Plan 2017-2021 is embodied in the text 'conserve' and 'restore'.
<p>Conservation of Natural Habitats and of Wild Flora and Fauna (Habitats) Directive (92/43/EEC)</p>	<p>Article 2 of the directive states that:</p> <ol style="list-style-type: none"> 1. The aim of this Directive is to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies. 2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest 	<ul style="list-style-type: none"> o Policy CAM-LK-P-4 which states that: '<i>It is a policy of the Council to actively promote and encourage high biodiversity value nature-based approaches and green infrastructure solutions within development proposals.</i> 	
<p>Conservation of Wild Birds Directive (2009/147/EEC) (Birds Directive)</p>	<p>The central objectives of this Directive is that:</p> <ul style="list-style-type: none"> • Member States take the requisite measures to maintain the population of the species referred to in Article 1 of the directive at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level. • Member States shall take the requisite measures to preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1 of the directive: <p>Note: Article 1 relates to relates to the conservation of all species of naturally occurring birds in the wild state in the</p>		

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
	European territory of the Member States to which the Treaty applies. It covers the protection, management and control of these species and lays down rules for their exploitation.		
National			
The Wildlife Act 1976	Section 11 of the act (as consolidated) states that: 11.—(1) It shall be a function of the Minister to secure the conservation of wildlife and to promote the conservation of biological diversity.		
National Biodiversity Action Plan 2017 – 2021	This plan has 7 key objectives: 1. Mainstream biodiversity into decision-making across all sectors 2. Strengthen the knowledge base for conservation, management and sustainable use of biodiversity 3. Increase awareness and appreciation of biodiversity and ecosystems services 4. Conserve and restore biodiversity and ecosystem services in the wider countryside 5. Conserve and restore biodiversity and ecosystem services in the marine environment 6. Expand and improve management of protected areas and species 7. Strengthen international governance for biodiversity and ecosystem services		
European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009 (S.I. 296/2009)	Article 2 of said regulations states that: The purpose of these Regulations is to support the achievement of favourable conservation status for freshwater pearl mussels.		
All Ireland Pollinator Plan 2015-2020	This plan has 5 main objectives: 1. Making Ireland pollinator friendly 2. Raising awareness of pollinators and how to protect them 3. Managed pollinators – supporting beekeepers and growers 4. Expanding our knowledge on pollinators and pollination service		

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's	
	5. Collecting evidence to track change and measure success			
National Peatland Strategy (DAHG, 2015)	The vision statement of the National Peatlands Strategy states that: <ul style="list-style-type: none"> This Strategy aims to provide a long-term framework within which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution to the well-being of this and future generations. 			
Population and Human Health				
Healthy Ireland – a Framework for Improved Health and Wellbeing 2015-2025	The 4 stated Goals of Healthy Ireland are to: <ol style="list-style-type: none"> Increase the proportion of people who are healthy at all stages of life. Reduce health inequalities. Protect the public from threats to health and wellbeing. Create an environment where every individual and sector of society can play their part in achieving a healthy Ireland. 	Environmental Protection Objectives and associated environmental considerations related to Population and Human Health have been taken into account during the preparation of the Letterkenny Plan through the following measures: <ul style="list-style-type: none"> A compact spatial development framework which limits physical distances to key destinations (e.g. town centre, education, employment centres, local services and recreation facilities) and thereby encourages active/healthy travel modes (i.e. walking and cycling). Zoning of lands as Open Space whose zoning objective is to provide for 'formal and informal amenity purposes and to make provision for new recreation, leisure and amenity purposes'. Zoning Community and Education lands whose zoning objective is to 'To reserve land for community, educational, institutional, cultural, recreational, healthcare and amenity purposes, including ancillary recreational and childcare facilities'. Zoning Strategic, Community Opportunity whose zoning objective is: 'achieve an appropriate mix of health and/or 	The various Environmental Protection Objectives listed opposite and related to water, air pollution, climate change, flooding are reflected in the consolidated EPO related to Population and Human Health namely: <p><i>To protect populations and human health by: promoting healthy lifestyles and quality of life, tackling socio-economic disadvantage, ensuring the sustainable use of resources, providing clean drinking water and safeguarding humans from environmental threats including air, water and noise pollution, climate change and flooding.</i></p>	
Directive (EU) 2020/2184 Of the European Parliament And Of The Council of 16 December 2020 on the quality of water intended for human consumption	Article 1 Objectives states: <ol style="list-style-type: none"> This Directive concerns the quality of water intended for human consumption for all in the Union. The objectives of this Directive are to protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean, and to improve access to water intended for human consumption. 			
Environmental Noise Directive (END) (2002/49/EC)	The aim of this Directive (Article 1) refers is to: Define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure, to environmental noise.			
Air Quality	See section on Air			
Water Quality	See Section on Water			In this regard for example the fundamental objective of: <ul style="list-style-type: none"> Healthy Ireland is embodied in the text 'promoting healthy lifestyles and quality of life' and 'tackling socio-economic disadvantage' The EU Drinking Water directive is embodied in the text

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		<p><i>educational and/or social and/or community development which may include hospital expansion, educational, research and development, recreational uses, community health, childcare facilities or student accommodation.'</i></p> <ul style="list-style-type: none"> • Zoning of employment generation lands at strategic locations to attract new inward investment and create new employment opportunities and thus help to tackle socio-economic disadvantage. • The provision of new local public transport services and a new transport interchange hub which will promote greater social inclusion amongst marginalised groups. • Facilitating strategic road projects (e.g. TEN-T PRIPD), which will remove strategic traffic from built up urban areas and thus reduce impacts on sensitive noise receptors. In this regard the European Environment Agency reports that Noise pollution remains a major environmental health problem in Europe, with the transport sector being a major cause. • Reduction in air pollution through the encouragement of sustainable travel modes (e.g. walking, cycling and public transport) through inter alia the provision of new walking and cycling infrastructure, a local public transport system and a local transport hub. • Reduction in water pollution through the phasing of new residential development in line with the necessary wastewater infrastructure (e.g. Southern Strategic Sustainable Development Area). 	<p>'providing clean drinking water'.</p> <ul style="list-style-type: none"> • The EU Environmental Noise Directive is embodied in the text 'noise pollution' • The various EPOs in relation to Air and Water Quality, Climate Change and Flooding are embodied in the text '<i>environmental threats including air, water and noise pollution, climate change and flooding</i>'.
Climate Change	See Section on Climate Change		

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Soil and Geology			
EU Seventh Environment Action Programme	Point 28(e) of this Programme states that: In order to protect, conserve and enhance the Union's natural capital, the 7th EAP shall ensure that by 2020: (e) Land is managed sustainably in the Union, soil is adequately protected and the remediation of contaminated sites is well underway;	Environmental Protection Objectives and associated environmental considerations related to Soils and Geology have been taken into account during the preparation of the Letterkenny Plan through the following measures: <ul style="list-style-type: none">• Reducing the impact on soil resources and soil services associated with greenfield development by providing for a more compact spatial development framework including a focus on brownfield and infill development.• Zoning land as Open Space whose zoning objective provides for Limited Development and therefore limits impact on the soil resource.• Zoning land as Local Environment whose zoning objective provides for limited development and therefore limits impact on the soil resource.	The various Environmental Protection Objective listed opposite is directly reflected in the consolidated EPO related to Soils and Geology namely to: <i>To protect soils and geology.</i>
Water			
European Union			
Water Framework Directive (WFD) (2000/60/EC) (as amended by Decision 2455/2001/EC and Directives 2008/32/EC, 2008/105/EC and 2009/31/EC The following Directives have been subsumed into the Water Framework Directive:	Article 1 of the Directive describes the purpose of the objective as follows: The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which: a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems; b) promotes sustainable water use based on a long-term protection of available water resources; c) aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific	Environmental Protection Objectives and associated environmental considerations related to Population and Human Health have been taken into account during the preparation of the Letterkenny Plan through the following measures: <ul style="list-style-type: none">• An overall spatial development framework which predominately aligns the location of new development (residential, commercial, retail etc) with areas which can be serviced by existing wastewater infrastructure.• Phasing new residential development in the Southern Strategic and Sustainable Development Area in tandem with the	The various Environmental Protection Objectives listed opposite are reflected in the consolidated EPO related to Water namely: <ul style="list-style-type: none">• <i>Protect, avoid deterioration of and, as appropriate, restore/enhance the quality of surface, ground, and marine waters and their associated ecosystems including limiting the input of pollutants.</i>• <i>Ensure the sustainable use and protection of water resources.</i>

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<ul style="list-style-type: none"> • The Drinking Water Abstraction Directive; • The Sampling Drinking Water Directive; • The Exchange of Information on Quality of Surface Freshwater Directive; • The Shellfish Directive ; • The Freshwater Fish Directive; • The Groundwater (Dangerous Substances) Directive; and The Dangerous Substances Directive. 	<p>measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;</p> <p>d) ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and</p> <p>e) contributes to mitigating the effects of floods and droughts</p> <p>and thereby contributes to:</p> <ul style="list-style-type: none"> • the provision of the sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use, • a significant reduction in pollution of groundwater, • the protection of territorial and marine waters, and • achieving the objectives of relevant international agreements, including those which aim to prevent and eliminate pollution of the marine environment, by Community action under Article 16(3) to cease or phase out discharges, emissions and losses of priority hazardous substances, with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substance 	<p>provision of the necessary wastewater collection infrastructure.</p> <ul style="list-style-type: none"> • Protecting the immediate corridor of the River Swilly by zoning lands along said corridor as Open Space which provides for a natural buffer between the River and adjoining development. • Policy CAM-LK-P-6: requires the use of SUDS within public and private developments which in turn have the potential to naturally filter surface water discharges prior to discharge to watercourses. • Policy LK-NBH-P-1 which supports inter alia the creation of wetlands systems adjacent to the river Swilly which would have the potential to filter contaminated surface water discharges to the River Swilly. 	<ul style="list-style-type: none"> • <i>Protect the coastal environment based on an ecosystem approach and taking ecological responsible coastal protection measures.</i> <p>In this regard for example the fundamental objectives of:</p> <ul style="list-style-type: none"> • The Water Framework Directive, the River Basin Management Plan (RBMP) 2018-2021, and the (Surface Water) Regulations 2009 (S.I. 272/2009) are all embodied in the text '<i>avoid deterioration of and, as appropriate, restore/enhance the quality of surface, ground, and marine waters.</i>' • The Groundwater Directive and the European Communities Environmental Objectives (Groundwater) Regulations 2010. (S.I. No. 9/2010) are embodied in the text '<i>Protect, avoid deterioration of and, as appropriate, restore/enhance the quality of ground, ... waters</i>' • The Marine Strategy Framework Directive, Harnessing Our Ocean Wealth - An Integrated Marine Plan for Ireland (2012) is embodied in the text '<i>Protect and 'Marine Waters' and 'Protect the coastal environment based on an ecosystem approach</i>'.
<p>Marine Strategy Framework Directive (MSFD) (2008/56/EC)</p>	<p>Article 1 of the directive states that:</p> <ol style="list-style-type: none"> 1. This Directive establishes a framework within which Member States shall take the necessary measures to achieve or maintain good environmental status in the marine environment by the year 2020 at the latest. 2. For that purpose, marine strategies shall be developed and implemented in order to: <ol style="list-style-type: none"> a) protect and preserve the marine environment, prevent its deterioration or, where practicable, restore marine ecosystems in areas where they have been adversely affected; b) prevent and reduce inputs in the marine environment, with a view to phasing out pollution as defined in Article 3(8), so as to ensure that there 		

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	are no significant impacts on or risks to marine biodiversity, marine ecosystems, human health or legitimate uses of the sea.		<ul style="list-style-type: none"> The River Basin Management Plan (RBMP) 2018-2021 is embodied in the text '<i>Protect</i>' and '<i>Avoid Deterioration</i>'.
Bathing Water Directive (2006/7/EC)	<p>Article 1 of this directive states that:</p> <ul style="list-style-type: none"> The purpose of this Directive is to preserve, protect and improve the quality of the environment and to protect human health by complementing Directive 2000/60/EC. 		
Groundwater Directive (2006/118/EC)	<p>Article 1 of this directive states its purpose as follows:</p> <ol style="list-style-type: none"> This Directive establishes specific measures as provided for in Article 17(1) and (2) of Directive 2000/60/EC in order to prevent and control groundwater pollution. These measures include in particular: <ol style="list-style-type: none"> criteria for the assessment of good groundwater chemical status; and criteria for the identification and reversal of significant and sustained upward trends and for the definition of starting points for trend reversals. This Directive also complements the provisions preventing or limiting inputs of pollutants into groundwater already contained in Directive 2000/60/EC, and aims to prevent the deterioration of the status of all bodies of groundwater. 		
National			
River Basin Management Plan (RBMP) 2018-2021	<p>The plan identifies the following evidence based priorities:</p> <ul style="list-style-type: none"> Ensure full compliance with relevant EU legislation Prevent deterioration. Meet the objectives for designated protected areas Protect high-status waters. Implement targeted actions and pilot schemes in focused sub-catchments aimed at (1) targeting water bodies close to meeting their objective and (2) addressing more complex issues that will build knowledge for the third cycle 		
(Surface Water) Regulations 2009 (S.I. 272/2009)	PART III of these Regulations sets out the following Environmental Objectives		

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	<p>28. The following environmental objectives are hereby established for surface waters—</p> <p>(1) A surface water body whose status is determined to be high or good (or good ecological potential and good surface water chemical status as the case may be) when classified by the Agency in accordance with these Regulations shall not deteriorate in status.</p> <p>(2) A surface water body whose status is determined to be less than good (or good ecological potential and good surface water chemical status as the case may be) when classified by the Agency in accordance with these Regulations shall be restored to at least good status (or good ecological potential and good surface water chemical status as the case may be) by not later than 22 December 2015 unless otherwise provided for by these Regulations. Artificial and heavily modified water bodies</p>		
<p>European Communities Environmental Objectives (Groundwater) Regulations 2010. (S.I. No. 9/2010)</p>	<p>Part II of these regulations contain the following Environmental Objectives for Groundwater:</p> <p>Duty on Public Authorities</p> <p>4. A public authority shall, insofar as its functions allow and subject to any provisions and limitations listed elsewhere in this Part, promote compliance with the requirements of these Regulations and take all reasonable steps including, where necessary, the implementation of programmes of measures, to:</p> <p>a) prevent or limit, as appropriate, the input of pollutants into groundwater and prevent the deterioration of the status of all bodies of groundwater;</p> <p>b) protect, enhance and restore all bodies of groundwater and ensure a balance between abstraction and recharge of groundwater with the aim of achieving good groundwater quantitative status and good groundwater chemical status by not later than 22 December 2015;</p> <p>c) reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order to progressively reduce pollution of groundwater;</p>		

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	<p>d) achieve compliance with any standards and objectives established for a groundwater dependant protected area included in the register of protected areas established under Regulation 8 of the 2003 Regulations by not later than 22 December 2015, unless otherwise specified in the Community legislation under which the individual protected areas have been established.</p> <p>5. A public authority shall not, in the performance of its functions, undertake those functions in a manner that knowingly causes or allows deterioration in the quantitative status or chemical status of a body of groundwater.</p>		
<p>Harnessing Our Ocean Wealth - An Integrated Marine Plan for Ireland (2012)</p>	<p>Goal 2 of said Plan is to:</p> <ul style="list-style-type: none"> • Achieve healthy ecosystems that provide monetary and non-monetary goods and services (e.g. food, climate, health and well-being). 		
<p>Recommendation Of The European Parliament And Of The Council of 30 May 2002 concerning the implementation of Integrated Coastal Zone Management in Europe (2002/413/EC)</p>	<p>Chapter 1 recommends that Member States: take a strategic approach to the management of their coastal zones, based on inter alia:</p> <p>(a) protection of the coastal environment, based on an ecosystem approach preserving its integrity and functioning, and sustainable management of the natural resources of both the marine and terrestrial components of the coastal zone;</p> <p>(c) appropriate and ecologically responsible coastal protection measures, including protection of coastal settlements and their cultural heritage;</p>		
<p>Air</p>			
<p>International</p>			
<p>World Health Organisation (WHO) Air Quality Guidelines (1999) (updated 2005) and Guidelines for Europe (1987)</p>	<p>The WHO air quality guidelines (AQGs) support actions to achieve air quality that protects public health in different context including the setting of air quality guidelines for specific pollutants.</p>	<p>Environmental Protection Objectives and associated environmental considerations related to air have been taken into account during the preparation of the Letterkenny Plan through the following measures:</p> <ul style="list-style-type: none"> ○ The provision of a compact spatial development framework which minimises physical travel distances to key destinations (e.g. town centre, education, employment 	<p>The various Environmental Protection Objectives listed opposite are reflected in the consolidated EPO related to Air namely:</p> <p><i>Avoid, prevent and reduce air pollution and environmental noise in order to maintain and improve air quality and reduce harmful effects on human health and the environment.</i></p>
<p>The Gothenburg Protocol (1999)</p>	<p>The objective of the Protocol is to control and reduce emissions of sulphur, nitrogen oxides, ammonia and volatile organic compounds that are caused by anthropogenic</p>		

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	<p>activities and are likely to cause adverse effects on human health, natural ecosystems, materials and crops, due to acidification, eutrophication or ground-level ozone as a result of long-range transboundary atmospheric transport, and to ensure, as far as possible, that in the long term and in a stepwise approach, taking into account advances in scientific knowledge, atmospheric depositions or concentrations do not exceed the thresholds set out in the protocol.</p>	<p>centres, local services and recreation facilities) and thereby facilitates sustainable travel modes (e.g. walking, cycling and public transport) and reduce transport emissions overall.</p> <ul style="list-style-type: none"> • The provision of new walking and cycling infrastructure and connections which will facilitate a modal shift towards more sustainable travel modes and thereby reduce transport related emissions. (e.g. Active Travel Schemes identified in Chapter 19, the associated Objective LTP-AT-O-1 and Policies LK-H-P-8, and LK-H-P-9). • By providing new local public transport services and a new transport interchange hub which will reduce car dependency and encourage a shift from private to public transport modes (E.G. Future Bus Routes identified in Chapter 22 and the associated Objective LTP-PT-O-1). <ul style="list-style-type: none"> ○ The facilitation of the TEN-T Priority Route Improvement Project, Donegal which will reduce congestive queuing related air pollution and free up road space within the urban area for more sustainable transportation modes and will provide sustainable travel infrastructure. ○ The roll out of additional charging points for electric vehicles in accordance with Policy CAM-LK-P-1 	<p>In this regard the fundamental objective of Directive 2008/50/EC Of The European Parliament And Of The Council of 21 May 2008 on Ambient Air Quality And Cleaner Air For Europe, the Clean Air Package for Europe (2013) and A Clean Air Programme for Europe (COM(2013) 918) are all embodied in the abovementioned consolidated EPO.</p>
The 1979 Geneva Convention on Long-range Transboundary Air Pollution (LRTAP)	<p>The principle aim of this Convention as expressed in Article 2 is to:</p> <ul style="list-style-type: none"> • limit and, as far as possible, gradually reduce and prevent air pollution including long-range transboundary air pollution. 		
European Union			
Clean Air Package for Europe (2013)	<p>The clean air package aims to substantially reduce air pollution across the EU. The proposed strategy sets out objectives for reducing the health and environmental impacts of air pollution by 2030, and contains legislative proposals to implement stricter standards for emissions and air pollution. The clean air package is made up of several elements:</p> <ul style="list-style-type: none"> • the clean air programme for Europe - a Commission strategy outlining measures to ensure that existing targets are met and setting out new air quality objectives for the period up to 2030 • a revised national emission ceilings directive, with strict emissions ceilings for the six main pollutants • a proposed directive to reduce pollution from medium-sized combustion plants • a proposal to approve amended international rules on long-range transboundary air pollution (the Gothenburg Protocol) at EU level 	<p>In this regard the European Environment Agency reports that: transport is responsible for more than two thirds of all NOx emissions and accounts for a significant proportion (around 10 % or more) of the total emissions of other pollutants, and road transport, in particular, continues to</p>	
A Clean Air Programme for Europe (COM(2013) 918)	<p>The Clean Air Programme for Europe aims to:</p> <ul style="list-style-type: none"> • Tackles the reasons for the widespread non-compliance with air quality standards • Proposes legislation to reduce harmful emissions in the longer term which contribute to poor air quality and damage the natural environment. 		

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Directive 2008/50/EC Of The European Parliament And Of The Council of 21 May 2008 on Ambient Air Quality And Cleaner Air For Europe	<p>Promote measures which also mitigate atmospheric warming and climate change.</p> <p>This Directive lays down measures aimed at the following:</p> <ol style="list-style-type: none"> 1. defining and establishing objectives for ambient air quality designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole; 2. assessing the ambient air quality in Member States on the basis of common methods and criteria; 3. obtaining information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term trends and improvements resulting from national and Community measures; 4. ensuring that such information on ambient air quality is made available to the public; 5. maintaining air quality where it is good and improving it in other cases; 6. promoting increased cooperation between the Member States in reducing air pollution. 	account for a significant proportion of emissions of all the main air pollutants ³⁰ .	
Environmental Noise Directive (END) (2002/49/EC)	The aim of this Directive (Article 1) refers is to: Define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure, to environmental noise.		
National Emissions Ceiling Directive (2016/2284/EU)	<p>Article 1 of the Directive states that Objectives of the Directive are as follows:</p> <ol style="list-style-type: none"> 1. In order to move towards achieving levels of air quality that do not give rise to significant negative impacts on and risks to human health and the environment, this Directive establishes the emission reduction commitments for the Member States' anthropogenic atmospheric emissions of sulphur dioxide (SO₂), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOC), ammonia (NH₃) and fine particulate matter (PM_{2,5}) and requires that national air 		

³⁰ <https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-air-pollutants-8/transport-emissions-of-air-pollutants-8>

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	<p>pollution control programmes be drawn up, adopted and implemented and that emissions of those pollutants and the other pollutants referred to in Annex I, as well as their impacts, be monitored and reported.</p> <p>2. This Directive also contributes to achieving:</p> <ul style="list-style-type: none"> a) the air quality objectives set out in Union legislation and progress towards the Union's long-term objective of achieving levels of air quality in line with the air quality guidelines published by the World Health Organisation; b) the Union's biodiversity and ecosystem objectives in line with the 7th Environment Action Programme; c) enhanced synergies between the Union's air quality policy and other relevant Union policies, in particular climate and energy policies. 		
<p>DIRECTIVE 2004/107/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air</p>	<p>Article 1 of the directive states that the objectives of this Directive shall be to:</p> <ul style="list-style-type: none"> (a) establish a target value for the concentration of arsenic, cadmium, nickel and benzo(a)pyrene in ambient air so as to avoid, prevent or reduce harmful effects of arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons on human health and the environment as a whole; (b) ensure, with respect to arsenic, cadmium, nickel and polycyclic aromatic hydrocarbons, that ambient air quality is maintained where it is good and that it is improved in other cases; (c) determine common methods and criteria for the assessment of concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as of the deposition of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons; (d) ensure that adequate information on concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air as well as on the deposition of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons is obtained and ensure that it is made available to the public. 		

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Climate Change			
International			
Paris Agreement (UNFCCC, 2015)	<p>This Agreement aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:</p> <ul style="list-style-type: none"> a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change; b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; and c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. 	<p>Environmental Protection Objectives and associated environmental considerations related to Climate Change Mitigation and Adaptation have been taken into account during the preparation of the Letterkenny Plan including through the following measures:</p> <ul style="list-style-type: none"> o The provision of a compact spatial development framework which minimises physical travel distances to key destinations (e.g. town centre, education, employment centres, local services and recreation facilities) which will facilitate sustainable travel modes and thereby reduce vehicle usage and transport related greenhouse gas emissions. • The provision of new walking and cycling infrastructure and connections which will facilitate a modal shift towards more sustainable travel modes and thereby reduce transport related greenhouse gas emissions. (e.g. Active Travel Schemes identified in Chapter 19, the associated Objective LTP-AT-O-1 and Policies LK-H-P-8, and LK-H-P-9). • Providing a new local public transport services and a new transport interchange hub which will thereby reduce private vehicle usage and transport related greenhouse gas emissions. (E.G. Future Bus Routes identified in Chapter 22 and the associated Objective LTP-PT-O-1). o Policy CAM-LK-P-1 which will facilitate the roll out of additional charging points for electric vehicles. o Policy CAM-LK-P-2 which will facilitate carbon sequestration through the promoting 	<p>The various Environmental Protection Objectives listed opposite are reflected in the consolidated EPO related to Climate Change namely:</p> <ul style="list-style-type: none"> • <i>Reduce Greenhouse Gas emissions in order to help mitigate climate change and meet our relevant International, European and National climate change obligations and targets including achieving the National Climate Objective.</i> • <i>Pursue development strategies which increase our ability to adapt to climate change and improve climate resilience.</i>
European Union			
The EU Policy Framework for Climate and Energy in the period from 2020 to 2030	<p>In December 2020, in light of the need to increase climate ambition, also as required by the Paris Agreement, the European Council endorsed a new 2030 target for emission reduction. EU leaders agreed on a binding EU target for a net domestic reduction of at least 55% in greenhouse gas emissions by 2030 compared to 1990.</p> <p>The greenhouse gas target is implemented by the EU Emissions Trading System, the Effort Sharing Regulation with Member States' emissions reduction targets and the Land use, land use change and forestry Regulation.</p> <p>The EU Emissions Trading System, limits emissions from more than 11,000 heavy energy-using installations (power stations & industrial plants) and airlines operating between these countries</p> <p>The Effort Sharing legislation establishes binding annual greenhouse gas emission targets for Member States for the</p>	<p>will facilitate a modal shift towards more sustainable travel modes and thereby reduce transport related greenhouse gas emissions. (e.g. Active Travel Schemes identified in Chapter 19, the associated Objective LTP-AT-O-1 and Policies LK-H-P-8, and LK-H-P-9).</p> <ul style="list-style-type: none"> • Providing a new local public transport services and a new transport interchange hub which will thereby reduce private vehicle usage and transport related greenhouse gas emissions. (E.G. Future Bus Routes identified in Chapter 22 and the associated Objective LTP-PT-O-1). o Policy CAM-LK-P-1 which will facilitate the roll out of additional charging points for electric vehicles. o Policy CAM-LK-P-2 which will facilitate carbon sequestration through the promoting 	<p>In this regard the consolidated EPO fundamentally embodies all existing and future international, European and National climate change targets. In addition, the text specifically cites the National Climate Objective which is contained within the Climate Action and Low Carbon Development (Amendment) Act 2021. Finally, the text also embodies the climate adaptation agenda.</p>

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	<p>periods 2013–2020 and 2021–2030. These targets concern emissions from most sectors not included in the EU Emissions Trading System (EU ETS), such as transport, buildings, agriculture and waste.</p> <p>All three pieces of climate legislation will now be updated with a view to implement the proposed at least 55% net greenhouse gas emissions reduction target. The Commission will come forward with the proposals by June 2021.</p>	<p>of the planting of native trees and hedgerows at appropriate locations.</p> <ul style="list-style-type: none"> ○ Policy CAM-LK-P-3 which will support the development of renewable energy sources in the plan area. ○ Policy CAM-LK-P-4 which will promote high biodiversity, nature based solutions and green infrastructure within development proposals as viable mitigation and adaption measures. ○ Policy CAM-LK-P-6 which will encourage the use of Sustainable Urban Drainage systems to reduce the impact of flooding. ○ The overall spatial development framework for the plan which avoids specific forms of developments in certain Flood Risk Zones in accordance with the Flood Risk Management Guidelines. 	
The EU Strategy on Adaptation to Climate Change 2013	<p>The EU Adaptation Strategy has three objectives.</p> <ol style="list-style-type: none"> 1. Promoting action by Member States: The Commission encourages all Member States to adopt comprehensive adaptation strategies (15 had strategies as of mid-2013) and will provide guidance and funding to help them build up their adaptation capacities and take action. The Commission will also support adaptation in cities by launching a voluntary commitment based on the Covenant of Mayors initiative. 2. Promoting better informed decision-making by addressing gaps in knowledge about adaptation and further developing the European Climate Adaptation Platform (Climate-ADAPT) as the 'one-stop shop' for adaptation information in Europe. 3. Promoting adaptation in key vulnerable sectors through agriculture, fisheries and cohesion policy, ensuring that Europe's infrastructure is made more resilient, and encouraging the use of insurance against natural and man-made disasters. 		
National			
Climate Action and Low Carbon Development (Amendment) Act 2021	<p>Section 3. (1) of the Bill establishes the following National Climate Change objective.</p> <ul style="list-style-type: none"> • The State shall, so as to reduce the extent of further global warming, pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy (in this Act referred to as the 'national climate objective'). 		

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
National Adaptation Framework Planning for a Climate Resilient Ireland	The overall objective of this Framework is to enable the State to pursue the transition to a low carbon, climate resilient and environmentally sustainable economy by 2050.		
Climate Action Plan 2021	<p>The Climate Action Plan 2021 contains the following key sectoral targets:</p> <p>Electricity: Increase the proportion of renewable electricity to up to 80% by 2030, including an increased target of up to 5 Gigawatts of offshore wind energy and and achieve a 62%-81% reduction in emissions by 2030.</p> <p>Enterprise: Increase the uptake of carbon-neutral heating, decrease the embodied carbon in building materials and achieve a 24-37% reduction in emissions by 2030.</p> <p>Buildings: Retrofit 500,000 homes by 2030, install 680,000 renewable energy heat sources in both new and existing residential buildings and achieve 44-56% reduction in emissions by 2030.</p> <p>Transport: 500,000 extra walking, cycling and public transport journeys per day by 2030, increase the proportion of kilometres driven by passenger electric cars to between 40 and 45% by 2030, and increased rollout of rural public transport, and achieve a 42-50% reduction in emissions by 2030.</p> <p>Agriculture: using less chemical nitrogen and more targeted use of fertiliser, increased organic farming and diversification into forestry, biomethane and energy production, to achieve a 22-30% reduction in emissions by 2030.</p>		
Material Assets			
Floods Directive (2007/60/EC)	<p>Article 1 of this directive states that:</p> <ul style="list-style-type: none"> The purpose of this Directive is to establish a framework for the assessment and management of flood risks, aiming at the reduction of the adverse consequences for human health, the environment, cultural heritage and 	Environmental Protection Objectives and associated environmental considerations related to Material Assets have been taken into account during the preparation of the Letterkenny Plan including through the following measures:	The Environmental Protection Objectives of the Flood Directive and the Flood Risk Management Guidelines outlined opposite are

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
	economic activity associated with floods in the Community.		
The Planning System and Flood Risk Management Guidelines (DHPCLG, 2009)	<p>The core objectives of the Guidelines are to:</p> <ul style="list-style-type: none"> • Avoid inappropriate development in areas at risk of flooding; • Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off; • Ensure effective management of residual risks for development permitted in floodplains; • Avoid unnecessary restriction of national, regional or local economic and social growth; • Improve the understanding of flood risk among relevant stakeholders; • Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management. 	<ul style="list-style-type: none"> ○ The provision of an overall spatial development framework which protects new material assets by avoiding specific forms of developments in certain Flood Risk Zones in accordance with the Flood Risk Management Guidelines. ○ Policy CAM-LK-P-6 which will encourage the use of Sustainable Urban Drainage systems to reduce the impact of flooding. ○ An overall spatial and policy framework which provides for the creation a wide range of new material assets (e.g. housing, retail, commercial, transportation, and green infrastructure) within the plan area. ○ Strategic Roads corridors which seek to minimise impacts on existing material assets (e.g. housing and commercial developments). 	<p>embodied in the consolidated EPO related to Material Assets namely:</p> <ul style="list-style-type: none"> • <i>To sustainably develop existing and new material assets (e.g. the built environment, land and infrastructure) by promoting compact consolidated growth and efficient land use planning.</i> • <i>Avoid inappropriate development in areas at risk of flooding, preventing new developments increasing flood risk elsewhere.</i>
Cultural Heritage			
International			
Convention for the Protection of the Archaeological Heritage of Europe (revised) (Valletta, 1992)	Objective is to protect the archaeological heritage as a source of the European collective memory and as an instrument for historical and scientific study.	Environmental Protection Objectives and associated environmental considerations related to Cultural Assets have been taken into account during the preparation of the Letterkenny Plan including through the following measures:	The Environmental Protection Objectives listed opposite are reflected in the consolidated EPO related to Cultural Heritage namely:
Convention for the Protection of the Architectural Heritage of Europe (Granada, 1985)	<p>The broad objective of this convention is that each party:</p> <ul style="list-style-type: none"> • Take statutory measures to protect the architectural heritage; • Within the framework of such measures and by means specific to each State or region, to make provision for the protection of monuments, groups of buildings and sites. 	<ul style="list-style-type: none"> • LK_NBH-P-2: To protect and enhance the special character of the Cathedral Quarter ACA. • LK-NBH-P-3: Development management criteria for developments in within the above ACA. 	<p><i>To protect and preserve cultural heritage including architectural and archaeological heritage</i></p> <p>In this regard for example said consolidated EPO embodies the fundamental objective of:</p>
World Heritage Convention United Nations Convention Concerning the Protection of the World Cultural and	Article 5 states that: To ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory.		<ul style="list-style-type: none"> • The Convention for the Protection of the Archaeological Heritage of Europe (revised) (Valletta, 1992) namely to protect archaeological heritage.

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
Natural Heritage (Paris, 1972)			<ul style="list-style-type: none"> The Convention for the Protection of the Architectural Heritage of Europe namely to protect architectural heritage.
National			
National Heritage Plan 2002 – 2007 (to be replaced by Heritage Ireland 2030 – not yet published)	The Government Policy Statement on Heritage, contained in the Plan, states it is an objective of Government to ensure the protection of our heritage and to promote its enjoyment by all.		
Heritage Council Strategy 2018-2022	<p>The vision set out in the strategy is that:</p> <ul style="list-style-type: none"> Heritage will be at the heart of Irish society and decision-making and that Ireland will be internationally recognised as a centre of excellence in heritage management, conservation and community engagement. 		
Framework and Principles for the Protection of Archaeological Heritage (1999)	The document sets out the basic principles of national policy regarding the protection of archaeological heritage. The document focuses particularly on the principles which should apply in respect of development and archaeological heritage.		
Architectural heritage protection Guidelines For Planning Authorities 2011	<p>Section 1.5.1 of these guidelines state that under the Planning and Development Act 2000 the Minister is obliged to issue guidelines to planning authorities concerning development objectives:</p> <ol style="list-style-type: none"> for protecting structures, or parts of structures, which are of special architectural, historical, archaeological, artistic, cultural, scientific, social, or technical interest, and for preserving the character of architectural conservation areas. 		
Landscape			
European Union			
European Landscape Convention, 2000	<p>Article 3 of this convention states that:</p> <ul style="list-style-type: none"> The aims of this Convention are to promote landscape protection, management and planning, and to organise European co-operation on landscape issues. 	Environmental Protection Objectives and associated environmental considerations related to Landscape have been taken into account during the preparation of the Letterkenny Plan including through the following measures:	The Environmental Protection Objectives listed opposite are reflected in the consolidated EPO related to Landscape namely: <i>'To protect and manage the landscape in a sustainable manner'</i>
National			

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
National Landscape Strategy 2015-2025	<p>The objectives of the National Landscape Strategy are to:</p> <ul style="list-style-type: none"> • implement the European Landscape Convention by integrating landscape into our approach to sustainable development; • establish and embed a public process of gathering, sharing and interpreting scientific, technical and cultural information in order to carry out evidence-based identification and description of the character, resources and processes of the landscape; • provide a policy framework, which will put in place measures at national, sectoral - including agriculture, tourism, energy, transport and marine - and local level, together with civil society, to protect, manage and properly plan through high quality design for the sustainable stewardship of our landscape; • ensure that we take advantage of opportunities to implement policies relating to landscape use that are complementary and mutually reinforcing and that conflicting policy objectives are avoided in as far as possible. 	<ul style="list-style-type: none"> • Zoning significant parts of the rural hinterland of the Letterkenny as Local Environment, whose zoning objective to: <i>To provide for limited development only ensuring no significant negative impact on the landscape setting or the biodiversity quality of the area.</i> • Zoning significant green spaces in the urban area, the agricultural flood plain of the River Swilly and the Swilly Corridor and Rodgers Burn as Open space whose zoning objective is to: <i>'conserve and enhance land for formal and informal open space and amenity purposes, and to make provision for new recreation, leisure and community facilities'.</i> • Policy LK-NBH-P-1 which supports the principle of new amenity spaces, amenity corridors and biodiversity and wetland systems adjacent to the River Swilly Corridor. 	<p>In this regard said consolidated EPO embodies the fundamental objectives of:</p> <ul style="list-style-type: none"> • European Landscape Convention namely 'to promote landscape protection' • The National Landscape Strategy 2015-2025 including to: <i>'integrating landscape into our approach to sustainable development'</i>
Sustainable Development			
European Union			
Seventh Environmental Action Programme to 2020 of the European Community (Note: The EU Council is currently in negotiations with the European Parliament on the 8th Environmental Action Programme (EAP). The 8th EAP will serve as a guide for environmental and climate policymaking and implementation until 2030)	<p>The Programme identifies 3 key environmental objectives:</p> <ul style="list-style-type: none"> • to protect, conserve and enhance the Union's natural capital. • to turn the Union into a resource-efficient, green, and competitive low-carbon economy • to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing. 	<p>Environmental Protection Objectives and associated environmental considerations related to sustainable development have taken in account across the broad range of objectives, policies and zonings within the Letterkenny plan. For example:</p> <ul style="list-style-type: none"> • The plan protects 'Natura Capital' within the Letterkenny area by inter alia: not facilitating new development on the Lough Swilly SAC and SPA and the Swilly Valley Woods Proposed Natural Heritage Area and zoning lands as Open Space and Local Environment. 	<p>Environmental Protection Objectives related to sustainable development are reflected across a number of the Consolidated EPOs. For example:</p> <ul style="list-style-type: none"> • The protection of Natural Capital is reflected in the Biodiversity Flora and Fauna consolidated EPO. • The protection of public/human health is reflected in the Population and Human Health consolidated EPO. • Climate Change mitigation is reflected in the Climate Factors

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development	Section III of said document identified the following key objectives: <ul style="list-style-type: none"> • Limit climate change and increase the use of clean energy. • Address threats to public health. • Improve the transport system and land-use management. 	<ul style="list-style-type: none"> • The plan aims improve the transport system in Letterkenny by supporting a modal shift to active and sustainable travel through: new walking and cycling infrastructure, a local transport hub, and new local public transport services and facilitating new strategic transport projects (e.g. TEN-T PRIPD and Southern Network Project). • The plan aims to mitigate climate change by reducing transport related greenhouse gas emissions via a more compact spatial development framework which limits journey distances and encourages sustainable travel modes and new sustainable travel infrastructure and services (e.g. a local transport hub and local bus services) and aims to adapt to climate change by avoiding development in flood risk area and using sustainable urban drainage system. • The plan aims to protect human health by inter alia limiting air emissions through a more sustainable transport system (see above), aligning new residential development with the provision of the necessary wastewater infrastructure. • The plan aims to protect the Cultural Heritage of Letterkenny through the architectural and archaeological protection objectives and policies of the plan including those related to the Cathedral Quarter Architectural Conservation Areas and Recorded Monuments. 	<ul style="list-style-type: none"> • consolidated EPO including reducing Greenhouse Gas emission. • The protection of Cultural Heritage is embodied in the Cutlural Heritage consolidated EPO.
SEA Directive (2001/42/EC)	Article 1 of the directive states that: <ul style="list-style-type: none"> • The objective of this Directive is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment. 		
EIA Directive (85/337/EEC), as amended by Directive 97/11/EC, Directive 2011/92/EU & Directive 2014/52/EU	Article 2 of the directive as amended provides the broad objective of the directive, namely that: <ul style="list-style-type: none"> • Member States shall adopt all measures necessary to ensure that, before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects on the environment. Those projects are defined in Article 4. 		
Environmental Liability Directive (2004/35/EC) as amended by 2005/21/EC, 2009/31/EC and 2013/30/EU) amended by Regulation - (EU) 2019/1010]	Article 1 of the directive states that: <ul style="list-style-type: none"> • The purpose of this Directive is to establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage 		
National			

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
Our Sustainable Future: A Framework for Sustainable Development in Ireland (2012)	<p>This framework sets out a number of principles for sustainable development including:</p> <ul style="list-style-type: none"> • Satisfaction of human needs by the efficient use of resources: Prices should reflect the real costs to society of production and consumption activities and polluters should pay for the damage they cause to human health and the environment. • Respect for ecological integrity and biodiversity: The abundance of wildlife and extent of habitats should be maintained, improved and restored where necessary, through sustainable management. • Respect for cultural heritage /diversity: The quality of landscapes, the heritage of the man-made environment and historic and cultural resources should be maintained and improved. 		
Planning			
Project Ireland 2040 Our Plan: The National Planning Framework and National Development Plan 2018 – 2027	<p>The National Planning Framework contains the following outcomes and objectives broadly related to Environmental Protection.</p> <p>National Strategic Outcomes:</p> <ul style="list-style-type: none"> • Compact Growth. • Sustainable Mobility. • Enhanced Amenities and Heritage. • Transition to a Low Carbon and Climate Resilient Society. • Sustainable Management of Water, Waste and other Environmental Resources. <p>Natural Heritage</p> <ul style="list-style-type: none"> • NPO 59. Enhance the conservation status and improve the management of protected areas and protected species. <p>Human Health</p> <ul style="list-style-type: none"> • NPO 65: Promote the pro-active management of noise where likely to have significant effects on health and quality of life. <p>Sustainable Land Management and Resource Efficiency</p>	<p>The Environmental Protection Objectives and environmental considerations within the National Planning Framework are embedded within the Letterkenny Plan including in particular:</p> <ul style="list-style-type: none"> • Compact Growth: By the provision of a compact spatial development form which focuses on infill, brownfield and sequential development. • Sustainable Mobility: By compact growth, new walking and cycling infrastructure, a local transport hub, and new local public transport services. • Enhanced Amenities and Heritage: By objectives and policies which actively support Urban Regeneration and protect Cultural Heritage assets. • Transition to a Low Carbon and Climate Resilient Society: By reducing transport related greenhouse gas emissions via a more compact spatial development framework which limits journey distances and encouraging sustainable mobility and 	<p>The Environmental Protection Objectives in the National Planning Framework are reflected across a number of consolidated EPOs including for example:</p> <ul style="list-style-type: none"> • Material Assets: <i>'By promoting compact consolidated growth and efficient land use planning'</i> • Climatic Factors: <i>'Reduce Greenhouse Gas emissions in order to help mitigate climate change'</i>. • Biodiversity Flora and Fauna: <i>'Conserve, protect, maintain and where appropriate restore biodiversity'</i>. • Water: <i>'Protect, avoid deterioration of and, as appropriate restore/enhance the quality of surface, ground and marine waters'</i>.

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
	<ul style="list-style-type: none"> • NPO 53: Support the circular and bio economy including in particular through greater efficiency in land management. <p>Water</p> <ul style="list-style-type: none"> • NPO 57: Enhance water quality and resource management. • NPO 63: Ensure efficient and sustainable, use and development of water resources and water services. <p>Air and climate</p> <ul style="list-style-type: none"> • NPO 54: Reduce carbon footprint by integrating climate action into the planning system. • NPO 55: Promote renewable energy use and generation. • NPO 64: Improve air quality and help people being exposed to unacceptable levels of pollution in our urban and rural areas. <p>Landscape</p> <ul style="list-style-type: none"> • NPO 14: Protect and promote the sense of place and culture and the quality, character and distinctiveness of the Irish rural landscape • NPO 41a: Ensure that Ireland's coastal resource is managed to sustain its physical character and environmental quality. <p>Built Heritage</p> <ul style="list-style-type: none"> • NPO 17: Built Heritage: Enhance, integrate and protect the special physical, social, economic and cultural value of built heritage assets through appropriate and sensitive use now and for future generations. • NPO 6: Conserve and enhance the rich qualities of natural and cultural heritage of Ireland in a manner appropriate to their significance. <p>Environmental Protection</p> <ul style="list-style-type: none"> • NPO 43: Work with relevant Departments in Northern Ireland for environmental protection and management. • NPO 50: Work with relevant Departments in Northern Ireland ensuring effective management of shared landscapes, heritage, water catchments, habitats, species and transboundary issues in relation to environmental policy. 	<p>adapting to climate change by avoiding development in Flood Risk Areas.</p> <ul style="list-style-type: none"> • Sustainable Management Water, Waste and other Environmental Resources: By aligning new residential development to the provision of the necessary wastewater infrastructure, and avoiding development in environmentally sensitive areas (e.g. Natura 2000 sites, River Swilly Valley Woods pNHA). 	

Title	Relevant Environmental Protection Objective	How the EPOs and any environmental considerations have been taken into account during the preparation of the Letterkenny Plan	How the EPOs has informed the development of the Consolidated EPO's
	<ul style="list-style-type: none"> • NPO 52: Planning system to ensure that development occurs within environmental limits. • NPO 56: Sustainably manage waste generation. • NPO 58: Integrated planning for green infrastructure and ecosystem services will be incorporated into the preparation of statutory land use plans. 		

Appendix B:
Conservation Objectives and Site Synopsis
of European and Other Protected Sites
Relevant to the Plan

Site Code	Site Name	Qualifying Interests / Special Conservation Interests	Conservation Objectives
002287	Lough Swilly SAC	1130 Estuaries 1150 * Coastal lagoons 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1355 Otter <i>Lutra lutra</i> 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles	19 th July 2011 Version 1 <ul style="list-style-type: none"> To maintain the favourable conservation condition of Estuaries, as defined by 2 no. attributes and targets; To restore the favourable conservation condition of Coastal Lagoons, as defined by 11 no. attributes and targets; To restore the favourable conservation condition of Atlantic salt meadows, as defined by 10 no. attributes and targets; To restore the favourable conservation condition of Otter, as defined by 8 no. attributes and targets; and To restore the favourable conservation condition of Old sessile oak woods, as defined by 12 no. attributes and targets.
004075	Lough Swilly SPA	A005 Great Crested Grebe <i>Podiceps cristatus</i> A028 Grey Heron <i>Ardea cinerea</i> A038 Whooper Swan <i>Cygnus cygnus</i> A043 Greylag Goose <i>Anser anser</i> A048 Shelduck <i>Tadorna tadorna</i> A050 Wigeon <i>Anas penelope</i> A052 Teal <i>Anas crecca</i> A053 Mallard <i>Anas platyrhynchos</i> A056 Shoveler <i>Anas clypeata</i> A062 Scaup <i>Aythya marila</i> A067 Goldeneye <i>Bucephala clangula</i> A069 Red-breasted Merganser <i>Mergus serrator</i> A125 Coot <i>Fulica atra</i> A130 Oystercatcher <i>Haematopus ostralegus</i> A143 Knot <i>Calidris canutus</i> A149 Dunlin <i>Calidris alpina</i> A160 Curlew <i>Numenius arquata</i> A162 Redshank <i>Tringa totanus</i>	19 th July 2011 Version 1 NPWS <ul style="list-style-type: none"> To maintain the favourable conservation condition of Great Crested Grebe, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Grey Heron, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Whooper Swan, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Greylag Goose, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Shelduck, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Wigeon, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Teal, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Mallard, as defined by 2 no. attributes and targets; To maintain the favourable conservation condition of Shoveler, as defined by 2 no. attributes and targets;

Site Code	Site Name	Qualifying Interests / Special Conservation Interests	Conservation Objectives
		A164 Greenshank <i>Tringa nebularia</i> A179 Black-headed Gull <i>Chroicocephalus ridibundus</i> A182 Common Gull <i>Larus canus</i> A191 Sandwich Tern <i>Sterna sandvicensis</i> A193 Common Tern <i>Sterna hirundo</i> A395 Greenland White-fronted goose <i>Anser albifrons flavirostris</i> wintering A999 Wetlands & Waterbirds	<ul style="list-style-type: none"> • To maintain the favourable conservation condition of Scaup, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Goldeneye, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Red-breasted Merganser, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Coot, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Oystercatcher, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Knot, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Dunlin, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Curlew, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Redshank, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Greenshank, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Black-headed Gull, as defined by 3 no. attributes and targets; • To maintain the favourable conservation condition of Common Gull, as defined by 2 no. attributes and targets; • To maintain the favourable conservation condition of Sandwich Tern, as defined by 3 no. attributes and targets; • To maintain the favourable conservation condition of Common Tern, as defined by 3 no. attributes and targets; • To maintain the favourable conservation condition of Greenland White-fronted goose, as defined by 2 no. attributes and targets; and • To maintain the favourable conservation condition of Wetlands & Waterbirds, as defined by 1 no. attribute and target.
002176	Leannan River SAC	3110 Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletalia uniflorae</i>)	30 th August 2019 Version 1 NPWS

Site Code	Site Name	Qualifying Interests / Special Conservation Interests	Conservation Objectives
		<p>3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea</p> <p>1029 Freshwater Pearl Mussel <i>Margaritifera margaritifera</i></p> <p>1106 Salmon <i>Salmo salar</i></p> <p>1355 Otter <i>Lutra lutra</i></p> <p>1833 Slender Naiad <i>Najas flexilis</i></p>	<ul style="list-style-type: none"> • To restore the favourable conservation condition of Oligotrophic waters containing very few minerals of sandy plains (<i>Littorelletea uniflorae</i>), as defined by 18 no. attributes and targets; • To restore the favourable conservation condition of Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto-Nanojuncetea, as defined by 18 no. attributes and targets; • To restore the favourable conservation condition of Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>), as defined by 13 no. attributes and targets; • To restore the favourable conservation condition of Atlantic Salmon (<i>Salmo salar</i>), as defined by 6 no. attributes and targets; • To maintain the favourable conservation condition of Otter (<i>Lutra lutra</i>), as defined by 7 no. attributes and targets; and • To restore the favourable conservation condition of Slender Naiad (<i>Najas flexilis</i>), as defined by 13 no. attributes and targets.

Lough Swilly Special Area of Conservation (002287) Site Synopsis

This large site, situated in the northern part of Co. Donegal, comprises the inner part of Lough Swilly. It extends from below Letterkenny to just north of Buncrana. Lough Swilly is a long sea lough, cutting through a variety of metamorphic rocks on the west side of Inishowen. The main rivers flowing into the site are the Swilly, Lennan and Crana. At low tide, extensive sand and mudflats are exposed, especially at the mouths of the Swilly and Lennan rivers. The site is estuarine in character, with shallow water and intertidal sand and mudflats being the dominant habitats.

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

[1130] Estuaries

[1150] Coastal Lagoons*

[1330] Atlantic Salt Meadows

[6410] Molinia Meadows

[91A0] Old Oak Woodlands

[1355] Otter (*Lutra lutra*)

Ecological communities present in the intertidal sediments at Lough Swilly SAC include fine sand community complexes, intertidal mixed sediment communities with polychaetes, subtidal mixed sediment communities with polychaetes and bivalves, muddy fine sand communities with *Thyasira flexuosa*, muddy community complexes and *Ostrea edulis* dominated communities. Bivalves and polychaete worms are well represented in the macro-invertebrate fauna, with species such as Cockles (*Cerastoderma edule*), Mussels (*Mytilus edulis*), Baltic Tellin (*Macoma balthica*), Ragworm (*Nereis diversicolor*) and Sand Mason (*Lanice conchilega*) being common. Common Cord-grass (*Spartina anglica*) is well established on parts of the intertidal flats. The shoreline above the flats varies from bedrock shore to shingle or cobbles, and here is found a scattering of salt tolerant plants such as Common Scurvygrass (*Cochlearia officinalis*), Sea-milkwort (*Glaux maritima*) and Red Fescue (*Festuca rubra*).

Saltmarshes are well represented in the inner sheltered areas of the site, with good examples in the Ramelton area. The marshes are the Atlantic salt meadow type, and are characterised by such species as Thrift (*Armeria maritima*), Sea-milkwort, Sea Aster (*Aster tripolium*), Sea Arrowgrass (*Triglochin maritima*) and Red Fescue.

Lakes which are lagoonal in character occur at Inch and Blanket Nook. Inch Lough is a good example of a large, shallow lagoon with very low salinity in most of the lagoon. Less information is available for Blanket Nook but it is of a higher salinity and adds to the richness of the habitat within the site as a whole. The vegetation in Inch is diverse and typically lagoonal, with well-developed charophyte communities, including a large population of *Chara canescens* (a Red Data Book species). It also supports Horned Pondweed (*Zannichellia palustris*) and a mixed Pondweed/ Tassleweed community (*Potamogeton pectinatus*/*Ruppia maritima*). The green alga *Chaetomorpha linum* occurs at Blanket Nook. The aquatic fauna at Inch is rich and diverse and includes a range of lagoonal specialists and species that are apparently rare. These include *Lekanesphaera hookeri* (Order Isopoda), *Palaemonetes varians* (Order Decapoda), *Conopeum seurati* (a bryozoan), *Sigara stagnalis* (Order Hemiptera), *S. concinna* (Order Hemiptera), *Jaera nordmanni* (Order Isopoda), *Neomysis integer* (Order Mysida) and *Cordylophora caspia* (a hydrozoan). Less information is available on the aquatic fauna at Blanket Nook, though several lagoonal specialists have been recorded, including *Jaera ischiosetosa* (Order Isopoda), which appears to be a rare species in Ireland. Inch Lough is regarded as being of significant conservation value for ecotonal Coleoptera, with several species indicative of well-developed shoreline habitats including two that are apparently rare: *Bembidion bipunctatum*, a halotolerant shore species, and *Bembidion aeneum*, a stenotopic halobiont species. Although artificial in origin, the lagoon habitat in this site is one of the largest and best examples of a shallow, low salinity lagoon habitat in the country.

Over 11 hectares of Molinia Meadows, a habitat listed on Annex I of the E.U. Habitats Directive, are reported to occur at Inch Level, according to the Irish Semi-natural Grasslands Survey, 2010.

Two woodlands occur adjacent to the north-western shore of Lough Swilly. These are Rathmullen and Carradoan Woods, the former being a Nature Reserve. They are dominated by Sessile Oak (*Quercus petraea*) and Downy Birch (*Betula pubescens*), but many other species are present including exotics such as Beech (*Fagus sylvatica*). Alder (*Alnus glutinosa*) and willows (*Salix* spp.) occur in the wetter parts. An area of wet heath, dominated by Heather (*Calluna vulgaris*), occurs on the hill above Carradoran Wood. These woodlands display a generally intact structure and support a range of breeding birds, including Woodcock.

A further area of woodland, scrub and heath occurs above the north-east shore at Crockacashel and at Porthaw. Oak/Hazel (*Corylus avellana*) scrub is frequent, and there is a well-developed ground flora with species such as Wood-sorrel (*Oxalis acetosella*), Herb-Robert (*Geranium robertianum*), Lady-fern (*Athyrium filix-femina*) and Broad Buckler Fern (*Dryopteris dilatata*). The heath vegetation includes Heather, Gorse (*Ulex europaeus*), Wood Sage (*Teucrium scorodonia*) and Tormentil (*Potentilla erecta*). In the wetter areas, Purple Moor-grass (*Molinia caerulea*) and Cross-leaved Heath (*Erica tetralix*) occur.

The site supports a population of Otter, a species listed on Annex II of the E.U. Habitats Directive.

Lough Swilly is an important site for waterfowl in autumn and winter. The shallow waters provide suitable habitat for grebes and diving duck, while the intertidal flats are used by an excellent diversity of wildfowl and waders. At high tide, the duck and wader species roost on the saltmarshes and shorelines, with some species moving to the adjacent pasture and arable fields. In the three winters 1994/95 to 1996/97, 16 species occurred in nationally important numbers as follows (figures are average maximum counts for the 3 winters): Great Crested Grebe (274), Shelduck (646), Wigeon (1,673), Teal (1,381), Mallard (1,155), Shoveler (58), Scaup (143), Goldeneye (169), Red-breasted Merganser (103), Coot (335), Oystercatcher (1,459), Knot (327), Dunlin (7,995), Curlew (1,716), Redshank (1,080) and Greenshank (30). Other species which occur in regionally or locally important numbers, and at times may exceed the threshold for national importance, include Brent Goose, Pochard, Tufted Duck, Lapwing, Ringed Plover, Grey Plover, Bar-tailed Godwit and Turnstone. The site is also an important area for the Great Northern Diver and the rare Slavonian Grebe.

The adjacent pasture and arable polders at Inch, Big Isle and Blanket Nook support internationally important populations of Whooper Swans, Greenland White-fronted Goose and Greylag Goose. Inch Lough is an important roosting area for these birds and at times they utilise other parts of Lough Swilly for roosting.

This site is of conservation importance as it contains good examples of at least five habitats listed on Annex I of the E.U. Habitats Directive (estuaries, lagoons, Atlantic salt meadows, Molinia meadows, old oak woods) and supports a population of Otter. In addition, it is of high ornithological importance for wintering waterfowl, with 16 species occurring regularly in numbers of national importance, plus three species occurring within the site and on adjacent polders in numbers of international importance.

Lough Swilly Special Protection Area (004075) Site Synopsis

Lough Swilly is a long sea inlet cut through a variety of metamorphic rocks, situated on the west side of the Inishowen Peninsula in north Co. Donegal. The SPA comprises the inner part of Lough Swilly from just east of Letterkenny northwards to Killygarvan (c. 2 km north of Rathmullan) on the west side and to c. 2 km south of Buncrana on the east side; it includes the adjacent Inch Lough. Also forming part of the site is a series of improved pasture and arable fields on the south side of Lough Swilly between Farsetmore and Inch Levels – these are of importance to geese and swans. It includes sections of the estuaries of the River Swilly, the River Leannan and the Isle Burn and the predominant habitat is a series of extensive sand and mud flats which are exposed at low tide - both estuaries and sand/mud flats are listed on Annex I of the E.U. Habitats Directive. Other habitats represented in the site are salt marshes, lagoons (at Inch Lough and Blanket Nook), rivers and streams, sand and shingle beaches, lowland wet and dry grasslands, drainage ditches, reedbeds and scrub. Inch Lough, whilst artificial in origin, is one of the largest and best examples of a shallow, low salinity lagoon in the country; it supports what is probably the largest population in the country of the Red-listed charophyte *Chara canescens*. A small sandy island, used by nesting terns, swans and gulls, occurs in the southern part of the lagoon.

The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Great Crested Grebe, Grey Heron, Whooper Swan, Greenland White-fronted Goose, Greylag Goose, Shelduck, Wigeon, Teal, Mallard, Shoveler, Scaup, Goldeneye, Red-breasted Merganser, Coot, Oystercatcher, Knot, Dunlin, Curlew, Redshank, Greenshank, Black-headed Gull, Common Gull, Sandwich Tern and Common Tern. The site is also of special conservation interest for holding an assemblage of over 20,000 wintering waterbirds. The E.U. Birds Directive pays particular attention to wetlands and, as these form part of this SPA, the site and its associated waterbirds are of special conservation interest for Wetland & Waterbirds.

The site supports an excellent diversity of waterfowl species in autumn and winter as well as breeding terns, gulls and ducks. The shallow waters provide suitable habitat for grebes and diving duck, while the intertidal flats are used by an abundance of wildfowl and waders. At high tide, the duck and wader species roost on the salt marshes and shorelines, with some species moving to the adjacent pasture and arable fields. The combination within this site of extensive feeding areas and safe resting and roosting sites makes this one of the most important wetlands in the north-west of the country for wintering waterfowl.

Lough Swilly SPA supports internationally important numbers of Whooper Swan (1,673 - mean peak for the five winters 1995/96-1999/2000), Greenland White-fronted Goose (847 for the Lough Swilly flock - mean peak for the five winters 1994/95-1998/99) and Greylag Goose (1,218 - mean peak for the five winters 1995/96-1999/2000). The main areas of the site used by these species are at Big Isle, Farsetmore, Blanket Nook, Ballylawn and Inch Levels. The flock sizes for Whooper Swan and Greylag Goose are the highest in the country. Considerably higher numbers of Whooper Swan (peak of 1,946) have been recorded, especially early in the season, as this is the area where the swans make their Irish landfall in autumn on their return from breeding grounds in Iceland. Both Greenland White-fronted Goose and Whooper Swan are listed on Annex I of the E.U. Birds Directive.

The site includes nationally important populations of 18 wintering waterbird species as follows (all figures are mean peaks for the five winters 1995/96-1999/00): Great Crested Grebe (284), Grey Heron (57), Shelduck (772), Wigeon (1,580), Teal (1,581), Mallard (1,169), Shoveler (60), Scaup (103), Goldeneye (170), Red-breasted Merganser (127), Coot (514), Oystercatcher (1,595), Knot (303), Dunlin (7,285), Curlew (1,720), Redshank (1,404), Greenshank (48) and Common Gull (1,523). Other species which occur include Light-bellied Brent Goose (152), Pochard (102), Golden Plover (749), Lapwing (1,408), Ringed Plover (81), Grey Plover (15), Bartailed Godwit (139) and Turnstone (73). The site is an important area for Great Northern Diver (19) and the rare Slavonian Grebe (11). The rare winter visitor, Pinkfooted Goose, also occurs (15). Nationally important numbers of Mute Swan (265) also use the site.

The small island in Inch Lough supports the largest tern colony in the north-west, with nationally important populations of Sandwich Tern (258 pairs in 2001) and Common Tern (89 pairs in 2001) occurring. These two species are listed on Annex I of the E.U. Birds Directive. There is also a nationally important colony of Blackheaded Gull (800 pairs in 2001), which represents one of the largest populations in the country.

Several species of duck breed on Inch Lough, most notably Tufted Duck, with an estimate of between 100 and 200 pairs occurring in 1997. Mute Swan breeds in important numbers and a concentration of 50 pairs on the small island in Inch Lough is most unusual as this species seldom nests in colonies. Whooper Swan, a very rare breeding species in Ireland, has been recorded nesting at Inch Lough. Lapwing breeds in regionally important numbers either on wet grass fields within the levels or around the edge of the lagoon. Coot also breed (estimate of 50 pairs in the 1990s).

Lough Swilly SPA is of major ornithological importance for wintering waterbirds, with three species occurring in numbers of international importance and 18 occurring regularly in numbers of national importance. The site is regularly used by more than 20,000 waterfowl and as such is of international importance. Additionally, it holds nationally important breeding populations of three species, i.e. Sandwich Tern, Common Tern and Black-headed Gull. The site is used by a good range of species that are listed on Annex I of the E.U. Birds Directive. Part of Lough Swilly SPA is a Wildfowl Sanctuary.

Leannan River (002176) Site Synopsis

Situated in north Co. Donegal, this site comprises the River Leannan and its main tributaries and lakes, including Loughs Fern, Gartan and Akibbon. The river from source to sea measures 46 km and drains a catchment area of 282 km². The Bullaba River drains off the Glendowan Mountains and flows into Lough Gartan. The Leannan River flows from Lough Gartan in a north-easterly direction, passes through Lough Fern, and then onwards in an easterly direction through the town of Rathmelton and into Lough Swilly. The main tributaries within the site are the lower Glashagh and Lurgy.

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

- [3110] Oligotrophic Waters containing very few minerals
- [3130] Oligotrophic to Mesotrophic Standing Waters
- [1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
- [1106] Atlantic Salmon (*Salmo salar*)
- [1355] Otter (*Lutra lutra*)
- [1833] Slender Naiad (*Najas flexilis*)

The river has good water quality and its banks are fringed more or less continuously by deciduous woodland. The adjacent habitat is mainly wet grassland which has been improved to varying degrees for grazing. There is also a good scattering of woodland, mostly deciduous, in the surrounding area.

Gartan Lough and Lough Akibbon are excellent examples of oligotrophic lakes, a habitat type listed in Annex I of the E.U. Habitats Directive. Both are medium sized lakes and have vegetation that includes Shoreweed (*Littorella uniflora*), Quillwort (*Isoetes lacustris*), Water Lobelia (*Lobelia dortmanna*), Bulbous Rush (*Juncus*

bulbosus), Bog Pondweed (*Potamogeton polygonifolius*) and the scarce Pillwort (*Pilularia globulifera*). Of particular note is the presence of Slender Naiad (*Najas flexilis*) in Lough Akibbon, as this species is listed in Annex II of the Habitats Directive, as well as on the Flora (Protection) Order, 2015. The other large lake in the site, Lough Fern, is a more mesotrophic lake system.

A range of Red Data Book plant species occur within site - Bird Cherry (*Prunus padus*), Globeflower (*Trollius europaeus*), Heath Cudweed (*Omalotheca sylvatica*), Version date: 08.12.2015 2 of 2 002176_Rev15.Docx Small-white Orchid (*Pseudochis albida*) and Pillwort. The last four from this list are legally protected under the Flora (Protection) Order, 2015.

A principal interest of this site lies in the presence of a population of Freshwater Pearl Mussel, a species listed on Annex II of the E.U. Habitats Directive and also protected under the Wildlife Act, 1976. A survey in 1995 estimated the population within the site at about 1,000 individuals, ranging in age from comparatively young (< 5 years) to 80+ years.

The site also supports Atlantic Salmon, another species listed in Annex II of the E.U. Habitats Directive. The Leannan is a good spring and grilse salmon river with extensive spawning habitats and good water quality. Lough Gartan has a population of Arctic Char (*Salvelinus alpinus*), a species listed in the Red Data Book.

Otter, a species listed on Annex II, is also known at the site. The site has a population of Leisler's Bat (*Nyctalus leisleri*) (67 individuals in July 1993), also a Red Data Book species. Red-throated Diver, a species that is listed on Annex I of the E.U. Birds Directive, uses the site.

Relating specifically to the Freshwater Pearl Mussel, the section of river within the site appears to have escaped recent pearl fishing, but the area below the site has recently been fished out. Pearl fishing remains a threat to all sections of this river. A main threat to the overall quality of the site is intensification of agriculture in the surrounding areas which could lead to eutrophication of the lake and river waters. Lake acidification is also a potential threat. Reduction in water quality, lake acidification and introduction of alien fish species are all threats to the population of Arctic Char in Lough Gartan. The population of breeding Red-throated Diver is vulnerable to disturbance from activities such as boating and angling.

This site is of high conservation importance, due to the presence of the Habitats Directive Annex I habitat oligotrophic lakes of sandy plains, as well as the Annex II species Freshwater Pearl Mussel, Otter, Atlantic Salmon and Slender Naiad. A range of Red Data Book plant and animal species also occur.

River Swilly Valley Woods Proposed Natural Heritage Area (002011) Site Synopsis

The River Swilly Valley Woods NHA consists of ten separate fragments of woodland one to the north-east of Letterkenny in County Donegal, the other nine in the valley to the west of the town.

Woodland has been planted in this area in the past, but more natural cover has developed also, so that the trees present today are a mixture of natives and exotics. Major native trees are Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*) and Pedunculate Oak (*Quercus robur*) in drier parts, with Alder (*Alnus glutinosa*), willow (*Salix* spp.) but especially birch (*Betula* spp.) in the wetter areas. Exotic trees include Beech (*Fagus sylvatica*) and Sycamore (*Acer pseudoplatanus*). A range of age structures occurs across the site, so that some spaces are more of a scrubby nature -Gorse (*Ulex europaeus*) and Bracken (*Pteridium aquilinum*) are frequent in these parts.

On the ground, woodland species such as Foxglove (*Digitalis purpurea*), Wood-sorrel (*Oxalis acetosella*), ferns such as Hard Fern (*Blechnum spicant*) and various mosses and lichens occur. Further habitat diversity is provided by a number of heathy areas with Heather (*Calluna vulgaris*), Purple Moor-grass (*Molinia caerulea*), Bog Asphodel (*Narthecium ossifragum*) and Common Cottongrass (*Eriophorum angustifolium*) among the plants to be found there. Rocky streamside ravines provide another habitat as do wet grassland and sites of former Hazel coppice.

Some parts of the site are threatened by overgrazing by domestic stock, while other parts are suffering from vigorous growth of Rhododendron (*Rhododendron ponticum*). These two threats lower the interest of what is otherwise a valuable refuge in the area for flora and fauna.

