

Variation
No.1



Clare County Development Plan 2017–2023

Variation No. 1

11th March 2019

To give effect to the Government Policy Statement on the Development of Data Centres in Ireland by identifying in a plan led manner the preferred location of a Data Centre in County Clare.

Strategic Environmental Assessment Environmental Report

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1 INTRODUCTION

1.1 PURPOSE OF THIS SEA ENVIRONMENTAL REPORT

This Environmental Report has been prepared as part of the Strategic Environmental Assessment of the proposed Variation No.1 to the Clare CDP 2017-2023.

It sets out how the SEA has been undertaken and presents the findings of the assessment of the objectives and landuse zoning of the proposed Variation together with its' reasonable alternatives.

This Environmental Report complies with the requirements of the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (the SEA Directive) as implemented in Ireland through Statutory Instrument (SI) No.436 of 2004 European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (as amended).

These regulations are a statutory requirement for plans or programmes (including where relevant Variations to County Development Plans) which could have significant environmental effects, and the assessment process aims to identify where there are potential effects and how any negative effects might be mitigated.

1.2 BACKGROUND TO THIS VARIATION

This proposed Variation has been prepared in response to a number of factors:

- Project Ireland 2040 - *National Planning Framework* which sets out the strategic importance of data centres in Ireland's Enterprise Strategy
- The Government Statement on *'The Role of Data Centres in Ireland'* which recommends a planned approach to providing for data centres.
- The request in June 2017 by the Industrial Development Authority (IDA) to all local authorities for their strategic input to an IDA research project regarding land/site identification in respect of land/ facilities suitable for data centre type development.

In November 2017, Clare County Council (CCC) published an Expression of Interest looking for sites for potential data centres. The tender sought expressions of interest from individuals, companies and partners who either owned or could identify sites that could support the development of data centres in the county.

The lands at Toureen form the basis of this proposed Variation and as the existing land is partly zoned as Industrial and the remainder is located within the Open Countryside the need to consider a Variation to the Clare CDP 2017-2023 was identified.

Clare County Council has initiated the procedures for making a Variation to the Clare CDP 2017-2023 under Section 13 of the Planning and Development Act 2000 (as amended).

The proposed variation provides for the following changes to:

(1) Volume 1 - Written Statement of the Clare County Development Plan 2017-2023:

- To incorporate the use and development of data centres and power generating infrastructure into the enterprise zoning definition, the following additional text is proposed to be added into the zoning objective for enterprise as set out in Chapter 19, “data centres,” and “power generating infrastructure as well “.

(2) Volume 3(a) Ennis Municipal District – Written Statement and Settlement Plans of the Clare County Development Plan 2017-2023:

- Amend the zoning objective for the lands currently identified in the Ennis Settlement Plan as Industrial IND1 to Enterprise ENT3 at Toureen and extend the Enterprise ENT3 zoning objective to 45ha, onto lands currently identified as being in the open countryside;
- Zone an area of approximately 10 hectares as Buffer Space at Toureen;
- Replace text in Section 1.5.2 associated with lands currently identified in the Ennis Settlement Plan as Industrial Zoning (IND1) with text associated with the extended site identified as Enterprise (ENT3) to read as follows:

Project Ireland 2040 - National Planning Framework sets out the strategic importance of data centres in Irelands’ Enterprise Strategy. Having regard to the Government Statement on ‘The Role of Data Centres in Ireland’, which in particular recommends having a plan-led approach to data centres, this 55ha site has been identified and zoned as Enterprise (45ha) and for Buffer Space (10ha) with a specific use for a Data Centre Campus due to its proximity to the electricity sub-station, its proximity to the M18 motorway and adjoining regional road network, the location of the site relative to the Gas Pipeline, the availability of Dark Fibre and the proximity of the site to Shannon International Airport and Ennis Town.

This site is zoned to accommodate a Data Centre campus which consists of one or more structures, used primarily for the storage, management and dissemination of data and the provision of associated power electricity connections and energy generating infrastructure.

- Replace text currently in Section 2.13.5 relating to lands at Toureen with new additional text

Project Ireland 2040 - National Planning Framework sets out the strategic importance of data centres in Irelands’ Enterprise Strategy. Having regard to the Government Statement on ‘The Role of Data Centres in Ireland’, which in particular recommends having a plan-led approach to data centres, this 55ha site has been identified and zoned as Enterprise (45ha) and Buffer (10ha) with a specific use for a Data Centre Campus due to; its proximity to the electricity sub-station; its proximity to the M18 motorway and adjoining regional road network; the location of the site relative to the Gas Pipeline; the availability of Dark Fibre and the proximity of the site to Shannon International Airport and to Ennis Town.

This site is zoned to accommodate a Data Centre campus which consists of one or more structures, used primarily for the storage, management and dissemination of data and the provision of associated power electricity connections and energy generating infrastructure.

Development proposals for this site shall include the following;

- *A Traffic Management Plan for the construction and operation phase of development.*
- *Any proposed development shall adopt sustainable practice in terms of building design, materials, construction and operation to maximise energy efficiency and conservation.*
- *A Hydrological Assessment to determine the effects of the development on groundwaters and groundwater quality.*
- *Located at the southern boundary of the site is a mesotrophic lake, which will require protection through the provision of a buffer incorporating the dense clump of trees to the west of the lake and shall be included in an overall Landscape Management Plan for the site.*
- *A Construction and Environmental Management Plan shall be submitted as part of development proposals on site. This shall include a Flood Risk Assessment, a Surface Water Management Plan for the construction and operation phase of the development, a Pollution Prevention Plan and shall*

incorporate principles of Sustainable Urban Drainage Systems. During the construction phase of development on site, where applicable all relevant best practice guidelines shall be adhered to.

- An Air Quality Impact Assessment with reference to potential impacts on European Sites and the surrounding area within the zone of influence of the proposed development shall be submitted, which shall inform an Appropriate Assessment Screening report and/or Natura Impact Report.

- The hedgerows and scrub area on this site provide a potential foraging and commuting area for wildlife including Lesser Horseshoe bats. Future development proposals must be informed by a series of bat surveys to record the known usage of the site by in particular Lesser Horseshoe bats and ensure that there is no net loss of supporting habitat. The surveys must include a full light spill modelling study. Any habitat loss must be offset by additional landscape planting to ensure connectivity across the landscape.

- Impacts of development on the site on conservation interest bird species of surrounding SPAs and breeding birds should be avoided, through protection and retention of breeding bird habitat in accordance with the Wildlife Acts. Development proposals for the site shall be accompanied by bird surveys (to include a winter bird survey) to assess the use of the site by bird species and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified. Hedgerow and treeline pruning or removal shall be conducted outside the breeding bird season (March 01st through August 31st).

- An Ecological Impact Assessment (designed by an appropriately qualified landscape architect and ecologist) and a Habitat Survey shall form part of development proposals for the site.

- A Landscape and Biodiversity Management Plan shall be submitted to provide landscape, visual and environmental screening and enhancement measures through planting and design.

- An Invasive Species Survey and Management Plan (if required) shall accompany development proposals for the site.

- Development proposals shall also include an Otter Use Survey of the site, and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified.

- A buffer will be required to be provided with regard to the location of a National Monument (CL-034-007) on site.

- Adequate wastewater treatment and disposal measures shall accompany development proposals for this site to ensure that there is no impact to water quality in the area.

This proposed change will form a Variation to the existing Clare CDP 2017-2023. This plan came into effect in January 2017 and established the framework for development over a six year period for the County. The CDP was subject to Strategic Environmental Assessment, Habitats Directive Assessment and Strategic Flood Risk Assessment. Within the hierarchy of land use plans, the proposed Variation should be compliant with the policies and objectives of the CDP, as well as with national and regional plans and guidelines.

1.3 SCALE, NATURE AND LOCATION OF DEVELOPMENT

The Toureen lands are located to the east of Junction 13 of the M18, Currently the lands are partly (8.5ha) zoned for industrial use in this CDP, the remainder is open countryside. The proposed new Enterprise zoning would both alter the land use zoning from Industrial to Enterprise, and extend the size of the Enterprise land use zoning considerably to approximately 45ha with an additional buffer Space zoning of 10ha. **Figure 1.1** presents the proposed Variation Lands at Toureen in relation to County Clare, **Figure 1.2** presents an aerial photograph of the same lands.

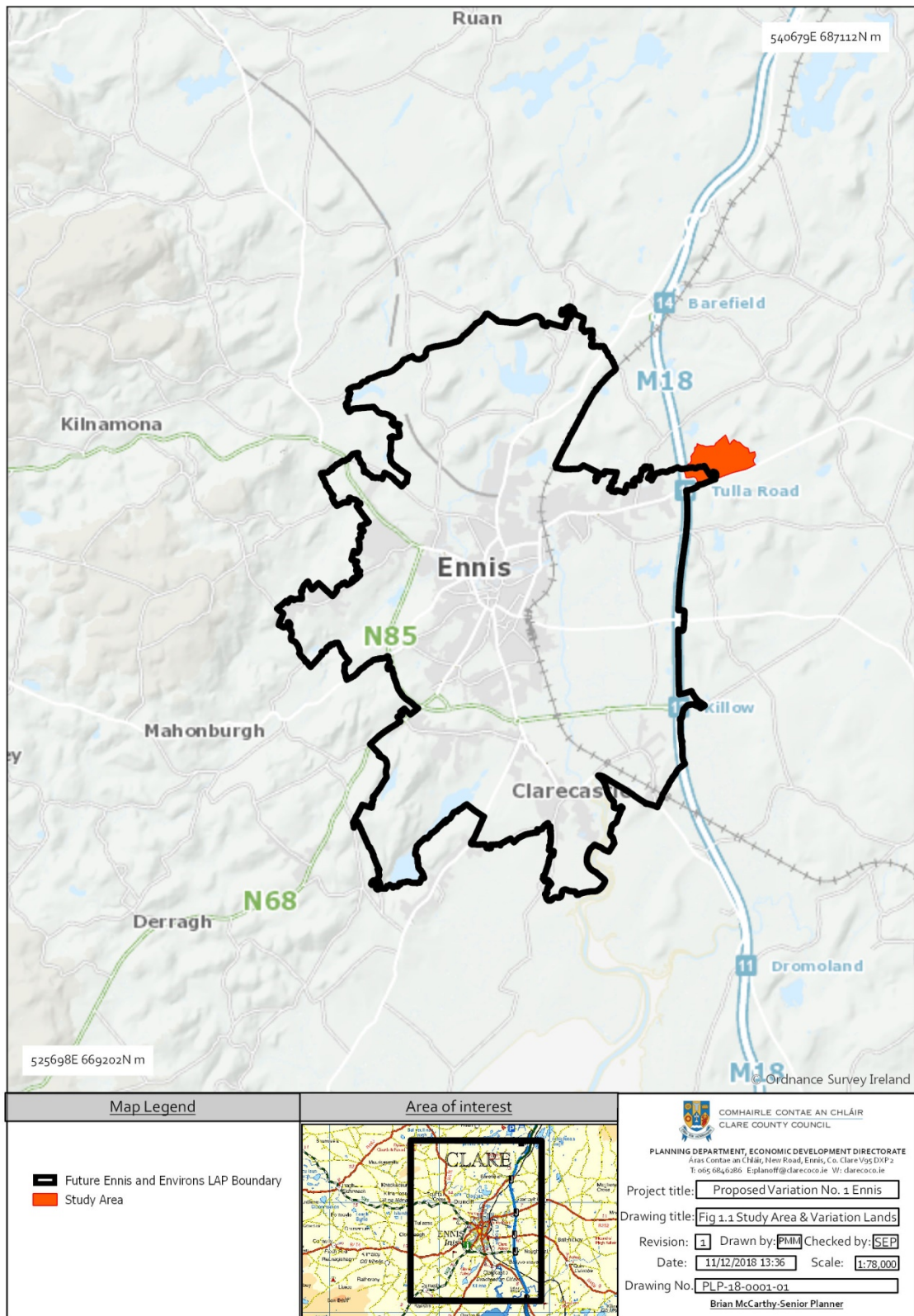


Figure 1.1

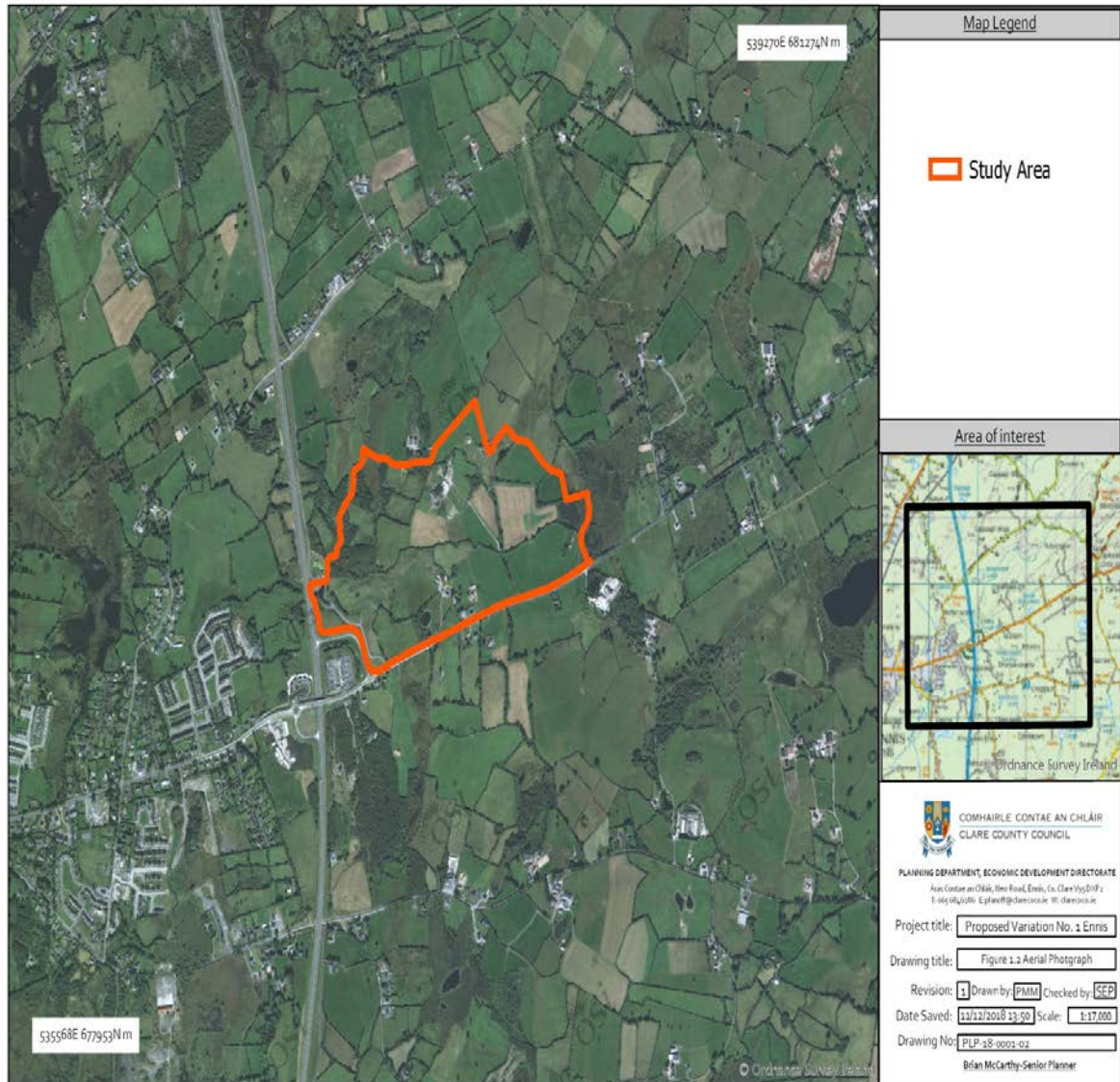


Figure 1.2

1.4 STRUCTURE AND PREPARATION OF THIS ENVIRONMENTAL REPORT

Regulations contained in Schedule 2B of Statutory Instrument (S.I.) 436 of 2004(as amended) details the information to be contained in an Environmental Report. The following **Table 1** lists the information required and details where this information is contained in this Environmental Report.

TABLE 1 INFORMATION REQUIRED TO BE CONTAINED IN AN ENVIRONMENTAL REPORT.

Schedule 2B of Statutory Instrument 436 of 2004	Addressed in this SEA ER
(a) an outline of the contents and main objectives of the plan and relationship with other relevant plans	Chapter One Introduction and Chapter Two Methodology outlines contents and main objectives Chapter Three details the relationship with other relevant plans Chapter Four summarises the proposed Variation and the Clare CDP
(b) the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan	Chapter Five Baseline Environment provides this information
(c) the environmental characteristics of areas likely to be significantly affected	Chapter Five Baseline Environment provides this information
(d) any Issues and Threats 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	Chapter Five Baseline Environment provides this information
(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	Chapter Six: SEA Objectives provides this information
(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	Chapter Eight, Significant Effects on the Environment provides this information
(g) the measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan	Chapter Nine, Mitigation Measures provides this information
(h) an outline of the reasons for selecting the alternatives dealt	Chapter Seven, Alternatives Considered provides this information and difficulties

Schedule 2B of Statutory Instrument 436 of 2004	Addressed in this SEA ER
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	encountered are listed at the end of Chapter Two, Baseline Environment.
(i) a description of the measures envisaged concerning monitoring of the significant environmental effects of implementation of the plan	Chapter Ten, Monitoring provides this information
(j) a non-technical summary of the information provided under the above headings	This is provided as a separate document to this Environmental Report but is also available

The SEA Team worked with the CCC Forward Planning team and other specialists. The following consultants prepared this SEA ER:

- Ruth Minogue MCIEEM, AILI, (BSoc Sc) Social Anthropology, University of Manchester 1996, MA (Econ) Environment and Development, University of Manchester 1998, Dip Field Ecology, University College Cork 2003, ongoing CPD including certificate in Health Impact Assessment (2012) and diploma in Planning and Environmental Law (2017);
- Pat Doherty MCIEEM, MSc in Applied Environmental Science (Ecology), University College Dublin, 2003; BSc (Honours) in Environmental Earth Science, University of Wales, Aberystwyth, 2000; ongoing CDP including Habitat Assessment (NVC) and flora and fauna identification through IEEM

2 APPROACH TO STRATEGIC ENVIRONMENTAL ASSESSMENT

2.1 INTRODUCTION

This chapter presents the SEA methodology in detail and outlines the steps required for SEA. The methodology used to carry out the SEA of the plan reflects the requirements of the SEA regulations and available guidance on undertaking SEA in Ireland, including:

- SEA Methodologies for Plans and Programmes in Ireland – Synthesis Report Environmental Protection Agency (EPA), 2003;
- Implementation of SEA Directive (2001/42/EC) Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities - published by the Department of the Environment, Heritage and Local Government, 2004;
- Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI 436 and SI 435 of 2004);
- Planning and Development (Strategic Environmental Assessment) Regulations 2011 (S.I. No. 201 of 2011);
- Planning and Development (Environmental Assessment of Certain Plans and Programmes) (S.I No 200 of 2011);
- SEA Process Checklist Consultation Draft 2008, EPA 2008;
- Circular Letter PSSP 6/2011 Further Transposition of EU Directive 2001/42/EC on Strategic Environmental Assessment;
- Guidance on integrating climate change and biodiversity into Strategic Environmental Assessment European Union 2013;
- SEA Resource Manual for Local and Regional Authorities, Draft Version, 2013;
- Integrating Climate Change into Strategic Environmental Assessment in Ireland – A Guidance Note, EPA, 2015;
- Developing and assessing alternatives in Strategic Environmental Assessment, EPA, 2015 and
- SEA of Local Authority Land Use Plans - EPA Recommendations and Resources (Version May 2018).

2.2 STAGES IN THE SEA PROCESS

The steps involved in SEA are as follows:

- Screening (determining whether or not SEA is required).
- Scoping (determining the range of environmental issues to be covered by the SEA).
- The preparation of an Environmental Report (**current stage**)
- The carrying out of consultations.
- The integration of environmental considerations into the Plan or Programme.
- The publication of information on the decision (SEA Statement)

2.2.1 SCREENING

The SEA Regulations state that SEA is mandatory for certain plans while screening for SEA is required for other plans including Variations to County Development Plans. A Screening assessment was undertaken and it determined the requirement to progress to full SEA. In conjunction with the SEA Screening, a screening under Article 6 (3) of the EU Habitats Directive was also undertaken, and this determined the requirement to progress to a stage II Habitats Directive Assessment.

2.2.2 SCOPING

The purpose of the SEA Scoping report is to identify the scope of the SEA and ensure that relevant data and environmental topics are included in the SEA. The Scoping report was issued to the statutory environmental authority consultees in September 2018 for comment.

Table 2 below summarises the main issues raised by consultees and the SEA response to same.

TABLE 2 SCOPING SUBMISSIONS

Consultee	Key Issue Raised	SEA Response
Scientific Officer, SEA Section Office of Evidence and Assessment. Environmental Protection Agency, Regional Inspectorate, Inniscarra, County Cork		
	As a priority, we focus our efforts on reviewing and commenting on key sector plans. For land use plans at county and local level, we provide a 'self-service approach' via our guidance document 'SEA of Land Use Plans – EPA Recommendations and Resources'. This document is updated regularly.	The Guidance document has been used and informed this SEA process to date.
	Where we provide specific comments on plans and programmes, our comments will focus on the EPA's remit and areas of expertise (in particular water, air, climate change, waste, resource efficiency, noise, radon and the inter-relationships between these and other relevant topics e.g. biodiversity), as appropriate and relevant to the particular plan or programme.	Noted
	The Agency responds to Plans on a priority basis. The attached SEA integration guidance document sets out the key environmental issues, as relevant and appropriate, to be taken into account in the preparation of the SEA and Variation	Noted, and has been used to guide and inform this SEA process.
	Further comment on the Variation may be provided upon receipt of the Draft Environmental Report and Plan and associated documents during the next statutory consultation phase of the SEA Process.	Noted.
	Guidance on Developing and Assessing Alternatives in SEA (EPA, 2015) is also available at: http://www.epa.ie/pubs/advice/ea/developingandassessingalternativesinsea.html	Noted and utilised in this SEA ER
	EPA State of the Environment Report 2016 The EPA published our most recent State of the Environment Report in 2016 'Ireland's Environment – An Assessment (EPA, 2016). The recommendations, key issues and challenges described within this report should be considered, as relevant and appropriate to the Plan area in preparing the Draft Variation and associated SEA. This report can be consulted at: http://www.epa.ie/irelandsenvironment/stateoftheenvironmentreport/	Noted and utilised in this SEA ER

Consultee	Key Issue Raised	SEA Response
	<p>SEA WebGIS Search and Reporting Tool</p> <p>The EPA SEA WebGIS Search and Reporting Tool is a GIS based web application that allows users to explore, interrogate and produce an indicative report on key aspects of the environment in specific geographic areas. These reports are indicative and will provide an overview of key aspects of the environment within a specific plan area. This may be used to inform the SEA screening and scoping stages for Plans and Programmes with reference in the first instance to the land use sector, though it is also applicable to other sector plans. It may be accessed via www.edenireland.ie</p>	<p>Considered at SEA Screening stage of this proposed Variation.</p>
	<p>River Basin Catchment Management Tool</p> <p>The EPA WFD Application provides a single point of access to catchment data which will be useful for a range of catchment science and management purposes, not just those that are specific to the Water Framework Directive. The Application is accessible through EDEN External link https://wfd.edenireland.ie/ and is available to public agencies.</p>	<p>Noted, used in Chapter Four Environmental Baseline</p>
	<p>Environmental Authorities</p> <p>Under the SEA Regulations (S.I. No. 436 of 2004, as amended by S.I. No. 200 of 2011), notice should also be given to the following:</p> <p>The Minister for Housing, Planning and Local Government</p> <p>Minister for Communications, Climate Action and Environment, where it appears to the planning authority that the plan or programme, or modification of the plan or programme, might have significant effects on fisheries or the marine environment</p> <p>where it appears to the competent authority that the plan or programme, or modification to a plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, the Minister for Culture, Heritage and the Gaeltacht), and</p> <p>any adjoining planning authority whose area is contiguous to the area of a planning authority which prepared a draft plan, proposed Variation or local area plan.</p>	<p>Noted and notified</p>

2.3 BASELINE DATA

The baseline data assists in describing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the plan. It helps identify Issues and Threats in and around the plan area and in turn these can be quantified (for certain environmental parameters) or qualified. This highlights the environmental issues relevant to each SEA parameter and ensures that the plan implementation does not exacerbate such problems. Conversely this information can also be used to promote good environmental practices and opportunities for environmental enhancement, thereby improving environmental quality where possible.

Baseline data was gathered for all parameters. Additional primary research included site visits and appraisal. Other data was gathered from the SEA ER of the Clare CDP 2017-2023, Irish Water, the EPA, Met Eireann and other sources as appropriate. Footnotes throughout the document, particularly in Chapter Four present the reference and source.

The SEA has also used a Geographical Information System (GIS) in the following ways:

- To provide baseline information on a range of environmental parameters;
- To assist in assessment of alternatives;
- To help assess in-combination or cumulative impacts, and
- To provide maps to illustrate environmental parameters in the SEA Environmental Report.

2.4 APPROACH TO ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL IMPACTS

The principal component of the SEA involves a broad environmental assessment of the objectives (including zoning objectives) of the Variation to the CDP. A methodology that uses the concept of expert judgement, public consultation, GIS and matrices, both to assess the environmental impact and to present the conclusions has been adopted in this SEA.

Key to assessing the above is setting a specific set of environmental objectives for each of the environmental topics. The objectives are provided in Chapter Six and include all aspects of the environment such as Cultural heritage, Population and Human health, and Biodiversity, Flora and Fauna.

The assessment described within this Environmental Report aims to highlight the potential conflicts, if they are present, between the aims and proposals contained in this proposed Variation with the Strategic Environmental Objectives. Furthermore the assessment examines the potential impact arising from the plan's implementation on sensitive environmental receptors.

The SEA Directive requires that information be focused upon **relevant aspects** of the environmental characteristics of the area likely to be **significantly affected** by the plan and the likely change, both positive and negative, where applicable.

Chapter Eight provides a discussion, where relevant, on the significance and type of the identified impact in accordance with current guidelines.

A key part of the SEA process has been the integration of the proposed Variation to the CDP, the SEA and Appropriate Assessment. The SEA legislation and guidelines highlight the importance of the integration between the preparation of the proposed Variation and the SEA and AA processes. The iterative nature of the SEA process is such that the proposed Variation is informed by environmental considerations throughout the preparation of the proposed Variation and development of objectives and landuse zonings as relevant. The Natura Impact Report is a separate document to the Environmental Report both of which accompany this proposed Variation to the Clare CDP 2017-2023.

2.5 MITIGATION

Section (g) of Schedule 2B of the SEA Regulations requires information on the mitigation measures that will be put in place to minimise/eliminate any significant adverse impacts due to the implementation of the proposed Variation. Chapter Nine of this SEA ER highlights the mitigation measures that will be put in place to counter identified significant adverse impacts due to the proposed Variation's implementation.

The proposed Variation has been prepared having regard to the environmental protection objectives contained within the Clare CDP 2017-2023. However, some unavoidable residual issues may remain and therefore mitigation measures are required. Chapter Nine details the mitigation measures necessary to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the proposed Variation.

2.6 MONITORING

Article 10 of the SEA Directive sets out the requirement that monitoring of the significant environmental effects of the implementation of the proposed variation is to be carried out in order to identify at an early stage any unforeseen adverse effects and to be able to undertake appropriate remedial action. Chapter Ten presents the monitoring requirements for the proposed Variation, aligned where possible with those of the SEA of the Clare CDP 2017-2023.

2.7 STRATEGIC FLOOD RISK ASSESSMENT

The Planning System and Flood Risk Management Guidelines (DoEHLG 2009) provide a methodology to incorporate flood risk identification and management into land use strategies. It also requires the alignment and integration of flood risk into the SEA process. The core objectives of the Guidelines are to:

- 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; and
- 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.

Potential flood issues in the plan area are an important consideration in the preparation of the proposed Variation. Therefore the proposed Variation has been guided by the information on flood risk currently available and has been informed by the flood risk information for Ennis and Environs including Catchment Flood Risk Assessment and Management (CFRAM) studies. A Strategic Flood Risk Assessment has been prepared as part of this proposed Variation¹, and has been integrated into the extent and nature of zoning of the lands of the proposed Variation and this SEA ER (See Chapters Five and Eight in particular).

2.8 DATA GAPS

Data gaps are present in terms of human health and population more broadly at county level; the hydrogeological regime is complex and will need further investigation at project level in relation to the lands at Toureen.

¹ JBA Consulting, 2018

3 RELATIONSHIP TO RELEVANT PLANS AND PROGRAMMES

3.1 INTRODUCTION

Under the SEA Directive, the relationship between the proposed Variation and other relevant plans and programmes must be taken into account. A review of the relevant plans and programmes has been prepared as part of the SEA ER, please see Annex A for full review. The preparation of the proposed Variation must be considered within the context of a hierarchy of policies, plans and strategies which include international, national, regional and local level policy documents. These documents set the policy framework within which the proposed Variation will operate.

The Clare CDP 2017-2023 (CDP) operates as the primary land use framework for the county and as such, key policies/objectives and environmental protective objectives and policies of the CDP will be applied during plan implementation stage. A list of the key relevant international, national, regional and county policies to be included in the review are provided below in Sections 3.2.1 to 3.3.4; Section 3.5 identifies key principles that will inform the SEA process arising from this review.

3.2.1 INTERNATIONAL

- UN Convention of Biological Diversity, 1992
- The Convention on Wetlands of International Importance (The Ramsar Convention) 1971 and subsequent amendments
- EU Environmental Action Programme to 2020
- EU Biodiversity Strategy to 2020
- EU Directive on the Conservation of Wild Birds, (2009/147/EC) 1979. Known as the Birds Directive
- EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, (92/43/EEC), 1992 known as the Habitats Directive
- European Communities (Birds and Natural Habitats) Regulations 2011
- EU Green Infrastructure Strategy 2013
- The Stockholm Convention 2001
- EU Soil Thematic Strategy
- Water Framework Directive (2000/60/EC) as amended
- Floods Directive (2007/60/EC)
- The Drinking Water Directive (DWD), (98/83/EC) 1998
- Groundwater Directive, (2006/118/EC) 2006
- EC Bathing Water Quality Directive, (2006/7/EC) 2006
- Paris (Climate Change) Agreement
- Kyoto Protocol
- The Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive
- EU Directive on Waste, (2006/12/EC), 2006
- EU Directive on Waste (2008/98/EC), 2008
- EU Urban Waste Water Treatment Directive (91/271/EEC), 1991
- Directive 2009/28/EC on the promotion of the use of energy from renewable sources
- European Convention on the Protection of the Archaeological Heritage, 1992 (The Valletta Convention)
- Convention for the Protection of the Architectural Heritage of Europe, 1985 (Granada Convention)
- The European Landscape Convention 2000
- The Aarhus Convention
- Environmental Liability Directive 2004/35/EC
- SEA Directive - Assessment of the effects of certain plans and programmes on the

- Environment, (2001/42/EC) 2001
- Environmental Impact Assessment Directive (85/337/EEC) (97/11/EC), 1985 and Environmental Impact Assessment Directive (2014/52/EC)

3.2.2 NATIONAL

- Project 2040 National Planning Framework (2018)
- 3rd National Biodiversity Action Plan 2017-2021
- The Wildlife Acts 1976 to 2012 National Mitigation Plan (in preparation)
- Sectoral Climate Adaptation Plans (in preparation)
- Local Authority Adaptation Strategy Development Guidelines, EPA (2016)
- Our Sustainable Future A framework for sustainable development in Ireland (2012)
- National Landscape Strategy (2015-2025)
- National Heritage Plan (2002)
- National River Basin District Management Plan (2018)
- Irish Water's Capital Investment Programme
- Water Services Act (2007)
- Water Services (Amendment) Act (2012)
- Irish Water Services Strategic Plan SEA and AA (2015)
- Irish Water Capital Investment Programme (2017-2021)
- Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns & Villages), 2009
- Geological Heritage Sites Designation (under the Wildlife Amendment Act 2000)
- Waterways Ireland Heritage Plan 2014-2020
- The Planning System and Flood Risk Management Guidelines (and Technical Appendices) for Planning Authorities (DoEHLG, OPW), 2009
- National Climate Change Strategy (2007-2012)
- Sectoral Planning Guidelines for Climate Change Adaptation, (2018)
- National Adaptation Framework, (2018)
- Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020
- National Monuments Act 1930 with subsequent amendments
- Architectural Heritage Protection - Guidelines for Planning Authorities (2011)
- National Inventory of Architectural Heritage (NIAH)
- Draft Landscape and Landscape Assessment Guidelines, (2000)
- Planning and Development Act 2000 (as amended).
- Planning Policy Statement, (2015).
- The Role of Data Centres in Ireland's Enterprise Strategy, Department of Business, Enterprise and Innovation, 2018

3.2.3 REGIONAL AND COUNTY

- Regional Planning Guidelines 2010-2020- to be replaced by Regional Economic and Spatial Strategies;
- The Draft Regional Spatial and Economic Strategy for the Southern Region
- Clare CDP 2017-2023;
- Clare County Local Economic and Community Plan 2017 -2022;
- Clare County Heritage Plan 2017-2023;
- Clare County Biodiversity Action Plan 2017-2023;
- Draft Noise Action Plan 2018;
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessments – August 2018.

3.5 KEY IMPLICATIONS AND PRINCIPLES ARISING FROM THE PLAN, POLICY AND PROGRAMME REVIEW.

Arising from the review, a number of key principles and implications for the SEA ER can be distilled. These principles will be considered through the SEA process and will serve to inform the assessment. Many of these principles are already included in the Strategic Environmental Objectives developed for the Clare CDP 2017-2023 and these will be used in the assessment process where possible.

TABLE 3 KEY PRINCIPLES AND IMPLICATIONS FOR THE SEA OF THE PROPOSED VARIATION FROM THE PLAN, POLICY AND PROGRAMME REVIEW.

SEA Topic	Principles/Implications	Links to EPA State of the Environment 2016 Key Action Areas
Biodiversity, Flora and Fauna		
	<ul style="list-style-type: none"> Conserve and enhance biodiversity at all levels 	Nature and Wild Places
	<ul style="list-style-type: none"> Avoid and minimise effects on nationally and internationally rare and threatened species and habitats through sensitive design and consultation, recognising ecological connectivity 	Restore and Protect Water Quality
	<ul style="list-style-type: none"> Facilitate species and habitat adaption to climate change 	Implementation of Legislation
	<ul style="list-style-type: none"> Avoid and minimise habitat fragmentation and seek opportunities to improve habitat connectivity 	Climate change
	<ul style="list-style-type: none"> Ensure careful consideration of non-native invasive and alien species issues particularly as they relate to waterbodies 	
Population and Human Health		
	<ul style="list-style-type: none"> Provide for sustainable communities with key services 	Environment, Health and Well-being
	<ul style="list-style-type: none"> A high quality environment to live, work and play in 	Sustainable Economic Activities
	<ul style="list-style-type: none"> Avoid pollution and environmental health impacts through mitigation and design 	Restore and Protect Water Quality Implementation of Legislation Climate Change
Water		
	<ul style="list-style-type: none"> Maintain and improve water quality 	Restore and Protect Water Quality
	<ul style="list-style-type: none"> Avoid and minimise effects on natural processes, particularly natural flood management and catchment processes through sensitive design and consultation 	Nature and Wild Places
	<ul style="list-style-type: none"> Adapt and improve resilience to the effects of climate change, particularly flood risks associated with extreme weather 	Implementation of Legislation Climate Change
	<ul style="list-style-type: none"> Minimise water consumption/ abstractions 	
	<ul style="list-style-type: none"> Design SUDS to facilitate ecological improvement/ enhancement where possible 	
Soil and Geology		
	<ul style="list-style-type: none"> Conserve soil resources where possible and avoid waste of soil resources 	Nature and Wild Places
	<ul style="list-style-type: none"> Maintain hydrological integrity of wetlands 	Implementation of Legislation
	<ul style="list-style-type: none"> Maintain productive capacity and prevent erosion of soils 	Restore and Protect Water

SEA Topic	Principles/Implications	Links to EPA State of the Environment 2016 Key Action Areas
	<ul style="list-style-type: none">Ensure careful consideration of non-native invasive and alien species issues	Quality
Material Assets		
	<ul style="list-style-type: none">Avoid and minimise waste generation	Implementation of Legislation
	<ul style="list-style-type: none">Maximise re-use of material resources and use of recycled materials	
	<ul style="list-style-type: none">Minimise energy consumption and encourage use of renewable energy	Climate Change
	<ul style="list-style-type: none">Promote sustainable transport patterns and modes where possible.	
Air Quality and Climate and Noise		
	<ul style="list-style-type: none">Adapt and improve resilience to the effects of climate change	Implementation of Legislation
	<ul style="list-style-type: none">Encourage reduction in greenhouse gases through transport, energy, built development.	Climate Change
	<ul style="list-style-type: none">Address Air Quality impacts from transport	Environment, Health and Well-being
	<ul style="list-style-type: none">Minimise and reduce noise impacts	
Cultural Heritage		
	<ul style="list-style-type: none">Conserve, preserve and record architectural and archaeological heritage	Environment, Health and Well-being
	<ul style="list-style-type: none">Avoid and minimise effects on historic environment features through sensitive design and consultation	Sustainable Economic Activities
		Implementation of Legislation
Landscape		
	<ul style="list-style-type: none">Enhance the landscape character of the area through design	Environment, Health and Well-being
	<ul style="list-style-type: none">Integrate green infrastructure considerations	Sustainable Economic Activities
	<ul style="list-style-type: none">Improve landscape connectivity to surrounding area	Climate Change
Climate change and sustainability		
	<ul style="list-style-type: none">Adapt and improve resilience to the effects of climate change	Environment, Health and Well-being
	<ul style="list-style-type: none">Promote local/ sustainable sourcing of materials – Promote sustainable design and innovation to reduce material consumption	Sustainable Economic Activities
		Climate Change
		Implementation of Legislation
Inter-relationships		
	<ul style="list-style-type: none">Maintain and improve the health of people, ecosystems and natural processes	Environment, Health and Well-being
	<ul style="list-style-type: none">Minimise effects on landscape and historic environment features	Sustainable Economic Activities
	<ul style="list-style-type: none">Adapt and improve resilience to climate change and extreme weather events	Climate Change
		Implementation of Legislation
		Restore and Protect Water Quality
		Nature and Wild Places

4 CLARE CDP 2017-2023 AND THE PROPOSED VARIATION

4.1 INTRODUCTION

The Clare CDP 2017-2023 is the primary policy document (together with the Shannon Town and Environs Local Area Plan 2012-2018 as extended) for planning policy throughout the functional area of Clare County Council. The plan also contains settlement plans for all of the towns and villages in the county, with the exception of Shannon Town and Environs which has its own dedicated Local Area Plan.

The proposed variation will provide for the following changes:

(1) Volume 1 - Written Statement of the Clare County Development Plan 2017-2023:

- To incorporate the use and development of data centres and power generating infrastructure into the enterprise zoning definition, the following additional text is proposed to be added into the zoning objective for enterprise as set out in Chapter 19, “data centres,” and “power generating infrastructure as well “

(2) Volume 3(a) Ennis Municipal District – Written Statement and Settlement Plans of the Clare County Development Plan 2017-2023:

- Amend the zoning objective for the lands currently identified in the Ennis Settlement Plan as Industrial IND1 to Enterprise ENT3 at Toureen and extend the Enterprise ENT3 zoning objective to 45ha, onto lands currently identified as being in the open countryside;
- Zone an area of approximately 10 hectares as Buffer Space at Toureen;
- Replace text in Section 1.5.2 associated with lands currently identified in the Ennis Settlement Plan as Industrial Zoning (IND1) with text associated with the extended site identified as Enterprise (ENT3) to read as follows:

Project Ireland 2040 - National Planning Framework sets out the strategic importance of data centres in Irelands' Enterprise Strategy. Having regard to the Government Statement on 'The Role of Data Centres in Ireland', which in particular recommends having a plan-led approach to data centres, this 55ha site has been identified and zoned as Enterprise (45ha) and for Buffer Space (10ha) with a specific use for a Data Centre Campus due to its proximity to the electricity sub-station, its proximity to the M18 motorway and adjoining regional road network, the location of the site relative to the Gas Pipeline, the availability of Dark Fibre and the proximity of the site to Shannon International Airport and Ennis Town.

This site is zoned to accommodate a Data Centre campus which consists of one or more structures, used primarily for the storage, management and dissemination of data and the provision of associated power electricity connections and energy generating infrastructure.

- Replace text currently in Section 2.13.5 relating to lands at Toureen with new additional text as follows:

Project Ireland 2040 - National Planning Framework sets out the strategic importance of data centres in Irelands' Enterprise Strategy. Having regard to the Government Statement on 'The Role of Data Centres in Ireland', which in particular recommends having a plan-led approach to data centres, this 55ha site has been identified and zoned as Enterprise (45ha) and Buffer (10ha) with a specific use for a Data Centre Campus due to; its proximity to the electricity sub-station; its proximity to the M18 motorway and adjoining regional road network; the location of the site relative to the Gas Pipeline; the availability of Dark Fibre and the proximity of the site to Shannon International Airport and to Ennis Town.

This site is zoned to accommodate a Data Centre campus which consists of one or more structures, used primarily for the storage, management and dissemination of data and the provision of associated power electricity connections and energy generating infrastructure.

Development proposals for this site shall include the following;

- A Traffic Management Plan for the construction and operation phase of development.*
- Any proposed development shall adopt sustainable practice in terms of building design, materials, construction and operation to maximise energy efficiency and conservation.*
- A Hydrological Assessment to determine the effects of the development on groundwaters and groundwater quality.*
- Located at the southern boundary of the site is a mesotrophic lake, which will require protection through the provision of a buffer incorporating the dense clump of trees to the west of the lake and shall be included in an overall Landscape Management Plan for the site.*
- A Construction and Environmental Management Plan shall be submitted as part of development proposals on site. This shall include a Flood Risk Assessment, a Surface Water Management Plan for the construction and operation phase of the development, a Pollution Prevention Plan and shall incorporate principles of Sustainable Urban Drainage Systems. During the construction phase of development on site, where applicable all relevant best practice guidelines shall be adhered to.*
- An Air Quality Impact Assessment with reference to potential impacts on European Sites and the surrounding area within the zone of influence of the proposed development shall be submitted, which shall inform an Appropriate Assessment Screening report and/or Natura Impact Report.*
- The hedgerows and scrub area on this site provide a potential foraging and commuting area for wildlife including Lesser Horseshoe bats. Future development proposals must be informed by a series of bat surveys to record the known usage of the site by in particular Lesser Horseshoe bats and ensure that there is no net loss of supporting habitat. The surveys must include a full light spill modelling study. Any habitat loss must be offset by additional landscape planting to ensure connectivity across the landscape.*
- Impacts of development on the site on conservation interest bird species of surrounding SPAs and breeding birds should be avoided, through protection and retention of breeding bird habitat in accordance with the Wildlife Acts. Development proposals for the site shall be accompanied by bird surveys (to include a winter bird survey) to assess the use of the site by bird species and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified. Hedgerow and treeline pruning or removal shall be conducted outside the breeding bird season (March 01st through August 31st).*
- An Ecological Impact Assessment (designed by an appropriately qualified landscape architect and ecologist) and a Habitat Survey shall form part of development proposals for the site.*
- A Landscape and Biodiversity Management Plan shall be submitted to provide landscape, visual and environmental screening and enhancement measures through planting and design.*
- An Invasive Species Survey and Management Plan (if required) shall accompany development proposals for the site.*
- Development proposals shall also include an Otter Use Survey of the site, and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified.*
- A buffer will be required to be provided with regard to the location of a National Monument (CL-034-007) on site.*
- Adequate wastewater treatment and disposal measures shall accompany development proposals for this site to ensure that there is no impact to water quality in the area.*

The Clare CDP 2017-2023 comprises 10 volumes, a summary of these is below.

Volume 1: Written Statement. This contains the written text and constitutes the main body of the document outlining the Vision, Core Strategy and Objectives for the different policy areas addressed by the development plan. The proposed Variation will amend the zoning description of Enterprise in Chapter 19 Landuse and Zonings.

Volume 2: Maps.

Volume 3: Municipal District Settlement plans- The proposed Variation will amend Volume 3 (a) Ennis Municipal District Written Statement and Settlement Maps.

Volume 4: Record of Protected Structures

Volume 5: Clare County Wind Energy Strategy

Volume 6: Clare Renewable Energy Strategy 2017-2023

Volume 7: Strategic Integrated Framework Plan for the Shannon Estuary

Volume 8: Retail Strategy for the Mid-West

Volume 9: Joint Housing Strategy for Clare Local Authorities and Limerick City and County Councils 2010-2017

Volume 10: Environmental Appraisal of the Plan (the Clare CDP). This includes the Habitats Directive Assessment Natura Impact Report, the SEA Environmental Report, the SEA Non-Technical Summary and the Strategic Flood Risk Assessment

4.2 PROPOSED CHANGES TO THE CLARE CDP 2017-2023 THROUGH THE PROPOSED VARIATION.

The proposed Variation involves removing the following text (shown in *Italic*) and replacing with the new text (shown in **bold** font) as follows:

Table 4 Existing text in Clare CDP 2017-2023 and Proposed text as part of Variation to Clare CDP 2017-2023.

Clare CDP 2017-2023 Vol 3 (a) Ennis Municipal District Written Statement and Settlement Maps	
<u>Existing Text IND1</u>	Variation Text:
<p><i>A site (approximately 8.5ha) located in the Toureen area on the eastern side of Ennis has been zoned for industrial use (IND1). The site has excellent connectivity to the national and regional road network and to Ennis town centre. It is desirable that this site be developed for a small number of large industries with smaller industries being accommodated on other suitably zoned sites in the Plan area. Future development will be subject to the provision of services on the site.</i></p>	<p>ENT 3 Project Ireland 2040 - National Planning Framework sets out the strategic importance of data centres in Irelands' Enterprise Strategy. Having regard to the Government Statement on '<i>The Role of Data Centres in Ireland</i>', which in particular recommends having a plan-led approach to data centres, this 55ha site has been identified and zoned as Buffer (10ha) and for Enterprise (45ha) with a specific use for a Data Centre Campus due to; its proximity to the electricity sub-station; its proximity to the M18 motorway and adjoining regional road network; the location of the site relative to the Gas Pipeline; the availability of Dark Fibre and the proximity of the site to Shannon International Airport and Ennis Town.</p> <p>This site is zoned to accommodate a Data Centre campus which consists of one or more than one structure, used primarily for the storage, management and dissemination of data and the provision of associated power electricity connections and energy generating infrastructure</p>

Chapter 2.13.5

Site IND1 Toureen

This site is located on the eastern side of Ennis on one of the main approach roads to the town (R352). It is envisaged that these lands will be developed for a small number of large industries and that development will progress in a planned and coherent manner. The lands have been zoned for industrial development, subject to the availability of suitable water and wastewater services. Future development proposals for industrial development on this site must be accompanied by a masterplan for the entire site area and the piecemeal progress of smaller industrial development will not be acceptable to the Planning Authority.

This site occupies a strategic location. It is in close proximity to the national motorway network, providing linkages to all the major cities and to Shannon International Airport. There is also convenient access from the site to Ennis town centre and to other industries located in the Plan area. Due to the potential for large volumes of traffic to be generated by future developments on this site, a Traffic Management Plan must accompany any planning application for this site.

In terms of water management and flood risk, there is a mesotrophic lake located on the southeast boundary of the site. The area surrounding this lake is defined as Flood Zone A. Development proposals on site IND1 must therefore be accompanied by a Flood Risk Assessment and the management of surface water during construction and operation will require the preparation of a Surface Water Management Plan including the implementation of Sustainable Urban Drainage Systems. A buffer area must be retained to protect both the lake and the surrounding cluster of trees. These features must be integrated into an overall Landscape Management Plan for the site. This Landscape Management Plan shall be informed by an ecological assessment which will assess both the lake and surrounding trees and the protection of the ecological value of the wider

Site ENT3 Toureen

Project Ireland 2040 - National Planning Framework sets out the strategic importance of data centres in Ireland's Enterprise Strategy. Having regard to the Government Statement on *'The Role of Data Centres in Ireland'*, which in particular recommends having a plan-led approach to data centres, this 55ha site has been identified and zoned as Enterprise (45ha) and Buffer (10ha) with a specific use for a Data Centre Campus due to; its proximity to the electricity sub-station; its proximity to the M18 motorway and adjoining regional road network; the location of the site relative to the Gas Pipeline; the availability of Dark Fibre and the proximity of the site to Shannon International Airport and Ennis Town.

This site is zoned to accommodate a Data Centre campus which consists of one or more than one structure, used primarily for the storage, management and dissemination of data and the provision of associated power electricity connections and energy generating infrastructure.

Development proposals for this site shall include the following;

- **A Traffic Management Plan for the construction and operation phase of development.**
- **Any proposed development shall adopt sustainable practice in terms of building design, materials, construction and operation.**
- **A Hydrological Assessment to determine the effects of the development on groundwaters and groundwater quality shall be submitted with development proposals for the site.**
- **At the southern boundary of the site is a mesotrophic lake, which will require protection through the provision of a buffer incorporating the dense clump of trees to the west of the lake and shall be included in an overall Landscape Management Plan for the site.**
- **A Construction and Environmental Management Plan shall be submitted as part**

<p>site, including boundary hedgerows and other valuable linear vegetation corridors.</p> <p><i>The hedgerows and scrub area on this site provide a potential foraging area for Lesser Horseshoe bats. Future development proposals must be informed by a series of bat surveys to record the known use of the scrub and fields by Lesser Horseshoe bats and ensure that there is no loss of habitat for Lesser Horseshoe bats. The surveys must include light-level surveys. Any habitat loss must be offset by additional landscape planting to ensure connectivity across the landscape. All design proposals, including lighting, must be informed by the results of the bat survey. Proposals to mitigate any negative impacts that the proposed development may have on the bat population, prepared by a qualified ecologist, will be required. Proposals for the on-going monitoring of the bat population, and contingency measures if unforeseen impacts arise, must also be submitted.</i></p>	<p>of development proposals on site. This shall include a Flood Risk Assessment, a Surface Water Management Plan for the construction and operation phase of the development, a Pollution Prevention Plan and shall incorporate principles of Sustainable Urban Drainage Systems. During the construction phase of developments on site where applicable all relevant best practice guidelines shall be adhered to.</p> <ul style="list-style-type: none"> - An Air Quality Impact Assessment with reference to potential impacts on European Sites and the surrounding area within the zone of influence of the proposed development shall be submitted, this shall inform an Appropriate Assessment Screening report and/or Natura Impact Report. - The hedgerows and scrub area on this site provide a potential foraging and commuting area for wildlife including Lesser Horseshoe bats. Future development proposals must be informed by a series of bat surveys to record the known usage of the site by in particular Lesser Horseshoe bats and ensure that there is no net loss of supporting habitat. The surveys must include a full light spill modelling study. Any habitat loss must be offset by additional landscape planting to ensure connectivity across the landscape. - Impacts of development of the site on conservation interest bird species of surrounding SPAs and breeding birds should be avoided, through protection and retention of breeding bird habitat in accordance with the Wildlife Acts. Development proposals for the site shall be accompanied by bird surveys (to include a winter bird survey) to assess the use of the site by bird species and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified. Hedgerow and treeline pruning or removal shall be conducted outside the breeding bird season (March 01st through August 31st). - An Ecological Impact Assessment (designed by an appropriately qualified landscape architect and ecologist) and a Habitat Survey shall form part of development proposals for the site. - A Landscape and Biodiversity Management plan shall be submitted to provide landscape, visual and environmental screening and enhancement measures through planting and design. - An Invasive Species Survey and Management plan (if required) shall accompany development proposals for the site.
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	<ul style="list-style-type: none"> - Development proposals shall also include an Otter Use Survey of the site, and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified. - A buffer will be required to be provided with regard to the location of a National Monument (CL-034-007) on site. - Adequate wastewater treatment and disposal measures shall accompany development proposals for this site to ensure that there is no impact to water quality in the area. <p><u>Please see the SEA Environmental Report and Appropriate Assessment - Natura Impact Report and Strategic Flood Risk Assessment that accompanies Variation No 1 for further detail on the above.</u></p>
Enterprise and Employment (proposed change in bold and underlined text)	
<p>Changes to Land Use Zoning Objective</p> <p>Lands zoned for ‘enterprise’ shall be taken to include the use and development of land for high end research and development, business science and technology-based industry, financial services, call centres/telemarketing, software development, <u>data centres</u>, enterprise and incubator units, small/medium manufacturing or corporate office in high quality campus/park type development.</p> <p>It is intended that such developments will have high quality architectural design and landscaping. This zoning allows for ‘walk to’ support facilities such as canteen, restaurant or crèche services which are integrated into employment units and are of a nature and scale to serve the needs of employees on the campus.</p> <p>This zoning also allows for associated <u>power generating infrastructure as well as</u> transportation infrastructure such as car and bicycle parking and bus stop shelters. This zoning excludes general retail, retail park outlets, motor sales/servicing activities and heavy industrial undertakings.</p> <p>Lands zoned for ‘enterprise’ in large villages and small villages shall be taken to include the use and development of land for small-scale business and enterprise development such as incubator units, craft centres/workshops, small-scale manufacturing, local digital/technology business etc. Retail use on these sites shall only be considered where it is ancillary to the main activity taking place.</p> <p>Enterprise developments in large villages and small villages must have a high standard of architecture and landscaping and must be relative and appropriate to their scale, size and character.</p>	

5 ENVIRONMENTAL BASELINE

5.1 INTRODUCTION

This chapter describes the environmental baseline for the proposed Variation plan area. The baseline information presents the environmental context within which the proposed Variation to the Clare CDP 2017-2023 will operate and the opportunities, constraints and targets placed on the plan in this regard. The environmental data is described in line with the legislative requirements of the SEA Directive and Regulations, as amended under the following environmental parameter headings:

- Biodiversity, Flora and Fauna
- Population, Human Health and Quality of Life
- Soil and Geology
- Air and Climate
- Water
- Material assets
- Culture
- Landscape
- The inter-relationship between the above parameters will also be considered in this chapter.

5.2 THE PLAN AREA AND SPHERE OF INFLUENCE

The plan area encompasses in particular the lands at Toureen, Ennis as these are proposed for both a change in landuse zoning, as well as an extension of the new zoning onto lands that are currently located in the Open Countryside. Therefore the primary focus of the environmental baseline are the lands themselves, and depending on the environmental parameter at a larger scale. For example, built heritage might be confined to a street or specific sites, whereas water resources such as rivers or lakes are larger in scope and can be influenced by activities at a larger scale or activities upstream. Similarly mobile species may disperse over larger areas of the landscape and require consideration at a different scale.

However, as the definition for Enterprise in Chapter 19.4 of the Clare CDP 2017-2023 is also being amended as part of this proposed Variation process, all such lands zoned in the entire county under this category require assessment as part of this SEA and the AA process. As these zoned lands are dispersed around the county, a brief overview is given in each section below. Thereafter an environmental profile of these landuse zonings around the County is provided in Annex A, along with an assessment commentary. Where the landuse zoning for enterprise confirm existing landuse these are identified; for other sites, additional commentary is provided and relies upon both the environmental sensitivity mapping as well as the environmental profile for each land prepared as part of the SEA ER of the Clare CDP 2017-2023.

5.3 BIODIVERSITY, FLORA AND FAUNA.

In general terms biodiversity² refers to:

- Different habitats such as woodlands, wetlands, grasslands and estuarine habitats and the range of flora and fauna species they support.
- Different species such as plants, mammals, birds, insects, fish, microbes, mosses and fungi, and their inter-relationships such as food chains and cohabitation.

² Text from draft SEA ER of Clare CDP 2017-2023

- Genetic diversity within species which is vital for healthy populations of individual species to survive. Ecosystems diversity which are the relationships between different species, their habitats and their local, non-living environment (geology, hydrology and microclimate).
- Features of the landscape, which by virtue of their linear and continuous structure (such as hedgerows or streams) or their function as links (such as ponds or small woods) are essential for the migration, dispersal and genetic exchange of wild species.
- Flora and Fauna are the plant and animal life, respectively.

A wide range of economic and social benefits and services result from the protection of biodiversity, for example, it forms the basis of our landscapes, provides for food and clean water supplies, opportunities for waste disposal, nutrient recycling, flood storage and regulation, amenity and recreational opportunities through development of green infrastructure network.

Within County Clare there are habitats of high biodiversity and conservation value and a number of designated sites associated within the county which are designated as Ramsar Sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Natural Heritage Areas (NHAs).

Natural Heritage Areas also have a significant role in supporting the species using Natura 2000 sites mainly relating to mobile fauna such as mammals and birds which may use pNHAs and NHAs as “stepping stones” between Natura 2000 sites. Article 10 of the Habitats Directive and the Habitats Regulations 2011, place a high degree of importance on such non-Natura 2000 areas as features that connect the Natura 2000 network. Features such as ponds, woodlands and important hedgerows form key “stepping stones”.

5.3.1 EUROPEAN SITES

The Toureen lands do not overlap with any European Sites. The European Sites occurring within the wider 15km area surrounding these lands are shown on **Figures 5.1** and **5.2** and are listed in Table 5 below. A total of 26 European Sites, consisting of 22 SACs and 4 SPAs occur within this wider surrounding area.

The closest European Site to the proposed rezoned lands is the Lower River Shannon SAC, located some 1.49km south west as the crow flies. Other designated sites include Ballyallia lake SAC and Ballyallia Lough SPA some 2km northwest. Toureen Lough, located within the lands at Toureen may be used by the qualifying bird species for Ballyallia Lough.

A full assessment of the proposed Variation against the qualifying interests and conservation objectives of the designated sites is undertaken throughout the appropriate assessment process which has been undertaken in conjunction with the Plan and SEA processes and is presented in the Natura Impact Report. As the proposed Variation also provides for a change to the description of the Enterprise Landuse zoning, the NIR also provides an assessment of the likely significant effects on conservation management objectives of European Sites for the 58 Enterprise Zonings across the county in the Clare CDP 2017-2023.

TABLE 5 SPECIAL AREAS OF CONSERVATION AND SPECIAL PROTECTION AREAS WITHIN 15KM OF THE ZONE OF INFLUENCE OF PLAN

European Sites	Qualifying Features Of Interest
Ballyallia Lake SAC	Annex I habitats: • Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation [3150]
Ballycullinan Lake SAC	Annex I habitats: • Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]
Ballycullinan, Old Domestic Building SAC	Annex II species • Lesser Horseshoe Bat Rhinolophus hipposideros [1303]
Ballyogan Lough SAC	Annex I habitats: • Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]
Cregg House Stables, Crusheen SAC	Annex II species • Lesser Horseshoe Bat Rhinolophus hipposideros [1303]
Dromore Woods And Loughs SAC	Annex I habitats:• Natural eutrophic lakes with Magnopotamion or Hydrocharition-type vegetation [3150] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]• *Limestone pavements [8240]Annex II species• Lesser Horseshoe Bat Rhinolophus hipposideros [1303]• Otter Lutra lutra [1355]
East Burren Complex SAC	Annex I habitats:• Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]• *Turloughs [3180]• Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]• Alpine and Boreal heaths [4060]• Juniperus communis formations on heaths or calcareous grasslands [5130]• Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco Brometalia)(*important orchid sites) [6210]• Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [6510]• Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]• Petrifying springs with tufa formation (Cratoneurion) [7220]• Alkaline fens [7230]• Limestone pavements [8240]• Caves not open to the public [8310]• *Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]Annex II species:• Marsh fritillary Euphydryas aurinia [1065]• Lesser Horseshoe Bat Rhinolophus hipposideros [1303]• Otter Lutra lutra [1355]
Glendree Bog SAC	Annex I habitats• Blanket Bog (* if active only) [7130]
Kilkishen House SAC	Annex II species • Lesser Horseshoe Bat Rhinolophus hipposideros [1303]
Knockanira House SAC	Annex II species • Lesser Horseshoe Bat Rhinolophus hipposideros [1303]
Lough Gash Turlough SAC	Annex I habitats: • *Turloughs [3180]

European Sites	Qualifying Features Of Interest
Lower River Shannon SAC	Annex I habitats: • Sandbanks which are slightly covered by sea water all the time [1110] • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • *Coastal lagoons [1150] • Large shallow inlets and bays [1160] • Reefs [1170] • Perennial vegetation of stony banks [1220] • Vegetated sea cliffs of the Atlantic and Baltic coasts [1230] • Salicornia and other annuals colonizing mud and sand [1310] • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) [1330] • Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410] • Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] • <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410] • *Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) [91E0] Annex II species: • Freshwater Pearl Mussel <i>Margaritifera margaritifera</i> [1029] • Sea Lamprey <i>Petromyzon marinus</i> [1095] • Brook Lamprey <i>Lampetra planeri</i> [1096] • River Lamprey <i>Lampetra fluviatilis</i> [1099] • Atlantic Salmon <i>Salmo salar</i> (only in fresh water) [1106] • Bottlenose Dolphin <i>Tursiops truncatus</i> [1349] • Otter <i>Lutra lutra</i> [1355]
Moyree River System SAC	Annex I habitats: • Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260] • Alkaline fens [7230] • *Limestone pavements [8240] • Caves not open to the public [8310] Annex II Species • Lesser horseshoe bat <i>Rhinolophus hipposideros</i> [1303]
Newgrove House SAC	Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Newhall And Edenvale Complex SAC	Annex I habitats: • Caves not open to the public [8310] Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Old Domestic Building (Keevagh) SAC	Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Old Domestic Buildings, Rylane SAC	Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Old Farm Buildings, Ballymacrogan SAC	Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Pouladatig Cave SAC	Annex I habitats: • Caves not open to the public [8310] Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Poulnagordon Cave (Quin) SAC	Annex I habitats: • Caves not open to the public [8310] Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Ratty River Cave SAC	Annex I habitats: • Caves not open to the public [8310] Annex II species • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]

European Sites	Qualifying Features Of Interest
Toonagh Estate SAC	Annex II species: • Lesser Horseshoe Bat <i>Rhinolophus hipposideros</i> [1303]
Ballyallia Lough SPA	Wigeon, Gadwall, Teal, Mallard, Shoveler, Coot and Black-tailed Godwit.
Slieve Aughty Mountains SPA	• Hen Harrier <i>Circus cyaneus</i> [A082] breeding • Merlin <i>Falco columbarius</i> [A098] breeding
Corofin Wetlands SPA	• Little Grebe <i>Tachybaptus ruficollis</i> [A004] wintering • Whooper Swan <i>Cygnus cygnus</i> [A038] wintering • Wigeon <i>Anas penelope</i> [A050] wintering • Teal <i>Anas crecca</i> [A052] wintering • Black-tailed Godwit <i>Limosa limosa</i> [A156] wintering • Wetlands and Waterbirds [A999]

5.3.2 PROPOSED NATURAL HERITAGE AREAS

Under the Wildlife Amendment Act (2000), Natural Heritage Areas are legally protected from damage from the date they are formally proposed for designation. The aim of the NHA network is to conserve and protect nationally important plant and animal species and their habitats. They are also designated to conserve and protect nationally important landforms, geological or geomorphological features. Planning authorities are obliged by law to ensure that these sites are protected and conserved. NHAs and pNHAs, although not part of the European network, often provide an important supporting role to it. Therefore in order to protect the European network it may be important to protect the NHA/pNHA. Article 10 of the Habitats Directive together with the Habitats Regulations 2011; place a high degree of importance on these sites as features that connect European sites. There are 14 NHAs and 61 pNHAs within and adjacent to the Development Plan area. In terms of the proposed Variation and lands at Toureen, the closest NHA/pNHAs are listed in the table below and **Figure 5.3** shows the NHAs and pNHAs within 15km of the proposed Variation lands at Toureen.

TABLE 6 NATURAL HERITAGE AREAS AND PROPOSED NATURAL HERITAGE AREAS WITHIN 15KM OF VARIATION LANDS AT TOUREEN

Designated NHA	Site Code	Reasons for Designation
Oysterman's Marsh NHA	002439	This site contains a significant area of lowland blanket bog, a globally scarce resource.
Proposed Natural Heritage Area	Site Code	Reason for Designation
Ballyallia Lake pNHA	000014	Description of pNHA not available, see Ballyallia Lake SAC.
Dromore Woods and Loughs pNHA	000032	Description of pNHA not available, see description of Dromore Woods and Loughs SAC.
Pouladatig Cave	000037	Description of pNHA not available, see description of Pouladatig Cave SAC.
Inchicronan Lough pNHA	000038	A wide range of habitats can be found around the lake and include an area of cut-over bog to the north, Ash (<i>Fraxinus excelsior</i>) and

Designated NHA	Site Code	Reasons for Designation
		Hazel (<i>Corylus avellana</i>) woodland along the eastern shore, a complex mosaic of wet grassland, dense scrub and marsh at the southern end and a habitat of significant interest on the western side of the lake due to the presence of the Limerick-Sligo railway line.
Moyree River System pNHA	000057	Description of pNHA not available, see description of Moyree River System SAC.
Dromoland Lough pNHA	001008	Designated for the presence of a diverse range of marsh species which include Bottle Sedge (<i>Carex rostrata</i>), Slender Sedge (<i>C. lasiocarpa</i>), Tufted-sedge (<i>C. elata</i>), Lesser Tussock-sedge (<i>C. diandra</i>), Greater Pond-sedge (<i>C. riparia</i>), Fibrous Tussock-sedge (<i>C. appropinquata</i>), Long-stalked Yellow-sedge (<i>C. lepidocarpa</i>), Reed Canary grass (<i>Phalaris arundinacea</i>), Grass-of-parnassus (<i>Parnassia palustris</i>) and Eyebright (<i>Euphrasia scottica</i>).
Caherkinallia Wood pNHA	001024	This site is significant as it contains one of the few remaining deciduous woodlands in this area of Clare. The Sessile Oak (<i>Quercus petraea</i>) is the most dominant species. A lower canopy of wood consists of Hazel (<i>Corylus avellana</i>), Holly (<i>Ilex aquifolium</i>), Downy Birch (<i>Betula pubescens</i>) and Rowan (<i>Sorbus aucuaria</i>).
Fergus Estuary and Inner Shannon, North Shore pNHA	002048	Description not available.
Newhall and Edenvale Complex pNHA	002091	Description of pNHA not available, see description of Newhall and Edenvale Complex SAC.

There are two wetlands within the County that are designated as Ramsar Sites which are considered to be of international importance ecologically, especially with regard to wetland waterfowl. Ballyallia Lake (also described in Table 5) is the closest Ramsar site to the lands at Toureen.

5.3.3. WETLANDS

A wetland is an area that is saturated by water and this saturation has allowed specially adapted plants and animals to establish. Clare is home to many different wetland types due to the wet climate, topography, geology, hydrology and soil types. Many of these are regarded as being internationally important.

Wetlands are effectively the border between the open water and dry land. Reeds, sedges, water forget-me-not, marsh marigold and purple loosestrife provide cover for ducks and wading birds. Other wetlands, such as bogs, heath and fens, occur where the water table is close to the surface, or where the bedrock is impenetrable.

Wetlands, such as fens and bogs, only retain carbon if they are moist. Therefore when a bog or fen is drained or infilled, they become major carbon sources, releasing huge quantities of carbon dioxide into the atmosphere as the peat decays and oxidises. In addition, the changing conditions result in the loss of water dependant species. Changes in water quality as a result of pollution (from surface run-off, WWTPs etc.) also significantly impact wetlands.

The value of wetlands include their function in improving water quality, for floodwater storage whereby they can slow down the force of flood and storm waters as they travel downstream; habitat for wildlife; support biodiversity; provide valuable open space and create recreational opportunities;

are vital for preventing further climate change by acting as carbon storage and are part of cultural heritage³.

There are many wetland areas in the county (290), many of which are protected under national or European designations in the form of SACs, SPAs, NHAs and pNHAs. There are many more wetland areas outside of designated sites as well as potential wetland sites which, due to geology and hydrogeology of the area, include turloughs some of which only become visible during the wetter winter months. **Figure 5.4** shows the wetlands present within 5km of the proposed Variation lands at Toureen. In addition there are significant areas of cladium fen (priority Annex habitat) in the County. In relation to the proposed Variation lands at Toureen, a field in low depression between areas of hazel scrub in the north of the lands may equate to the habitat type Rich Fen and Flush; it may also correspond to the Annex I habitat type 'alkaline fens (7230)' and '*calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* (7210)'. Another wetland area is located to the east of the lands.

5.3.4 OTHER SITES OF ENVIRONMENTAL AND ECOLOGICAL IMPORTANCE

There are a number of other sites across the County that have been designated for environmental and/or ecological protection. These include the Burren National Park, Nature Reserves and Wildfowl Sanctuaries. These are areas of huge importance for the protection of biodiversity at a local level and also in the provision of amenity and educational resource.

5.3.5 NATIVE WOODLANDS

There are 112 native woodlands within the County⁴. Ancient woodlands are considered to be those which are established and had continuous cover before afforestation and planting became common practice in Ireland. Ancient woodlands are vulnerable to impacts from clearing and sensitive due to their age and habitat types associated with them. A provisional inventory of ancient woodlands undertaken by the NPWS shows that there are 150 within the County.

5.3.7 PROTECTED HABITATS AND SPECIES OUTSIDE OF DESIGNATED SITES

Habitat mapping, bat surveys and tree surveys have helped to identify habitats and species which occur outside of designated sites, but which are protected under European and National legislation. These include lesser horseshoe bat roosts, cladium fens, turloughs and other wetlands, oak-ash-hazel woodland, and riparian woodland, among others. These were also used to inform the assessment.

5.3.8 HABITATS PRESENT AT LANDS AT TOUREEN



The subject lands are largely covered in agricultural grassland, enclosed in hedgerows and treelines. There are extensive areas of hazel scrub, one significant watercourse and two open water bodies of which one is man-made.

The habitats and their ecological value are described in **Table 7** and are based on surveys undertaken in June 2018.



³ The County Clare Wetlands Survey 2008



⁴ NPWS Native Woodlands Survey 2003-2007 (updated 2011)



TABLE 7 HABITATS PRESENT AT VARIATION LANDS AT TOUREEN

Habitat	Description	Ecological Value (NRA 2009 ⁵)
Improved Agricultural Grassland (GA1)	<p>This habitat type is found within the grazed open fields on flat ground where soils are thicker and have been fertilised either deliberately or by cow manure. Flora are dominated by Perennial Rye-grass <i>Lolium perenne</i> and White Clover <i>Trifolium repens</i> with smaller outcrops of Dock <i>Rumex obtusifolius</i>, Spear Thistle <i>Cirsium vulgare</i> and Creeping Thistle <i>C. arvense</i>. Although the habitat is likely to have some value as foraging habitat for badger (unconfirmed on the site), its overall ecological value is low, due to the low diversity of species it supports.</p> 	Local ecological importance (lower value)
Buildings and Artificial Surfaces (BL3)	<p>The subject lands contain two main access roads from the R352. The disused driveway has been colonised by mosses and liverworts, while a few vascular plants have also begun to establish themselves, including Willowherb <i>Epilobium montanum</i>, Shepherd's Purse <i>Matricaria discoidea</i>, and Sycamore <i>Acer pseudoplatanus</i>. The roads contain few or no vascular plants growing on it.</p> <p>Farm buildings on the lands range from old stone buildings to large modern open metal sheds. Nine buildings were recorded, all of which could potentially be used by lesser horseshoe bats as resting places or "night roosts" and would be considered important if proven to be used by this or other bat species. Barn Owl may also use such sheds but no signs were recorded during the preliminary walkover.</p> 	This habitat is assessed as being of at least local ecological importance (higher value) and possibly could be of higher value if bats or barn owl are confirmed to be using the structures.

⁵ NRA (2009) *Guidelines for Assessment of Ecological Impacts of National Roads Schemes* – Geographic Frame of Reference.

Habitat	Description	Ecological Value (NRA 2009 ⁵)
Dry Calcareous and Neutral Grassland (GS2)	<p>There are several patches of this habitat recorded on the drier thinner soils within the open grassland areas. It is generally more species-rich than the surrounding area and includes Crested dog's tail <i>Cynosurus cristatus</i>, Yorkshire Fog <i>Holcus lanatus</i>, and Meadow Foxtail <i>Alopecurus pratensis</i> but is visually dominated by Ox-eye daisy <i>Leucanthemum vulgare</i>, Red Clover <i>Trifolium pratense</i> and Quaking Oat grass <i>Briza media</i>. It reflects a balanced level of grazing and fertilisation and is regarded as being a good example of this habitat type. It is widespread in the local area over thin limestone soils.</p> 	Local ecological importance (higher value)
Hedgerows (WL1)	<p>The subject lands contain numerous hedgerows, which vary in thickness, length and connectivity but all are generally regarded to be of ecological importance. Sycamore <i>Acer pseudoplatanus</i>, Ash <i>Fraxinus excelsior</i>, Hawthorn <i>Crataegus monogyna</i>, Elder <i>Sambucus nigra</i> and Hazel <i>Corylus avellana</i> all dominate the flora with typical ground floor found at the edges. Some of the hedgerows would benefit from active management and cattle have eroded some of the hedgerow banks in places. Stone walls are associated with the hedgerows.</p> 	Local ecological importance (higher value)

Habitat	Description	Ecological Value (NRA 2009 ⁵)
Oak-ash-hazel woodland WN2	<p>This habitat type is represented by coppiced hazel with occasional ash and beech <i>Fagus sylvatica</i> trees over thin limestone soils with frequent outcrops of bedrock. It is not common across Ireland and is becoming rarer at a County scale. The terrain here is rolling and there is little of this habitat on flat ground. It may be of importance for bats, pine marten and birds and since it is found flanking the Spancelhill stream along the northern boundary it provides an important function as a protective buffer and riparian food source.</p> 	<p>This habitat is assessed as being of at least local ecological importance (higher value) and possibly could be of County value if bats or other species of importance are confirmed to be using the habitats.</p>
Stream (FL)	<p>The Spancelhill stream (Ballymacahill River) flows from the north of the study area to the western boundary and flows between two attenuation ponds from the M18 to Ennis. It is heavily shaded and occasionally affected by pollution from cattle manure and feeding areas. Grey Heron feeding in the stream would suggest fish life. Since it drains the northern half of the site it is an important local ecological feature and may also be of importance for birds and bats.</p> 	<p>Local ecological importance (higher value)</p>

Habitat	Description	Ecological Value (NRA 2009 ⁵)
Mesotrophic Lake	<p>Toureen Lough is located at the southern end of the site and is a natural waterbody possibly spring fed. It has a high ecological value due to the surrounding buffer of wet grassland some of which may be alkaline fen and the dense hedgerow and hazel scrub to the west.</p> 	Local ecological importance (higher value)
(Potential) Rich fen and flush PF1	<p>A field in low depression between areas of hazel scrub in the north of the subject lands may equate to this habitat type and may also correspond to the Annex I habitat type 'alkaline fens (7230)' and '*calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallianae</i> (7210)'. </p> 	Local ecological importance (higher value), potentially County-scale if proven to be of Annex I-quality.

5.3.9 RECORDS OF PROTECTED/RARE AND INVASIVE FLORA AND FAUNA SPECIES NPWS & NBDC

The NPWS hold records for many protected species in Ireland. Records for the Irish National Grid Square within which the proposed Variation lands are located, were retrieved from the NPWS database in 2018. The most notable in terms of their rarity or protected status are listed below with their highest level of statutory protection or conservation status noted:

Species protected under the Wildlife Acts 1976 as amended:

- Common Frog (*Rana temporaria*)
- Eurasian Badger (*Meles meles*)
- Eurasian Pygmy Shrew (*Sorex minutus*)

Bird Species listed in the Red lists of the Birds of Conservation Concern of Ireland:

- Barn Owl (*Tyto alba*)
- Black-headed Gull (*Larus ridibundus*)
- Common Redshank (*Tringa totanus*)
- Eurasian Curlew (*Numenius arquata*)
- European Golden Plover (*Pluvialis apricaria*)
- Herring Gull (*Larus argentatus*)
- Northern Pintail (*Anas acuta*)
- Northern Lapwing (*Vanellus vanellus*)
- Twite (*Carduelis flavirostris*)

Species protected under the European Habitats and Birds Directive (Annex II and/or Annex IV and Annex I – Birds):

- Little Egret (*Egretta garzetta*)
- Corn Crake (*Crex crex*)
- Dunlin (*Calidris alpina*)
- Hen Harrier (*Circus cyaneus*)
- Merlin (*Falco columbarius*)
- Peregrine Falcon (*Falco peregrinus*)
- Whooper Swan (*Cygnus cygnus*)
- Northern Shoveler (*Anas clypeata*)
- Yellowhammer (*Emberiza citrinella*)
- Marsh Fritillary (*Euphydryas aurinia*)
- Sea Lamprey (*Petromyzon marinus*)
- Desmoulin's Whorl Snail (*Vertigo (Vertigo) moulinsiana*)
- European Otter (*Lutra lutra*)
- Fallow Deer (*Dama dama*)
- Pine Marten (*Martes martes*)
- West European Hedgehog (*Erinaceus europaeus*)

Additional surveys would need to be carried out at project level to assess the presence or absence of rare or protected flora within the site.

No Invasive species listed under the Third Schedule of the Birds and Habitats Regulations were retrieved from the desktop survey.

Other Data Sources

According to the Bat Conservation Ireland database, there are approximately 123 known bat roosting sites within 10km of the subject lands but only one within 1km. Species known to use these roosts include the European and nationally-protected species Lesser Horseshoe Bat *Rhinolophus hipposideros* of which the nearest known roost is south of the R353. The Knockanean Schoolhouse which was renovated for the purposes of allowing this species to proliferate is located less than 0.5km to the south of the site. It is therefore likely that this species (protected under the EC Habitats Directive) occurs within the proposed development site. Other bat species include Leisler's bat, Common Pipistrelle bat, Soprano Pipistrelle bat, Brown Long eared bat *Plecotus auritus* and Daubenton's bat *Myotis daubentonii*. **Figure 5.5** presents known bat roosts within 20km of the proposed Variation Lands; **Figure 5.6** presents recorded invasive species within 10km of the proposed Variation Lands and **Figure 5.7** presents the habitat mapping undertaken for Ennis and Environs.

5.3.10 BIODIVERSITY AND CLIMATE CHANGE ADAPTATION

Flood plains and wetland areas are essential for flood control, pollution control, water quality and supply as well as acting as vital carbon sinks, along with peatlands and woodlands, which could help address climate change. Changes in precipitation levels, air and soil temperatures, water availability and sea level rise all have implications in terms of effects on biodiversity. The effects will be cumulative, long-term and often complex. The uncertainty that surrounds climate change and what will occur also adds to the complexity and uncertainty of identifying impacts.

Climate change is regarded as the biggest environmental issue facing the world today. The release of greenhouse gases, such as carbon dioxide, is regarded as one of the main drivers of climate change. Biodiversity, and particularly plants, play a significant role in removing this carbon dioxide from the atmosphere and storing it through photosynthesis. However, activities which lead to a loss of vegetation prevent this critical service from occurring, while activities such as the drainage of peatlands can actually release more carbon dioxide into the atmosphere. Combined, these activities can speed up the rate of climate change. The rate of biodiversity loss across the world has been inextricably linked to the rate of global climate change. However, there has been an increasing move towards trying to adapt to climate change, rather than trying to stop it, and in this regard, biodiversity has another significant role to play, particularly in relation to flood attenuation.

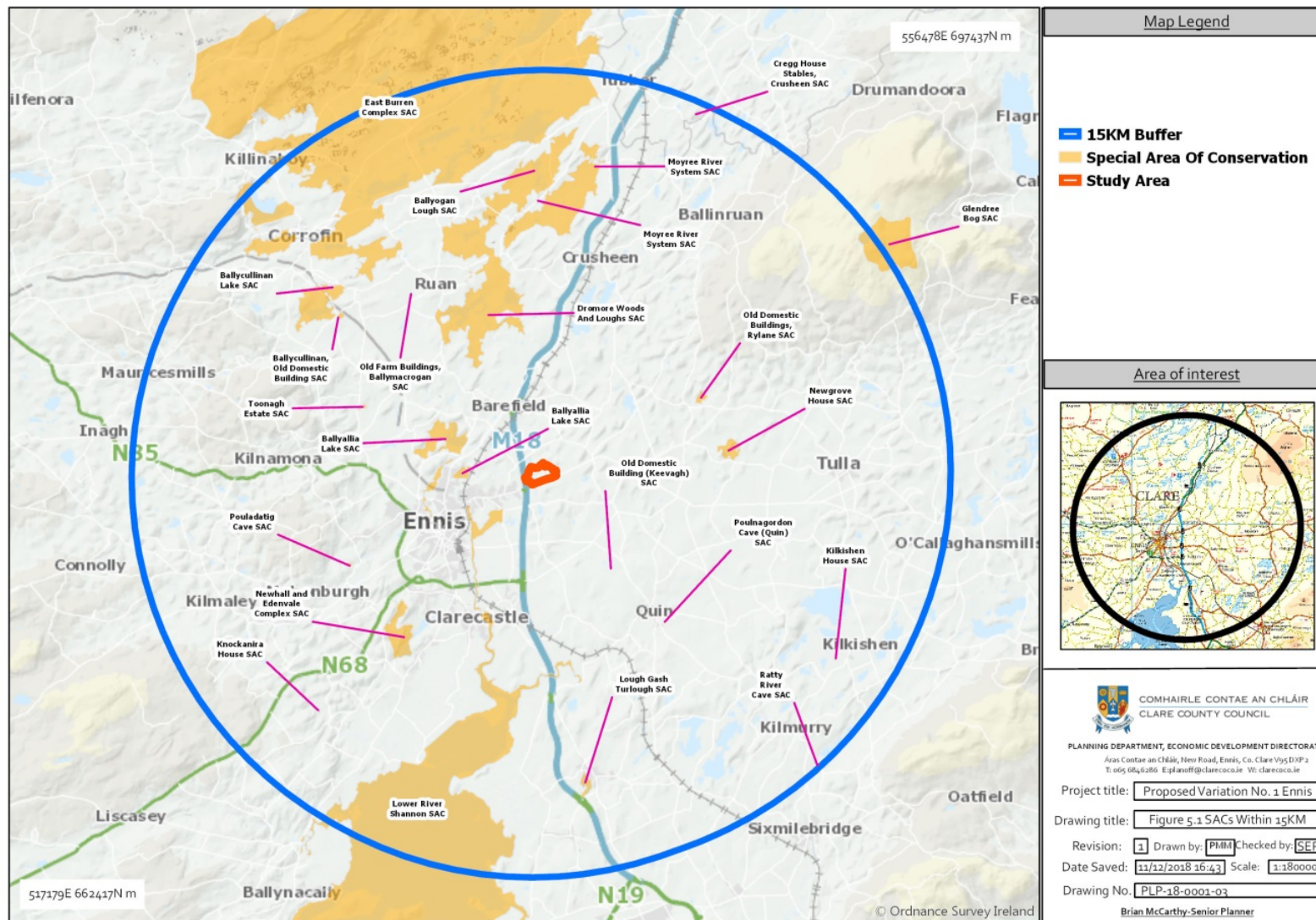
Wetlands, such as bogs, fens, swamps and marshes, slow down the flow of water, and so help to regulate flooding, however, their loss not only exacerbates the level of flooding, but also its speed, which leads to flash flooding. Wetlands can contain huge volumes of water (bogs, for example, are made of over ninety percent water) and when a wetland is drained, the water must go somewhere, and water will always flow to the lowest lying areas. The protection and retention of river floodplains from infilling, reclamation or development is also vitally important to ameliorate the impacts of flooding.

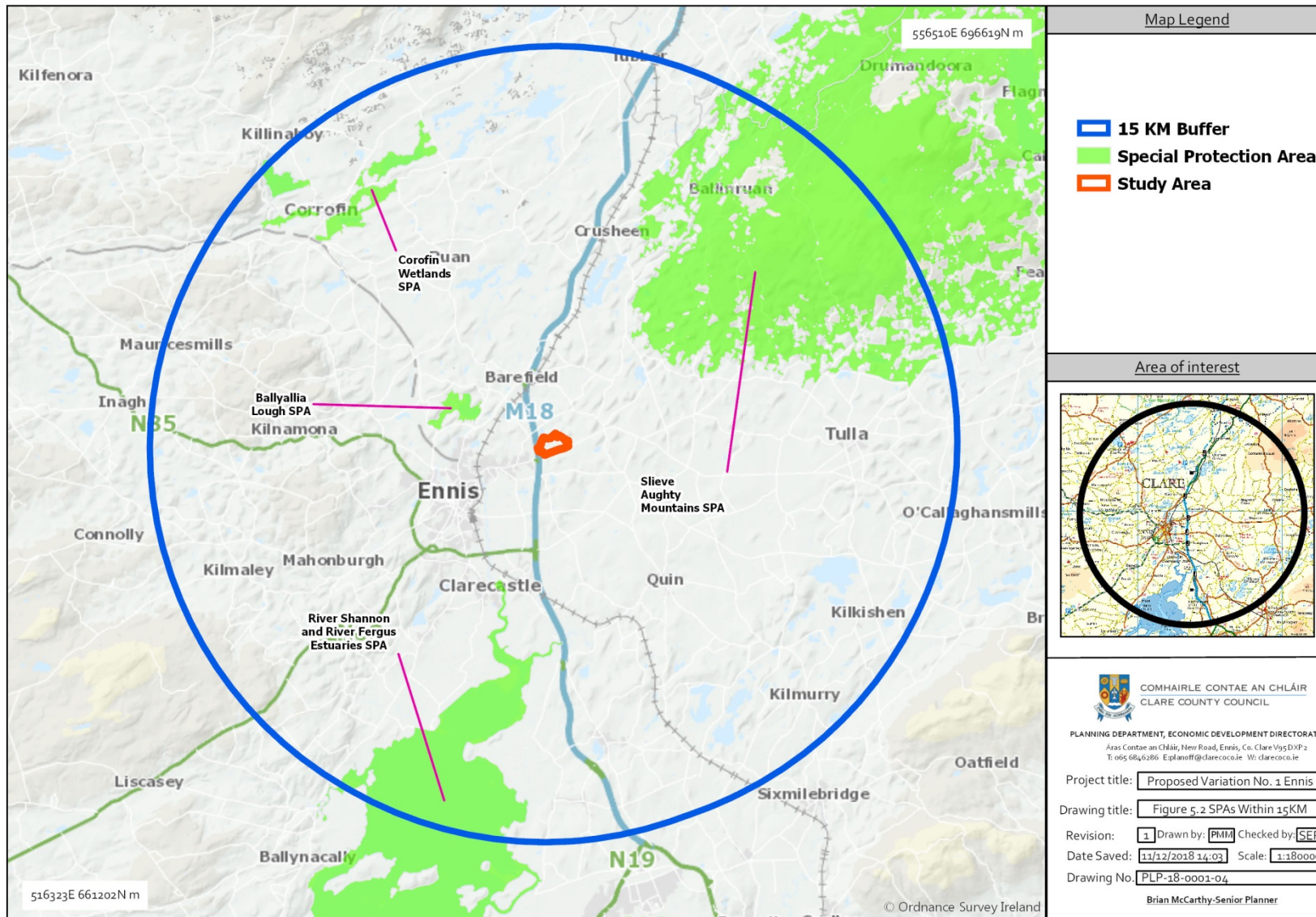
5.3.11 ISSUES AND THREATS

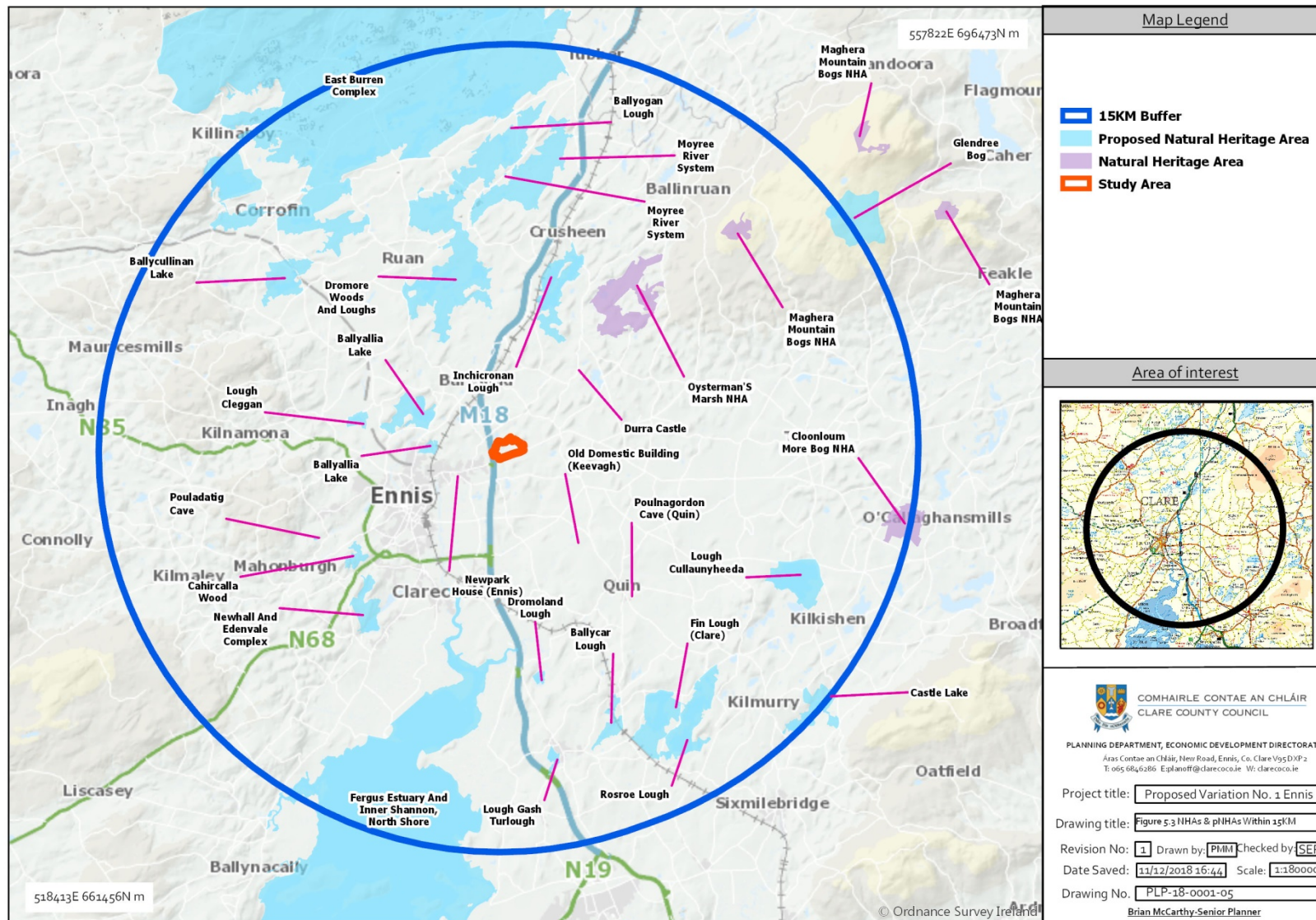
The SEA ER of the Clare CDP 2017-2023 identified a number of issues and threats. Those relevant to this proposed Variation are presented below:

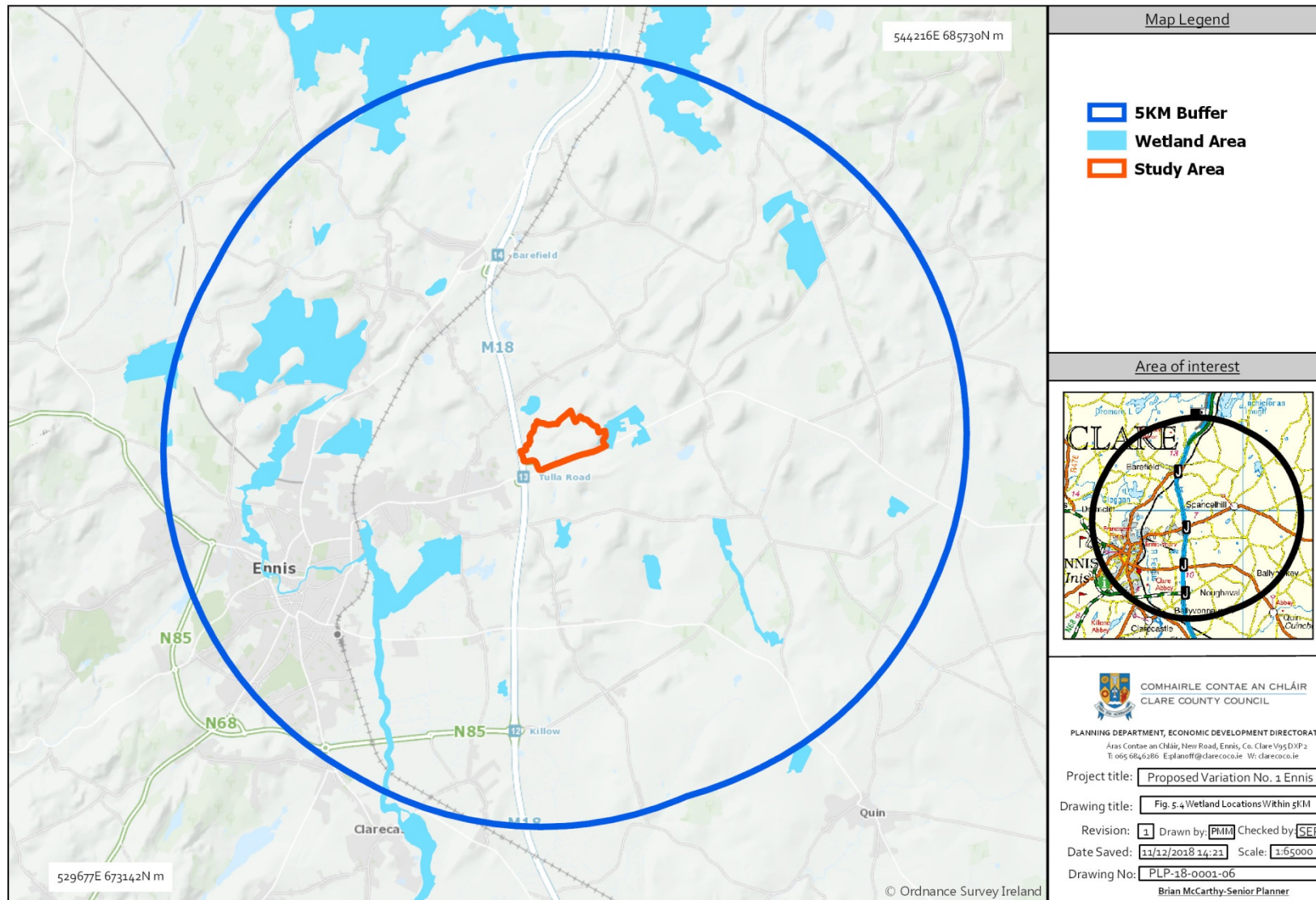
1. A general lack of recognition and appreciation of biodiversity outside of European sites. This is particularly relevant in relation to wildlife corridors and habitats and the role they play in the migration, dispersal and genetic exchange of wild species.
2. There can be an over-reliance on using engineering solutions to environmental problems rather than identifying and assessing alternatives. This is particularly relevant in relation to wetlands and floodplains in the Plan area.
3. Impacts on water quality are a significant threat. The Plan area is rich in wetlands and supports an abundance of water sensitive habitats and species; however, these are at risk from both point source pollution and diffuse pollution, particularly wastewater treatment.
4. The Plan area is particularly important for Lesser Horseshoe Bats, with several designated and non-designated sites. Destruction of roosts, loss or fragmentation of commuting routes, and insensitive development and lighting can negatively impact this species.
5. Habitat loss and fragmentation can occur as a result of development.
6. Disturbance to wildlife, and particularly birds, occur as a result of inappropriately sited development and increased recreational pressure.
7. The loss of key “stepping stones” between European sites which are not afforded the same protection as SACs and SPAs or as pNHAs or NHAs.
8. The spread of invasive alien species is a particularly important threat to local biodiversity as they compete for space and food.
9. Climate change is a transboundary issue affecting the entire globe and is fundamental to social stability and sustainable development. Most greenhouse emissions are related to energy

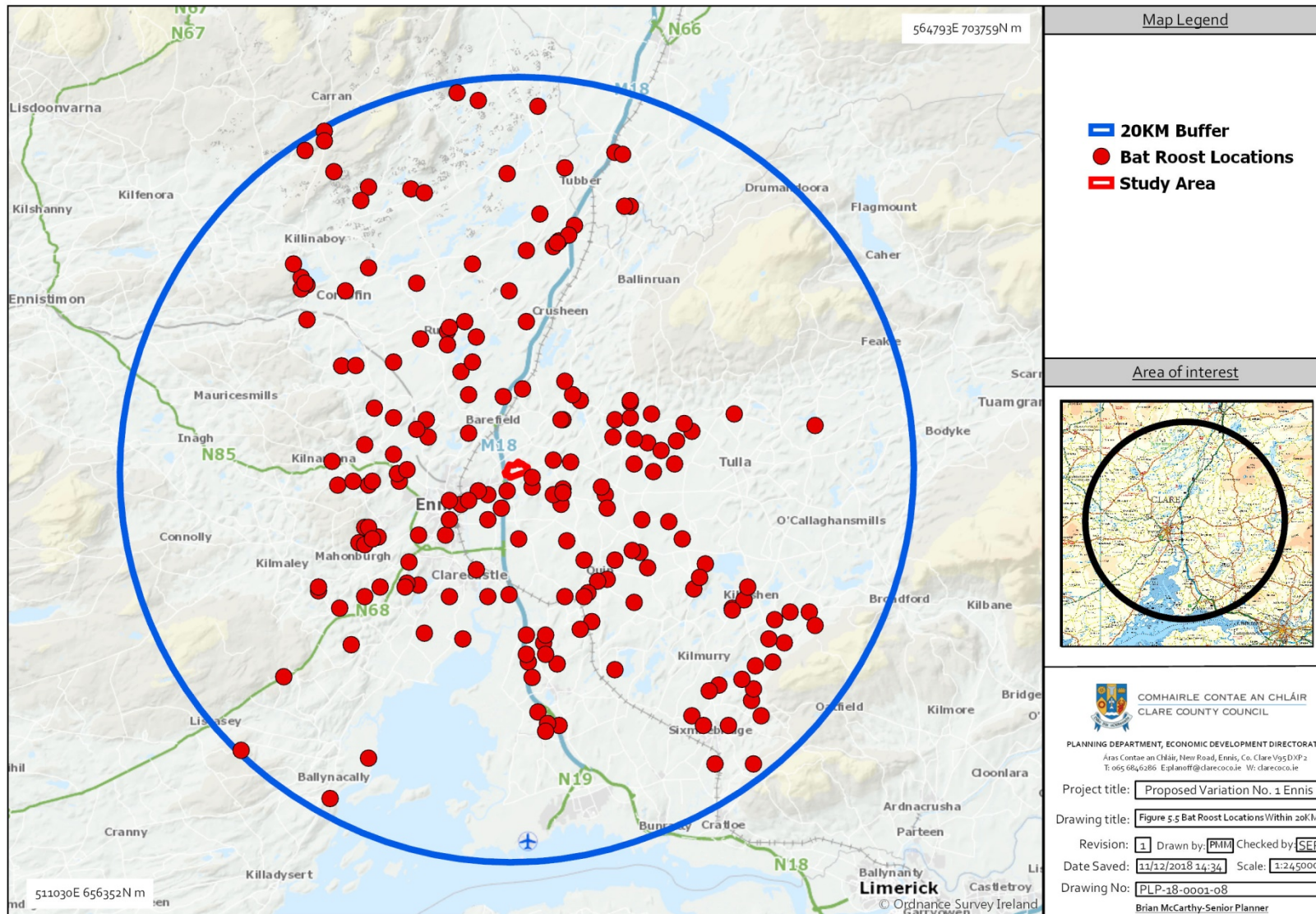
generation, transport, agriculture, and industry sectors. In County Clare one of the most prevalent impacts of climate change in recent years has been the increase in flood events. Management of flood-related issues is therefore of critical importance to the future sustainable development of the county.

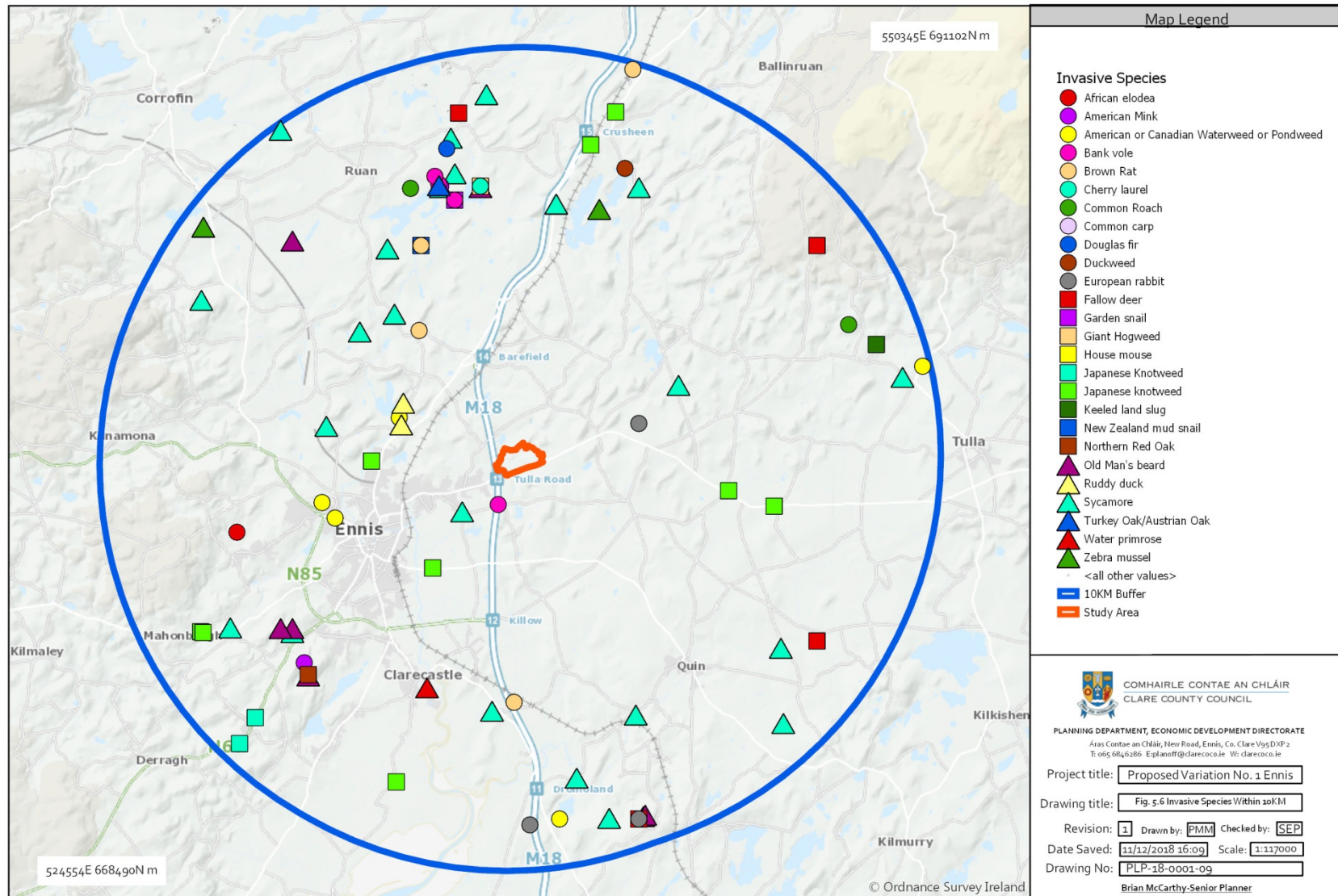


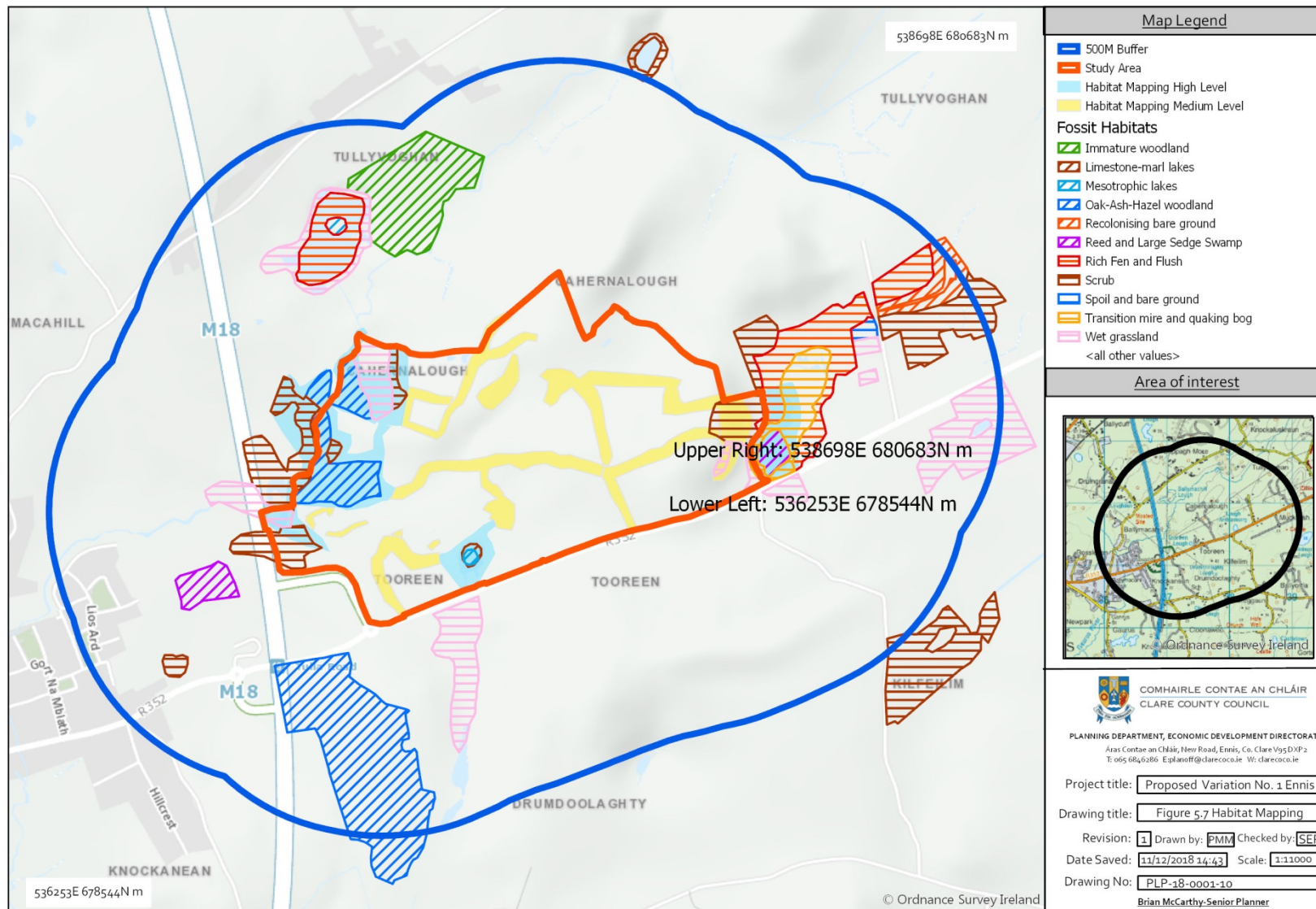












5.4 POPULATION, HUMAN HEALTH AND QUALITY OF LIFE

5.4.1 POPULATION

Ennis is the County Town of Clare and is designated under the Mid West Regional Planning Guidelines as Zone 1. Zone 1 also includes Limerick and Shannon, both of which are outside the county. The MWRPG provide the following comment:

Zone 1: Limerick/Ennis/Shannon: this is the core area of the Mid-West Region, which has a high level of population growth, good internal and external accessibility, a large range of social and community facilities, and a strong settlement structure.

These Regional Planning Guidelines will shortly be replaced by the Regional Spatial and Economic Strategies which is currently at Draft Stage for the Southern Region.

The National Planning Framework Ireland 2040 includes the County within the Southern region and identifies the following growth scenarios:

Future growth will be based on leveraging national and international connectivity, higher education capacity and quality of life to secure strategic investment. This must be underpinned by sustainable employment and housing development, focused on the broader Limerick Shannon Metropolitan area and a strengthening of the urban cores of the county towns and principal settlements, as well as in rural areas.

Table 8 below provides an overview of key population data for the County, as well as the Electoral Districts of relevance to the proposed Variation Lands at Toureen.

TABLE 8 KEY POPULATION DATA

	Census Population 2011	Census Population 2016	Percentage change in population 2011 - 2016	HP Deprivation Index 2016 ⁶
County Clare	117,196	118,817	0.02	-0.22 Marginally below average
Ennis Rural Electoral District (west of Variation lands)	17,359	17,709	0.02	-0.22 Marginally below average
Spancilhill Electoral District (include Variation Lands at Toureen)	694	688	-0.01	-0.22 Marginally below average
Doora Electoral District (south of Variation lands)	1,873	1,986	0.07	-0.22 Marginally below average

⁶ HP deprivation index, The Pobal HP Deprivation index is Ireland's most widely used social gradient metric, which scores each small area (50 – 200 households) in terms of affluence or disadvantage. The index uses information from Ireland's census, such as employment, age profile and educational attainment, to calculate this score. The index is used by various state agencies and government departments to target resources towards disadvantaged areas

5.4.2 LANDUSE

The M18 provides the western boundary to the proposed Variation lands, whilst agricultural lands with some farmhouses are included within the proposed Variation lands. Agricultural use appears to be predominantly pasture with cattle grazing. Some of the lands have been reseeded within the last year. Field sizes vary and are enclosed by a mixture of stone walls, post and rail fencing and hedgerows. As stated previously two waterbodies are present within the lands. Private roads access buildings from the road to the south.

5.4.3 HUMAN HEALTH AND QUALITY OF LIFE

The cumulative effects of population and landuse change can impact on human health and quality of life. Direct effects relate to matters such as water, air quality, noise and landscape change. Indirect effects relate to such matters as flora and fauna. Issues relating to radon and noise are outlined here, and associated effects of transport, material assets, air quality and climate are discussed in more detail in relative sections.

5.4.4 RADON LEVELS

Radon levels in the County have been collated from the Radiological Protection Institute of Ireland. The central portion of the development Plan Area (including the proposed Variation lands) is situated in a high radon area (HRA). A HRA is any area where it is predicted that 10% or more of homes will exceed the Reference Level of 200 Bq/m³.

5.4.5 NOISE

Noise can have a significant effect on an individual's quality of life. Urban areas generally experience a higher level of background noise caused by traffic from roads, junctions etc. In response to the requirement of the EU Directive 2002/49/EC a Clare Noise Action Plan 2018 was prepared for the assessment and management of environmental noise. This action planning area covers the M18, N18, N19, Sections of R445, R458, R463, R352, R469 and R471, which addressed environmental noise from roads.

Of particular relevance to the lands at Toureen, are the road traffic noise generated by the M18 (western boundary) and the R352 Ennis to Tulla Regional Road (southern boundary).

According to the Noise Action Plan, lands adjacent to these roads are considered to be located within the action planning area where noise mapping has indicated that the environmental noise levels may be 55dB(Lden or greater. **Figure 5.8** presents Noise mapping for the M18 and Ennis and environs.

5.4.6 SEVESO SITES

Seveso sites are those which store significant amounts of dangerous or harmful substances and proximity to these sites could represent a potential impact to human health. They are regulated under the COMAH regulations (Control of Major Accident Hazards Involving Dangerous Substances, S.I. 476 of 2000). Five such sites are present in the County with Roche Ireland, Clarecastle the closest site to the proposed Variation lands at Toureen.

5.4.7 INTEGRATED POLLUTION PREVENTION AND CONTROL LICENSE

A system of Integrated Pollution Prevention and Control (IPPC) licensing came into effect in Ireland in July 2004. The primary aim of IPPC licensing is to prevent or reduce emissions to air, water and land, to reduce waste and use energy efficiently. The IPPC system replaced Integrated Pollution Control (IPC) as the licensing regime applicable to certain industrial activities in Ireland. It's a single integrated license and covers all emissions from the facility and its environmental management. There are 15 IPPC facilities in the Plan area, with many concentrated in the Shannon area. The

closest IPPC licensed facility to lands at Toureen, is Essidev S. A in the Gort Road Industrial Estate, Ennis.

5.4.8 POLLUTANT RELEASE AND TRANSFER REGISTER.

This is an emissions register, the purpose of which is to fulfil the requirements of the Aarhus Convention, as a simple means of affording access to information about environmental emissions and transfers. The register provides a publicly accessible and searchable database which members of the public can use to search for installations which are releasing PRTR pollutants in excess of specific thresholds or making off-site transfers of waste above specified thresholds. Two such PRTR facilities are present in the County, with the closest being Essidev S.A. in the Gort Road Industrial Estate.

5.4.9 CLIMATE CHANGE, FLOODING AND HUMAN HEALTH

The potential impacts of climate change on human health can arise from direct and indirect impacts. Direct impacts can result from prolonged periods of hot or cold weather which can lead to heat and cold stresses and their associated effects. Milder winters may lead to lower fuel consumption (home heating); extremes of temperature can lead to cold related deaths, or conversely heat related deaths. Critical emergency /transport services can be affected by severe cold or flooding conditions. Indirect effects can arise on other parameters from extreme weather such as water flow, quality and temperature in hot conditions.

5.4.10 ISSUES AND THREATS FOR POPULATION, HUMAN HEALTH AND QUALITY OF LIFE

The SEA ER of the Clare CDP 2017-2023 identified the following issues and threats, those of particular relevance to this proposed Variation include:

1. Encouraging employment and future retention of a younger workforce to avoid a trend of outward movement from the Plan area in pursuit of employment
2. The population of Ennis has only seen moderate population growth and a significantly greater growth in the environs of the town, which in turn creates more significant environmental implications particularly around sustainable transport, wastewater treatment and supply, Greenhouse Gas emissions and habitat loss.
3. Encouraging sustainable employment options for the people of Clare
4. Pressure on existing wastewater infrastructure and supply, and capacity to both accommodate growth in settlements and in this instance facilitate service led development for landuses under the Enterprise landuse zoning.
5. Noise levels from the M18 and R352 are identified in the Clare Noise Action Plan 2018. Lands adjacent to these roads are considered to be located within the action planning area where noise mapping has indicated that the environmental noise levels may be 55dB(Lden or greater.



5.5 SOIL AND GEOLOGY

This section presents soils and geology which is defined as ‘all natural materials underlying a development, from the ground surface to an appropriate depth underground’. This includes bedrock, subsoils, topsoils and geological features such as karst, peat sequences and areas of geological interest.

A Thematic Strategy for Soil Protection has been produced by the EU, however the proposed Soil Framework Directive for Soils has not been established in law and therefore not yet established into national legislation. Article 5 recognises the importance of limiting the sealing of soil to protect the functions of soil. The proposed Directive suggests this may be achieved through rehabilitating brownfield sites, thus reducing pressure on development of greenfield sites. It also states that soil should be used in a sustainable manner which preserves its capacity to deliver ecological, economic and social services, while maintain its functions so that future generations can meet their needs.

5.5.1 SOIL

Soils have a number of functions including supporting plant life and life within the soil, biogeochemical cycling of elements, energy cycles, water storage and exchange and ecosystem productivity. Soil formation occurs over very long timescales and can be considered a non-renewable resource.

The proposed Variation land comprises the Burren series; these are described as fine loamy soils over limestone bedrock. Much of the surrounding soils comprise the Elton series, again described as fine loamy soils over limestone bedrock. **Figure 5.9** presents soil mapping for Ennis and Environs with the proposed Variation lands identified.

5.5.2 GEOLOGY

The lands at Toureen are situated over limestone, marine shelf faces that stretch from northern Clare, through the centre of the county to the southern centre, these extend into east Clare. Extensive deep water limestones were deposited during the Carboniferous mostly to the north and centre of the County. **Figure 5.10** presents the bedrock geological map for Ennis and Environs.

There are 45 sites of geological importance within County Clare, which include cave systems, limestone pavements and mushroom stones. The Geological Survey of Ireland (GSI) has identified some of these areas as County Geological Sites as part of their Irish Geological Heritage Programme. The closest Geological Heritage Site relative to the lands proposed for rezoning, is that at Sraheen (CE 038), north of Toureen. Within the proposed Variation lands at Toureen, limestone bedrock and outcrops are dispersed around the site and are particularly associated with the oak ash hazel woodland in the northwest of the lands.

5.5.3 CLIMATE CHANGE AND SOIL AND GEOLOGY

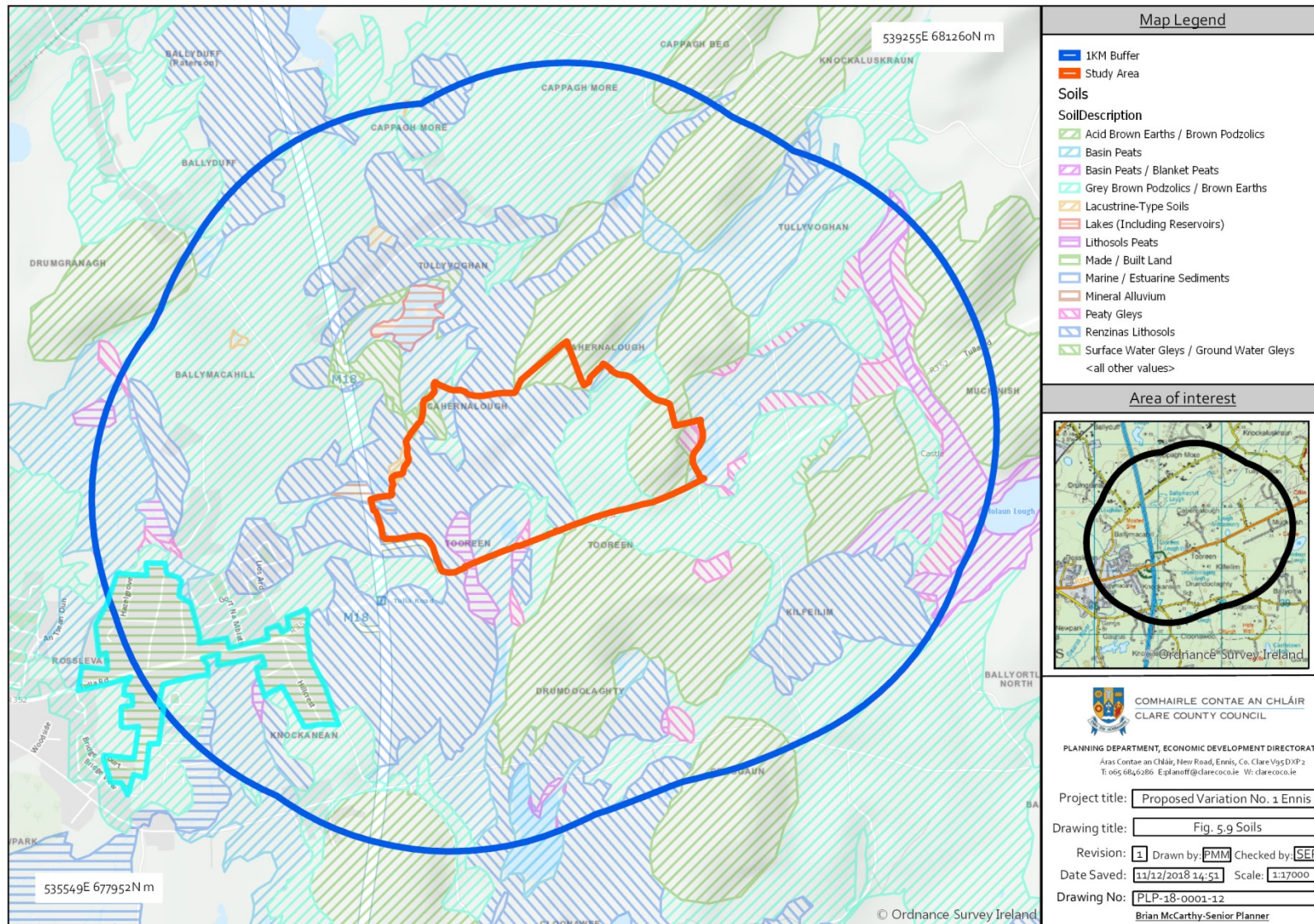
Significant changes to soil condition can be brought about by the impacts of climate change including changes in air temperature, precipitation and extreme weather events – increased occurrences of summer droughts and increased winter rainfall. The potential impacts of these weather changes are likely to be experienced most significantly in relation to agriculture, peatland areas and forestry areas as well as increasing the potential for flood risk. Drier summers could also require necessary infrastructural investment to store winter rain and the drying out of soils in response to climate change could result in deterioration of soil quality. Increased rainfall could cause increased soil erosion and run off. Generally, a combination of dry summers and wet winters could also result in subsidence and soil heave.

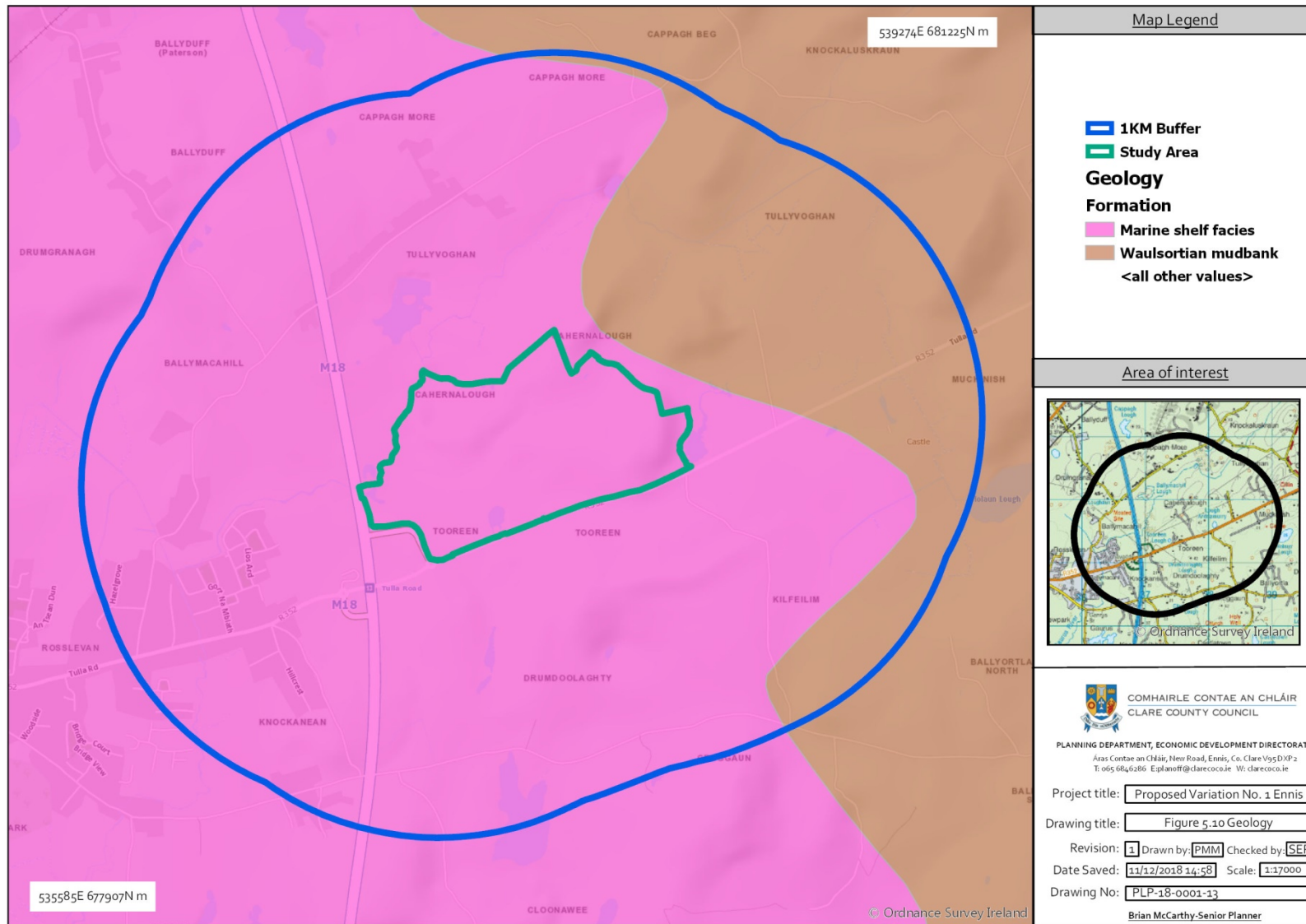
5.5.4 ISSUES AND THREATS FOR SOIL AND GEOLOGY

The proposed zoning will likely see direct impacts on soil associated with conversion from grasslands to Data Centre developments, particularly as the proposed Variation increases the overall land area subject to an Enterprise zoning.

Other issues include

1. Avoiding the spread of alien and invasive species,
2. Increased soil sealing and potential run off which can adversely affect water quality
3. Sustainable management and use of soil and geology on site during construction processes
4. Actual loss or damage /disturbance of soil and bedrock.
5. Factors such as soil type, land slope and the degree of disturbance and quality and proper maintenance of effective measures used for the prevention of sediment run off, can also produce an increased risk of nutrient run-off within the sediment itself
6. Nutrients bound to soil such as Phosphorous can become mobile through sedimentation, and in turn this impacts the aquatic environment and causes further deterioration to water quality and aquatic habitats.





5.6 WATER RESOURCES INCLUDING FLOOD RISK

A desk based assessment of water quality in the proposed Variation area was conducted. The sources of the water quality information include:

- Water Framework Directive water body status information arising from the Water Framework Directive monitoring programme
- Nutrient sensitive areas under the Urban Waste Water Treatment Regulations, 2001 (S.I 254 of 2001), and
- Geological Survey of Ireland aquifer vulnerability information.

5.6.1 WATER FRAMEWORK DIRECTIVE AND NATIONAL RIVER BASIN MANAGEMENT PLAN

The Government has published the River Basin Management Plan for Ireland 2018-2021. The Plan sets out the actions that Ireland will take to improve water quality and achieve 'good' ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027. Ireland is required to produce a river basin management plan under the Water Framework Directive.

This second WFD cycle has seen the focus change from water management units to catchments. A three tier hierarchy now comprises the base unit and tier 1, WFD River Waterbodies, middle tier of the WFD subcatchment and tier 3 WFD catchments.

Environmental Quality Standards (EQSs) for classifying surface water status are established in the European Communities Environmental Objectives (Surface Waters) Regulations, 2009 (SI 272 of 2009). These set standards for biological quality elements, physico-chemical conditions supporting biological elements, priority substances and priority hazardous substances. The ecological status of a water body is established according to compliance with the EQSs for biological quality elements, physico-chemical conditions supporting biological elements and relevant pollutants. The chemical status of a water body is established according to compliance with the EQSs for priority substances and priority hazardous substances.

The following section gives an overview of the surface, lake and groundwater quality (ecological and chemical) in the proposed Variation area.

5.6.2 SHANNON ESTUARY NORTH CATCHMENT

The proposed Variation lands lie within the Shannon Estuary North catchment and include the area drained by the River Fergus and all streams entering tidal water between Thomond Bridge and George's Head, Co. Clare, draining a total area of 1,658km². The largest urban centre in the catchment is Ennis. The total population of the catchment is approximately 78,397 with a population density of 47 people per km². The catchment runs from the southern tip of the Clare Peninsula, eastwards to the Slieve Bearnagh Hills and northwards nearly to Ballyvaughan, including much of the central and southern parts of The Burren. The central part of the catchment is entirely underlain by highly karstified limestones and the surface water drainage network is either virtually absent (i.e. The Burren) or highly connected to the groundwater system in much of this area. West of Ennis to Loop Head and along the western edge of the catchment is underlain by sandstones and shales, while the uplands along the eastern edge of the catchment from Maghera to the Slieve Bearnagh Hills is underlain by impure limestone, old red sandstones and with some metamorphic rocks on the highest parts of the uplands.

5.6.3 FERGUS SUB-CATCHMENT

The proposed Variation lands are located within the Fergus Subcatchment.

Figure 5.11 presents the WFD surface water status for Ennis and Environs, and the subcatchment maps for the proposed Variation Lands at Toureen and adjacent subcatchments.

5.6.4 RIVER WATER BODIES

In the context of the proposed Variation lands at Toureen, a tributary of the River Fergus, called Spancilhill (Ballymacahill River) (code 010) flows southwest just north of the lands, and is culverted under the M18 prior to joining the River Fergus (code 070) at Ennis town. Both these rivers are classified overall as of poor quality and drain to the transitional waters at Clarecastle, where the waters are classified as being of moderate quality status.

Anthropogenic pressures are identified for the Spancilhill River (Ballymacahill River) waterbody including nutrient, organic and sediment pollution as well as chemical, microbiological.

5.6.5 LAKES

Given the drumlin formation of this part of the County, there are numerous small lakes dispersed around the area between the drumlin low hills. The closest lakes for which there is quality data available is Inchicronin and Dromore lakes to the north, classified as moderate and good respectively. Toureen Lough is located at the southern end of the site and is a natural waterbody possibly spring fed. It has a high ecological value due to the surrounding buffer of wet grassland some of which may be alkaline fen. Another small lake is present adjacent to the eastern boundary of the lands.

5.6.6 GROUNDWATER

Groundwater is a further significant resource and refers to water stored underground in saturated rock, sand, gravel, and soil. Surface and groundwater functions are closely related and form part of the hydrological cycle. The protection of groundwater from land uses is a critical consideration and groundwater vulnerability is becoming an important management tool. The entire island of Ireland has been designated as a Protected Area for Groundwater under the WFD. Groundwater is important as a drinking water supply as well as the supply to surface waters. In addition, groundwater supplies surface waters. Groundwater is exposed to higher concentrations of pollutants that are retained in the layers of rock and soil. The exposure to pollutants lasts much longer as groundwater moves at a slower pace through the aquifer. The quality of our drinking water supply, fisheries and terrestrial based habitats is intrinsically linked with groundwater quality.

The Geological Survey of Ireland (GSI) aquifer categories are based on their vulnerability to pollution, i.e. the ease at which it can enter the subsurface layers. The classification of extreme or high vulnerability means that the groundwater in these areas is very vulnerable to contamination due to hydrogeological and soil factors.

The Geological Survey of Ireland's Groundwater Vulnerability Mapping shows the groundwater vulnerability for the area with areas of orange identified as high vulnerability, pink - extreme vulnerability and red identifying areas where bedrock is at or near surface/karst features. Much of the lands at Toureen are situated within areas of extreme to high vulnerability or areas where rock is close to surface or karst given the limestone bedrock.

Groundwater status is good under the monitoring of the Water Framework Directive 2010-2015. **Figure 5.13** presents Groundwater Vulnerability for Ennis and Environs.

5.6.7 CLIMATE CHANGE AND WATER

It is likely that climate change through extreme weather events (such as warmer winters, extremes of temperatures, storms and precipitation events) will add to water quality management issues in the future. Heavier winter rain storms give rise to flash flooding and land saturation, bringing in more significant loads of diffuse pollution into the water bodies. Drought periods can give rise to low water levels and increased temperatures, with associated difficulties for aquatic habitats and species, as well as adequate water quantity for abstraction and potable water supply.

5.6.8 URBAN WASTEWATER

The WFD Plan 2018 -2023, identified works scheduled or completed for upgrades to wastewater treatment plants to ensure compliance with the Urban Wastewater standards. Relevant to the plan area are the following:

- Ennis North Population Equivalent:27,038 Clare Works Complete

Other scheduled works:

- Clarecastle Population Equivalent: 1,368 Clare Works due to be completed by 2021

5.6.9 FLOOD RISK

The Planning System and Flood Risk Management, Guidelines for Planning Authorities, 2009, issued by the DoEHLG and undertaken in conjunction with the OPW, requires Planning Authorities to prepare an Strategic Flood Risk Assessment (SFRA). The primary purpose of the SFRA is to determine flood risk within a particular geographical area, in this instance, the plan areas associated with the proposed variation.

It should be noted the SFRA is an ever evolving document, which is to be reviewed and updated on a regular basis in the light of emerging information, flood data and an improved understanding of flood risk. Section 4.20 of the above Guidelines states:

'Flood risk identification (Stage 1) to assess whether full flood risk assessment is required, should ideally be carried out in a manner that is integrated with the SEA process rather than constituting an additional and separate process. Any subsequent stages of flood risk assessment should also be carried out in a way that is integrated with the SEA process.'

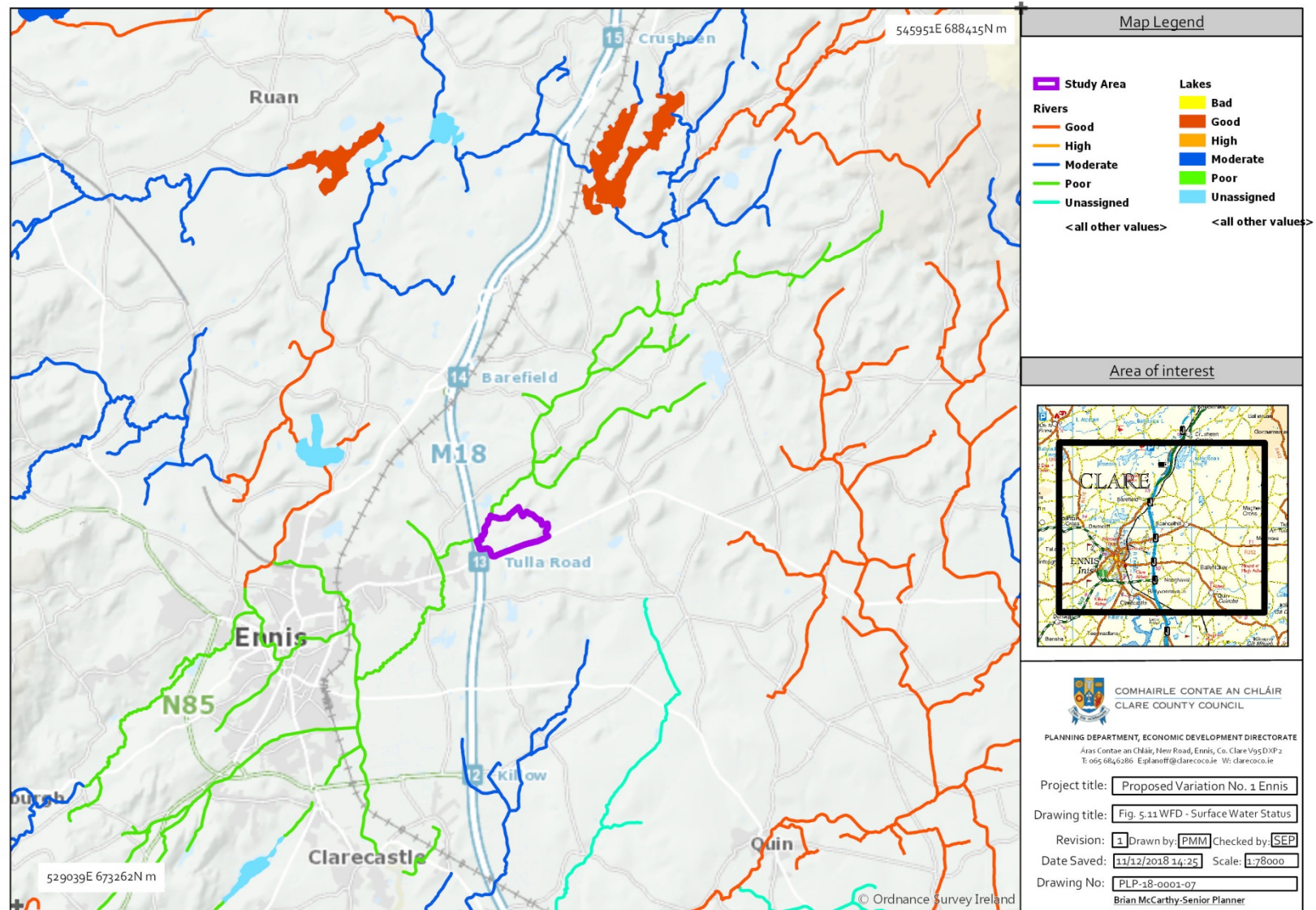
Under the Floods Directive, by 2015 Ireland must have Flood Risk Management Plans established focused on the prevention, protection and preparedness for areas identified to be at significant risk of flooding.

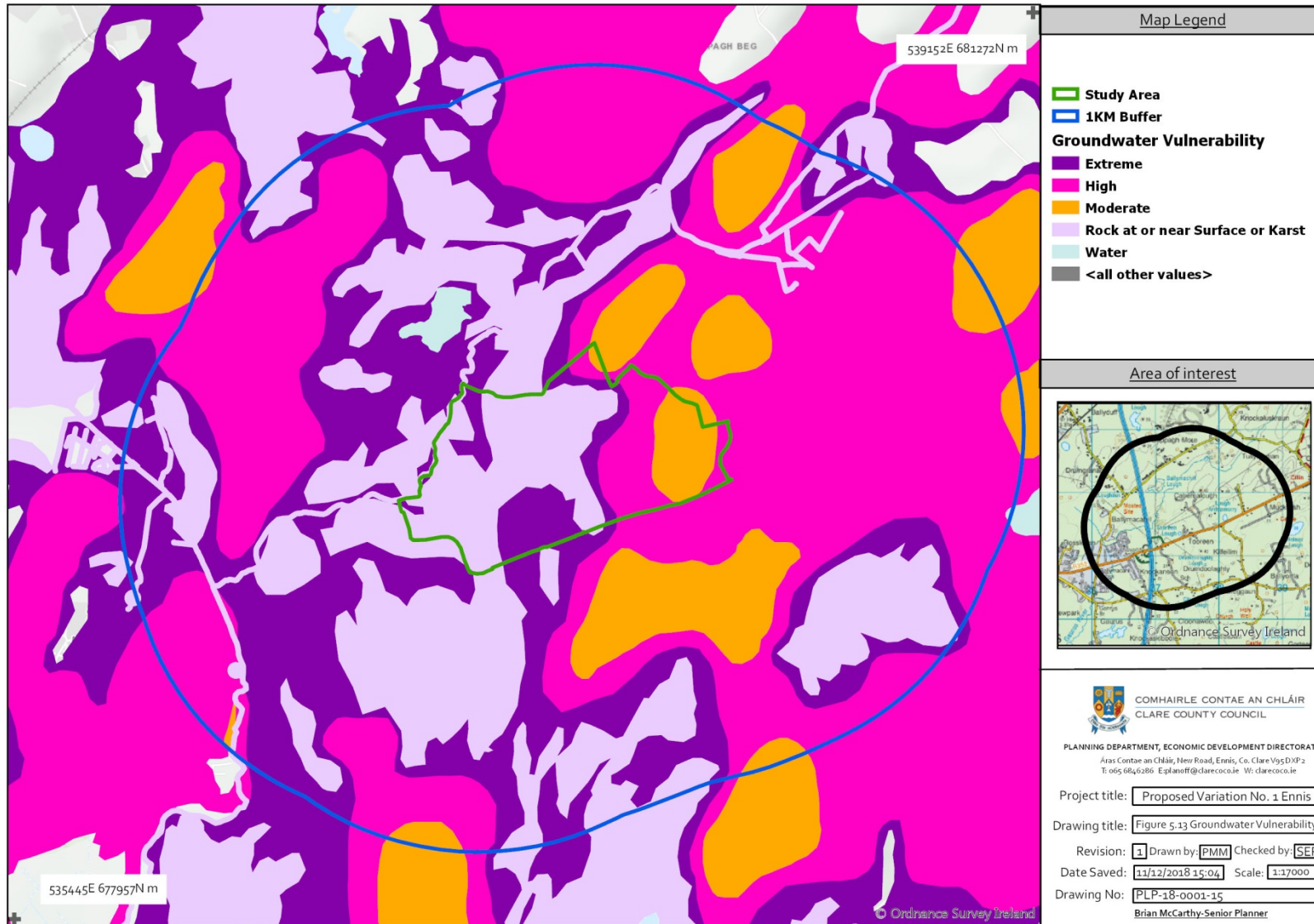
A Strategic Flood Risk Assessment was undertaken as part of the preparation of the Clare CDP 2017-2023 and comprises Volume 10c of the development plan.

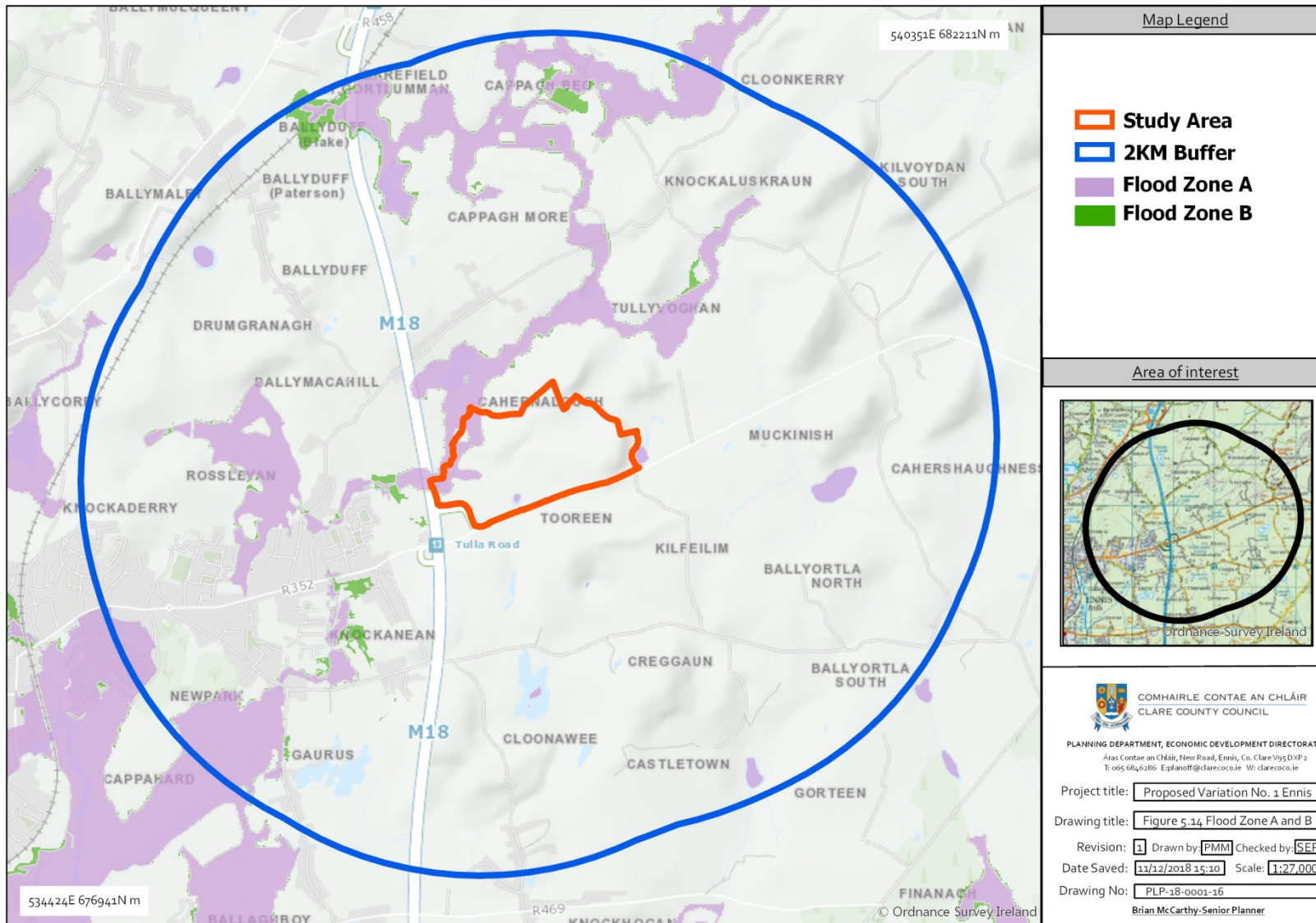
For the proposed Variation lands at Toureen a Flood Risk Assessment has been carried out as part of the Variation Process and areas within the site have been identified as Flood Zone A and Flood Zone B. These have been mapped and have informed the nature and extent of zoning as part of the proposed Variation process.

5.6.10 ISSUES AND THREATS FOR WATER RESOURCES

1. The current overall poor quality status of the Fergus sub-catchment is a key issue and will require additional management to improve this status within this WFD cycle.
2. Therefore, ensuring the proposed Variation does not contribute to a further deterioration of WFD status of waterbodies is a critical consideration.
3. Potential pollution sources within groundwater protection zones include numerous small farms, scattered rural housing with septic tanks, domestic oil tank leakages and historical dumping, particularly at dolines and sinkholes in karstic areas.
4. Sustainable extraction of water in light of increased extreme weather events, and impacts to hydrological regimes is a key issue, in addition to the assimilative capacity of receiving waters for wastewater (addressed in more detail in Material Assets section).
5. Ensuring that alien and invasive species are not spread through construction activities, and finally, addressing flood risk within the area.







5.7 CULTURAL HERITAGE

5.7.1 ARCHAEOLOGY

Archaeological heritage is defined as including structures, places, caves, sites, features or other objects, whether on land, underwater or in inter-tidal zones. All archaeological structures, constructions, groups of buildings, development sites, all recorded monuments as well as their contexts, and moveable objects, situated both on land and underwater are part of the Archaeological Heritage. Therefore the archaeological heritage of the area is not confined to the archaeological sites within the Record of Monuments and Places. It also includes any archaeological sites that may not have been recorded yet, as well as archaeology beneath the ground surface, or underwater as well as the context of any such site discovered.

A review of the historic environment viewer for the area indicates only one recorded archaeological feature, a ringfort or cashel located in the eastern part of the proposed Variation site in the townland of Cahernalough (reference: CL034-007). **Figure 5.15** presents the record of monuments within a 1km buffer of the proposed Variation Lands.

5.7.2 BUILT HERITAGE

Part IV of the Planning and Development Act 2000 (as amended) defines the term “architectural heritage” as structures and buildings together with their settings and attendant grounds, fixtures and fittings, groups of structures and buildings and sites, which are of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, and “where a structure is protected, the protection includes the structure, its interiors and the land within its curtilage (including their interiors) and all fixtures and features which form part of the interior or exterior of all these structures”.

There are 857 protected structures in the Plan area, ranging from churches, bridges, grain stores, houses, shops and public buildings.

An Architectural Conservation Area (ACA) is a place, area, group of structures or townscape that is of special, architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures.

ACAs could include, for example, a terrace of houses, a streetscape, a town or village centre or a group of structures associated with a specific building such as a country house or an industrial or maritime building. Structures in an ACA are important in their contribution to the character of the area. Any works that would have a material effect on the special character of an ACA require planning permission. Ennis town centre, which has survived almost intact since the late 16th century and other groups of buildings are designated as ACAs. Ennis is the closest such ACA to the proposed Variation lands at Toureen. No protected structures are located within the proposed Variation lands. **Figure 5.16** presents the record of protected structures located within 1km of the proposed Variation lands.

5.7.3 CLIMATE CHANGE AND CULTURAL HERITAGE

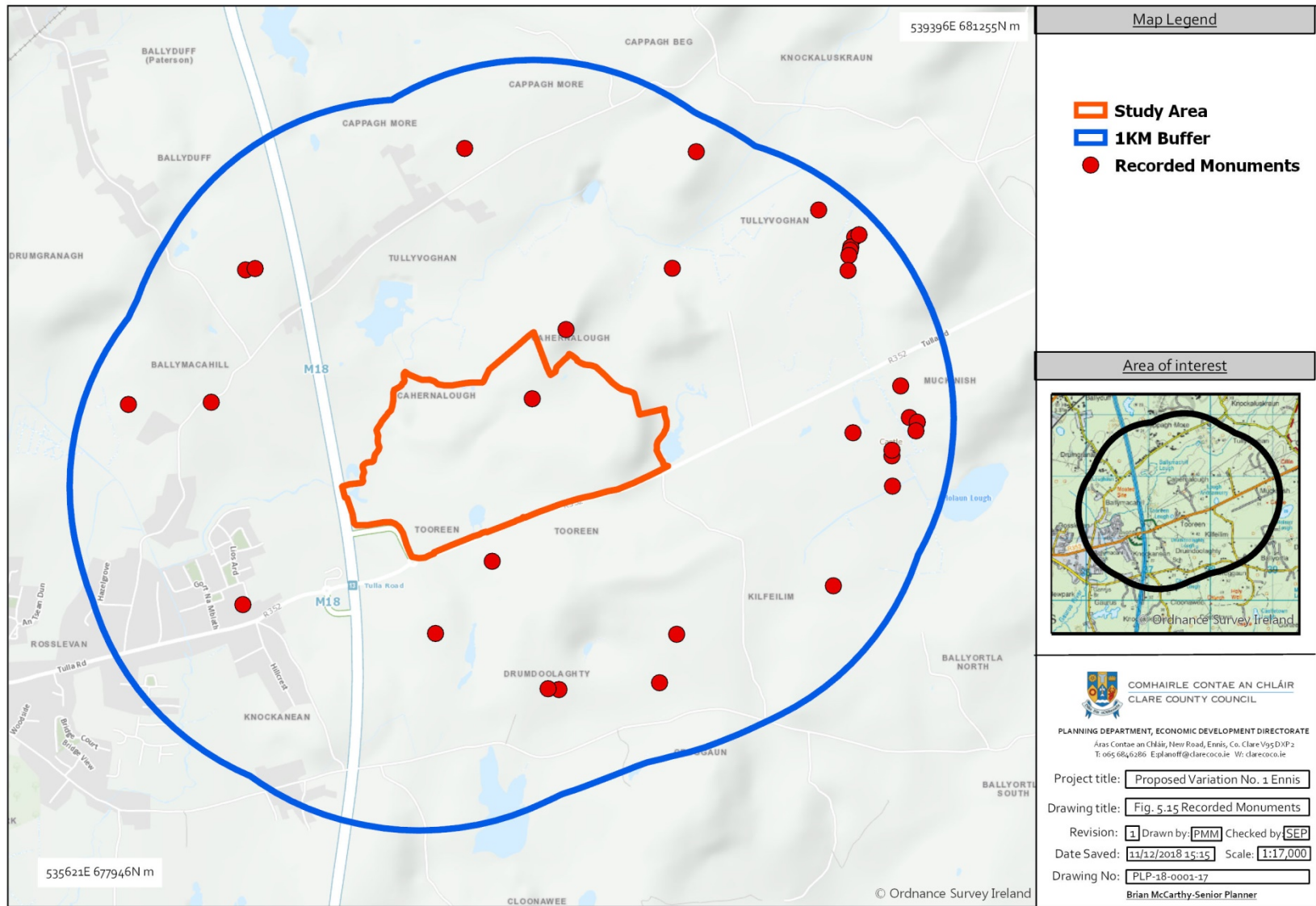
Historic buildings and monuments can be vulnerable to extreme wind and rain, to flooding and to coastal erosion; their foundations, for example, can be destabilised by changes in the moisture of the soil around them and by changes to the freeze-thaw cycle. Inside buildings, climate fluctuations can cause mould, rot and insect infestations.

More generally, the landscape setting and context of cultural heritage sites may be affected due to changing weather and extreme events; again increased precipitation and winter storms may also affect underwater archaeology⁷.

5.7.4 ISSUES AND THREATS FOR CULTURAL HERITAGE

Although cultural heritage is afforded the highest level of legislative protection, eg. Record of Protected Structures and Architectural Conservation Areas, impacts may occur due to pressure from inappropriate developments. Significant development pressures may vary depending on the location within the Plan area.

⁷ <https://www.irishtimes.com/news/environment/climate-change-and-the-threat-to-our-cultural-heritage-1.2688982>



5.8 LANDSCAPE

5.8.1 LANDSCAPE CHARACTER

The proposed Variation lands are located within the following Landscape Character Area 13 Ennis Drumlin Farmlands; the key characteristics as follows:

- Settlement of Ennis is the focal point of the area where both historical and modern development is apparent.
- Ennis situated within drumlin farmland, drumlins oriented northeast to southwest punctuated by small loughs.
- Area can be disorientating due to many small winding roads and limited views.
- Communication centre for the region with Ennis as county town, with Fergus River running through the town.

5.8.2 LANDSCAPE POLICY

The Clare CDP 2017-2023 identifies three Living Landscapes; of which the central part of the County comprises Working Landscapes; this includes the proposed Variation lands, and is defined as follows:

“Working landscapes are those areas within Settled Landscapes that contain pockets of concentrated development or a unique natural resource. The central part of the County including the proposed Variation site, lies within the Western Corridor (Ennis to Limerick) Working Landscape. This corridor has the highest concentration of population and jobs and the strongest transport links and connectivity, which includes the County/Hub town of Ennis”.

In terms of landscape character, the lands at Toureen are influenced by the major transport corridor of the M18 along the western boundary; within the lands, this influence is diluted with a relatively undulating landform, comprising a mix of pasture land and silage and a hedgerow network. Landscape diversity is increased due to the present of the Toureen Lough at the southern boundary and the oak ash hazel woodland at the north of the land. Outcrops of limestone add further interest.

5.8.3 CLIMATE CHANGE AND LANDSCAPE

Potential effects in relation to climate change and landscape are profound as the combination of effects can be seen through the landscape. Increased flooding may effect at landscape scale habitats and landscape features through loss of soil, inundation and effects on trees or hedgerow species sensitive to increased water flows. Climate change may well result in changing agricultural practices and a conversion away from pasture and grass fed animals and an increase in forestry and woodland.

5.8.4 ISSUES AND THREATS FOR LANDSCAPE

1. Alteration and potential enhancement of landscape character and features
2. Minimising adverse effects on landscape character and visual amenity
3. Combining landscaping design with ecological and climate change adaptation.

5.9 AIR QUALITY AND CLIMATE

5.9.1 AIR QUALITY

Air quality is dependent on a number of factors including the source of potential pollutants and weather conditions. The Air Framework Directive (96/62/EC) requires member states to divide countries into zones for the assessment and management of air quality. Ireland is divided into four zones which include:

- Zone A – Dublin Corporation
- Zone B – Cork Conurbation
- Zone C – Other Cities and large towns; and

- Zone D – Rural Ireland.

The majority of County Clare falls within Zone D with the exception of Ennis Town and surrounding urban area which falls under Zone C. Transport and industries are the main influences on air quality in County Clare. Ennis and Environs falls within Zone C and the main influences on air quality here are from transport and industrial activity. The Environmental Protection Agency (EPA) manages the ambient Air Quality Network and there is a monitoring station located in Ennis at the Local Authority building at Waterpark House. The air quality index is calculated based on the information gathered from the monitoring stations using a Quality Index for Health, which is calculated every hour and indicates if air quality is good, fair, poor or very poor. The air quality in the Rural West Region and County Clare is “good” with daily up to date information available for download from <http://www.epa.ie/air/quality/#.VgAeTlc4ygl>

5.9.2 DOMESTIC SOLID FUEL BURNING

The control of domestic burning of bituminous fuel (smoky coal) is administered through the Air Pollution Act (Marketing, Sale, Distribution and Burning of Specified Fuels) Regulations 2012 (S.I. No. 326 of 2012). This is in response to evidence arising from the ban introduced in Dublin 1990 and that banning the use of smoky coal is effective in reducing smoke and sulphur dioxide levels. Limiting harmful emissions of air pollutants arising from the use of residential fuels will contribute to safeguarding air quality. Consequently the Smoky Coal Ban Regulations have been extended to other cities and large towns. Ennis and its environs are covered by the smoky coal ban.

5.9.3 DECORATIVE PAINTS AND SOLVENTS

Decorative paints and solvents are composed of volatile organic compounds (VOC) which pose a risk to health and the environment. In still, sunny conditions and in the presence of nitrogen oxides (contained in vehicle exhaust gases), VOCs react to form ground level ozone. Ozone is one of the components of summer smog and harms human health through respiratory illness, crops and the general ecosystem. Ozone can be transported over long distances, possibly hundreds of kilometres, from where it is formed.

Regulations governing solvent emissions are now in force which oversee the emission of solvent vapours from specified activities and bring the activities of much smaller businesses under the control of the local authorities. Businesses now affected include vehicle refinishing companies which carry out original coating of road vehicles or trailers and dry cleaners.

The current register of compliant facilities under European Union (Installations and Activities Using Organic Solvents) Regulations (S.I. No 565 of 2012) for the County includes three facilities located in Ennis. The register of compliant facilities under European Union (Paints, Varnishes, Vehicle Refinishing Products and Activities) Regulations 2012 (S.I. 564 of 2012) includes three facilities within Ennis town. The EPA has produced best practice guidelines for dry cleaners and separate guidelines for vehicles refinishing.

5.9.4 ISSUES AND THREATS FOR AIR QUALITY

Alternative modes of transport for all ages will be encouraged within built up settlements which will seek to address urban traffic generated air pollution by reducing car dependency. Rural areas in the plan area due to their size and low density are unlikely to give rise to urban generated air pollution.

5.10 CLIMATE CHANGE

Climate change is defined by the Intergovernmental Panel on Climate Change (IPCC) as ‘.... any change in climate over time, whether due to natural variability or as a result of human activity’. Climate change and the effects associated with it present a significant challenge. It is acknowledged

that global warming is contributing to climate change and that global warming is associated with human activity.

Resilience to climate change has been integrated into the County Development Plan through the appropriate use of mitigation and adaptation measures, and the location, nature and extent of zonings.

Ireland's first statutory National Adaptation Framework (NAF) was published in January 2018. The NAF sets out the national strategy to reduce the vulnerability of the country to the negative effects of climate change and to avail of any positive impacts. The NAF was developed under the Climate Action and Low Carbon Development Act 2015.

The recent report by the EPA: Greenhouse Gas Emission Projections 2016 to 2035⁸ provides the following summary of greenhouse gas emissions and Ireland's likely failure to meet the 2020 EU Greenhouse gas emission targets, as follows:

- Ireland is unlikely to meet 2020 EU greenhouse gas emission targets for sectors including agriculture, transport, residential, commercial, non-energy intensive industry and waste;
- Ireland's greenhouse gas emissions reduction target is 20% below 2005 levels by 2020: EPA projections indicate that emissions will be only 4 - 6% below 2005 levels by 2020;
- Current and planned policies and measures are not sufficient to meet the 2020 targets, with emissions projected to continue to increase out to 2030 and beyond.
 - An expected shortfall in meeting 2020 targets for energy efficiency and renewable energy further adds to the challenge that is facing the State.
 - Projected increased emissions from the agriculture sector (impacted by the Food Wise 2025 Strategy), and growing transport sector emissions, dominate the projected emissions trend in the non-ETS sector.

Agriculture and transport are projected to account for 74 per cent of Ireland's non-ETS sector emissions in 2020 (agriculture (45%), transport (29%)). For the period 2015-2020, agriculture emissions are projected to increase by 4 – 5 per cent. Transport emissions are projected to show strong growth over the period to 2020 with a 10 – 12 per cent increase on 2015 levels.

New obligations for Ireland to reduce greenhouse gas emissions for the years 2021-2030 are expected to be agreed at EU level in 2017. The further away Ireland is from the 20 per cent reduction target in 2020, the more difficult the compliance challenges in the following decade are likely to become.

Ireland's GHG Sectors: include the following nine sectors for analysis;

1. Energy Industries (electricity generation, waste to energy incineration, oil refining, briquetting manufacture and fugitive emissions)
2. Residential (combustion for domestic space and hot water heating)
3. Manufacturing Combustion (combustion for Manufacturing industries)
4. Commercial and Public Services (combustion for Commercial and Public Services space and hot water heating)
5. Transport (combustion of fuel used in road, rail, navigation, domestic aviation and pipeline gas transport)
6. Industrial Processes (process emissions from mineral, chemical, metal industries, non-energy products and solvents)

⁸ [Greenhouse Gas Emission Projections 2016 to 2035.](#)

7. F-Gases (gases used in refrigeration, air conditioning and semiconductor manufacture)
8. Agriculture (emissions from fertiliser application, ruminant digestion, manure management, agricultural soils and fuel used in agriculture/forestry/fishing)
9. Waste (emissions from solid waste disposal on land, solid waste treatment (composting), wastewater treatment, waste incineration and open burning of waste).

5.10.1 MITIGATION AND ADAPTATION

Mitigation actions are being taken to limit climate change, most notably the 2015 Paris Agreement. However, many changes and their associated impacts are “locked-in” to the Earth’s climate systems and past actions will drive changes for decades to come. There is now a clearer understanding of how the risks of climate change can be reduced and managed through mitigation and adaptation actions (IPCC, 2014).

The impacts of climate changes are evident on natural and human systems on all continents and across the oceans (IPCC, 2014). Observations show that Ireland’s climate is also changing. Observed and projected physical climate changes include:

- increase in average temperature (surface air temperature, sea surface temperature);
- changes in precipitation patterns;
- ongoing mean sea level rise;
- changes in the character of weather extremes such as storms, flooding, sea surges and flash floods.

In Ireland, climate change will have diverse and wide ranging impacts on the environment, society, economic sectors and natural resources. These include managed and natural ecosystems, water resources, agriculture and food security, human health, and coastal infrastructures and zones (Coll and Sweeney, 2013). Extreme weather events give rise to the most immediate and severe impacts for natural and managed systems (e.g. agriculture and forestry) as well as infrastructure and economic and societal disruption.

Mitigation measures are actions that reduce the impact humans have on the climate system by reducing/managing our emissions of greenhouse gases⁹, or providing/enhancing carbon sinks¹⁰. Examples include moving to more sustainable forms of transport, increasing energy efficiency by improving building insulation, using energy generated from renewable sources, and increasing forest cover.

Adaptation measures are actions taken to diminish the vulnerability and increase the resilience of a given system or group of systems to existing or anticipated climate change impacts. Adaptation responses can take the form of:

- **Grey** engineered measures to reduce climate hazards, such as the construction of flood defences;
- **Green** ecosystem-based adaptation measures, such as the restoration of dune systems and wetlands to buffer against sea level rise; and
- **Soft** adaptations which aim to alter the behaviour of the public through policy or economic instruments, such as offering discounted insurance on homes which retrofit flood defences.

⁹ The most abundant greenhouse gases in Earth’s atmosphere are water vapour (H₂O), carbon dioxide(CO₂), methane (CH₄),nitrous oxide (N₂O), ozone (o₃) and CFCs. They are called green house gases because they absorb infrared radiation produced by the sun warming the earth’s surface, trapping the heat in the atmosphere.

¹⁰ A carbon sink accumulates carbon-containing compounds. Carbon sinks include soils, trees and oceans.

5.10.2 ISSUES AND THREATS FOR CLIMATE CHANGE

1. Adaptation measures are essential in order to address the impacts of climate change through the County Development Plan, given that many of the impacts of climate change are unavoidable in the short to medium term, regardless of how successful climate mitigation measures are in reducing future emissions.
2. Applying energy efficiency measures both in terms of reducing energy use is essential in assisting our national and international commitments for Greenhouse Gas reductions.
3. Sourcing sustainable and renewable forms of energy that are not reliant on fossil fuels
4. Planning and adapting to predicted impacts of climate change.

5.11 MATERIAL ASSETS

Material assets are defined as the critical infrastructure essential for the functioning of society such as water supply, wastewater treatment, transportation etc. The section will address the following:

1. Transportation
2. Waste management
3. Water Supply
4. Wastewater Treatment Infrastructure
5. Renewable and alternative energy

5.11.1 TRANSPORT

Access to an efficient transport network contributes to opportunities for all sectors of the population to access services, facilities and social networks that are necessary to meet daily needs. Ease of accessibility enhances quality of life, promotes social inclusion, presents opportunities and promotes human health through expansion of cycle and walking infrastructure.

5.11.2 ROAD NETWORK

The road network is made up of motorway, national primary roads and national secondary roads, regional and local roads. Car is the dominant mode of transport due to the large rural area and dispersed population. Existing main roads of relevance to the Variation are:

M18 motorway ; this by-passes Ennis, connects the town to the national motorway network. The proposed Variation lands at Toureen are accessed via Junction 13 of this M18 motorway and the Regional road R352 forms the southern boundary of these lands.

Bus Eireann operates regular services from the bus station in Ennis to Shannon Airport, Galway, Limerick, Cork and Dublin. A private operator also operates several daily express services between Ennis, Limerick, Kildare and Dublin. Bus Eireann also operates an infrequent service from Ennis to North and West Clare and a regular service to Shannon Airport. Community funded buses (such as Ecat) also operate local services around north, west and east Clare, commonly serving Ennis.

Local services are provided for by Clare Bus, a not-for-profit bus service, which has a large number of routes that connect Ennis with its extensive rural hinterland.

The rail services within the County consist of a branch off the Limerick line which serves Ennis. The Western Rail Corridor has been opened recently and it involved upgrading 36 miles of track and associated infrastructure, including provision of five stations. Ennis Bus and rail station is situated within walking distance of Ennis town and includes park and ride facilities.

5.11.3 AIR

Shannon International airport is located within the southern part of the county. It is a critical element of the transport network in the region with both a national and international role.

5.11.4 WASTE MANAGEMENT

Clare falls under the Southern Region Waste Management Plan area for which the management plan was published in 2015. There are a number of waste recycling facilities including recycling centres and transfer stations. The Central Waste Management facility is situated at Inagh and there is a recycling centre in Ennis.

Domestic and commercial waste collection is undertaken solely by private permitted collectors.

5.11.5 WATER SERVICES INFRASTRUCTURE

Provision and management of water services (water supply and wastewater but excluding storm/surface water other than where sewage has been combined with surface water) was transferred to Irish Water in 2014.

Irish Water has completed the water services infrastructure at national level and identified priority projects for inclusion in the Capital Investment Plan (draft).

Water Supply¹¹: Irish Water is responsible for the Ennis Water supply.

5.11.6 WASTEWATER TREATMENT:

The Urban Wastewater Treatment Directive (91/271/EEC, amended by Directive 98/15/EEC) aims to protect the environment from the adverse effects of wastewater discharges by ensuring that wastewater is appropriately treated before it is discharges to the environment. Such treatment is essential in order to meet the requirements of the WFD.

Wastewater within the county is treated either through wastewater treatment plants (48%) or individual septic tank units (44%). There are significant service and compliance issues in many existing wastewater systems in the County. The lands are Toureen are not served by any wastewater treatment.

5.11.7 ENERGY

Article 4 of Directive 2009/28/EC on renewable energy requires each Member State to adopt a national renewable energy action plan (NREAP). Ireland's NREAP sets out our national targets for the share of energy from renewable sources to be consumed in transport, electricity and heating and cooling in 2020. The plan demonstrates how the Member State will meet its overall national target established under the Directive. The National Energy Efficiency Action Plan (NEEAP) outlines how Ireland will achieve 20% energy efficiency savings, calculated on the basis of the average energy demand from 2001 to 2005. Central to this are the policies and measures identified by government to enable Ireland to achieve these targets.

The exploratory risk scenario looks at the risks to achieving the energy efficiency and renewable energy targets and takes a pessimistic view as to whether the challenges associated with policy implementation in these areas will be met. This is confirmed by 2017 research by the EPA (See Section 5.9.2).

The Clare Renewable Energy Strategy 2017-2023 (Volume 6 of the Clare CDP 2017-2023) provides an energy profile and measures addressing energy efficiency and renewable energy. This strategy sets out the renewable energy resource targets for the County up to 2020. It outlines the potential for a

¹¹ From www.water.ie/ourprojects

range of renewable resources including bioenergy (biomass), anaerobic digestion, micro renewables, geothermal and ground source heat pump, solar, onshore wind, marine renewables (wave and tidal energy), pumped hydro energy storage and micro hydroelectric power.

Moneypoint, located on the Shannon Estuary is Ireland's largest power station and uses coal for energy production. Due to the presence of Moneypoint, the county is served by two x 400kv powerlines from Moneypoint running eastward through mid and south Clare respectively.

At present, seven locations in County Clare are connected to the gas grid namely Bunratty, Clarecastle, Cratloe, Ennis, Killaloe, Meelick, Shannon and Sixmilebridge. If the proposed Shannon Liquefied Natural Gas (LNG) facility is built, it is likely that the gas network in County Clare will be extended.

5.11.8 CLIMATE CHANGE AND MATERIAL ASSETS

Flood events and possible consequent risk of subsidence may have a significant impact on critical infrastructure such as roads, rail, electricity, water and communications. Hotter summers could also place an additional stress on key infrastructure.

Resilience to the anticipated changes needs to be integrated into future and existing networks.

Decarbonising the energy and wider economy is a critical and urgent threat.

As transport remains one of the country's largest contributors to greenhouse gas emissions, and the transport patterns remain heavily dependent on private cars, a shift to lower emission vehicles and public transport options will be required.

5.11.9 ISSUES AND THREATS FOR MATERIAL ASSETS

The SEA ER of the Clare CDP 2017-2023 identified a number of issues in relation to material assets, the issues relevant to this proposed Variation are presented below:

- Developments that are being considered should include an assessment of where the effluent is going.
- Promote water harvesting and conservation.
- There is a need to increase energy efficiency and conservation within County Clare and it is obliged to reduce energy and CO2 emissions by 33% by 2020.
- The travel patterns in Clare are governed to a large extent by private cars. Therefore there are existing pressures on ensuring that the transport network is adequate and maintained. There is a need to look at the provision of public and/ or community transport service options to ensure that the existing and future population growth of County Clare has sufficient access to public transport.

5.12 ENVIRONMENTAL SENSITIVITIES OF THE PLAN AREA

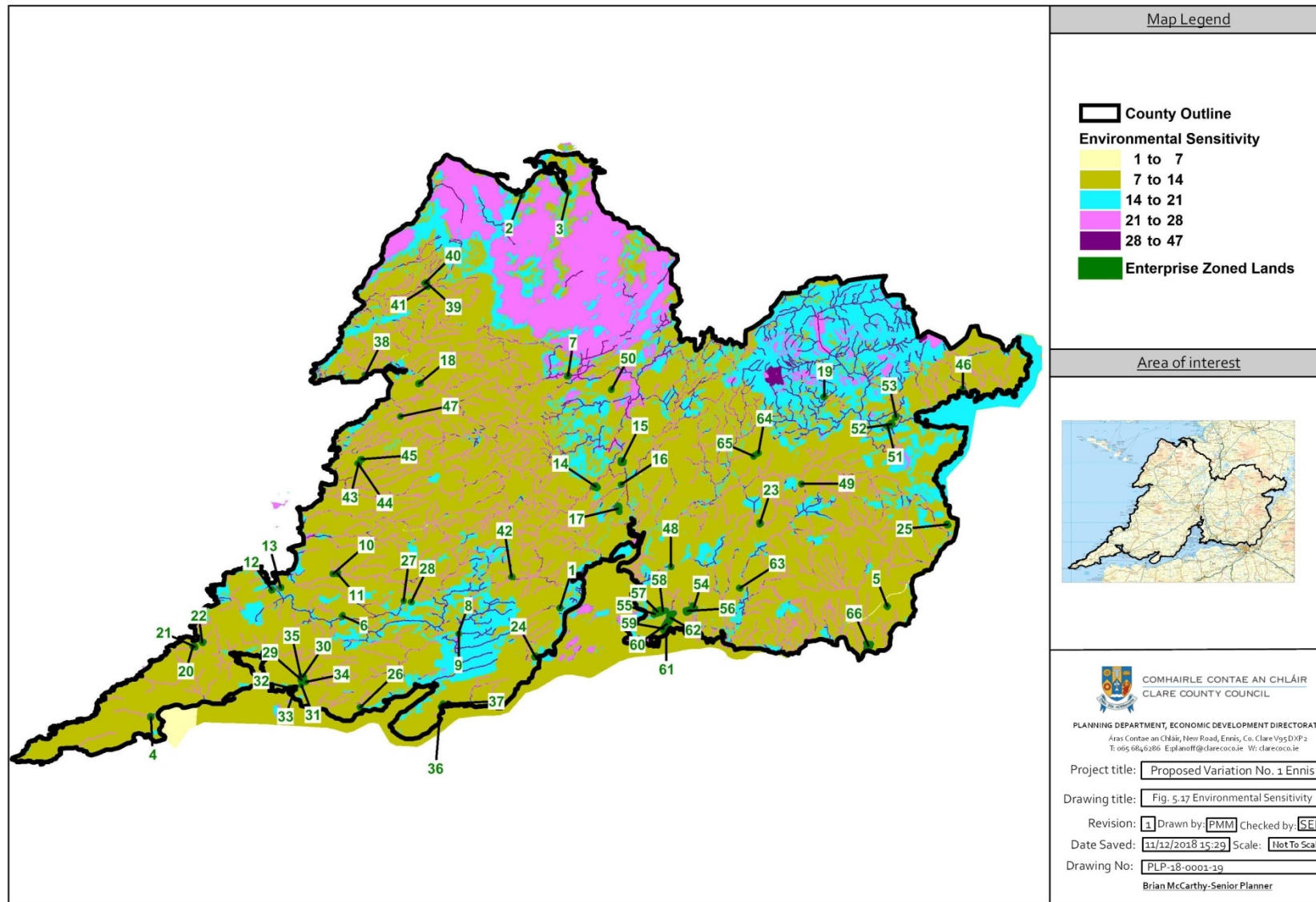
The baseline information gathering has allowed an evaluation of the environmental sensitivities that exist within the Plan area. By mapping key environmental layers (GIS) to produce an environmental sensitivities map, it provides a visual impression which can assist in identifying which areas within the Plan area experience the highest concentration of environmental sensitivities and consequently the areas potentially most vulnerable to potential environmental impacts from development. It also facilitates an assessment of the inter-relationships between the different key environmental parameters.

The key datasets used to inform this sensitivity mapping were as follows;

- Landscape Character Areas
- Ecological Designations (SAC, SPAs, NHAs)
- Groundwater Vulnerability

- Source Protection Areas
- Flooding
- WFD River and Groundwater and TraC status
- Nature Reserves
- Wetland Habitats

The environmental sensitivities map (**Figure 5.17**) shows the level of overlap of environmental sensitivities and the range of physical environmental factors that require consideration in relation to the proposed Variation at county level for the lands zoned for Enterprise. The SEA ER of the Clare CDP 2017-2023 provides further detail on how the environmental sensitivity mapping was prepared.



5.13 WHAT WILL HAPPEN TO THE ENVIRONMENT WITHOUT THE IMPLEMENTATION OF THE PROPOSED VARIATION?

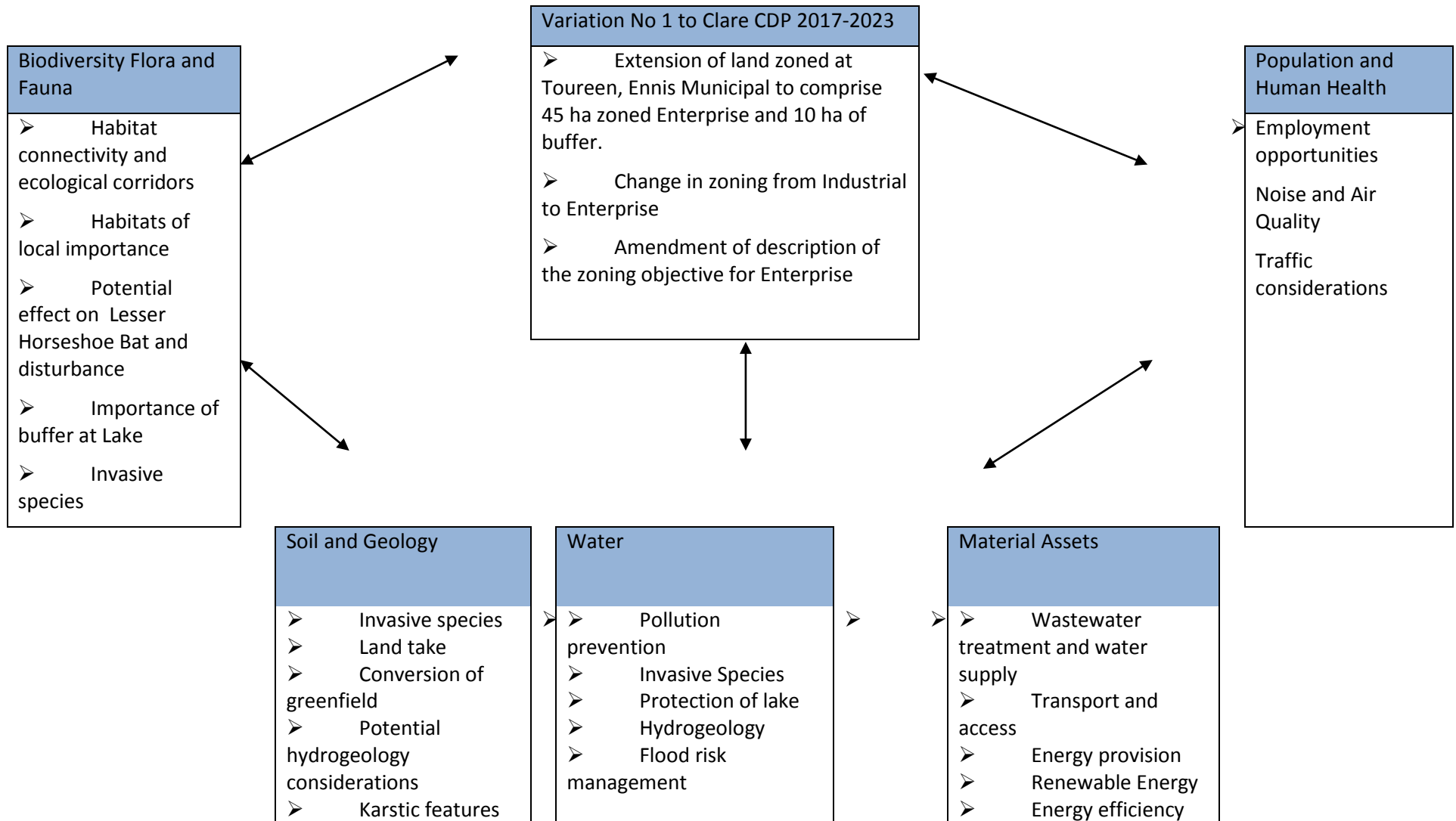
The SEA legislation requires that consideration is given to the likely evolution of the current baseline where implementation of the proposed Variation does not take place. In the absence of the proposed Variation the environment would evolve under the requirements of the Clare CDP 2017- 2023. **Table 9** summarises the SEA topics evolution in the absence of the implementation of this proposed Variation.

TABLE 9 EVOLUTION OF THE ENVIRONMENT IN THE ABSENCE OF THE PROPOSED VARIATION

SEA topic	Comment
Biodiversity , Flora and Fauna	<p>Considerable environmental protection would remain due to the implementation of the Clare CDP 2017-2023 and the policies and objectives relating to the environment.</p> <p>The Clare CDP 2017-2023 identifies existing mitigation measures in relation to the industrial landuse zoning at Toureen including a requirement for bat surveys and monitoring; additional planting to offset habitat loss and retention of buffer zone around Toureen lough. In the absence of the proposed Variation, these measures would still apply to the existing Industrial Zoning and the remainder of the land would be classified as open countryside.</p>
Population, Human Health and Quality of Life	<p>In the absence of the implementation of the proposed Variation, landuse under the Industrial zoning would still apply. In the SEA ER of this particular zoning the following potential effects were highlighted and would be applicable in the absence of the implementation of the plan.</p> <p>For lands zoned industrial- potential positive effects associated with employment creation close to Ennis town. Potential traffic and transport increases (and an increase potentially in noise levels); surface water and flood risk assessment requirements.</p> <p>For the land further east, outside the current Industrial zoning, these comprise open countryside and are in use as agricultural lands and would remain in agricultural landuse.</p>
Water Resources including Flood Risk	<p>Considerable environmental protection would remain due to the implementation of the Clare CDP 2017-2023 and the policies and objectives relating to the environment and water resources. In the absence of the proposed Variation, the specific measures identified for the proposed Variation Lands under the Industrial Zoning would continue to apply including requirement for a flood risk assessment, surface water management during construction and SUDs.</p>

SEA topic	Comment
Soil and Geology	Considerable environmental protection would remain due to the implementation of the Clare CDP 2017-2023 and the policies and objectives relating to the environment and soil and geology. Some of the requirements addressing biodiversity in the Clare CDP would also support geological and soil protection measures in the absence of the proposed Variation.
Cultural heritage	Considerable environmental protection would remain due to the implementation of the Clare CDP 2017-2023 and the policies and objectives relating to the environment and cultural heritage in the absence of the Variation.
Landscape	The Clare CDP 2017-2023 provides for a number of landscape related policies and objectives for the Working Landscapes Policy of which the proposed Variation applies in particular. In addition, specific measures identified in the SEA ER of the CDP would continue to apply in absence of this proposed Variation including additional landscape planting.
Air Quality	Existing provisions relating to Air Quality including encouraging modal shift in transport in the Clare CDP 2017-2023 would apply in relation to Air Quality.
Climate Change	Existing provisions relating to climate change including adaption in the Clare CDP 2017-2023 would apply in relation to climate change. This would include investigation of energy efficiency measures, and flood risk assessment and management.
Material Assets	<p>Existing provisions relating to the requirement for service led infrastructure in the Clare CDP 2017-2023 would apply. Measures identified for the Industrial Landuse zoning at this site would also apply for example the requirement for a traffic management plan for any planning application for this site.</p> <p>Energy policies and other relevant material asset provisions in the Clare CDP 2017-2023 would continue to apply.</p>

5.14 KEY INTER-RELATIONSHIPS



6 ENVIRONMENTAL ASSESSMENT AND STRATEGIC ENVIRONMENTAL OBJECTIVES

6.1 INTRODUCTION AND APPROACH

Having established the environmental baseline under each of the environmental parameters in the preceding chapter, the key environmental issues have been identified. Taking account of these issues a series of Strategic Environmental Objectives have been compiled as a mechanism for ensuring environmental protection. These SEOs are applied as follows:

1. As measures against which the implementation of the proposed Variation can be assessed for potential environmental impacts
2. As a measure for monitoring any actual environmental impacts as a consequence of implementing the proposed Variation, by devising a series of targets and indicators for each of the SEOs.

6.2 STRATEGIC ENVIRONMENTAL OBJECTIVES

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the implementation of the proposed Variation No.1 to the Clare CDP 2017-2023 can be tested. If complied with in full, SEOs would result in an environmentally neutral impact from the implementation of the proposed Variation. The SEOs are set out under a range of topics and are used as standards against which the provisions of the proposed Variation can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated.

The SEA Directive requires that the evaluation of Plans and Programmes focus upon the relevant aspects of the environmental characteristics likely to be significantly affected. In compliance with this requirement, SEOs have been developed for the relevant environmental parameters, tailored to the environmental issues specific to the Plan area and are set out in **Table 10**. The SEOs are linked to a series of targets and indicators which can facilitate through monitoring the implementation of the Plan when adopted (see Chapter 10 on Monitoring).

The primary source used in formulating the SEOs was Table 4B of the SEA Guidelines which have been tailored to be relevant to the County Development Plan area. The use of SEOs, although not a statutory requirement, does fulfil obligations set out in Schedule 2B of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, as amended.

The SEOs formulated for this SEA for the proposed Variation to the Clare CDP 2017-2023 are set out in **Table 10**.

TABLE 9 STRATEGIC ENVIRONMENTAL OBJECTIVES

Parameter	Strategic Environmental Objective
Population (inc. Human Health and Quality of Life)	P1 – Protect, enhance and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.
	P2 - To protect human health from hazards or nuisances arising from incompatible land uses/developments.
	P3 - Provision of green spaces for amenity and recreational uses.
Biodiversity, Flora and Fauna	B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species and wildlife corridors.
	B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.
	B3 - Conserve and protect other sites of nature conservation including NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.
	B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan
	B5 – To minimise and, where possible, eliminate threats to bio-diversity including invasive species.
	B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors.
Soil & Geology	S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites.
	S2 – Minimise the excavation and movement of soils within site works
	S3 – Minimise the consumption of non-renewable deposits on site.
	S4 - Minimise the amount of waste to landfill from site.
	S5 - Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.
Water	W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).
	W2 – Maintain or improve the quality of surface water and groundwater (including estuarine) to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management Plan and POMS.
	W3 – Implement appropriate sustainable drainage systems (SuDS) in the County.
	W4 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.
	W5 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.
	W6 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.
	W7 – To promote a responsible attitude to recreation and amenity use of

Parameter	Strategic Environmental Objective
	water in relation to water quality and disturbance to species and to prevent pollution and contamination of designated bathing waters.
Air/Noise/Climate	C1 – Minimise all forms of air pollution and maintain/improve ambient air quality.
	C2– Minimise emissions of greenhouse gases and contribute to a reduction and avoidance of human-induced global climate change.
	C3 - Reduce car dependency within the plan area by way of an integrated approach to sustainable urban transport (SUMP).
Material Assets	
Transport	T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, and shops.
	T2 - Provide for ease of movement for all road users and to promote development patterns that protect and enhance road safety.
Waste	WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.
Water Supply	WS1 - To ensure adequate and clean drinking water supplies.
	WS2 - Improve efficiency in distribution of potable water to the population through pipe rehabilitation and to promote water conservation and sustainable water usage for long-term protection of available water resources.
Waste Water	WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meet EU requirements prior to discharge.
	WW2 - Reduce the dependency on individual proprietary wastewater treatment facilities and ensure the highest standards possible in existing and future wastewater treatment facilities.
Renewable Energy	RE1 - Reduce waste of energy, promote use of renewable energy sources and support energy conservation initiatives across all sectors including the development of low carbon business practices and buildings.
Cultural Heritage	CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures, Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).
	CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.
	CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill).
Landscape	L1 Ensure no significant disruption of historic/cultural landscapes and features through objectives of the County Development Plan.
	L 2No significant visual impact from development. Ensure no significant disruption of high landscape values.

7 CONSIDERATION OF ALTERNATIVES

7.1 INTRODUCTION

The development and assessment of alternatives is a legal requirement under the SEA Directive and Regulations. Article 5(1) of the SEA Directive and 13E(1) of the Planning Development (Strategic Environmental Assessment) Regulations 2004 (as amended 2011) requires that the Planning Authority considers within the Environmental Report:

- **Reasonable** alternatives taking into account the objectives and the geographical scope of the plan or programme;
- The alternatives are **identified, described** and **evaluated**;
- An outline of the **reasons** for selecting the alternatives dealt with;
- 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).

The SEA Statement, which is required at the end of the plan-making and SEA process, must include and summarise “the reasons for choosing the plan as adopted, in the light of other reasonable alternatives dealt with” (13I(c) of the SEA Regulations).

In the preparation, consideration and assessment of alternatives regard has been had throughout the process, to the draft “Developing and Assessing Alternatives in Strategic Environmental Assessment” – Good Practice Guidance February 2014¹².

7.2 ALTERNATIVES CONSIDERED

The alternatives considered in preparing the proposed Variation in the first instance related to the strategic approach in how to most effectively facilitate, through policy and/or land use zoning provision, the implementation of the proposed Variation. The alternatives considered in this regard are set out below:

A. STRATEGIC NON SITE SPECIFIC WRITTEN OBJECTIVE IN THE CLARE CDP 2017-2023 TO FACILITATE DATA CENTRES. POLICY ONLY AMENDMENT

This objective would provide for a clear policy statement in the CDP that would support the provision of data centres, subject to compliance with the relevant standards, policies and objectives in the current CDP. Whilst such an objective may provide clarity in terms of an overall statement of support for Data centres, such an approach would have a number of disadvantages from the environmental and spatial planning perspective. This objective would not provide clarity to potential applicants or the public in terms of strategic site locations. It would not allow for a careful consideration of strategic environmental considerations, as potential lands and applications could be submitted on an adhoc basis. Furthermore in the absence of being able to assess strategic environmental considerations across a range of SEOs, such as biodiversity, and population and human health this approach would neither provide clarity or guidance to potential applicants or allow for a careful consideration of potentially more suitable sites for such landuse activities at County level.

¹² EPA

B. INDICATIVE STRATEGIC LOCATIONS IDENTIFIED FOR LOCATION OF DATA CENTRES. POLICY AND LANDUSE ZONING AMENDMENTS

This approach would use allow for the identification of areas of potential for data centres at county level. This approach would have the positive effect of being able to identify potential opportunity areas, and avoid most environmentally sensitive areas (using the environmental sensitivity mapping used in the Clare CDP 2017-2023). However, the disadvantage to this approach is that it does not allow for greater scrutiny of these strategic lands and may result in areas being identified at strategic level, that are not suitable for this landuse activity upon closer consideration.

C. SPECIFIC SITES IDENTIFIED FOR LOCATION OF DATA CENTRES, POLICY AND LANDUSE ZONING AMENDMENTS

This approach would be similar to that outlined in the preceding alternative; however, it would expand the level of investigation and allow for more detailed assessment of potential lands at county level. This approach allows for a greater level of scrutiny of environmental resources as it narrows the focus of the search onto specific sites, rather than strategic areas. This should also allow for a greater level of confidence in the identification of sites as data centre locations. By amending the landuse zoning and policy objectives, this approach allows for greater clarity by showing support at policy level including the Government Statement on *The Role of Data Centres in Ireland's Enterprise Strategy* and also allowing environmental measures to be developed for specific sites reflecting local environmental sensitivities.

Having considered the alternatives above the approach as summarised in *C. Specific sites identified for location of data centres, Policy and Landuse zoning amendments to the Clare CDP 2017-2023*, was identified as the preferred overall approach.

7.3 POTENTIAL SITE SELECTION PROCESS

The following stage progressed by identifying potential locations for a data centre which was the result of a process of site selection based on criteria recommended by the IDA in June 2017 who wrote to local authorities requesting their strategic input to an IDA research project regarding land/site identification in respect of land/facilities suitable for data centre type development. The criteria recommended were:

- Accessibility/ ease of connection to power
- Transport/ Roads accessibility
- Compatibility of surrounding land uses/ zoning
- Avoidance of designated sites
- Availability of the land
- The listed sites should include consideration of landbanks of c.50 acres in size, easily developable with the potential for future expansion possibilities.

Table 11 assesses the alternatives identified by Clare County Council.

Subsequent to this process, in November 2017 Clare County Council (CCC) published an Expression of Interest looking for sites for potential data centres. The tender sought expressions of interest from individuals, companies and partners who either own or can identify sites that could support the development of data centres in the county. **Table 12** sets out the assessment of site alternatives which emerged from the expression of interest process. Following this process, the lands at Toureen were identified as the preferred site. As the existing land is partly zoned as Industrial and the remainder as open countryside the need to consider a Variation to the Clare CDP has been identified and has now commenced.

In undertaking this assessment of alternatives the following approach was applied:

- Review of existing landuse zoning and environmental effects for these lands
- Review of SEA commentary on these zonings (where available) as part of the SEA of the Clare CDP 2017-2023 and Shannon Local Area Plan 2012-2018 as extended
- Literature review of environmental effects of Data Centres and review of common requirements of data centres from a landuse and planning perspective
- Consideration of criteria for potential data centres (in particular proper planning and sustainable development)
- Professional judgement and expertise in SEA.

The assessment is assessed using the following

(+)	reflects a potential positive effect
(-)	reflects a potential negative effect
(+/-)	reflects that positive and negative effects are likely or that in the absence of further detail the effect is unclear
(0)	reflects a neutral or uncertain effect

TABLE 10 ASSESSMENT OF ALTERNATIVES

Alternative Considered	0	+	-	+/-
Strategic Site No 1 60.32 ha Shannon Municipal District Zoning: Enterprise(partial) Open Countryside (partial)	P3 B6 W7 C3	P1	S1	P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2
<p>These lands comprise largely agricultural grassland with hedgerows, some scrub and occasional farmhouses. The Lower River Shannon SAC is located approximately 1.96km south of these lands.</p> <p>Two watercourses traverse the lands flowing southwards.</p> <p>Approximately 4 sites on the record of monuments and places</p> <p>Landscape character type: River Valley Farmland</p> <p>Landscape Character Area: River Shannon Farmland</p> <p>The SEA ER of the Shannon Local Area Plan 2012-2018 identifies part of these lands as E3 and provides the following commentary:</p> <p>E3: Stonehall</p> <p><i>The zoning of this large site is to facilitate the development of a large scale green / renewable energy development. Access to the site is good with direct access to the N19, however no cycle/foot paths exist, it is also significantly further away than other enterprise zones from the town centre and retail services. However, given the nature of the proposed development and availability of land it is recommended that regard can be had to facilitating these recommendations in further development proposals.</i></p> <p><i>Cognisance must also be had to the 'high' groundwater vulnerability on the site, and a number of archaeological remains.</i></p> <p><i>This SEA requests adhering to the WFD requirements with regard to maintaining/improving the quality of surface and groundwater and adhering to the aquifer protection plan. Added to this are concerns with regard to minimising landscape and visual impacts. Furthermore, the Natura Impact Report states that no impacts on the Natura 2000 Site Network were noted at this strategic Plan-level as a result of these recommendations. However, any development should be subject to Habitats Directive Assessment at project level, EIA if required and any EPA license requirements.</i></p>				
Strategic Site No 2 25.28 ha Shannon Municipal District Zoning: Open countryside	P3 W7 C3	P1	S1	P2 B1 B2 B3 B4 B5 B6 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2

Alternative Considered	0	+	-	+/-
<p>These lands comprise agricultural grassland, a relatively intact hedgerow network of quite small fields, area of mixed woodland Lower River Shannon SAC is located approximately 2.33km south of these lands One watercourse traverses these lands flowing southwards One site on the record of monuments and place Ribbon housing development quite dense close to western boundary Landscape character type: River Valley Farmland Landscape Character Area: River Shannon Farmland</p> <p>As these lands are not currently subject to an Industry or Enterprise zoning the Shannon LAP SEA ER does not provide a specific commentary upon these lands.</p>				
<p>Strategic Site No 3 26.36ha Shannon Municipal District Zoning: Light Industry</p>	P3 W7 C3	P1	S1	P2 B1 B2 B3 B4 B5 B6 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2
<p>These lands comprise agricultural grassland with a hedgerow network and some emerging scrub Lower River Shannon SAC is located approximately 2.6km south of these lands Close to an existing industrial area and major road Landscape character type: River Valley Farmland Landscape Character Area: River Shannon Farmland No water courses or archaeological features noted from desktop review.</p> <p>The SEA ER of the Shannon Local Area Plan 2012-2018 identifies part of these lands as E1 and provides the following commentary:</p> <p><i>I1 (East) – The lands are bounded to the east and west by the N18 and N19 roads and the N18/N19 interchange. Around 90 hectares remain available for strategic Greenfield development which is currently in agricultural use. It is envisaged that potential development will imitate the existing developed use as a mix of large-scale offices, logistics and advanced manufacturing businesses. Characteristics for the development of these lands include landmark buildings facing the N18/N19, new vehicular access from N19, parking provision and complimentary parkland. Development proposals within this zoning must consider the; - IPPC licensed activity within the site - SEVESO exclusion zone - flood zone to the east of the site - inner public safety zone, and - numerous remains of standing stones, enclosures, archaeological and cultural heritage.</i></p>				
<p>Strategic Site No 4: 23.34ha Ennis Municipal district</p>	P3 W7 C3	P1 S1		P2 B1 B2 B3 B4 B5 B6 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6

Alternative Considered	0	+	-	+/-
Zoning: Industry				C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2
<p>These lands consist of predominantly developed land and artificial surfaces. River Shannon and Fergus SPA and Lower River Shannon adjoin these lands, approximately 100m east No water courses or archaeological features noted Landscape character type: Flat Estuarine Farmland and Islands Landscape Character Area: Fergus Estuary Comment: This alternative represents a potential reuse of an existing industrial site and therefore creates positive effects in relation to Soil and Geology. The sites proximity to the River Shannon and Fergus SPA would require detailed consideration both in terms of likely significant effects to conservation management objectives of this European Site, as well as potential surface water run off. Although the estuarine landscape increases overall visual and landscape sensitivity to large scale development, the landscape already supports the existing large scale facilities associated with the Roche Factory. Potential historical landuse issues that may be associated with soil contamination would require remediation. It is understood the current facility is not closing until 2019. Further survey work and potential soil contamination may constrain the immediate reuse of these lands under the proposed Variation Amendment to Enterprise. The SEA ER of the Clare CDP provided the following commentary in relation to this zoning (IND 2):</p> <ul style="list-style-type: none"> • <i>If further development takes place on this site in the future all development proposals must be accompanied by a Construction Method Statement detailing how surface water run-off, especially in relation to release of silt to the Fergus, will be controlled during any construction.</i> • <i>Drainage plans for surface run-off during operation must also be submitted, ensuring run-off is treated via appropriate SuDS (petrol interceptor, silt trap, grease trap etc.) prior to discharge to any surface water features.</i> • <i>In the absence of knowing the specific nature of industrial activity it is uncertain as to the nature and extent of any potential environmental effects these may incur either through the nature of the operation, the traffic it may generate etc. However given the current operations on this site it is anticipated traffic generated may be high, may involve heavy goods vehicles and could involve night time activity. A traffic management plan will be required. Any proposed development on the site should be required to adopt sustainable practice in terms of building design, materials, construction and operation, ensuring a low carbon footprint.</i> • <i>The associated creation of employment with development of this scale could have potential positive effects in relation to human health and quality of life, by contributing to sustainable development and promoting an environment within which people can live, work, avail of community, social and recreational facilities within close proximity to each other</i> • <i>Any excavation on this site must include an investigation in relation to soil contamination and the undertaking of soil sampling and investigations to ensure all excavated material is free from contamination and pollution. Any material which is deemed to be contaminated must be removed from site under licence, treated and disposed of in an acceptable manner.</i> <p><i>In support of any future development the identification and zoning of this site for industrial use, it is recommended that available data are collated and reviewed, ecological surveys are carried out, and habitat and constraints maps prepared to accompany any future proposal. This will assist in demonstrating compliance with the Birds, Habitats and Environmental Liability Directives, wildlife legislation, and proper planning and sustainable development.</i></p>				

Alternative Considered	0	+	-	+/-
Strategic Site No 5: 50.6 ha Ennis Municipal District Zoning: Light Industry	P3 B6 W7 C3	P1	S1	P2 B1 B2 B3 B4 B5 B6 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2
<p>These lands comprise agricultural grassland with large fields and limited hedgerow connectivity. No surface water features, potentially 3 archaeological sites from the record of monuments and places. Located between Newhall and Edenvale SAC (c.1km west), River Shannon SAC and River Shannon and Fergus SPA (1.6km east) Some scattered residential development at southern and western fringe. Landscape character type: Flat Estuarine Farmland and Islands Landscape Character Area: Fergus Estuary Comment: These lands do not appear to have high potential foraging or commuting features for the Lesser Horseshoe Bat, however, given the lands proximity to Newhall and Edenvale, this would merit additional scrutiny and consideration, as it is located within the foraging distances for the Lesser Horseshoe Bat. The SEA ER of the Clare CDP provided the following commentary in relation to this zoning (LI1):</p> <ul style="list-style-type: none"> <i>The site includes three recorded monument (CL041-079 Ringfort, CL041-180 Ringditch, CL041-078 Ringfort) which will require provision of a buffer to protect their integrity. The number of archaeological sites recorded in the area will require an archaeological assessment to be undertaken as part of any proposal</i> <i>The site has good accessibility to the national road network for ease of accessibility for service vehicles and other associated traffic and an integrated traffic management plan should be prepared as part of any proposal integrating safe pedestrian and cycle connectivity with the adjacent residential and service areas of the village.</i> <i>The site is not currently served by public sewer, inhibiting its development until such time as this is provided and that there is connection to, and adequate capacity at, the Clareabbey waste water treatment plant.</i> <i>Management of surface water should be implemented through SUDS.</i> <p><i>Existing hedgerows and wildlife corridors within the site should be incorporated into any proposal for development. Given its peripheral location and rural nature a comprehensive landscape plan should be prepared for the entire site.</i></p>				
Strategic Site No: 6 19.08ha Ennis Municipal District Zoning: Industry (partial)and open countryside	P3 W7 C3		S1	P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2
These lands comprise agricultural grassland, with limited hedgerows and a lake with scrub/mature trees.				

Alternative Considered	0	+	-	+/-
<p>Dispersed residential development to the east. Lower River Shannon SAC is located some 1.59km southwest of the lands Landscape character type: Low Drumlin farmland Landscape character Area: Tulla Drumlin Farmland The SEA ER of the Clare CDP provided the following commentary in relation to this zoning (IND1): <i>Development of this site should take account of:</i></p> <ul style="list-style-type: none"> <i>This is an extensive area of agricultural lands, including farm buildings and a small number of residences, located on the eastern periphery of the plan area. It is a strategic location in terms of accessibility, situated directly adjacent to the M18.</i> <i>The site is not currently served by public sewer, inhibiting its development until such time as this is provided and that there is connection to, and adequate capacity at, the Clonroadmore waste water treatment plant.</i> <i>The site includes a recorded monument (CL034-007 Ringfort) along the eastern edge of the site and a buffer will be required to protect its integrity.</i> <i>Along the southern boundary adjacent to the road (R352) there is a mesotrophic lake around which is defined Flood Zone A. This feature will require protection through provision of a buffer, incorporating the dense clump of trees around and to the west of the lake, and be included in an overall landscape management plan. There are a number of boundary hedgerows which provide valuable linear wildlife commuting corridors for and these should be protected where possible. A full ecological assessment will be required for the entire site which will inform an overall landscape management plan. Given the rural nature of the location, screening through appropriate planting will also be required to minimise visual impact on the landscape.</i> <i>The management of surface water during construction and operation will require the preparation of a Surface Water Management Plan implementing SUDs.</i> <i>In the absence of knowing the specific nature of industrial activity it is uncertain as to the nature and extent of any potential environmental effects these may incur either through the nature of the operation, the traffic it may generate etc. However given the scale of lands zoned it is anticipated traffic generated may be high, may involve heavy goods vehicles and could involve night time activity. A traffic management plan will be required. Any proposed development on the site should be required to adopt sustainable practice in terms of building design, materials, construction and operation, ensuring a low carbon footprint.</i> <p><i>The associated creation of employment with development of this scale could have potential positive effects in relation to human health and quality of life, by contributing to sustainable development and promoting an environment within which people can live, work, avail of community, social and recreational facilities within close proximity to each other.</i></p>				
Strategic Site: No 7 Killaloe Municipal District Zoning: Industry	P3 W7 C3	S1		P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2
<p>These lands comprise developed land and artificial surfaces, with riparian vegetation. Lough Derg Shannon SPA located approximately 1.7km east</p>				

Alternative Considered	0	+	-	+/-
<p>River Scarrif forms northern boundary of site and drains into Lough Derg</p> <p>The current exceedances associated with former industrial use on these lands in relation to groundwater parameters should be remediated.</p> <p>Landscape Character Type: Lough Fringe Farmland</p> <p>Landscape Character Area: Lough Derg Basin</p> <p>The SEA ER of the Clare CDP provided the following commentary in relation to this zoning (IND3):</p> <p><i>IND3 is in line with and confirms the existence of the former Finsa site.</i></p> <p><i>IND3 encompasses the site of the existing plant and additional lands adjacent to it. Tuamgraney is situated in an area of high biomass resource (forestry). Building on the proud heritage of the former use, opportunities exist for the provision of low carbon or green technology companies to operate at this location. Clare County Council encourages the retention of the existing industrial use within the town to promote local employment. The zoning of these lands reflect positively on the SEOs in particular C2 & C3 in reducing Green House Gas Emissions and dependency on car use age together with T1 & T2 in terms of sustainable modes of transport.</i></p>				

The seven sites above were identified by Clare County Council and at strategic level met a number of criteria for potential data centres including high speed broadband in the vicinity, proximity to motorway and national route infrastructure and proper planning and sustainable development such as zoning of the site.

7.3.1 SUMMARY

As can be seen from the above assessment, for all the sites the potential environmental effects are broadly similar with some minor advantages for the brownfield sites, balanced by the potential need for remediation works prior to new construction. For Site 3, there would be a need for provision of considerable buffers to avoid potential negative effects for the residential developments along the western perimeter. In order to achieve an *immediate/short term* requirement for data centres; Site 4 and 6 are currently excluded on the grounds that remediation work would likely be required in the first instance and both sites' proximity to significant watercourses would further increase the need for careful consideration and monitoring of potential surface and groundwater effects. Overall, many of the identified potential effects in the table above would be mitigated at project level, particularly following detail surveys and assessments on site.

The next section of the assessment presents the sites submitted as part of the Expression of Interest and a short comment in terms of the criteria from a planning and sustainable development perspective used by Clare CC to further progress site selection.

TABLE 11 EXPRESSION OF INTEREST SITES

Expression of Interest Sites	0	+	-	+/-	Eol Criteria
<p>Site 1</p> <p>Zoning: Mixed Use</p>	P3 W7 C3	P1	S1	<p>P2 B1 B2 B3 B4 B5</p> <p>S2 S3 S4 S5</p> <p>W1 W2 W3 W4 W5 W6</p> <p>C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2</p>	<p>Size of site may be too constrained to accommodate a potential large scale data centre.</p> <p>Current zoning and prominence of location and Seveso sites in vicinity present further constraints.</p>
<p>These lands comprise improved agricultural grassland with some hedgerows and scrub. The Lower River Shannon SAC and River Shannon and Fergus SPA are located approximately 2.4 km south of these lands</p> <p>Landscape character type: River Valley Farmland</p> <p>Landscape Character Area: River Shannon Farmland</p>					
<p>Site No 2</p> <p>Zoning: Agriculture with Open Space</p>	P3 W7 C3	P1	S1	<p>P2 B1 B2 B3 B4 B5</p> <p>S2 S3 S4 S5</p> <p>W1 W2 W3 W4 W5 W6</p> <p>C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2</p>	<p>Size of site may be too constrained to accommodate a potential large scale data centre.</p> <p>Absence of any landuse zoning such as industry/enterprise further constraint.</p>
<p>These lands comprise improved agricultural grassland with a hedgerow and a stream running through the site draining south. The Lower River Shannon SAC and River Shannon and Fergus SPA are located approximately 2.5km south of these lands</p> <p>A ringfort is present close to the eastern boundary.</p> <p>Landscape character type: River Valley Farmland</p> <p>Landscape Character Area: River Shannon Farmland</p>					

Expression of Interest Sites	0	+	-	+/-	Eol Criteria
Site No 3 Zoning: Industrial	P3 W7 C3	P1	S1	P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2	
These lands comprise agricultural grassland with a hedgerow network and some emerging scrub Lower River Shannon SAC and River Shannon and Fergus SPA are located approximately 2.6km south of these lands Close to an existing industrial area and major road Landscape character type: River Valley Farmland Landscape Character Area: River Shannon Farmland No water courses or archaeological features noted from desktop review.					Constraints apply to this site given current landuse activities some of which are intensive in nature. The amount of land available may be considerably reduced to accommodate a potential large scale data centre.
Site No 4 Zoning: None – located in Open Countryside	P3 W7 C3	P1	S1	P2 B1 B2 B3 B4 B5 B6 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2	The land is located in open countryside
These lands comprise agricultural grassland, hedgerows, and scrub. The nearest European Site is Newhall and Edenvale SAC, approximately 1.07km away.					

Expression of Interest Sites	0	+	-	+/-	Eol Criteria
<p>As this site lies within the potential commuting distances for the Lesser Horseshoe Bat this would require consideration in any potential development.</p> <p>No archaeological sites recorded.</p> <p>Landscape character type: Low Drumlin farmland</p> <p>Landscape character Area: Tulla Drumlin Farmland</p>					
<p>Site No 5</p> <p>Zoning: Agriculture</p>	P3 W7 C3	P1	S1	<p>P2 B1 B2 B3 B4 B5</p> <p>S2 S3 S4 S5</p> <p>W1 W2 W3 W4 W5 W6</p> <p>C1 C2 T1 T2 WA1 WS2 WW1 WW2</p> <p>RE1 CH1CH2 L1 L2</p>	The current zoning is Agriculture and may present a constraint in terms of proper planning and sustainable development.
<p>These lands comprise improved agricultural grassland, some hedgerows and small areas of scrub</p> <p>The nearest European Site is 2.8km away, the Lower River Shannon SAC and River Shannon and Fergus SPA.</p> <p>A ringfort is present around the western area of the lands.</p> <p>Landscape character type: Flat Estuarine Farmland and Islands</p> <p>Landscape Character Area: Fergus Estuary</p>					
<p>High Level Strategic Site No 6</p> <p>Zoning: None – located in Open Countryside</p>	P3 W7 C3	P1 S1	S1	<p>P2 B1 B2 B3 B4 B5 B6</p> <p>S2 S3 S4 S5</p> <p>W1 W2 W3 W4 W5 W6</p> <p>C1 C2 T1 T2 WA1 WS2 WW1 WW2</p> <p>RE1 CH1CH2 L1 L2</p>	
<p>These lands comprise improved grassland, some hedgerows and one lane/track with a building present.</p> <p>The nearest European Site is 2.4km away, the Lower River Shannon and River Shannon and Fergus SPA.</p>					

Expression of Interest Sites	0	+	-	+/-	Eol Criteria
Landscape character type: River Valley Farmland Landscape Character Area: River Shannon Farmland No water courses located within the site, a waterbody is located close to the eastern boundary One potential archaeological feature noted.					
Site Number 7 Landuse zoning: None – located in Open Countryside	P3 W7 C3		S1	P2 B1 B2 B3 B4 B5 B6 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2	The land is located in open countryside
These lands are primarily improved agricultural grassland with possible tillage; larger fields with some dispersed settlement at fringes. The nearest European Site is less than 1km away, the Lower River Shannon SAC and River Shannon and Fergus SPA Surface water feature on the lands, no recorded archaeological features. Landscape Character Type: River Valley farmland Landscape Character Area: River Shannon Farmland					
Site No :8 Zoning: Enterprise	P3 W7 C3	P1	CH1 CH3 S1	P2 B1 B2 B3 B4 B5 B6 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 2 L1 L2 Ch2	The size of the lands may be too confined to accommodate a potential data centre and retain existing architectural features and existing habitats that require buffer provision. Distance from motorway and national road network a further constraint.

Expression of Interest Sites	0	+	-	+/-	Eol Criteria
<p>These lands are a mix of developed land and artificial surfaces, and amenity grassland/parkland</p> <p>The River Fergus adjoins the lands and the railway line is to the east.</p> <p>The nearest European Site is Lough Girroga (part of Ballallia SAC) approximately 0.4km north.</p> <p>Landscape Character Area: Ennis Drumlin Farmland</p> <p>Landscape Character Type: Built up Area</p>					
<p>Sites 9 and 10 (two areas either side of road)</p> <p>Zoning None – located in Open Countryside</p>					<p>The site configurations are not considered suitable for a potential large scale data centre.</p> <p>The land is located in the open countryside.</p>
<p>These 2 sites comprise improved agricultural grassland, and are two long relatively narrow areas facing either side of a motorway.</p> <p>The nearest European Site is approximately 0.9km away, Lough Gash SAC.</p> <p>No archaeological or surface water features identified</p> <p>LCT Type River Valley Farmland</p> <p>LCA River Shannon Farmland</p>					
<p>Site No 11</p> <p>Zoning: Industrial (partial) Open Countryside (partial)</p>	P3 W7 C3		S1	<p>P2 B1 B2 B3 B4 B5</p> <p>S2 S3 S4 S5</p> <p>W1 W2 W3 W4</p> <p>W5 W6</p> <p>C1 C2 T1 T2 WA1</p> <p>WS2 WW1 WW2</p> <p>RE1 CH1CH2 L1 L2</p>	<p>Partially zoned for Industry</p> <p>Adjacent to motorway</p> <p>Large site that could accommodate potential data centre development</p>
<p>These lands comprise agricultural grassland, with limited hedgerows and lakes with scrub/mature trees.</p> <p>Dispersed residential development to the east.</p> <p>Lower River Shannon SAC is located some 1.59km southwest of the lands</p> <p>Landscape character type: Low Drumlin farmland</p>					

Expression of Interest Sites	0	+	-	+/-	Eol Criteria
Landscape character Area: Tulla Drumlin Farmland					
Site Nos 12 and 13 Zoning: None – located in Open Countryside	P3 W7 C3		S1	P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2	Configuration of the 2 sites does not lend itself to large scale potential development. The land is located in the open countryside.
<p>These lands comprise predominately coniferous forestry with a small cluster of residential buildings adjacent to the road</p> <p>Approximately 5.9 km from nearest European Site, the Lower River Shannon SAC.</p> <p>3 recorded archaeological features identified.</p> <p>LCT Type Low Drumlin Farmland</p> <p>Landscape Character Area Tulla Drumlin Farmland</p>					
Site No 14 Zoning None- located in Open Countryside	P3 W7 C3			P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2	Motorway/national road access a constraint. The land is located in the open countryside.
<p>These lands comprise coniferous forestry.</p> <p>Approximately 3.65km from nearest European Site, Ratty River Cave SAC</p> <p>No recorded monuments or archaeological features</p> <p>LCA Broadford Hillls</p> <p>LCT Upland Fringe</p> <p>Located within potential 6km range of the Lesser Horseshoe Bat so this would require consideration.</p>					

Expression of Interest Sites	0	+	-	+/-	Eol Criteria
Site No 15 Zoning: None – located in Open Countryside				P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2	Motorway/national road access a constraint The lands are located in is the open countryside.
These lands comprises improved agricultural grassland with large fields and includes and/or is adjacent to bog habitats Approximately 6km from nearest European Site, the Lower River Shannon SAC No archaeological records or watercourses noted Landscape Character Area: Doonbeg Coastal Plain Landscape Character Type: Coastal Plain and Dunes					
Site No 16 Zoning: None – located in Open Countryside				P2 B1 B2 B3 B4 B5 S2 S3 S4 S5 W1 W2 W3 W4 W5 W6 C1 C2 T1 T2 WA1 WS2 WW1 WW2 RE1 CH1CH2 L1 L2	Motorway/national road access a constraint. The current zoning is open countryside.
These lands comprise improved agricultural grassland with large fields. Approximately 1.5km from nearest European Site, Kilkee Reefs SAC Landscape Character Area Loop Head Peninsula LCT Type Peninsular Farmland					

7.4 PREFERRED ALTERNATIVE, SPECIFIC SITE LOCATION

From the above evaluation, the lands at Toureen emerged as the preferred lands for a potential data centre. This site is the preferred area at strategic level, in terms of balancing the objectives of the Proposed Variation with environmental considerations including proper planning and sustainable development. The SEA then assessed the best policy response for the proposed Variation. These are summarised below in section 7.5.

7.5 PREFERRED SITE, CONSIDERATION OF APPROPRIATE LANDUSE ZONING IN THE CLARE CDP 2017-2023

1. EXTENSION OF CURRENT LANDUSE ZONING INDUSTRIAL.

The Industry landuse zoning in the Clare CDP 2017-2023 is defined as follows:

The use of land for industry uses shall be taken to include the use for industrial processing or manufacturing of a scale and nature where there is significant goods, manufacturing and related issues. Uses of this nature may result in the generation of emissions.

This type of industrial activity may also be subject to the SEVESO Directives, the main EU legislation dealing with the control of on-shore major accident hazards involving dangerous substances.

A mix of uses such as office-based or retail development is not considered appropriate in areas zoned for industrial development.

This scenario would entail leaving the existing Industrial landuse zoning in place but extending it to a larger area. Depending on the type of development activity proposed under this Industrial zoning, could give rise to a variety of potential environmental effects; though these are difficult to quantify in the absence of potential development activities and existing environmental protection provisions in the Clare CDP 2017-2023 should mitigate adverse environmental effects at project level.

The industrial landuse zoning generally applies to more intensive landuse activities for example, industrial processing or manufacturing. Potential development activities under this landuse zoning could include IPCC licensed activities and or Seveso Sites. Therefore an expansion of the Industrial Landuse zoning at a specific site in the County could result in more intensive landuse activities, that are considered unnecessary in light of data centre requirements. Moreover the data centre does not represent industrial processing or manufacturing landuse and therefore this option is excluded on the basis that it does not fit the industrial landuse definition.

2 ASSESSMENT OF LANDUSE ZONING OF ENTERPRISE AS AN APPROPRIATE ZONING OBJECTIVE FOR DATA CENTRES

Currently the Enterprise zoning objective is described as follows:

Lands zoned for 'enterprise' shall be taken to include the use and development of land for high-end research and development, business, science and technology based industry, financial services, call centres/telemarketing, software development, enterprise and incubator units, small/medium manufacturing or corporate offices in high quality campus/park type development

This Enterprise zoning definition is more consistent with potential data centre landuse than (technology based industry and campus type development) than industrial landuse zoning.

Approximately 58 areas are zoned for Enterprise in the County; however, most of these would not meet the IDA recommended criteria for data centre landuse. By amending this Enterprise zoning definition, additional text may also be required in relation to key elements of large data centres.

All zonings applications would be required to demonstrate compliance with the relevant environmental protection measures of the Clare CDP 2017-2023.

3 CONSIDER A NEW LANDUSE ZONING SPECIFICALLY FOR DATA CENTRES.

This option would require a new landuse zoning in the CDP that would specifically address data centres. This would have the advantage of a clear policy statement that specifically supports data centres in the County and could be tailored to ensure that environmental considerations were embedded in any definition. However, the disadvantages to this is that by introducing a specific landuse measure for only one type of landuse would set a precedent. Moreover as a single site has been selected through the process outlined in the preceding sections, the proposed Variation would be identifying a single new landuse zoning description for an individual site in the county. This may affect other potential data centre sites as discussed in the preceding section. Ultimately the environmental effects of data centres may be sufficiently considered through the Enterprise zoning.

7.6 PREFERRED ALTERNATIVE

As can be seen from the above assessment, the lands at Toureen were identified as particularly suitable for potential data centre landuse in light of its potential suitability based on research by Clare County Council and thereafter through the Expression of Interest process.

In terms of landuse policies and zoning, following the assessment in Section 7.5 the preferred alternative is to amend the Enterprise Zoning definition to allow for data centres and associated energy generating infrastructure.

By complying with appropriate mitigation measures - including those which have been integrated into the Variation - potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

8 ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED VARIATION

8.1 INTRODUCTION

The purpose of this section of the Environmental Report is to predict and evaluate as far as possible the environmental effects of the proposed Variation No.1 to the Clare CDP 2017-2023.

SEA is an iterative process and the proposed Variation has taken consideration of environmental issues raised during the SEA process to date. These issues have been incorporated into the proposed Variation and the principal purpose of this chapter is to discuss the evaluation of these issues. The discussion of likely impacts is grouped around each of the following environmental parameters as described in Chapter Five.

- Population & Human Health
- Biodiversity, Flora & Fauna
- Water Resources including flooding
- Soil & Geology
- Climatic Factors and Climate change
- Cultural Assets
- Material Assets
- Landscape
- In-combination and cumulative effects.

8.2 APPROACH TO ASSESSMENT

Having established the environmental baseline and the key environmental sensitivities for the Plan area in Chapter 5, and the Strategic Environmental Objectives in Chapter 6, an assessment for any potential environmental effects from implementing the proposed Variation to the Clare CDP 2017-2023 can be undertaken.

As this proposed Variation proposes amending the text of the Enterprise Landuse Zoning in Chapter 19 of Volume 1 Written Statement of the CDP 2017-2023, as well as changing and extending the landuse zoning at Toureen, these two elements form the basis of this assessment of significant environmental effects.

Annex A presents the assessment of all 58 Enterprise zonings within the County and **Table 13** in this chapter presents the potential significant environmental effects relating to the proposed Variation lands at Toureen. These are derived from the SEA ER assessment of all the settlements within the county undertaken as part of the SEA of the Clare CDP 2017-2023 (Volume 10 b (ii) Appendices). An assessment of cumulative and in-combination effects is also presented in the concluding section of this chapter.

The following section summarises the key physical elements of a data centre and associated energy generating infrastructure based on a brief planning review, a summary of potential significant effects for data centres at strategic and county level and then presents the assessment of potential significant environmental effects for the Lands at Toureen in **Table 14**.

8.3 OVERVIEW OF DATA CENTRES

8.3.1 DATA CENTRE ELEMENTS

Whitehead et al (2014) provide the following definition of data centres:

“Data centres contain IT equipment used for the processing and storage of data and communications networking. They are the backbone of IT networks across the globe and include extensive supporting infrastructures to power and cool the IT equipment.”¹³

As internet access increases and businesses move further online, internet use has become more demanding, and therefore the demand for data centres continues to increase exponentially.

A data centre can be a single data rack in a server room or can extend to large data centres that house multiple data racks, known as data halls. In addition to the data halls themselves, data centres require additional floor space commonly to include power and cooling equipment. The supporting infrastructure can be up to 2 to 4 times greater in terms of floor space than the data halls. Air quality control including dust is critical to data centres so this is carefully controlled and buildings are normally constructed without windows and commonly constructed using a steel frame.

Countries with cooler, temperate climates are often preferred as these reduce the cost of cooling facilities and promote ambient air cooling. In this regard, the climate of Ireland, combined with political stability increases the attractiveness of this country for data centres.

As of April 2018, there are 46 data centres in Ireland, with the largest clusters southwest of Dublin.

8.4 ASSESSMENT OF ZONED LANDS AND ENVIRONMENTAL ISSUES

The SEA ER of the Clare CDP 2017-2023 identified a number of environmental sensitivities. Some of these sensitivities will affect the potential development of **all land-uses** (including the proposed Variation Enterprise landuse zoning) within the plan area. The sensitivities include:

- High to extreme groundwater vulnerability throughout the plan area which presents a significant environmental vulnerability that needs to be considered in all future land-uses within the Plan area.
- Waste water treatment is a particular issue throughout the County of Clare both from a rural and urban perspective. Clonroadmore WWTP has been upgraded and has capacity. As a pre-requisite to any development taking place on zoned lands within the county, it is critical to have the infrastructure upgrade in place to accommodate future developments. An objective in the Plan must seek to ensure that, prior to the commencement of any development; future development can be serviced by wastewater treatment which complies with the Water Framework, the EU Urban Wastewater and the Birds and Habitats Directive.

It should also be noted that in the case of all settlements and zonings within flood zones identified in **Figure 5.14** “Flood Zones A and B” within the plan area that:

- Flood defences that have been/are being put in place are based on protecting existing land-uses of any benefitting lands and NOT any potential future change in use or new development.
- Impacts of climate change in relation to future flooding need to be considered with regard to stipulating development specifications which provide for resilience to flood risk and recommendations given accordingly.

8.5. POTENTIAL SIGNIFICANT ENVIRONMENTAL EFFECTS RELATING TO AMENDMENT OF DEFINITION OF LANDUSE ZONING FOR ENTERPRISE.

The SEA ER of the Clare CDP (Volume 10 b (ii) Appendices) assessed the Enterprise zonings identified in the plan; these are repeated in Annex A to this SEA, with an additional comment where

¹³ Whitehead et al. Assessing the Environmental Impacts of Data Centres Part 1: Building and Environment (82) 2014.

appropriate, of any particular recommendations or comments as they relate to the additional category of data centre in the proposed Variation.

From a short review of literature and planning review¹⁴, the following potential environmental effects can be identified relating to Enterprise landuse zoning as provided for in the proposed Variation:

- Energy use –is a key environmental effect as data centres require significant energy to operate;
- Grid connection and back up infrastructure to ensure reliability of data centres may give rise to local landscape and material assets effects;
- The potential exists for greater energy efficiency or heat recovery/transfer that could give rise to wider benefits by reducing /recycling energy and heating or powering local neighbourhoods;
- In certain conditions, cooling systems are required, whilst these are not frequently cited in the context of Ireland, should climate change effects result in more extreme weather conditions, including hotter summer temperatures, this could become a consideration for data centres;
- Footprint of data centres; there are specific space requirements for the design and operation of data centres, particularly large data centres that require minimum distances between data halls to allow for adequate cooling and circulation of air;
- This can result in a significant site footprint and associated effects on soil sealing (site dependant), habitats and ecological connectivity –again site specific;
- Aligned to the scale and size, landscape impacts and effects on local landscape character may arise; however the example of Frankfurt’s Citigroup data centre with grass roofs and living walls demonstrates successful design or a project by Google to use local artists to paint murals on the exterior walls^{15 16}.
 - Water use may also be significant depending on location and design/scale of data centre, and
 - During construction and potentially operation, increased employment opportunities; depending on the site location, this can result in increased private car transport in the absence of meaningful public transport or walking/cycling options.

8.5 1 POTENTIAL EFFECTS ON EUROPEAN SITES IDENTIFIED IN THE NATURA IMPACT REPORT

The NIR has provided the following in relation to the change in description of enterprise land use as follows:

The change in description of Enterprise land use zoning will facilitate the development of land within enterprise zonings for data-centres as well as other enterprise related developments. These other developments within the Enterprise zonings were assessed for their potential to result in likely significant effects to European Sites as part of the Natura Impact Report for the Clare CDP. Likely significant effects from developments within Enterprise zonings were identified in the NIR of the CDP and these related to:

- Habitat loss and fragmentation: the direct loss of habitat occurring within European Sites as a result of developments within enterprise zones.
- Habitat degradation resulting from emissions to surface water
- Habitat degradation resulting from emissions to groundwater

¹⁴ The following were reviewed: Inspectors Reports for: Clonee Data Centre Application Reference An Bord Pleanála :PL17 245 347, and Athenry Data Centre An Bord Pleanála Ref. PL07.245518.

¹⁵ <https://datacentermurals.withgoogle.com/stghislain>

¹⁶ <https://www.datacenterknowledge.com/leed-platinum-data-centers>

- Habitat degradation resulting from the spread of non-native invasive species during works within enterprise zones; and
- Disturbance and/or displacement of qualifying species from within or outside European Sites

8.6 LIKELY SIGNIFICANT EFFECTS OF PROPOSED VARIATION RELATING TO REZONING FROM INDUSTRY TO ENTERPRISE, AND EXTENSION OF LANDS ZONED UNDER ENTERPRISE, TOUREEN, ENNIS.

(+)	reflects a potential positive effect
(-)	reflects a potential negative effect
(+/-)	reflects that positive and negative effects are likely or that in the absence of further detail the effect is unclear
(0)	reflects a neutral or uncertain effect

TABLE 12 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS FOR PROPOSED VARIATION LANDS AT TOUREEN, ENNIS

Variation No: 1 to the Clare CDP 2017-2023	<ul style="list-style-type: none">Replacement of text in Section 1.5.2 associated with lands currently identified as Industrial Zoning (IND1) to be replaced with Enterprise (ENT3) zoning and for this zoning objective to be extended onto adjoining lands currently in the open countryside.Replacement of text currently in Section 2.13.5 with new additional text.This proposed Variation would increase the size of the zoned land at this location. The existing industrial zoning accounts for 8.5ha, the new Enterprise zoning would include a larger area of land, extending to 45 ha.		
Key Environmental Considerations for Lands at Toureen			
<ul style="list-style-type: none">This is an extensive area of agricultural lands, including farm buildings and a small number of residences, located on the eastern periphery of the plan area. It is a strategic location in terms of accessibility, situated directly adjacent to the M18.Habitats present on site include oak ash hazel woodland, hedgerows, pockets of dry calcareous and neutral grassland, potential rich fen and flush, hedgerows, a mesotrophic lake, stream, a river and built land and artificial surfaces. Another lake is present at the eastern boundary of the lands. The habitats of greater ecological significance merit appropriate consideration through project planning.Lesser horseshoe bat <i>Rhinolophus hipposideros</i> are considered highly likely to occur within the footprint of these lands given the nearest known roost at Knocanean Schoolhouse is less than 100m from the site boundary.Other bat species occurring within the site may include Leisler’s bat, Common Pipistrelle bat, Soprano Pipistrelle bat, Brown Long eared bat <i>Plecotus auritus</i> and Daubenton’s bat <i>Myotis daubentonii</i>In the context of the proposed Variation lands, a tributary of the River Fergus, called Spancilhill (code 010) (Ballymacahill River) flows southwest just north of the lands, and is culverted under the M18 prior to joining the River Fergus (code 070) at Ennis town. Both these rivers are classified overall as of poor quality and drain to the transitional waters at Clarecastle, where the waters are classified as being of moderate quality status.The lands are located within an area of extreme to high groundwater vulnerability with potential karst or rock at surface.The site includes a recorded monument (CL034-007 Ringfort) within the site and a buffer will be required to protect its integrity.Along the southern boundary adjacent to the road (R352) there is a mesotrophic lake around which is defined Flood Zone A.The site is not currently served by public sewerGiven the scale of lands zoned it is anticipated traffic generated may involve heavy goods vehicles and could involve night time activity.			
(+)	(-)	(+/-)	(0)
PH1 S1 W3	S1 C2 RE1 CH3	P2 P3 B1 B2 B3 B4 B5 S3 S4 S5 W1 W2 W4 W5 W6 C1 C3 T1 T2 WAS1 WS1 WS2 WW1 Ch1 CH2 L1 L2	W7 WW2

Discussion Summary of Impacts

Biodiversity, Flora and Fauna:

In terms of predicted specific impacts of the proposed Variation the following points are of note:

There will be a loss of habitats as listed above due to potential development. Some of the habitats on the site are worthy of protection or retention due to their floristic diversity or rarity at a local or County scale. These include calcareous grassland, oak-ash-hazel woodland, rich fen and flush and Toureen Lough. They also provide supporting habitat to a range of invertebrate species.

There will be a potential loss of woodland habitats to the footprint of future development within the lands. This will have the potential to result in fragmentation and the loss of habitat and commuting corridors for a range of wildlife including protected mammal and bird species. Measures that seek to retain and where necessary replace existing linear woodland corridors will be required.

The Natura Impact Report provides the following:

Invasive Species:

No baseline information reviewed to date for the Toureen lands has identified the presence of non-native invasive species within these lands and has not identified the potential for development within these lands to result in the spread of invasive species. However, precautionary mitigation measures are recommended to ensure that any future developments within these lands do not result in the spread of such species and any associated adverse effects to European Sites.

The Annex II qualifying species of European Sites that have been identified as being at risk of disturbance and/or displacement as a result of future developments within the lands subject to the proposed variation at Toureen are lesser horseshoe bat, otters and special conservation interest bird species of SPAs. Mitigation measures are recommended in the NIR to address these potential effects on Lesser Horseshoe Bat, Otters and special conservation interest bird species of SPAs.

Please refer to the accompanying Natura Impact Report for further detail and discussion.

Population, Human Health and Quality of Life

Positive impacts identified for population and human health associated with increased economic activity and employment opportunity. At a strategic level, the provision of a data centre will enhance the town of Ennis and environs for connectivity and future employment associated with the digital economy. It is expected there would be a positive, long term and moderate effect on employment as a result of any future enterprise locating in the area. Employment would likely be provided to some people in the surrounding areas, but employment opportunities may extend further afield depending on the specialist skills required.

Development management and control measures should ensure appropriate levels of protection for population and human health including potential impacts relating to noise, light and air quality associated with intensification of landuse activities.

The potential future design and layout of potential development could incorporate access for employees and local residents to some of the habitats on site,

in particular the woodland to the north of the lands. This would provide a long term, moderate effect on human health and well-being. Increasing access to some of these habitats would be considered in light of ecological considerations including increasing human disturbance.

In the absence of mitigation, potential Enterprise activities may lead to noise emissions from such activity and from additional traffic volumes that may arise. Ennis train and Bus stations are the nearest station, but would not be considered a convenient walking distance from the proposed site. There are a small number of residences close by which would be considered sensitive receptors with regard to noise emissions.

Suitable wastewater treatment would be required to be in place to facilitate the location of Enterprise activities which generate wastewater at the proposed Variation lands.

A number of residences are located across and adjacent to the lands at Toureen, these would require additional measures and buffers to avoid adverse effects in terms of light, noise and the alteration of agricultural lands to more intensive landuse activities. Mitigation measures are therefore recommended to address these potential effects.

Water including Flooding

In the absence of mitigation, during construction activities negative impacts could also arise in relation to emissions to water associated with development including increased run off and poor attenuation.

Development can have an impact on connectivity between water bodies unless adequately considered in design

The buffer around the mesotrophic lake Toureen lough at the southern boundary of the site requires assessment and consideration as does the lake on the eastern boundary; in addition an appropriate buffer to protect the surface water of Spancillhill River (Ballymacahill River) is recommended to avoid adverse effects on water quality and supporting habitats. These waterbodies are also identified as flood zone A in the strategic flood risk assessment, so assessment would be required.

The Natura Impact Report discusses the following:

Surface Water:

Any future developments within these lands that have been identified as having the potential to result in a deterioration to surface water quality will be required to undertake an assessment to determine the effect of the development on surface waters and surface water quality.

Groundwater:

Any future developments within these lands that have been identified as having the potential to result in deterioration to groundwater quality will be required to undertake a hydrogeological assessment to determine the effect of the development on groundwaters and groundwater quality.

Soil and Geology

In terms of predicted specific impacts if the land is rezoned, the following points are of note:

- There will be a loss of agricultural soil due to potential development.
- Development on the greenfield site would result in permanent loss and sealing of soil in this area.
- Potential risks associated with introduction of alien and invasive species associated with site clearance and construction works

Air Quality

The proposed zoning of the lands for Enterprise use has the potential to impact on ambient air quality and human health in the absence of mitigation. It should be noted that the type of Enterprise and the number and type of transport movements associated will dictate the type and significance of the effects. Potential back up generators for a data centre may give rise to noise and air quality impacts depending on the fuel types used. A mitigation measure is recommended in relation to this potential effect.

Climate Change

In the absence of mitigation, the proposed variation consisting of the proposed ENT3 lands for Enterprise use has the potential to increase greenhouse gas emissions. However, with effective implementation of construction management plans for each phase of potential development, the proposed construction-related greenhouse gas emissions are expected to be negligible.

Potential Enterprise activities may lead to increased traffic along the adjoining roads and, depending on the type of development may lead to greenhouse gas emissions associated with transport activities. A permit from the EPA (Greenhouse Gas Permit as per Council Directive 2009/29/EC “the (revised) EU Emission Trading Scheme (EU ETS)”) prior to operation may be required.

Cultural Heritage

Although there is only one existing recorded site/monuments, at the lands at Toureen, more generally potential exists for further archaeological material being revealed whenever the ground is disturbed by development. There are sufficient development management measures to address this should it arise, and a mitigation measure is recommended in relation to protection of the known archaeological site.

There are no known architectural heritage constraints within the lands at Toureen.

Cultural heritage impacts are likely to be sufficiently addresses through the planning and development management system and archaeological impact assessments.

Landscape

Given the proximity of these lands to the M18, the regional road and electricity pylons the rural landscape character is diluted somewhat.

Notwithstanding this, the primary landuse currently being agricultural, the change to ENT3 zoning represents a significant, permanent change in landscape character.

The visual relationship and connections to the woodland, Toureen lake, Spancillhill River (Ballymacahill River) and the hedgerow systems are important contributors to local landscape character.

The generally lowlying and undulating topography of the area means tall or large structures may be visible over the wider areas. Mitigation through landscaping and retention of existing vegetation particularly mature hedgerows and treelines where possible should be considered. Careful and sensitive design can also minimise such effects, and a mitigation measure is recommended to minimise these effects.

Material Assets

Services such as wastewater or water supplies would be required in advance of any development.

Energy provision and infrastructure required will be an important consideration in terms of supply, source and infrastructural requirements.

Changing landuse at Toureen to more intensive activities associated with Enterprise will likely give rise to increased traffic and transport considerations.

8.7 CUMULATIVE/IN-COMBINATION EFFECTS

This section of the Environmental Report provides an outline of the potential cumulative effects on the environment as a result of implementation of the proposed Variation to the Clare CDP 2017-2023.

Cumulative effects are referred to in a number of SEA Guidance documents and are defined in the EPA Sea Process Checklist as “effects on the environment that result from incremental changes caused by the strategic action together with other past, present and reasonably foreseeable future actions. These effects can result from individually minor but collectively significant actions taking place over time or space” (EPA SEA Process Checklist (2011)). These effects can be insignificant individually but cumulatively over time and from a number of sources can result in the degradation of sensitive environmental resources.

The assessment of cumulative effects is a requirement of the SEA Directive (2001/42/EC).

The 2004 Guidelines produced by the DECLG outlines that the SEA process is in a good position to address cumulative effects for which the Environmental Impact Assessment process is not equipped to deal with. Due to the strategic nature of the SEA process a forum is provided in which cumulative effects can be addressed.

The EPA Strive Report 2007-2013 on ‘Integrated Biodiversity Impact Assessment’ describes cumulative effects as incremental effects resulting from a combination of two or more individual effects, or from an interaction between individual effects – which may lead to a synergistic effect (i.e. greater than the sum of the individual effects), or any progressive effect likely to emerge over time.

Table 14 presents potential cumulative and in combination effects

TABLE 13 POTENTIAL CUMULATIVE AND IN COMBINATION EFFECTS

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
Mid-West Regional Guidelines Will be replaced by the Regional Economic and Spatial Strategies.	Set clear objectives and targets in relation to the development plans of the planning authorities that are specific in relation to future population, settlement strategy and development distribution and infrastructure investment priorities in line with the NDP 2007-2013. Promote the effective integration and coordination of development plans within an overall regional vision for development.	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment and Strategic Environmental Assessment.	No risk of significant “in-combination” effects.
Mid-West Area Strategic Plan	1. Prioritisation of investment in the region 2. Strengthening the Limerick/Shannon Gateway as the core of the Region. The promotion of the existing city and environs (the metropolitan city) as the economic driver for the region is fundamental 3. Strengthening the Limerick/Shannon Gateway, Nenagh and Ennis as the Hub in terms of population growth.	No significant impacts on European sites either within or outside the plan area as the plan have already been subjected to Habitats Directive Assessment and SEA	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	<p>4. Create and support a well defined hierarchy of settlement, as defined in the Mid-West Regional Planning Guidelines, which will support the development of a series of rural economic nodes such as Newcastle West, Thurles and Roscrea</p> <p>5. Deliver the required transport infrastructure to meet the Plan objectives</p> <p>6. Optimise the organisational structure to facilitate the delivery of the Plan objectives</p> <p>7. Provide economic review and direction for the region.</p>		
Ennis 2040 Economic and Spatial Strategy (in preparation)	The Strategy is currently under preparation and will comprise a vision for the town as well as a marketing strategy and key development sites.	Unknown impacts depending on sites selected the Strategy will be subject to screening under the SEA and Habitats Directive Assessment	Uncertain
Shannon Town and Environs Local Area Plan 2012-2018 as extended	This Plan aims to facilitate the sustainable economic and social development of Shannon Town & Environs, to conserve the natural and built environment of the area; and to improve its physical infrastructure.	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment and SEA.	No risk of significant “in-combination” effects.
County Clare	The Clare Heritage Plan	No significant impacts	No risk of significant

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
Heritage Plan 2017-2023	2017-2023 sets out how Clare County Council, in association with other stakeholders, will identify manage and conserve heritage for the benefit of all. It will collect and make available heritage information and raise awareness through education initiatives, surveys and research. It will inform public policy on heritage and support the strategic and integrate management of heritage at a local level.	as the heritage plan aims to support and enhance natural and cultural heritage	“in-combination” effects.
National River Basin Management Plan 2018-2022	The Plan sets out the actions that Ireland will take to improve water quality and achieve ‘good’ ecological status in water bodies (rivers, lakes, estuaries and coastal waters) by 2027. Ireland is required to produce a river basin management plan under the Water Framework Directive (WFD).	No significant impacts on European sites either within or outside the plan area as the plan has already been subjected to Habitats Directive Assessment and SEA .	No in-combination effects but there is a risk of conflict between the implementation of the RBMP and the objectives of the Clare CDP in terms of the measures required under the RBMP to restore or maintain ecological status and the identification within the Clare CDP of areas for future development which may prevent the achievement of the RBMP Objectives.
Mid-West Area Strategic Plan (MWASP) 2010-2030	Mid-West Area Strategic Plan (MWASP) 2010-2030 provides a framework within which the physical and spatial development of the	Yes, potential impacts may arise due to developments which could affect Natura 2000 sites and other SEA parameters.	Yes, both these RPGs and the Clare CDP could lead to development which could have in-combination

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	<p>region can be developed to 2030, and is particularly relevant to the strategic integrated land use and transportation planning and development and provision of future infrastructure envisaged for the Shannon Estuary. MWASP promotes the strategic direction for the sustainable development of the region, the attainment of balanced regional growth, and support for the settlement hierarchy in terms of the RPGS, and the optimal social, economic, physical infrastructural and cultural development of the study area.</p>		<p>effects on the Natura 2000 network.</p>

9 MITIGATION MEASURES

9. 1 INTRODUCTION

Section (g) of Schedule 2(B) of the SEA Regulations (Annex 1(g) of the SEA Directive) requires the Environmental Report to describe the measures envisaged to prevent, reduce and/or offset as fully as possible any significant adverse effects on the environment from implementation of the proposed Variation to the Clare County Development Plan 2017-2023. Mitigation involves ameliorating significant negative effects. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts or where this is not possible, to lessening or offsetting those effects. Mitigation measures can be generally divided into those that:

- Avoid effects;
- Reduce the magnitude or extent, probability and/or severity of effect;
- Repair effects after they have occurred, and
- Compensate for effects, by balancing out negative impacts with positive ones.

The iterative process of the preparation of the proposed Variation has facilitated the integration of environmental considerations into proposed Variation. In addition, potential positive effects of implementing the proposed Variation have been and will be maximised and potential adverse effects have been and will be avoided, reduced or offset.

Many impacts will be more adequately identified and mitigated at project and EIA level. In general terms, all proposals for development will be required to have due regard to environmental considerations outlined in this Environmental Report and associated assessments including the Natura Impact Report and Strategic Flood Risk Assessment. Proposals for development which are deemed contrary to the environmental objectives contained in Clare CDP 2017-2023 will not normally be permitted, and if permitted, not without the appropriate site and development specific mitigation measures.

Table 15 presents the principal environmental protection measures already included in the Clare CDP 2017-2023 that will apply, please note this is not an exhaustive list. This is followed by recommended specific mitigation measures for the proposed Variation lands at Toureen in **Table 16**.

PRINCIPAL ENVIRONMENTAL PROTECTIVE MEASURES IN THE CLARE CDP 2017-2023

TABLE 14 PRINCIPAL ENVIRONMENTAL PROTECTIVE MEASURES IN THE CLARE CDP 2017-2023:

Development Plan Objective: Appropriate Assessment, Strategic Environmental Assessment and Strategic Flood Risk Assessment	
CDP2.1	<p>It is an objective of the development plan:</p> <ul style="list-style-type: none"> a) To require the preparation and assessment of all planning applications in the plan area to have regard to the information, data and requirements of the Natura Impact Report, SEA Environmental Report and Strategic Flood Risk Assessment Report contained in Volume 10 of this development plan; b) To require projects to be fully informed by ecological and environmental constraints at the earliest stage of project planning and any necessary assessment to be undertaken, including assessments of disturbance to species, where required; c) To require compliance with the objectives and requirements of the Habitats Directive, the Bird Directive, Water Framework Directive, all other relevant EU Directives and all relevant transposing legislation.
Development Plan Objective: Environmental Impact Assessment	
CDP14.9	<p>It is an objective of Clare County Council:</p> <ul style="list-style-type: none"> a) To implement the EIA Directive, ensuring that all elements/stages or components of the project are included in one overall assessment and all reasonable alternatives are taken into consideration in choosing the option with the least environmental impact. b) To have regard to 'Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessments (2013)' when considering proposals for which an EIA is required; c) To ensure full compliance with the requirements of the EU Habitats Directive, SEA Directive and associated legislation/regulations, including the associated European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), European Communities (Environmental Assessment of Certain Plans and Programmes) regulations 2004-2011, and the European Communities (Environmental Impact Assessment) Regulations 1989–2011 (or any updated/superseding legislation).
Development Plan Objective: European Sites	
CDP14.2	<p>It is an objective of the development plan:</p> <ul style="list-style-type: none"> a) To afford the highest level of protection to all designated European sites in accordance with the relevant Directives and legislation on such matters; b) To require all planning applications for development that may have (or cannot rule out) likely significant effects on European sites in view of the site's Conservation Objectives, either in isolation or in combination with other plans or projects, to submit a Natura Impact Statement in accordance with the requirements of the EU Habitats Directive and the Planning and Development Act, 2000 (as amended); c) To recognise and afford appropriate protection to any new or modified SPAs or SACs that are identified during the lifetime of this plan, having regard to the fact that proposals for development outside of a European site may also have an indirect effect.
Development Plan Objective: Requirement for Appropriate Assessment under the Habitats Directive	
CDP14.3	<p>It is an objective of the development plan:</p>

	<p>a) To implement Article 6(3) and where necessary Article 6(4) of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s). All assessments must be in compliance with the European Communities (Birds and Natural Habitats) Regulations 2011;</p> <p>b) To have regard to 'Appropriate Assessment of Plans and Projects in Ireland – Guidelines for Planning Authorities 2009' or any updated version.</p>
Development Plan Objective: Non-Designated Sites	
CDP14.7	<p>It is an objective of Clare County Council:</p> <p>a) To ensure the protection and conservation of areas, sites, species and ecological networks/ corridors of biodiversity value outside of designated sites throughout the county and to require an ecological assessment to accompany development proposals likely to impact on such areas or species;</p> <p>b) To ensure that available habitat mapping is taken into consideration in any ecological assessment undertaken;</p> <p>c) To complete the Habitat Mapping of the county (in accordance with A Guide to Habitats in Ireland – The Heritage Council 2000) in order to identify and record the natural habitats of the county at a detailed level and afford appropriate protection to areas of importance, as required.</p>
Development Plan Objective: Natural Heritage and Infrastructure Schemes	
CDP14.8	<p>It is an objective of the development plan:</p> <p>To ensure the protection of natural heritage when considering proposed services, infrastructure and roadworks (both realignments and new roads) located in close proximity to, or nearby, protected ecological sites or sites of importance in terms of biodiversity.</p>
Development Plan Objective: Habitat Protection	
CDP14.11	<p>It is an objective of the development plan:</p> <p>a) To protect and promote the sustainable management of the natural heritage, flora and fauna of the county through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats;</p> <p>b) To promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated sites and the wider plan area;</p> <p>c) To ensure that there is no net loss of potential Lesser Horseshoe Bat feeding habitats, treelines and hedgerows within 3km of known roosts.</p>
Development Plan Objective: Habitat Fragmentation	
CDP14.13	<p>It is an objective of the development plan:</p> <p>To ensure that development proposals support and enhance the connectivity and integrity of habitats in the plan area by incorporating natural features into the design of development proposals.</p>
Development Plan Objective: Inland Waterways and River Corridors	
CDP14.14	<p>It is an objective of the development plan:</p> <p>a) To work with all relevant stakeholders to protect and manage inland waters, river corridors and their floodplains, turloughs, lakes, fens and other water bodies from degradation and damage, and to recognise and promote them as natural assets and key elements in the green infrastructure network in the county;</p> <p>b) To protect riparian zones / areas, where appropriate, in the plan area.</p> <p>c) To ensure that, where development occurs within a riparian zone, it does not have a negative impact on associated habitats and species;</p>

	<p>d) To work with all relevant stakeholders to protect and improve appropriate access to waterways and river corridors whilst ensuring their conservation and the protection of the resource and water quality;</p> <p>e) To have regard to the 'Clare County Wetlands Survey 2008' and other relevant documentation, including the 'Convention on Wetlands of International Importance' (Ramsar Convention), 1971 (ratified, 1984) and the 'EU Communication – Wise Use and Conservation of Wetlands 1995', in the assessment of developments;</p> <p>f) To encourage developments to :</p> <ul style="list-style-type: none"> • Maintain an appropriate width for the riparian zone to be protected; • Improve appropriate access and compatible leisure activities; • Maintain and enhance the fishing potential for both local interests and tourism by protecting the natural spawning beds of trout and salmon; <p>g) To protect the county's valuable inland fishery resource and support its sustainable development through the protection of water quality and facilitation of ancillary infrastructure at appropriate locations.</p>
Development Plan Objective: Woodland Trees and hedgerows	
CDP14.17	<p>It is an objective of the development plan:</p> <p>a) To preserve and conserve individual or groups of trees identified in Volume 2 of this plan as 'Trees for Preservation' which will enhance the character and appearance of an area;</p> <p>b) To carry out tree survey work during the lifetime of this plan to identify future trees of importance in the county and facilitate their future protection;</p> <p>c) To protect individual or groups of trees within the plan area which are important for environmental, recreational, historical, biodiversity and/or aesthetic reasons or by reason of contribution to sense of place, including groups of trees which correspond with protected habitats, or which support protected species, under the Habitats Directive;</p> <p>d) To work with landowners, local communities and other relevant groups to promote the retention and conservation of existing trees and hedgerows and encourage development proposals that enhance the landscape through positive management and additional planting/sensitive replanting of native tree species;</p> <p>e) To protect woodlands and hedgerows from damage and/or degradation and to prevent disruption of the connectivity of woodlands and hedgerows of the county;</p> <p>f) To ensure, where required, applications for development include proposals for planting / leave a suitable ecological buffer zone, between the development works and areas/features of ecological importance;</p> <p>g) Where hedgerows are required to be removed in the interests of traffic safety or where breaches to hedgerows occur due to river drainage/maintenance works and flood repair, to require the applicant/developer to replace/reinstate the hedgerows with a suitable replacement of native species to the satisfaction of the Council;</p> <p>h) To require each large green space in new residential developments to have at least one native oak tree, or other naturalised tree species of similar stature and lifespan, integrated into the agreed planting/landscaping scheme;</p> <p>i) To require, where possible, that all trees felled as a result of development proposals be replaced at a minimum ratio of 10 new native species per 1 tree felled.</p>

Development Plan Objective: Wetlands	
CDP14.19	It is an objective of the development plan: To manage, enhance and protect the wetlands in County Clare having regard to the 'County Clare Wetlands Survey (2008)', the 'Planning and Development Regulations 2001 (as amended)' and 'Drainage and Reclamation of Wetlands – Draft Guidelines for Planning Authorities, 2011' and any subsequent guidance documents
Development Plan Objective: Alien and Invasive Species	
CDP14.26	It is an objective of the development plan: a) To raise awareness of the threat of alien invasive species and take all necessary steps to prevent the spread of non-native invasive species and noxious weeds in the plan area, including requiring landowners, developers and boat operators to adhere to best practice guidance in relation to their control; b) To require all development proposals to address the presence or absence of invasive alien species on the proposed development site and to require the preparation of an Invasive Species Management Plan where such species are present; c) To implement the requirements of EU Regulations 1143/2014 on the Prevention and Management of the Introduction and Spread of Invasive Alien Species.
Development Plan Objective: Moneypoint Power Station	
CDP6.10	It is an objective of Clare County Council: To facilitate the diversification and expansion of Moneypoint Power Station and to work with all relevant stakeholders to identify and secure an alternative future use for the Strategic Development Location, that complement and are compatible with the existing energy use, in accordance with the findings and recommendations in the SIFP in order to ensure on-going employment and support economic growth in the West Clare area.
Development Plan Objective Energy Supply	
CDP6.17	It is an objective of Clare County Council: a) To contribute to the economic development and enhanced employment opportunities in the County by: b) Enabling the development of a self-sustaining, secure, reliable and efficient renewable energy supply and storage for the County. c) Facilitating the county to become a leader in the production of sustainable and renewable energy for national and international consumption through research, technology development and innovation
Development Plan Objective: Green Technology	
CDP6.18	It is an objective of the development plan: To support the development of low carbon and green tech businesses and industries throughout the county
Development Plan Objective: Energy Security	
CDP8.37	It is an objective of development plan: To promote and facilitate the achievement of a secure and efficient energy supply and storage for County Clare.
Development Plan Objective: Electricity Networks	
CDP 8.38	It is an objective of Clare County Council:

	<p>a) To facilitate improvements in energy infrastructure and encourage the expansion of the infrastructure within the county;</p> <p>b) To facilitate future alternative renewable energy developments and associated utility infrastructure throughout the county;</p> <p>c) To collaborate with Eirgrid, in accordance with the Grid 25 Strategy, to facilitate the delivery of quality connection, transmission and market services to electricity generators, suppliers and customers utilising the high voltage electricity system in County Clare;</p> <p>d) To collaborate with Eirgrid over the lifetime of the plan to ensure that the county's minimum target of 550MW renewable energy generation is achieved and can be accommodated on the electricity network in County Clare;</p> <p>e) To have regard to environmental and visual considerations in the assessment of developments of this nature.</p>
Development Plan Objective: Renewable Energy	
CDP8.40	<p>It is an objective of the development plan:</p> <p>a) To encourage and to favourably consider proposals for renewable energy developments and ancillary facilities in order to meet national, regional and county renewable energy targets, and to facilitate a reduction in CO₂ emissions and the promotion of a low carbon economy;</p> <p>b) To assess future renewable energy-related development proposals having regard to the Clare Renewable Energy Strategy 2017-2023;</p> <p>c) To assess proposals for wind energy development and associated infrastructure having regard to the Clare Wind Energy Strategy and the associated SEA and AA, or any subsequent updated adopted Strategy;</p> <p>d) To prepare a new and updated Wind Energy Strategy for County Clare during the lifetime of this development plan;</p> <p>e) To strike an appropriate balance between facilitating renewable and wind energy-related development and protecting the residential amenities of neighbouring properties;</p> <p>f) To support and facilitate the development of new alternatives and technological advances in relation to renewable energy production and storage, that may emerge over the lifetime of this Plan;</p> <p>g) To ensure that all proposals for renewable energy developments and ancillary facilities in the County are in full compliance with the requirements of the SEA and Habitats Directives and Objective CDP2.1</p> <p>h) To promote and market the county as a leader of renewable energy provision.</p>
Development Plan Objective: Energy Storage	
CDP8.41	<p>It is an objective of the development plan:</p> <p>To support and facilitate the development of secure, appropriately-scaled energy storage facilities, particularly pumped freshwater hydro energy storage, at suitable locations throughout the county, in compliance with the requirements of Objective CDP2.1.</p>
Development Plan Objective: Energy Conservation and Efficiency	
CDP8.42	<p>It is an objective of the development plan:</p> <p>To support and promote energy efficiency savings in all sectors in support of the National Energy Efficiency Action Plans and county-level strategies.</p>
Development Plan Objective: Broadband Connectivity	
CDP8.43	<p>It is an objective of Clare County Council:</p> <p>a) To work with the Department of Communications, Energy and Natural Resources to ensure the prompt implementation of the Rural Broadband Scheme in County Clare;</p>

	b) To facilitate the delivery of high capacity ICT infrastructure throughout the county.
Development Plan Objective: Renewable Energy	
CDP8.40	<p>It is an objective of the development plan:</p> <p>a) To encourage and to favourably consider proposals for renewable energy developments and ancillary facilities in order to meet national, regional and county renewable energy targets, and to facilitate a reduction in CO₂ emissions and the promotion of a low carbon economy;</p> <p>b) To assess future renewable energy-related development proposals having regard to the Clare Renewable Energy Strategy 2017-2023;</p> <p>c) To assess proposals for wind energy development and associated infrastructure having regard to the Clare Wind Energy Strategy and the associated SEA and AA, or any subsequent updated adopted Strategy;</p> <p>d) To prepare a new an updated Wind Energy Strategy for County Clare during the lifetime of this development plan;</p> <p>e) To strike an appropriate balance between facilitating renewable and wind energy-related development and protecting the residential amenities of neighbouring properties;</p> <p>f) To support and facilitate the development of new alternatives and technological advances in relation to renewable energy production and storage, that may emerge over the lifetime of this Plan;</p> <p>g) To ensure that all proposals for renewable energy developments and ancillary facilities in the County are in full compliance with the requirements of the SEA and Habitats Directives and Objective CDP2.1</p> <p>h) To promote and market the county as a leader of renewable energy provision.</p>
Development Plan Objective: Renewable Energy Development	
CDP 10.11	<p>It is an objective of the development plan:</p> <p>To facilitate the development of renewable energy developments in rural areas in accordance with the adopted Clare Wind Energy Strategy and Renewable Energy Strategy and the associated SEA and NIR (and any subsequent strategies).</p>
Development Plan Objective: Harnessing the Energy Resource	
CDP 11.8	<p>It is an objective of Clare County Council:</p> <p>a) To ensure that the Shannon Estuary fulfils it optimum role in contributing to the diversity and security of energy supply;</p> <p>b) To harness the potential of the Estuary for the sustainable development of renewable energy sources to assist in meeting renewable energy targets.</p> <p>All proposed developments shall be in accordance with the Birds and Habitats Directive, Water Framework Directive and all other relevant EC Directives.</p>
Development Plan Objective: Design and Built Environments	
CDP17.4	<p>It is an objective of Clare County Council:</p> <p>a) To encourage and facilitate excellence in the siting and design of new buildings in the county and particularly through contemporary and innovative architectural solutions;</p> <p>b) To encourage and facilitate high standards of energy efficiency;</p> <p>c) To facilitate and promote the use of appropriate low carbon materials in all future development and embrace the principles of sustainable design.</p> <p>d) To run a Design Awards Scheme to encourage excellence in the built environment.</p>
Development Plan Objective: Climate Change	

CDP18.1	<p>It is an objective of Clare County Council:</p> <ul style="list-style-type: none"> a) To support the implementation of the Limerick Clare Climate Change Strategy 2006, and any subsequent versions of the Strategy; b) To facilitate measures which seek to reduce emissions of greenhouse gases; c) To adopt sustainable planning strategies through integrating land use and transportation and by facilitating mixed use developments as a means of reducing greenhouse emissions. d) To raise awareness and understanding of the impacts of climate change on both the local economy and communities in the county.
Development Plan Objective: Climate Change Adaptation	
CDP18.2	<p>It is an objective of Clare County Council:</p> <ul style="list-style-type: none"> a) To liaise with all relevant stakeholder to prepare a Climate Change Adaptation Strategy for County Clare during the lifetime of this development plan; b) To raise awareness of issues relating to climate change issues and climate change adaptation during the lifetime of this Plan
Development Plan Objective: Development of a Low Carbon Economy	
CDP18.3	<p>It is an objective of the development plan:</p> <ul style="list-style-type: none"> a) To promote County Clare as a Low Carbon County as a means of attracting inward investment to the county and the Mid-West region; b) To facilitate measures to establish a low carbon economy and society by 2020 c) To facilitate the development of energy sources which will achieve low carbon outputs; d) To support sustainable modes of transport such as walking and cycling through promotional strategies and the provision on infrastructure where required; e) To work to implement the provisions of <i>Ireland's Transition to a Low Carbon Energy Future 2015-2030</i> as they relate to County Clare
Development Plan Objective Energy Efficiency:	
CDP18.4	<p>It is an objective of Clare County Council:</p> <p>To assist in reducing the county's dependence on imported fossil fuels and to develop a low carbon economy by:</p> <ul style="list-style-type: none"> a) Promoting innovative new buildings design that demonstrates a high level of energy conservation, energy efficiency and the use of renewable energy resources, in accordance with national regulations and policy requirements; b) Promoting the development and use of alternative energy vehicles in line with concept of Smarter Travel and to encourage and facilitate the development of ancillary infrastructure; c) Promoting energy conservation, energy efficiency and use of renewable energy sources in the production of all goods and services in accordance with national, regional and county regulations and policy requirements; d) To facilitate the provision of installations for powering electric vehicles at convenient locations across the county
Development Plan Objective: Distributed Heat	
CDP18.50	<p>It is an objective of the development plan:</p> <p>To support and encourage the development of Distributed (District) Heating as a means of facilitating:</p> <ul style="list-style-type: none"> a) the increased use of heat generated from indigenous, low carbon, renewable resources (bio energy, solar, geothermal etc.); b) the utilisation and distribution of useful waste heat from large thermal processes;

	c) the utilisation and distribution of useful heat from a combined heat and power (CHP) plant, where such a plant's primary energy is met by indigenous, low carbon, renewable resources (bio energy, solar, geothermal etc.).
Development Plan Objective: Waste Management	
CDP8.28	<p>It is an objective of Clare County Council:</p> <p>a) To implement the provisions of Southern Region Waste Management Plan 2015-2021;</p> <p>b) To encourage and facilitate the development of new alternatives and technological advances in relation to waste management;</p> <p>c) To support the development of waste recycling facilities at appropriate locations in County Clare as a means of facilitating a reduction in the quantity of waste that goes to landfill disposal sites;</p> <p>d) To promote environmental awareness measures and action programmes to ensure good environmental awareness and practices, the recycling of waste, water management, energy conservation</p>

Development Plan Objective	
CDP8.21	<p>It is an objective of Clare County Council:</p> <p>a) To facilitate the implementation of the Shannon River Basin Management Plan and the Western River Basin Management Plan (together with any subsequent National River Basin Management Plan) for groundwaters and surface waters in the plan area as part of the implementation of the EU Water Framework Directive;</p> <p>b) To protect groundwater resources in accordance with the statutory requirements and specific measures as set out in the relevant River Basin Management Plan;</p> <p>c) To consider proposals for development where it can be clearly demonstrated that the development will meet the requirements of the relevant River Basin Management Plan.</p>
Development Plan Objective: Protection of Water Resources	
CDP8.22	<p>It is an objective of the development plan:</p> <p>a) To protect the water resources of County Clare having regard to the requirements of the relevant EU Directives;</p> <p>b) To ensure that developments that would have an unacceptable impact on water resources, including surface water and groundwater quality and quantity, designated sources protection areas, coastal and transitional waters, river corridors and associated wetlands are not permitted;</p> <p>c) In areas of potable groundwater resources or over vulnerable aquifer areas, development proposals will only be considered if the applicant can clearly demonstrate that the proposed development will not pose a risk to the quality of the underlying groundwater;</p> <p>d) To protect groundwater resources, in accordance with statutory requirements and specific measures as set out in the Shannon and Western River Basin Management Plans;</p> <p>e) To ensure that proposals for development which infringe on a river boundary, or an associated habitat, including their connection by groundwater, will only be considered where it can be clearly demonstrated that:</p> <ul style="list-style-type: none"> • The character of the area will be conserved; • An acceptable physical riparian zone will be maintained with all natural vegetation preserved;

	<ul style="list-style-type: none"> • There will be no impact on the ecological, aquatic or fishing potential of the waters or associated waters; • All proposals are in compliance with the requirements of the Habitats Directive, where appropriate.
Development Plan Objective: Strategic Flood Risk Assessment	
CDP18.6	<p>It is an objective of Clare County Council:</p> <p>To ensure that proposals for development in areas where there is a risk of flooding, (based on the Flood Risk Maps contained in Volume 2 of the Clare CDP 2017-2023, or any updated version), shall have regard to 'The Planning System and Flood Risk Management (and Technical Appendices) – Guidelines for Planning Authorities 2009' and any future OPW flood assessment information. Such proposals must also demonstrate that appropriate mitigation measures can be put in place.</p>
Development Plan Objective: CFRAMS	
CDP18.7	<p>It is an objective of Clare County Council:</p> <p>a) To comply with the EU Floods Directive 2007/60/EC;</p> <p>b) To have regard to the requirements and outcomes of the Catchment Flood Risk Assessment and Management Studies (CFRAMS) prepared for the Areas for Further Assessment in County Clare (once finalised) in the assessment of development proposals</p>
Development Plan Objective: Storm Water Management	
CDP18.8	<p>It is an objective of the development plan:</p> <p>a) To ensure that adequate storm water infrastructure is in place to accommodate the planned level of growth in the plan area;</p> <p>b) To require all new developments to provide a separate foul and surface water drainage system;</p> <p>c) To ensure the implementation of Sustainable Urban Drainage Systems (SuDS) and in particular, to ensure that all storm water generated in a new development is disposed of on-site or is attenuated and treated prior to discharge to an approved storm water system;</p> <p>d) To request the submission of details regarding Surface Water Attenuation Systems for multi-unit development applications in the plan area.</p> <p>Development will only be permitted in areas where sufficient surface water capacity exists.</p>
Development Plan Objective :Landscape Character	
CDP13.1	<p>It is an objective of Clare County Council:</p> <p>To encourage the utilisation of the Landscape Character Assessment of County Clare and other relevant landscape policy and guidelines and to have regard to them in the management, enhancement and promotion of the landscapes of County Clare</p>
Development Plan Objective: Western Corridor Working Landscapes	
CDP13.3	<p>It is an objective of the Development Plan:</p> <p>a) To permit development in these areas that will sustain economic activity, and enhance social well-being and quality of life - subject to conformity with all other relevant provisions of the plan and the availability and protection of resources;</p> <p>b) That selection of appropriate sites in the first instance within this landscape, together with consideration of the details of siting and design, are directed towards minimising visual impact;</p> <p>c) That particular regard should be given to avoiding intrusions on scenic routes and on ridges or shorelines. Developments in these areas will be required to demonstrate:</p>

	<ul style="list-style-type: none"> i. That the site has been selected to avoid visually prominent locations ii. That site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, public amenities and roads <p>That design for buildings and structures reduce visual impact through careful choice of form, finishes and colours and that any site works seek to reduce visual impact of the development</p>
Development Plan Objective: Scenic Routes	
CDP13.7	<p>It is an objective of Clare County Council:</p> <ul style="list-style-type: none"> a) To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community; b) To ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to minimise their impact; c) To ensure that appropriate standards of location, siting, design, finishing and landscaping are achieved
Development Plan Objective: Compliance with Zoning	
CDP 19.3	<p>It is an objective of the development plan:</p> <p>To require development proposals to comply with the zoning of the subject site in the settlement plans and local area plans.</p>
Development Plan Objective: Water Services	
CDP8.24	<p>It is an objective of the development plan:</p> <ul style="list-style-type: none"> a) To work closely with Irish Water to identify and facilitate the timely delivery of the water services required to realise the development objectives of this plan; b) To facilitate the provision of integrated and sustainable water services through effective consultation with Irish Water on the layout and design of water services in relation to the selection and planning of development areas and the preparation of master plans; c) To ensure that adequate water services will be available to service development prior to the granting of planning permission and to require developers to consult Irish Water regarding available capacity prior to applying for planning permission; d) To ensure that development proposals comply with the standards and requirements of Irish Water in relation to water and waste water infrastructure to facilitate the proposed development.
Development Plan Objective: Water Supply	
CDP8.25	<p>It is an objective of Clare County Council:</p> <ul style="list-style-type: none"> a) To advocate the provision, by Irish Water, of adequate water supply to accommodate the target population and employment potential of the county in accordance with the statutory obligations set out in EU and national policy and in line with the Core Strategy and Settlement Hierarchy set out in this plan; b) To advocate for the on-going upgrade of water supply Public Main infrastructure in the county; c) To maximise the use of existing capacity in water service in the planning of new development; d) To protect existing wayleaves and protection areas around public water services infrastructure through appropriate zoning and to facilitate the provision of appropriate sites for required water services infrastructure as required;

	<p>e) To work with all stakeholders to promote water conservation and sustainable water usage;</p> <p>f) To promote and support the use of rainwater harvesting (in new buildings and as a retrofit) where viable;</p> <p>g) To prohibit the use of bored wells for water supply in areas where public supply is available.</p>
Development Plan Objective: Wastewater Treatment and disposal	
CDP8.27	<p>It is an objective of Clare County Council:</p> <p>a) To advocate the provision, by Irish Water, of adequate waste water services and capacity to accommodate the target population and employment potential of County Clare in accordance with the statutory obligations set out in EU and</p> <p>b) To support Irish Water in the promotion of effective management of trade discharges to sewers in order to maximise the capacity of the existing sewer networks and minimise detrimental impacts on sewage treatment works;</p> <p>c) To permit the development of single dwelling houses only where it is demonstrated to the satisfaction of the Planning Authority that the proposed wastewater treatment system is in accordance with the Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses EPA (2009);</p> <p>d) To permit the development of treatment systems for small businesses/community facilities in unserved areas where they are in single ownership and where it is demonstrated to the satisfaction of the Planning Authority that the proposed wastewater treatment system is in accordance with Code of Practice Wastewater Treatment and Disposal Systems Serving Single Houses EPA (2009) and Wastewater Treatment Manuals Treatment Systems for Small Communities, Business, Leisure Centres and Hotels, EPA (1999);</p> <p>e) To encourage and support a changeover from septic tanks/private waste water treatment plants to public collection networks wherever feasible, subject to connection agreements with Irish Water and to ensure that any future development connects to the public wastewater infrastructure where it is available.</p>
Development Plan Objective: Smarter Travel	
CDP 8.10	<p>It is an objective of Clare County Council:</p> <p>To support sustainable travel in County Clare and to implement the key goals, targets and actions as contained in ‘SmarterTravel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009-2020’</p>
Development Plan Objective: Construction and Demolition Waste	
CDP8.31	<p>It is an objective of Clare County Council:</p> <p>a) To require a C&D Waste Management Plan to be prepared by the developer having regard to the DoEHLG’s publication Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects for new construction or demolition projects and to require that the maximum amount of waste material generated on site is reused and recycled;</p> <p>b) To promote the production and reuse of aggregates from C&D waste and their use in construction projects in the region;</p> <p>c) To encourage the development of C&D waste recycling facilities at suitable sites, including quarries, subject to normal planning and environmental considerations.</p>
Development Plan Objective: Air Pollution	
CDP 8.34	<p>It is an objective of the Development Plan:</p>

	To implement the provisions of national policy and air pollution legislation, in conjunction with other agencies as appropriate.
Development Plan Objective: Light Pollution	
CDP8.35	<p>It is an objective of the development plan:</p> <p>a) To require proposals for development that include the provision of external lighting, to clearly demonstrate that the lighting scheme is the minimum needed for security and working purposes;</p> <p>b) To ensure that external lighting and lighting schemes are designed so that the incidence of light spillage is minimised ensuring that the amenities of adjoining properties, wildlife and the surrounding environment are protected.</p>
Development Plan Objective: Climate Change Adaptation	
CDP18.2	<p>It is an objective of Clare County Council:</p> <p>a) To endeavour to implement elements of Sectoral Adaptation Plans, prepared in accordance with the Climate Action and Low Carbon Development Act 2015, as they relate to the work of Clare County Council;</p> <p>b) To liaise with all relevant stakeholders to prepare a Climate Change Adaptation Strategy for County Clare during the lifetime of this development plan;</p> <p>c) To raise general awareness of issues associated with climate change and climate change adaptation during the lifetime of this plan</p>
Development Plan Objective: Architectural Heritage	
CDP15.1	<p>It is an objective of Clare County Council:</p> <p>a) To ensure the protection of the architectural heritage of County Clare through the identification of Protected Structures, the designation of Architectural Conservation Areas, the safeguarding historic gardens, and the recognition of structures and elements that contribute positively to the vernacular and industrial heritage of the county;</p> <p>b) To ensure that the architectural heritage of the county is not damaged either through direct destruction or by unsympathetic developments nearby.</p>
Development Plan Objective: Industrial Heritage	
CDP15.3	<p>It is an objective of the development plan:</p> <p>To protect and preserve buildings and features of industrial heritage such as mills, bridges, lighthouses, harbours, etc. Proposals for refurbishment works to, or redevelopment/conversion of, these sites will be subject to a full architectural and archaeological assessment</p>
Development Plan Objective: Vernacular Heritage	
CDP15.4	<p>It is an objective of the development plan:</p> <p>a) To seek the retention, appreciation and appropriate revitalisation of the vernacular heritage of County Clare, in both towns and rural areas, by deterring the replacement of good quality vernacular buildings with modern structures and by protecting (through the use of ACAs and the RPS and in the normal course of Development Management) vernacular buildings where they contribute to the character of an area or town and/or where they are rare examples of a structure type;</p> <p>b) To support proposals to refurbish vernacular structures that are in a run-down or derelict condition, provided that:</p> <ul style="list-style-type: none"> - Appropriate traditional building materials and methods are used to carry out repairs to the historic fabric; - Proposals for extensions to vernacular structures are reflective and proportionate to the existing building and do not erode the setting and design

	<p>qualities of the original structure which make it attractive;</p> <p>While direction for the design should be taken from the historic building stock of the area, it can be expressed in contemporary architectural language.</p>
Development Plan Objective: Protected Species and Proposed Works to Buildings	
CDP15.6	<p>It is an objective of the development plan:</p> <p>To protect habitats and species when considering proposed works to buildings which are likely to impact on protected ecological sites and protected species</p>
Development Plan Objective: Sites, Features and Objects of Archaeological Interest	
CDP15.8	<p>It is an objective of Clare County Council:</p> <ul style="list-style-type: none"> a) To safeguard sites, features and objects of archaeological interest generally; b) To secure the preservation (i.e. preservation in situ or in exceptional cases preservation by record) of all archaeological monuments included in the Record of Monuments and Places as established under Section 12 of the National Monuments (Amendment) Act, 1994, and of sites, features and objects of archaeological and historical interest generally (in securing such preservation, the Council will have regard to the advice and recommendations of the Department of the Arts, Heritage, Regional, Rural and Gaeltacht Affairs); c) To permit development only where the planning authority is satisfied that the proposals will not interfere with: <ul style="list-style-type: none"> items of archaeological or historical importance; the areas in the vicinity of archaeological sites; or the appreciation or the study of such items d) To have regard to the government publication 'Framework and Principles for the Protection of the Archaeological Heritage 1999' in relation to protecting sites, features and objects of archaeological interest; e) To advocate for greater financial assistance for the maintenance and improvement of features of archaeological interests in County Clare.
Development Plan Objective: Folklore and Oral Cultural Heritage	
CDP15.18	<p>It is an objective of the development plan:</p> <p>To support and facilitate the gathering, recording, preservation and promotion of folklore and oral cultural heritage in the county and to work closely with groups such as Cuimhneamh an Chláir to realise their objectives</p>

9.2 SPECIFIC MITIGATION MEASURES FOR LANDS AT TOUREEN

Whilst all the mitigation measures outlined in Sections 9.1 and 9.2 above will be required to be implemented for any particular development within the lands at Toureen, the following measures represent additional, specific mitigation for these lands. Section 9.3.1 present the existing measures in the Clare CDP 2017-2023 regarding the lands at Toureen that still apply. Where additional measures are recommended they are presented in **bold, green font**. Some of these mitigation measures have been underpinned by detailed ecological surveys of the Toureen lands undertaken in 2018

TABLE 15 MITIGATION MEASURES RECOMMENDED FOR LANDS AT TOUREEN

Mitigation Measure	Included in Variation? Yes/No
A Traffic Management Plan for the construction and operation phase of development.	Yes
Any proposed development shall adopt sustainable practice in terms of building design, materials, construction and operation	Yes
A Hydrological Assessment to determine the effects of the development on groundwaters and groundwater quality shall be submitted with development proposals for the site	Yes
At the southern boundary of the site is a mesotrophic lake, which will require protection through the provision of a buffer incorporating the dense clump of trees to the west of the lake and shall be included in an overall Landscape Management Plan for the site.	Yes
A Construction and Environmental Management Plan shall be submitted as part of development proposals on site. This shall include a Flood Risk Assessment, a Surface Water Management Plan for the construction and operation phase of the development, a Pollution Prevention Plan and shall incorporate principles of Sustainable Urban Drainage Systems. During the construction phase of developments on site where applicable all relevant best practice guidelines shall be adhered to.	Yes
An Air Quality Impact Assessment with reference to potential impacts on European Sites and the surrounding area within the zone of influence of the proposed development shall be submitted, this shall inform an Appropriate Assessment Screening report and/or Natura Impact Report.	Yes
The hedgerows and scrub area on this site provide a potential foraging and commuting area for wildlife including Lesser Horseshoe bats. Future development proposals must be informed by a series of bat surveys to record the known usage of the site by in particular Lesser Horseshoe bats and ensure that there is no net loss of supporting habitat. The surveys must include a full light spill modelling study. Any habitat loss must be offset by additional landscape planting to ensure connectivity across the landscape	Yes
Impacts of development of the site on conservation interest bird species of surrounding SPAs and breeding birds should be avoided, through protection and retention of breeding bird habitat in accordance with the Wildlife Acts. Development proposals for the site shall be accompanied by bird surveys (to include a winter bird survey) to assess the use of the site by bird species and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified. Hedgerow and treeline pruning or removal shall be	Yes

conducted outside the breeding bird season (March 01 st through August 31 st).	
An Ecological Impact Assessment (designed by an appropriately qualified landscape architect and ecologist) and a Habitat Survey shall form part of development proposals for the site.	Yes
A Landscape and Biodiversity Management plan shall be submitted to provide landscape, visual and environmental screening and enhancement measures through planting and design	Yes
An Invasive Species Survey and Management plan (if required) shall accompany development proposals for the site	Yes
Development proposals shall also include an Otter Use Survey of the site, and where disturbance and/or displacement are predicted appropriate mitigation measures shall be identified	Yes
A buffer will be required to be provided with regard to the location of a National Monument (CKL-034-007) on site.	Yes
Adequate wastewater treatment and disposal measures shall accompany development proposals for this site to ensure that there is no impact to water quality in the area	Yes

10 MONITORING

10.1 INTRODUCTION

Article 10 of the Strategic Environmental Assessment Directive (2001/42/EEC) requires that monitoring must be undertaken of the significant environmental effects directly related to the implementation of the proposed Variation. This is to provide for any unforeseen adverse effects to be identified at an early stage in its implementation, allowing for appropriate remedial action to be undertaken.

The primary purpose of monitoring is to allow the actual impacts of the proposed Variation to the Clare CDP 2017-2023 on adoption to be assessed against the Strategic Environmental Objectives and their associated targets and indicators. The indicators used will show changes that would be attributable to the implementation of the County Development Plan (including the proposed variation).

Monitoring can use existing sources of information and does not necessarily require new research to be undertaken, but can be effective in identifying where additional research should be targeted to supplement where information is deficient. **Table 10** in Chapter 6 sets out the strategic environmental objectives, targets and indicators in reviewing the CDP.

Table 17 below presents the SEA Monitoring Table. The SEA Objectives formed the basis of the assessment of the proposed Variation to the Clare CDP 2017-2023 and it includes targets (overall aim), indicators (measurement of monitoring change), data sources and agency/body responsible for the monitoring.

As a number of the indicators within the monitoring table relate to the number of planning applications received it is also recommended that data arising from planning applications, particularly in terms of environmental monitoring through the preparation of Screening Reports for Appropriate Assessment, Ecological Reports, Environmental Impact Statements, Environmental Reports etc be integrated into the GIS and a dedicated environmental database. This will assist in assessing cumulative impacts also, in particular ecology and water quality. This is something which Clare County Council Planning Department has progressed and is being further developed and should be prioritised and driven through the CDP Monitoring Programme.

Table 16 Strategic environmental objectives, targets and indicators

Strategic Environmental Objective	Target	Indicator/Data Sources	Source/Responsibility/Frequency
Population, Human Health and Quality of Life			
P1 – Protect, enhance and improve people’s quality of life based on high quality residential, community, educational, working and recreational environments and on sustainable travel patterns.	<p>Increase in the number of green spaces and amenities available to the public.</p> <p>Improved trends in perceived quality of life related to these matters.</p> <p>Bonds to ensure the completion of developments until taken charge.</p> <p>No significant deterioration in human health as a result of environmental factors.</p>	<p>No/area of green spaces and amenities available to the public.</p> <p>Improved trends in perceived quality of life related to these matters as gathered through surveys.</p> <p>Employment rates over the lifetime of the Plan.</p> <p>Completion handover of development to CCC.</p> <p>Availability of public transport/ smarter travel initiatives.</p> <p>Occurrence of any decline in human health around the plan area.</p>	<p>CSO – every six years in line with census</p> <p>CCC - Annual</p> <p>Iarnrod Eireann - Annual</p> <p>Bus Eireann – Annual</p>
P2 - To protect human health from hazards or nuisances arising from incompatible land uses/developments.	No spatial concentrations of health problems arising from environmental factors.	Any occurrence of spatially concentrated deterioration in human health.	<p>CSO – every six years and as results arise on a yearly basis from the 2016 census</p> <p>CCC – Annual</p>
P3 - Provision of green spaces for amenity and recreational uses.	Increase in the number of green spaces and amenities available to the public.	No. /area of green spaces and amenities available to the public.	CCC – Annual
Biodiversity			
B1 – Protect, conserve, enhance where possible and avoid loss of diversity and integrity of the broad range of habitats, species and wildlife corridors.	<p>No reduction in length or loss of hedgerows.</p> <p>Operators who conduct mechanical hedge cutting should have achieved the Teagasc proficiency standard MT 1302-Mechanical Hedge Trimming.</p>	<p>Percentage of unique habitats and species lost in non-designated sites over the lifetime of the Plan through trending of annual/bi-annual surveys.</p> <p>Percentage of broadleaf/native afforestation.</p> <p>Percentage loss of connectivity between areas of local biodiversity importance as a</p>	<p>CCC – Annual/bi-annual surveys</p> <p>OPW - Annual</p> <p>Coillte- Annual</p> <p>NPWS – Annual or as and when surveys completed by NPWS for National Monitoring programmes on a rolling basis and/or surveillance monitoring</p>

	<p>30% broadleaf/native afforestation.</p> <p>Protection and promotion of non-designated salmonid rivers.</p> <p>No. ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost without remediation as a result of implementation of the Clare CDP 2017 – 2023</p> <p>Afford the same level of protection to Margaritifera Sensitive Areas as is afforded to Freshwater Pearl Mussel SAC rivers</p>	<p>result of implementation of the Clare CDP as evidenced from a resurvey of CORINE mapping.</p> <p>Decrease in population of freshwater pearl mussels in <i>Margaritifera</i> sensitive areas and/or habitat and water quality deterioration.</p>	<p>undertaken for compliance with Article 17 of the Habitats Directive and reported on every 6 years.</p> <p>CCC - Annual</p> <p>OPW - Annual</p> <p>National Biodiversity Data Centre – Annual</p> <p>Shannon RBD/National RBD – First and second RBMP Cycle</p>
B2 – To achieve the conservation objectives of European Sites (SACs and SPAs) and other sites of nature conservation.	<p>No loss of protected habitats and species during the lifetime of the Plan.</p> <p>No compromise in the favourable conservation condition of European sites.</p> <p>No compromise or impact on the achievement of the favourable conservation condition objectives (whether maintain or restore) of European sites.</p>	<p>Designation of additional areas due to biodiversity and/or geological value.</p> <p>Percentage of unique habitats and species lost in designated sites through trending of annual surveys.</p> <p>No./percentage of developments in/near Natura 2000 network.</p> <p>Percentage of European sites in the plan area that are at 'Favourable' conservation status.</p> <p>Percentage of Qualifying Interest Features which have achieved their specific objectives of maintain or restore.</p>	
B3 - Conserve and protect other sites of nature conservation including	No loss of protected habitats & species during the lifetime	Percentage of unique habitats and species lost in designated sites through	

NHAs, pNHAs, National Parks, Nature Reserves, Wildfowl Sanctuaries as well as protected species outside these areas as covered by the Wildlife Act.	of the Plan. Submission of Screening Report or Natura Impact Statement for proposed developments with planning applications in/and/or near European Sites.	trending of annual surveys. Provision/No. of Screening Reports/Natura Impact Statements with developments proposed for sites in/and/or near European sites.	
B4 - Meet the requirements of the Water Framework Directive and the Shannon River Basin Management Plan/National River Basin Management Plan	All waters within the plan area to achieve the requirements of the WFD and the relevant River Basin Management Plan by 2027. Ensure provision of riparian zones at project/site level.	No. of surface and groundwater bodies achieving “Good Status”. No of waterbodies indicating deterioration in status. No. of planning applications with sufficient inclusion of buffer zones where necessary and applicable.	
B5 – To minimise and, where possible, eliminate threats to bio-diversity including invasive species.	Prevent the introduction of new invasive or alien species. Control/manage new invasive species. Control/manage/eradicate invasive species throughout the county.	No., type and location of invasive species identified. No. of actions achieved under the Biodiversity Action Plan. Increase/decrease in coverage of invasive species identified. No. of submissions/observations submitted through invasive species Ireland “Alien Watch”. www.invasivespeciesireland.com/alien-watch The National Biodiversity Data Centre will track success in the implementation of the All-Ireland Pollinator Plan by	

		measuring increases in the abundance and diversity of pollinators within the Irish landscape as the 81 actions are implemented.	
B6 - Promote green infrastructure networks, including riparian zones and wildlife corridors.	<p>Ensure new development is set back from rivers.</p> <p>The recommended width for larger river channels (>10m) is 35m to 60m and for smaller channels (<10m) is 20m or greater. The determined width should be tailored to site specific, river reach or lakeshore characteristics and their associated habitats. It is important that the buffer zone is large enough to protect the ecological integrity of the river (including emergent vegetation), the riparian zone (bank side vegetation including trees) and takes into account the human history of the area.</p>	No. planning permissions close to water.	
Soil and Geology			
S1 – To maximise the sustainable re-use of the existing built environment, derelict, disused and infill sites (brownfield sites), rather than greenfield sites.	<p>Preference for development on brownfield site over green field.</p> <p>Specified % of new applications granted to be on brownfield sites.</p> <p>Limited and controlled</p>	<p>No/% of new developments on brownfield sites.</p> <p>Area of brownfield land developed over the plan period.</p> <p>% of total greenfield land developed.</p> <p>Level of urbanisation.</p>	CCC – Annual through a review of planning applications

	<p>development of greenfield sites.</p> <p>Re-use of soil from redeveloped sites where possible.</p> <p>No incidences of soil contamination.</p>	<p>Excessive land-filling of quality soil.</p> <p>Incidences of soil contamination.</p>	
S2 – Minimise the excavation and movement of soils within site works.	<p>Limited and controlled development of greenfield sites.</p> <p>Limit the amount of excavation in sensitive locations for example peat excavation in wind farm sites.</p>	<p>Volume of construction and demolition waste recycled.</p> <p>No. of brownfield sites that have been redeveloped.</p>	CCC – Annual
S3 – Minimise the consumption of non-renewable deposits on site.	<p>Re-use of soils from redeveloped sites where possible.</p> <p>Increased provision of construction and demolition waste facilities.</p>	<p>Excessive land-filling of quality soils.</p> <p>No. of facilities for Construction and Demolition Waste.</p>	CCC – Annual
S4 - Minimise the amount of waste to landfill from site.	<p>Reduction in the quantities of waste sent to landfill.</p> <p>Increase in the quantities of waste sent for recycling.</p> <p>Increase in the number of bring banks in the plan area.</p> <p>Compliance with the Southern</p>	<p>Quantity of household waste sent to landfill.</p> <p>Quantity of household waste sent to recycling.</p> <p>The number of bring banks provided for in the plan area.</p> <p>Compliance with the Southern Region</p>	<p>CCC</p> <p>EPA</p> <p>Southern Waste Region –</p>

	Region Waste Management Plan.	Waste Management Plan. Statistical Indicators (Primary and Secondary) reported on through the Southern Waste Region Statistical Indicators Annual Report.	Annually through Statistical Indicators Report and Waste Management Plan Annual Report.
S5 - Conserve, protect and avoid loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites.	No loss of diversity and integrity of designated habitats, geological features, species or their sustaining resources in designated ecological sites. Designation of sites as County Geological Sites.	Percentage of habitats, geological features, species etc. Lost over the lifetime of the Plan through trending of annual/bi-annual surveys. No. of areas designated as County Geological Sites.	GSI CCC - Annual
Water			
W1 – Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem (quality, level, flow).	To achieve a Q rating of 4 'good' quality status by 2015.	Biotic quality rating of river waters at EPA monitoring locations.	EPA – Annual as recorded through the WFD Monitoring Programme
W2 – Monitor the on-going trends in water quality status.	Demonstrate an on-going status improvement and an upward trend in water quality.	Progression from bad to poor, poor to moderate, moderate to good and good to high in terms of WFD Status.	EPA EDEN Portal – As up-dated through the 2 nd River Basin Management cycle by the EPA.
W3 – Maintain or improve the quality of surface water and groundwater (including estuarine) to status objectives as set out in the Water Framework Directive (WFD), the Shannon River Basin Management	Improvement or at least no deterioration in surface water quality by 2015.	Changes in receiving water quality as identified during water quality monitoring for WFD, ShIRBMP/National RBMP conducted by CCC and EPA.	CCC – As reported through the 1 st and 2 nd River Basin Management Plan. EPA – As reported through the 1 st and 2 nd River Basin Management Plan.

Plan and POMS.			
W4 – Implement appropriate sustainable drainage systems (SuDS) in the County.	New drainage systems to be compliant with SUDs.	No. of developments granted planning permission that incorporate SUDs.	CCC – Quarterely planning permissions granted.
W5 – Reduce the impact of polluting substances to all waters and prevent pollution and contamination of ground water by adhering to aquifer protection plans and to maintain and improve the quality of drinking water supplies.	Improvement or at least no deterioration in surface and groundwaters by 2015.	Changes in receiving waters and groundwater quality as identified by water quality monitoring programmes conducted by CCC and EPA.	CCC - Annual EPA – Annual
W6 - Promote sustainable water use and water conservation in the plan area and to maintain and improve the quality of drinking water supplies.	Pressure on water and waste water treatment plants.	Decrease in no. of water shortage notices issued during drought periods. Decrease in the amount of water consumed per household in the plan area.	CCC/Irish Water
W7 –Protect flood plains and areas of flood risk from development through avoidance, mitigation and adaptation measures.	In accordance with OPW/DOEHLG, all planning applications within designated Flood Risk Zones A and B as identified in the Strategic Flood Risk Assessment for the plan are required to undertake Flood Risk Assessment.	Level and location of flooding.	CCC – Records obtained as and when flood events occur OPW – As updated on http://www.floods.ie/ and once CFRAMS final maps become available in 2017 and are updated as part of the overall implementation of the Floods Directive in Ireland.
W8 – To promote a responsible attitude to recreation and amenity use of water in relation to water quality and disturbance to species and	Maintain water quality, no pollution or contamination issues in our rivers and lakes in particular but also our	Adherence to bathing water guidance and standards in accordance with the bathing water Directive and associated regulation Regulation (S.I. No. 79 of 2008).	Retention or approval for Blue Flag status - The Blue Flag is operated in Ireland by An Taisce- The National Trust for Ireland on

to prevent pollution and contamination of designated bathing waters.	estuaries and all waters designated as bathing waters.		<p>behalf of the Foundation for Environmental Education (FEE) – Annually</p> <p>Progression of bathing waters from ‘sufficient’ to ‘good’ to ‘excellent’ with no waters categorised as ‘poor’ in accordance with the water quality standards specified in the 2008 Regulations with a classification of at least ‘sufficient’ to be achieved for all bathing waters.</p>
Air and Climate Change			
C1 – Minimise all forms of air pollution and maintain/improve ambient air quality.	Maintain ambient air quality through reduction of private vehicle usage.	Air quality indicators.	<p>CCC - Annual</p> <p>EPA - Annual</p>
C2 – Minimise emissions of greenhouse gases and contribute to a reduction and avoidance of human-induced global climate change.	<p>Provide for increased use of public transport.</p> <p>Increase number of cycle lanes and pedestrian routes in the plan area.</p> <p>Establish incentives/increase no. of permissions for renewable energy projects.</p>	<p>Use of public transport.</p> <p>Provision of cycle lanes and walking routes.</p> <p>No. of grants given for insulation works; energy efficiency of new buildings – energy rating figures.</p> <p>No. of planning applications for residential houses with low carbon footprint.</p> <p>No. Of wind turbines permitted which</p>	<p>CCC – Annual as new cycle strategy and/or Green Infrastructure is published.</p> <p>CSO – Annual as figures/reports based on 2016 census become available.</p> <p>CCC – No and type of planning applications in relation to low carbon residential housing and wind turbines and/or commencement of construction</p>

		<p>may contribute to mitigation of, and adaptation to Climate Change.</p> <p>Location of permitted wind farms within areas of the greatest wind energy resource in County Clare as depicted through the SEAI Wind Atlas. http://maps.seai.ie/wind/</p>	<p>of such on an annual basis.</p> <p>SEAI</p>
C3 - Reduce car dependency within the plan area by way of an integrated approach to sustainable urban transport.	<p>An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means.</p> <p>A decrease in the average distance travelled to work or school by the population of the plan area.</p>	<p>Percentage population within the plan area travelling to work or school by public transport or non-mechanical means.</p> <p>Average distance travelled to work or school by the population of the plan area.</p>	CSO – every 6 years through census information.
Material Assets – Transport			
T1 – Maximise sustainable modes of transport and encourage use of walkways/cycle paths as alternative routes to school, work, and shops.	<p>An increase in provision of cycle lanes and pedestrian routes.</p> <p>An increase in population travelling to work and school by public transport or non-motorised transport.</p> <p>A reduction in the distance travelled to work or school by the population of the plan area.</p>	<p>No. of cycle lanes and pedestrian routes provided in the plan area.</p> <p>Percentage of the population within the plan area travelling to work or school by public transport or non-mechanical means.</p> <p>Average distance travelled to work or school by the population of the plan area.</p> <p>Number of private cars on road as a percentage of Annual Average Daily Traffic (AADT).</p>	<p>CCC – Achievement of Clare County Council Active Travel under the Departments Smarter Travel Scheme annually.</p> <p>CSO – every 6 years through census information.</p> <p>NRA</p>

T2 - Provide for ease of movement for all road users and to promote development patterns that protect and enhance road safety.	<p>Reduce the number of private vehicles on the road.</p> <p>Increase in public transport.</p> <p>Increase cycle and walking modes of transport.</p> <p>Integrated traffic management plan for the plan area.</p>	<p>No. of private cars on the road as a percentage of AADT.</p> <p>No. of applications for the Bike to Work Scheme.</p> <p>Traffic survey and pedestrian surveys undertaken in the preparation of a traffic management plan.</p>	CCC - ongoing
Material Assets – Waste			
WA1 – Implement the waste pyramid and encourage reuse/recycling of material wherever possible.	<p>Reduction in the quantities of waste sent to landfill.</p> <p>Increase in the quantities of waste sent for recycling.</p> <p>Increase in the number of bring banks in the plan area.</p> <p>Compliance with the Southern Region Waste Management Plan</p>	<p>Quantity of household waste sent to landfill.</p> <p>Quantity of household waste sent to recycling.</p> <p>The number of bring banks provided for in the plan area.</p> <p>Compliance with the Southern Region Waste Management Plan.</p>	<p>CCC – Environment Department statistics and reports.</p> <p>Southern Waste Region – Annually through Statistical Indicators Report and Waste Management Plan Annual Report</p>
Material Assets – Water Supply			
WS1 - To ensure adequate and clean drinking water supplies.	Upgrade existing water treatment plants within the plan area.	Number of upgrades undertaken within the plan area.	<p>Irish Water – Achievement of Water Services Strategic Plan objectives</p> <p>Irish Water – The implementation of the Lead Mitigation Plan over the lifetime of the County Development Plan to achieve safe, clean drinking water for all.</p>

WS2 - Improve efficiency in distribution of potable water to the population through pipe rehabilitation and to promote water conservation and sustainable water usage for long-term protection of available water resources.	<p>Reduce the amount of water usage.</p> <p>Reduce the amount of water lost through pipe leakage (currently 65%) through the pipe rehabilitation.</p> <p>Increase usage of water collected through water harvesting.</p>	<p>Water meter readings (Reintroduction of water charges based on conservation).</p> <p>Sale of water harvesting butts.</p> <p>Retrofitting of rainwater harvesting units.</p>	Irish Water – reduction in household costs for water charges based on conservation (This is dependent on water charges being reintroduced; meter readings are still on-going in the absence of charges).
Material Assets – Waste Water			
WW1 - To ensure that all zoned lands (existing and proposed) are connected to the public sewer network ensuring treatment of wastewater which meets EU requirements prior to discharge.	Upgrade existing wastewater treatment plant infrastructure identified within the plan as being insufficient, based on existing and forecasted population demands to meet EU requirements.	Upgraded Waste Water Treatment Plants within the plan area.	<p>Irish Water -Achievement of Water Services Strategic Plan objectives.</p> <p>CCC – granting of permission conditioned based on a future WWTP upgrade.</p> <p>CCC – refusal of permission as no upgrade to WWTP due to take place.</p>
WW2 - Reduce the dependency on individual proprietary wastewater treatment facilities and ensure the highest standards possible in existing and future wastewater treatment facilities.	<p>Testing of individual proprietary wastewater treatment facilities in line with EU/National guidance.</p> <p>Sustainable alternative individual proprietary WWT facilities.</p> <p>Measures to promote</p>	<p>No. planning applications for single houses within the plan area, served by individual WWT facility.</p> <p>Testing of individual WWT facilities.</p>	CCC – ongoing.

	encourage and incentivise a change from traditional WWTS to alternative sustainable systems.	Types/usage/percentage using sustainable methods of WWT.	
Material Assets – Renewable Energy			
RE1 - Reduce waste of energy, promote use of renewable energy sources and support energy conservation initiatives across all sectors including the development of low carbon business practices and buildings.	Increase in renewable energy developments.	<p>No. of renewable energy developments granted planning permission.</p> <p>Establishment of R&D projects (one or more).</p> <p>Meet or exceed County contributions to national renewable energy targets.</p> <p>Meet or exceed County contributions to national energy efficiency/conservation targets.</p> <p>In line with the Wind Energy Strategy (Volume 5 of the Development Plan) achieve the minimum target of 550MW from wind energy by 2017.</p> <p>The number of hectares of land that has been converted to use for Bio energy production utilising Miscanthus; Oilseed Rape; Reed Canary Grass or SRC Willow. (Suitable lands have been identified through the SEAI Bioenergy Map http://maps.seai.ie/bioenergy/).</p>	<p>CCC – new solar farms, windfarms or other renewable energy developments granted.</p> <p>LCEA, Clare CoCo, SIFP – number of new R&D projects within the Plan area e.g. testing of tidal energy devices.</p> <p>Southern and Eastern Regional Assembly.</p>
Cultural Heritage			
CH1 – Protect and conserve the cultural heritage including the built environment and settings; archaeological (recorded and unrecorded monuments), architectural (Protected Structures,	No permitted development which involves loss of cultural heritage, including protected structures, archaeological sites, Architectural Conservations Areas and landscape features.	<p>No. of developments permitted during the lifetime of the plan which will result in the loss or partial loss of protected structures or sites of archaeological status.</p> <p>No. of additions to the list of Protected</p>	CCC - ongoing

Architectural Conservation Areas, vernacular buildings, materials and urban fabric) and manmade landscape features (e.g. field walls, footpaths, gate piers etc.).		Structures. No. of additions to the list of Architectural Conservation Areas. Development of cultural heritage areas for amenity resources.	
CH2 – To protect, conserve and enhance local folklore, traditions and placenames within the Plan area.	To increase the use of local placenames within the plan area.	No. Of applications which are referred to the Conservation and Heritage Officers.	CCC - ongoing
CH3 – To ensure the restoration and re-use of existing uninhabited and derelict structures where possible opposed to demolition and new build (to promote sustainability and reduce landfill).	To increase the number of uninhabited and derelict structures that are restored opposed to demolition.	No. planning applications for restoration/re-use of vacant and derelict structures. No. planning applications for demolition and redevelopment of vacant and derelict sites.	CCC - ongoing
Landscape			
L1 – Conserve, protect and enhance valued natural, cultural and built landscapes, views of local value and features including those of geological and aesthetic value.	Ensure no significant disruption of historic/cultural landscapes and features through objectives of the County Development Plan.	No. of developments permitted and their impacts on cultural/historic landscapes.No. of developments located within Scenic Route or no degradation of areas designated as Heritage Landscapes (Locations in text and on maps).No. of developments located within a designated scenic view or route or high landscape area in County Clare that disrupt views (based on the LCA). Development and application of framework in relation to the application of LCA and their contribution to SEA.	CCC – ongoing Heritage Council - ongoing Fáilte Ireland - ongoing GSI - ongoing NPWS - ongoing EPA SEA Unit in conjunction with CCC
L2 - Maintain and enhance landscape	No significant visual impact	No. of developments located within a	CCC - ongoing

quality within the plan area by minimising visual impacts through appropriate design, assessment and siting.	from development. Ensure no significant disruption of high landscape values.	high landscape area that disrupt views (based on LCA): Loss of vistas/views. Loss of trees. Loss of amenity woodland. No of large scale developments permitted.	
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ANNEX A: ASSESSMENT OF EXISTING ENTERPRISE LANDUSE ZONINGS AND IN-COMBINATION EFFECTS FROM PLANS, POLICIES, LEGISLATION AND PROGRAMMES

ANNEX A: ASSESSMENT OF ENTERPRISE LANDUSE ZONINGS AS PART OF VARIATION NO. 1

This Annex presents an assessment in relation to all Enterprise zoned lands within the County as identified in the Clare CDP 2017-2023. The commentary is based on that prepared as part of the SEA of the plan.

Ennis Municipal District Economic Development and Enterprise

A number of sites have been identified for enterprise development with three specific sites seen to play a significant role in enterprise development. Two sites are considered below and the third, OS3 Information Age Park, is included in the Opportunity Sites Assessment.

ENT1 Beechpark

The site is identified for enterprise development with the potential to accommodate a low-carbon, campus style enterprise park.

SEA Comment/Recommendation

Development of this site should take account of:

- The site bounded to the north by the Claureen River which flows into the River Fergus, part of the Lower River Shannon SAC. Potential impacts of a proposal on habitats and species, water quality, ecology, risk of disturbance and flood risk areas would need to be considered as part of a Habitats Directive Assessment.
- The site slopes down to the north to the Claureen River, areas of which fall within Flood Zone A. A sufficient ecological buffer should be provided to protect and maintain the integrity of the river with regard to requirements to maintain water quality, the river and wildlife corridor and prevention of flooding in the area. There should be no encroachment onto the river or woodland and associated habitats and to keep development away from the riparian zone and flood zone area.
- Green agricultural field on the edge of the western part of the draft plan area with mature broadleaved trees on the adjacent site to the west (TOU2). Adjacent to the east, including a strip which runs across part of the site is an area of scrub which must be protected. A tree and wildlife survey of the wider area, in particular of Annex II species, and on the site will be required.
- The site is not currently served by public waste water infrastructure and this should be addressed prior to any development of the site.
- A Surface Water Management Plan incorporating SUDs will be required for construction and operation.
- An ecological survey of the hedgerows and wildlife corridors on site should be undertaken and these should be protected and incorporated into any development proposal to ensure no net loss in order to protect habitat and commuting routes for Lesser Horseshoe bats.
- The recorded monuments on site (CL033-114002 House, CL033-114002 Ringfort) must be protected by a sufficient buffer to ensure the integrity is protected and there are no negative impacts on the archaeological sites.
- Located on the edge of the town on a greenfield site in an elevated location, a landscape impact assessment and an appropriate landscaping plan should be undertaken which will complement and supplement what exists should be provided to minimise any landscape impact, as well as further enhance wildlife habitat.

ENT2 – Killadysert Road, Clarecastle

The site is identified for enterprise development, with the focus on development of small workshops, craft industries and starter businesses. Live-work units with the residential use being ancillary to the primary use as enterprise, will also be considered including childcare facilities.

SEA Comment/Recommendation

Development of this site should take account of:

- The greenfield site is bounded to the north by residential development and a small development to the west and any proposal should ensure a sufficient landscape buffer to protect residential amenity.
- The site includes a recorded monument (CL041-080 Ringfort) which will require a buffer to protect its integrity. The surrounding area has a number of recorded monuments and an archaeological assessment should be undertaken as part of any proposal to ensure there is no negative impact on archaeology.
- There is good accessibility to the national road network for ease of accessibility for service vehicles and other associated traffic. A traffic management plan will be required including integration of safe pedestrian and cycle connectivity with the adjacent residential and services in the village.
- The site is not currently served by public sewer.
- Existing hedgerows and wildlife corridors within the site should be incorporated into any proposal for development. Given its peripheral location and rural nature a comprehensive landscape plan should be prepared for the entire site incorporating the natural features contained within it.
- Management of surface water should be implemented through SUDs.

Killaloe Municipal District**Bellharbour**

Enterprise	ENT1 confirms the existing agricultural enterprise and use for this location and does not alter the current zoning.
Determination on whether mitigation is required	
	Any future development, should adhere to all relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Bellharbour.

Clonlara

Enterprise	ENT1 - There is an existing commercial unit on this site – Clonlara Wholesale Distributors Ltd. The site has been identified as being suitable in principle for the development of a small-scale local enterprise centre with a view to providing a source of employment within the community. The fields adjoining the existing business have also been zoned for enterprise development to facilitate any future expansion. An appropriate buffer of open space is maintained to the canal. Any development / redevelopment proposals must respect the predominantly rural nature of the area, be sensitive to established amenities and not result in heavy volumes of traffic or HGV's through the centre of the village.
Determination on whether mitigation is required	Clonlara offers a strategic location for enterprise and indigenous employment generating development in the village. However, noting its rural location and village setting it is recommended that any proposed development shall be sensitive to established village amenities and shall not result in the generation of heavy volumes of traffic or HGVs through the centre of the village.

Feakle

Enterprise	ENT1 must take full account to the integrity, the scale and character of the settlement and the streetscape. ENT2 should also take into consideration the presence of the dry meadow habitat GS2 throughout the site prior to any development.
Determination on whether mitigation is required	<p>The entire settlement of Feakle is located within the Shannon - Graney/Scariff Margaritifera (Freshwater Pearl Mussel (FPM)) Sensitive Area. While the current status of the FPM in this catchment is unknown it does contain previous records and therefore any proposed development in terms of development will need to take into consideration the potential negative effects on this species and its habitat.</p> <p>The village is adjoining the Slieve Aughty Mountains SPA, thus it is essential that no development is permitted that will negatively impact on the integrity of the SPA. Any plan or project with the potential to impact on the integrity of the SPA should be screened for Appropriate Assessment.</p> <p>All relevant mitigation measures and recommendations outlined in the AA forzonings in Feakle should be strictly adhered to.</p>

Kilkishen – 2 sites

Enterprise	The zoning at ENT1 borders the Derrymore River and is adjacent to an area of Bog Woodland habitat WN7 and Mature Woodland. This category includes woodlands of intact ombrotrophic bogs, bog margins and cutover bog. Any future development must take full account of the presence of these habitat types and the proximity to the Derrymore river in order to ensure a positive effect on the SEOs in particular BB, B3, B4, B5, and B6.
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	A sufficiently sized green buffer of 10m should be included between the boundary of ENT1 and the river in order to protect the Derrymore River and its riparian zone together with preventing encroachment of the development onto the Bog Woodland and Mature Woodland habitats adjacent to the river thereby preventing any direct negative affects to both the river and the surrounding habitats. This recommendation was included as per the SEA findings.
	All relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Kilkishen should be strictly adhered to.

Killaloe:

Enterprise 3.96ha outside settlement boundary	<p>Waste water from Killaloe is treated in Ballina in Co. Tipperary. The existing waste water treatment plant is currently operating at hydraulic capacity and cannot accommodate any further significant development. Network improvements and improved operational control of pumping stations are required to reduce hydraulic overloading. Proposals to upgrade the Ballina WWTP are being developed by Irish Water having regard to the significant seasonal load to the treatment plant and the requirements of the WWDL issued by the EPA on 13 Aug 2015. Until such time as the issues arising with capacity are resolved any future development may be premature.</p> <p>Water is supplied to Killaloe from the Killaloe Public Water Supply which is fed from a groundwater source. There is a significant amount of water currently being lost from the network. If this loss can be reduced by 10% then there will be sufficient treatment capacity to serve the needs of the targeted population. Irish Water is currently investigating the possibility of connecting Killaloe to the Newport Water treatment Plant in Tipperary via Ballina to ensure security of supply. Until such time as the issue with leakage and loss from the network can be addressed any future development may be premature.</p>
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Mountshannon:

Enterprise	<p>ENT1 represents an area adjacent to the centre of town. This is in line with the SEOs in that it supports the working environment (P1) and could potentially provide employment opportunities locally within the village settlement.</p> <p>Changes arising from the Proposed Amendments "ENT1 Objective CDP 15.5 should be strictly adhered to in line with SEO CH1, CH2 & CH3 to ensure any development within this zoning is in line with the overall protective objectives and mitigation measures of the CDP."</p>
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Ruan

Enterprise	ENT1 is adjacent to MU1- MU5 and is in keeping with the village settlement and the sequential approach to development of the village. The identification of this site provides the potential for employment opportunities locally therefore assisting in the achievement of SEOs T1, T2, C1, C2 & C3 by reducing the need to drive and cutting out journeys to nearby towns for employment such as Ennis and Corofin.
All Zoning	All relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Ruan should be strictly adhered to.

Scariff/Tuamgraney

Enterprise zoning in total: Enterprise = 13.8

Enterprise	<p>ENT1, 2 & 3. Existing industrial activity is centred on the Tuamgraney Business Park which is the main employer in the East Clare area. The former Finsa factory (IND3) is designated as an opportunity site for employment and enterprise purposes. There is potential for complementary further industries to locate close to the former Finsa factory and appropriate lands have been zoned for further industrial development in the area. Development of incubator, light industry and enterprise units will be encouraged to locate in Tuamgraney Business Park.</p> <p>IND1, IND2 and Lands Zoned for Enterprise Use</p> <p>This zoning is in accordance with the character of the area, to provide a good quality sustainable working environment. High environmental standards should be applied throughout in order to ensure a positive effect on SEOs L1, L2, P1, P2, W1 - W7C1 - C3, T1 & T2 together with WA1, WS1, WS2, WW1 WW2.</p>
	The entire settlement of Scarriff-Tuamgraney is located within the Shannon - Graney/Scariff Margaritifera (Freshwater Pearl Mussel (FPM)) Sensitive Area. While the current status of the FPM in this catchment is unknown it does contain previous records and therefore any proposed development will need to take into consideration the potential negative effects on this species and its habitat.

Tulla

Enterprise 3.51ha	2 land parcels zoned industrial on either side of Tulla – see zoning map
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Ardnacrusha

Enterprise	<p>E1 – West Side</p> <p>This site is located on the western side of the settlement north of the power station. There is an existing permission on part of the subject site (and including LDR1 to the north) for a mixed use development it is considered that the site has potential to accommodate an appropriate form of enterprise development that will aid job retention within County Clare. Any development proposals must be appropriate to the residential nature of the surrounding area and demonstrate that established amenities are protected.</p>
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Newmarket on Fergus

Enterprise 0.56

Enterprise	<p>E1 - There is an existing permission on this site to demolish the existing dwelling and petrol filling station and to construct a mixed-use development. It is considered that this site has been identified for the development of a small-scale local enterprise centre with a view to providing a source of employment within the community. Any development / redevelopment proposals must respect the established town character, be sensitive to established amenities and not result in heavy volumes of traffic or HGV's through the town centre.</p>
	<p>All relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Newmarket on Fergus should be strictly adhered to.</p>
	<p>Given the presence of the Lesser Horseshoe ca. 430m south-west of the closest zoning parcel and future development should take into consideration impacts to all bat species and their roosts which are protected under both EU and national legislation.</p>

West Clare Municipal District**Lisdoonvarna**

Enterprise 4.95ha

	<p>Any future development should have regard to wastewater disposal and the requirements of the EPA Codes of Practice for waste water treatment given the Aille (Clare) River is currently at "Poor" status in order to meet the requirements of the Water Framework Directive.</p>
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Ballynacally

Enterprise	<p>ENT1 - These lands have been designated for the development of enterprise and employment-generating uses with a view to providing greater employment opportunities for members of the local community.</p> <p>Development proposals for these lands must make provision to retain the trees and hedgerow that form the boundaries of the site.</p>
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Carrigaholt

	<p>These lands have been designated for the development of enterprise and employment-generating uses with a view to providing greater employment opportunities for members of the local community.</p> <p>Other specific objectives for economic development are:</p> <ul style="list-style-type: none"> • To encourage further retail and commercial development. This development shall be located in the centre of the village and the redevelopment of existing unused structures for retail or commercial purposes will be particularly encouraged (see also section on Architectural Conservation Area below) • To encourage developments that will provide services for both visitors to the area and the local population in order to generate year-round activity and employment in the area
	<p>Mitigation:ENT1 - Any proposed development within ENT1 will be strictly contingent on the provision of appropriate wastewater treatment facilities that can fully demonstrate no adverse effects on the receiving environment, water courses or adjacent ecological designations. This will be in accordance with relevant EPA standards and requirements to ensure that all future development is sustainable in the long term.</p>

Cranny

Enterprise	<p>ENT1 & ENT2 - There are two brownfield sites at the western edge of the village next to Cranny Bridge which currently contain disused/derelict buildings in the form of the old creamery and some storage sheds that have the potential for redevelopment. It is considered that these sites could be developed for small scale industrial/enterprise units. Any development proposal shall not adversely affect species and habitats designated for protection by the Habitats Directive.</p>
	<p>Screening for Appropriate Assessment is required for any proposed development within the Cloon Catchment. Guidance in relation to this assessment and the extent of the catchment can be sourced from the NPWS web-site (http://www.npws.ie/maps-and-data/habitat-and-species-data)</p>
	<p>A 10m buffer zone between ENT1 and ENT2 should be provided for along the banks of the Cloon River at these locations in order to protect the SAC and its qualifying habitats and species.</p> <p>Development on these sites should incorporate Sustainable Urban Drainage (SuDs) into any proposal for re-development or re-use. A buffer was included at ENT1.</p>

Sixmilebridge

Enterprise 1.15ha

Enterprise	<p>E1 - This flat greenfield site is located on the Shannon road at the edge of the town, in close proximity to the existing railway station and park and ride facility. The site has been identified for the development of a small-scale local enterprise centre with a view to providing a source of employment within the community. Such potential uses include start up incubator units, research facilities etc. Any development proposals must respect the established town character, be sensitive to established amenities and not result in heavy volumes of traffic or HGV's through the town centre. The layout of any future development proposals shall take account of the infrastructure safeguard that runs through the site and access/egress onto the R471 shall be taken via same. The design of any scheme shall ensure that the established residential amenities along the north-eastern boundary are protected.</p> <p>This is in line with the SEOs in that it supports the working environment (P1) and could potentially provide employment opportunities locally within the village settlement.</p>
	<p>Given the recording of the Lesser Horseshoe ca. 1.4km north-east of the closest zoning parcel together with other local records for Pipistrelle and Daubenton species within the settlement all future development within the settlement should ensure that any development application is accompanied by a full bat survey, particularly in relation to Lesser Horseshoe bats usage of the site, and a full light spill modelling study to demonstrate that the chosen lighting design would not create any increase in ambient light levels beyond the perimeter of the development footprint. Development applications must not propose removal of woody vegetation around the perimeter of the site and must address how linkages across the landscape can be maintained.</p> <p>All relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Sixmilebridge should be strictly adhered to.</p>

Kildysert

Enterprise	ENT1 - These lands have been designated for the development of enterprise and employment-generating uses with a view to providing greater employment opportunities for residents of the village and the wider community.
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Labasheeda

Enterprise	ENT1 identifies the existing site within the village. Bringing this site into use within the settlement would encourage and promote the diversification of use for this location.
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Liscannor

Enterprise very small area within settlement boundary

Lisseycassey

Enterprise	<p>ENT1 - These lands have been designated for the development of enterprise and employment-generating uses with a view to providing greater employment opportunities for members of the local community.</p> <p>The subject site is located to the southeast of an existing housing development and therefore screening/landscaping plans will be an important component of development proposals brought forward for this site. Furthermore, the ground conditions in the area must be taken into account in the design of the both proposed structures and waste water treatment facilities on the site.</p>
	All relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Lissycasey should be strictly adhered to.

Ballyvaughan

Enterprise	ENT1 identifies a greenfield site within the settlement with some limited mature trees and hedgerows.
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Corofin

All zoning	NHAs are protected from works which would destroy or significantly alter, damage, or interfere with the features for which the sites were designated. Therefore, given the location of the Corofin settlement any future development, should be subject to screening for EIA and/or a Habitats Directive Assessment in relation to potential significant effects on the surrounding and adjacent European Sites. This should also include for an assessment of in-combination and cumulative effects on the Fergus River downstream in particular associated with the Ennis settlement.
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Creegh

Enterprise	<p>ENT1 - These lands are located to the east of the existing settlement and are accessed off an existing local roadway. These lands have been designated for the development of enterprise and employment-generating uses with a view to providing greater employment opportunities for residents of the village and the wider community.</p> <p>ENT2 - These lands have been designated for the development of enterprise and employment-generating uses with a view to providing greater employment opportunities for residents of the village and the wider community. Issues of concern relating to these zonings are the impact the overall size of the zoning and type of development may have on the existing character of rural areas and the landscape they encroach upon. Siting and design of development will be an important factor for development must address the capacity of the site and the settlement to absorb the proposed development from a visual, environmental and social perspective.</p> <p>A riparian buffer of at least 10m should be included along the boundary of ENT2 to the banks of the Creegh River in order to provide protection in terms of water quality and to provide for and protect the river corridor at this location. This buffer zone was included following the recommendation of the SEA.</p> <p>Also all AA measures apply to all zonings.</p>
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Ennistymon

	<p>Water Supply</p> <p>Water is supplied to the town of Ennistymon is from the Ennistymon Regional Water Supply (RWS) and the Ballymacraven water treatment plant (WTP). This treatment plant also provides water to a significant number of towns and villages in the surrounding area, many which have a large seasonal holiday population. The Ballymacraven WTP is currently at capacity and will need to be upgraded in order to meet the target population of Ennistymon and towns and villages connected to the Regional Water Supply. Irish Water is also investigating the possibility of augmenting the Regional Supply through connecting the Regional Water Supply to the New Doolough Treatment Plant.</p> <p>Wastewater</p> <p>The existing plant at Ennistymon is marginally overloaded although it currently complies with its Wastewater Discharge Licence. Irish Water is examining the requirements for the upgrade / expansion of the treatment facilities to cater for projected growth over the life of this plan including seasonal variations in load. A new treatment plant may be required on a new site. This reflects negatively on SEO WW1 & WW2.</p>
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Killimer

Enterprise	ENT1 identifies the existing site North of the N67. Bringing this site into use within the settlement boundary would encourage and promote the diversification of use for this location.
	OS2 contains an important area of mature trees which are for preservation. This is an important area that makes a significant contribution to the overall setting and character of the village. This open space zoning and trees for preservation should be retained as part of any future development at ENT1 and TOU1.
	The settlement of Killimer is adjacent to the Lower River Shannon SAC and the River Shannon and Fergus SPA. Future development proposals within the settlement must not impact on the European sites and will be subject to screening for Appropriate Assessment and all associated ecological assessments. Any development proposals with the potential to impact on these areas must comply with CDP 14.2.

Kilkee Enterprise 5.38ha

Enterprise	<p>ENT1 & ENT2: Enterprise Lands</p> <p>Existing enterprise activity in Kilkee is small and is concentrated in the Shannon Development enterprise units just off the Carrigaholt Road. These two sites have been designated for the development of enterprise and employment-generating uses with a view to providing greater employment opportunities for the local community. Proposals for the expansion of existing facilities will also be considered. Any development must reserve a 10 metre margin from the streams that run along the northwest boundary of ENT1 and the eastern boundary of ENT2.</p>
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Enterprise	Following the recommendations of the SEA and AA the zoning boundary at ENT1 & ENT2 was changed along the Kilkee Lower Stream to allow for a 10m wide riparian buffer zone between the zoning boundary and the stream. This was zoned as Buffer Space.
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Kilmihil

Enterprise	ENT1 identifies the existing site which contains the old Kilmihil mart on the outskirts of the village. Bringing this site into the settlement boundary would encourage and promote the diversification of use for this location.
	All relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Kilmihil should be strictly adhered to.

Kilrush 6.77 ha

All development	<p>The proper management of water and wastewater is a critical issue in the future growth and development of the settlement of Kilrush and Cappa.</p> <p>Water Supply At present, Kilrush town's daily water demand is in excess of 1200 cubic metres and is supplied from the West Clare Regional Water Supply – (new) Doolough Treatment Plant. This treatment plant also provides water to a significant number of towns and villages in the surrounding area, many which have a large seasonal holiday population. The capacity of the water supply and treatment are sufficient to meet the town's projected population increase. This reflects positively on SEO WS1 & WS2.</p> <p>Wastewater Treatment Kilrush town's wastewater is collected via gravity sewers and four pumps (located at Merchants Quay, Leadmore, Moyne Court Ballynote and Cappa) and a rising mains network and is held at the Kilrush Sewerage Pumping Station (Tidal Holding Tank). Currently the wastewater is discharged from this tank to the sea without treatment. The provision of a Wastewater Treatment Plant for Kilrush is critical to the future planned development of the area. It is Irish Water's objective to provide wastewater treatment at Kilrush by the end of 2021 subject to availability of funding. The achievement of this objective is included as a target in their Draft Water Services Strategic Plan published in February 2015 and the project is included in Irish Water's Investment Plan 2017 to 2017 which will be submitted to the Commission for Energy Regulation, Irish Water's economic regulator, in 2016. This reflects negatively on SEO WW1 & WW2.</p>
Enterprise	<p>ENT3 & ENT4 Represent existing use at these sites as an old factory and Billpost within Kilrush.</p> <p>ENT1,2, 5,6 & 7 will be subject to proper planning and all relevant EC Directives and implementing regulations.</p>
Enterprise	Following the recommendations of the SEA and AA the zoning boundary at ENT3 & ENT4 was changed to allow for a 10m wide riparian buffer zone between the zoning boundary and the marine area to allow for commuting Otter routes. This was zoned as Buffer Space.

All future development	All future development within the settlement should be strictly contingent on the provision of appropriate wastewater treatment facilities that can fully demonstrate no adverse effects on the receiving environment, water courses or adjacent ecological designations. This will be in accordance with relevant EPA standards and requirements to ensure that all future development is sustainable in the long term.
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Miltown Malbay 3.71 ha

Enterprise	ENT1 represents an area adjacent to the centre of town and its mixed use zoning. This is in line with the SEOs in that it supports the working environment (P1) and could potentially provide employment opportunities locally within the village settlement.
	<p>The towns water supply is from the West Clare Regional Water Supply (Old) and Miltown Malbay Water Supply scheme with water treatment plants Old Doolough and Rockmount. Irish Water proposes to abandon the Rockmount supply and link the network to the treatment plant at Doolough. The Regional Water Supply also serves Mullagh and Quilty. There is sufficient capacity at the treatment plant to cater for the target population that would be served by this supply.</p> <p>Wastewater</p> <p>The existing WWTP serving the Miltown Malbay is in very poor condition and there are issues with capacity of the receiving water to assimilate the discharge from the plant. The treatment plant does not have the capacity to accommodate the target population. Significant Capital Investment is required to upgrade the wastewater facilities to an acceptable standard. Depending on conditions set in the pending WWDL when issued, a new site or discharge location may be required.</p> <p>There is currently no public WWTP serving Spanish Point. Irish Water will investigate the feasibility of connecting a number of existing private WWTP, which are in poor condition to the WWTP at Miltown Malbay – depending on the capacity of that plant to comply with its licence conditions. This reflects negatively on SEOs WW1 & WW2."</p>

Moy

All relevant mitigation measures and recommendations outlined in the AA for each of the zonings in Moy should be strictly adhered to.

TABLE A1 IN-COMBINATION EFFECTS BETWEEN THE COUNTY DEVELOPMENT PLAN AND INTERNATIONAL CONVENTIONS, LEGISLATION, PLANS, POLICIES AND PROGRAMMES

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
Ospar Convention (1992) The Convention for the Protection of the Marine Environment of the North-East Atlantic	The current instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic. Objectives include the protection of the marine environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
UN Convention on Biological Diversity (1992)	Objectives include the maintenance and enhancement of Biodiversity.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Ramsar Convention The Convention on Wetlands of International Importance (1971 and amendments)	Objectives include protection and conservation of wetlands, particularly those of importance to waterfowl as Waterfowl Habitat.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The MARPOL Convention International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).	Objectives include for the protection of the marine environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in combination” effects.
The Stockholm Convention (2001)	Objectives seek to protect human health and the environment from persistent organic pollutants (POPs).	No significant negative impacts on European sites either within or outside the plan area.	There may be a risk to human health in combination with the EU Habitats and Birds Directives in relation to active airfields. While one directive seeks to protect habitats and bird species which utilize habitats adjacent to an active airfield this poses a risk to human health where the risk of bird strikes increases.
UN Kyoto Protocol The United Nations Framework Convention on Climate Change (UNFCCC) Kyoto Protocol 1997	Objectives seek to alleviate the impacts of climate change and reduce global emissions of GHGs.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in combination” effects.

Table 2 In-combination effects between the County Development Plan and European legislation, plans, policies and programmes

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
The EU Habitats Directive (92/43/EEC)	Objectives seek to prevent and eliminate the causes of habitat loss and maintain and enhance current levels of biodiversity.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in combination” effects.
The EU Birds Directive (as modified) (79/409/EEC)	Objectives seek to prevent and eliminate the causes of bird species loss and maintain and enhance current levels of biodiversity.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The EU Freshwater Fish Directive (78/659/EEC)	Objectives seek to protect those fresh water bodies identified by Member States as waters suitable for sustaining fish populations. For those waters it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The EU REACH Initiative Registration and Authorization of Chemicals (REACH)	Objectives seek to limit the harmful effects to the environment and human health from certain chemicals through improved analysis and data collection.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The EU Shellfish Directive (79/923/EEC)	Objectives seek to maintain those coastal and brackish waters, which need protection or improvement, in order to allow shellfish to develop and to contribute to the high quality of shellfish products intended for human consumption.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Plant Protection Products Directive (91/414/EEC)	Objectives seek to harmonise the overall arrangements for authorisation of plant protection products within the European Union. This is achieved by harmonising the process for	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	considering the safety of active substances at a European Community level by establishing agreed criteria for considering the safety of those products. Product authorisation remains the responsibility of individual Member States.		
The Major Accidents (Seveso) Directive (96/82/EC as amended)	Objectives seek to prevent major accidents involving dangerous substances and limit their consequences for man and the environment, with a view to ensuring high levels of protection throughout the Community.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The SEA Directive (2001/42/EC)	Objective 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.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The EIA Directive (85/337/EEC) as amended by Directive 2014/52/EC	Objective is to require Environmental Impact Assessment of the environmental effects of those public and private projects, which are likely to have significant effects on the environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Water Framework Directive (2000/60/EC)	Objectives seek to maintain and enhance the quality of all surface waters in the EU.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in combination” effects. Article 4.7 of the Water Framework Directive along with the

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
			associated 11 EU Directives which are seen as basic measures under the WFD regulate water quality in Ireland. Implementation of these directives will mitigate against any potential negative impacts from the Clare CDP. Competent authorities must ensure that these Directives are being implemented to full effect, maximizing their contribution to achieving the objectives established in the River Basin Management Plans.
Groundwater Directive (2006/118/EC)	This directive establishes a regime, which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Marine Strategy Framework Directive (2008/56/EC)	This Directive requires Member States of the European Union to put in place measures to achieve and maintain good environmental status of marine waters by 2020.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
EU Floods Directive (2007/60/EC)	The Floods Directive applies to river basins and coastal areas at risk of flooding. With trends such as climate change and increased domestic and economic development in flood risk zones, this poses a threat of flooding in coastal and river basin areas.	No significant negative impacts on European sites either within or outside the plan area.	Yes, a risk of significant in combination effects with other relevant plans either inside or outside the plan area may occur. For example in combination with the upgrades or improvements to coastal protection together with new structures under the Floods Directive could combine to cause unacceptable pressure on a protected site. Similarly where an area is identified for future development or expansion under the

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
			Clare CDP in conjunction with an area identified for flood protection coastal squeeze may occur. However, as the Planning and Development Act provides the basis for integrating flood risk management into the development plan process and indicates that a development plan may contain objectives for the regulation, restricting or controlling of development in areas at risk of flooding, erosion and other natural hazards the CDP objectives should reflect this requirement.
Bathing Water Directive (2006/7/EC)	The overall objective of the revised Directive remains the protection of public health whilst bathing, but it also offers an opportunity to improve management practices at bathing waters and to standardise the information provided to bathers across Europe.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Nitrates Directive (91/676/EEC)	This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further such pollution.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Urban Wastewater Treatment Directive (91/271/EEC) as amended by Directive 98/15/EEC	The primary objective is to protect the environment from the adverse effects of discharges of urban wastewater, by the provision of urban wastewater collecting systems (sewerage) and treatment plants for urban centres. The Directive also provides general rules for the sustainable	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	disposal of sludge arising from wastewater treatment.		
The Sewage Sludge Directive (86/278/EEC)	Objective is to encourage the use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil, vegetation, animals and man this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
IPPC Directive (96/61/EC) as amended by Directive 2008/1/EC	Objective is to achieve a high level of protection of the environment through measures to prevent or, where that is not practicable, to reduce emissions to air, water and land. The Directive provides an integrated approach to establish pollution prevention from stationary “installations”. This codified act includes all the previous amendments to the Directive 96/61/EC and introduces some linguistic changes and adaptations.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Drinking Water Directive (80/778/EEC) as amended by Directive 98/83/EC	The primary objective is to protect the health of the consumers in the European Union and to make sure drinking water is wholesome and clean.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
EU Dangerous Substances Directive (76/464/EEC)	The objective is to regulate potential aquatic pollution by thousands of chemicals produced in Europe. The Directive covers discharges to inland surface waters, territorial waters, inland coastal waters and groundwater.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Convention for the Protection of the Archaeological Heritage of Europe	Objective is to protect the archaeological heritage as a source of the European	No significant negative impacts on European sites either within or outside	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
(revised) (Valletta 1992)	collective memory and as an instrument for historical and scientific study.	the plan area.	
Convention for the Protection of the Architectural Heritage of Europe (Granada 1985)	Objectives seek to provide a basis for protection of architectural heritage and are a means for proclaiming conservation principles, including a definition of what is meant by architectural heritage, such as monuments, groups of buildings and sites. The Convention also seeks to define a European standard of protection for architectural heritage and to create legal obligations that the signatories undertake to implement.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The World Heritage Convention United Nations Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris 1972)	Objectives seek to ensure the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage and ensure that effective and active measures are taken for these.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The MARPOL Convention International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78).	Objectives include for the protection of the marine environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
World Health Organisation (WHO) Air Quality Guidelines (1999) and Guidelines for Europe (1987)	Objectives seek the elimination or minimisation of certain airborne pollutants for the protection of human health.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Air Framework Directive on Air Quality Assessment and Management (Framework Directive) (1996/62/EC)	Objectives include the prevention and/or reduction of airborne pollutants for the protection of human health and environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
Directive on National Emission Ceilings for Certain Atmospheric Pollutants (2001/81/EC)	Objectives seek to limit the national emissions of certain airborne pollutants for the protection of human health and the environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The EU Biodiversity Strategy Communication on a European Community Biodiversity Strategy	Objectives seek to prevent and eliminate the causes of biodiversity loss and maintain and enhance current levels of biodiversity.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Second European Climate Change Programme (ECCP II) 2005.	Objectives seek to develop the necessary elements of a strategy to implement the Kyoto protocol.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Second European Climate Change Programme (ECCP II) 2005.	Objectives seek to develop the necessary elements of a strategy to implement the Kyoto protocol.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Adapting to climate change in Europe options for EU action {SEC (2007) 849}	Objective is to kick-start a Europe-wide public debate and consultation on how to take forward possible avenues for action in adapting to climate change at EU level.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The EU Environment and Health Strategy 2004-2010 (first period)	Objectives seek to prevent and reduce the impacts of pollution on human health.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Laying down the Health Conditions for the production and placement on the market of live bi-valve molluscs (91/492/EEC)	Objectives seek to ensure a suitable environment for shellfish growth and protect consumers of shellfish. It classifies shellfish harvesting areas according to the quality of shellfish populations. The classification determines the conditions under which shellfish harvested from those waters can be offered for sale.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
EU Common Agricultural Policy	Aims to provide farmers with a reasonable standard of living, consumers with quality food at fair prices and to preserve rural heritage.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
The Gothenburg Strategy (2001) Communication from the Commission on “a Sustainable Europe for a Better World”	Objectives seek to make the future development of the EU more sustainable. Informs the 6 th EAP and the Irish sustainable development strategy.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Sixth Environmental Action Programme (EAP) of the European Community 2002- 2012	Objectives seek to make the future development of the EU more sustainable.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Landfill Directive (99/31/EC)	The Landfill Directive sets targets to reduce landfilling of biodegradable municipal waste.	Yes possible impacts may arise where reduction measures to landfill are replaced with land spreading on or near a protected site. This would need to be carried out according to best practice guidance.	

Table 3 In-combination effects between the County Development Plan and national legislation, plans, policies and programmes

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
Actions for Biodiversity 2017 – 2021, Ireland’s 3rd National Biodiversity Plan	Objectives include the enhancement and conservation of biodiversity. Although such issues would be dealt with at local or site level, the Plan should have regard to these objectives and promote such objectives where possible.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Wildlife Act 1976. The Wildlife (Amendment) act 2000	The purpose of the Wildlife Act, 1976 and the Wildlife Amendment Act, 2000 is to provide for the protection of Wildlife (both Flora and Fauna) and the control of activities, which may impact	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	adversely on the conservation of wildlife.		
European Communities (Natural Habitats) Regulations, SI 94/1997, as amended SI 233/1998, SI 378/2005 & SI 477 of 2011	These Regulations give effect to Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) and the Minister to designate special areas of conservation (endangered species and habitats of endangered species) as a contribution to an EU Community network to be known as Natura 2000.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Quality of Salmonid Waters Regulations 1988 (SI 293 of 1988)	Prescribe quality standards for salmonid waters and designate the waters to which they apply, together with the sampling programmes and the methods of analysis and inspection to be used by local authorities to determine compliance with the standards. Also, give effect to Council Directive No. 78/659/EEC on the quality of fresh waters needing protection or improvement in order to support fish life.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Bathing Water Quality (Amendment) Regulations 2011	Prescribe bathing water quality standards and the bathing areas to which they apply, together with the sampling programmes and the methods of analysis and inspection to be used by local authorities to determine compliance with the standards. Give effect to Council Directive No. 76/160/EEC concerning the quality of	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	bathing water.		
Quality of Shellfish Waters Regulations 2006 (SI 268/2006)	Give effect to Council Directive 79/923/EEC of 30 October 1979 on the quality required of shellfish waters and prescribe quality standards for shellfish waters and designate the waters to which they apply, together with sampling and analysis procedures to be used to determine compliance with the standards.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
National Planning Framework Ireland 2040 and National Development Plan	Is a national document that will guide at a high-level strategic planning and development for the country over the next 20+ years, so that as the population grows, that growth is sustainable (in economic, social and environmental terms). Finalisation of the NPF alongside the ten-year National Development Plan will put together one plan to guide strategic development and infrastructure investment at national level. The NPF with the National Development Plan will also set the context for each of Ireland’s three regional assemblies to develop their Regional Spatial and Economic Strategies taking account of and co-ordinating local authority County and City Development Plans in a manner that will ensure national, regional and local plans align	Yes possible impacts may arise where there is a requirement to provide for new infrastructure. Avoidance on or near protected areas should be implemented or where this is not possible favouring of infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan.	Yes, a risk of significant in-combination effects, for example, potential new developments arising from implementation of the proposed variation together with new structures under the NSS could combine to cause unacceptable pressure on a protected site.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
Planning and Development Act 2000, as amended	Revised and consolidated the law relating to planning and development by repealing and re-enacting with amendments the Local Government (Planning and Development) Acts, 1963 to 1999; to provide, in the interests of the common good, for proper planning and sustainable development including the provision of housing; to provide for the licensing of events and control of funfairs; to amend the Environmental Protection Agency Act 1992, the Roads Act 1993, the Waste Management Act 1996, and certain other enactments.	Yes possible impacts may arise where there is a requirement to provide for new infrastructure. Avoidance on or near protected areas should be implemented or where this is not possible favouring of infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan	Yes, a risk of significant in combination effects, for example, potential new developments arising from implementation of the proposed variation together with new structures under the Planning and Development Act could combine to cause unacceptable pressure on a protected site.
European Communities (Environmental Assessment of Certain Plans and Programmes Regulations 2004 (S.I. 435 of 2004)	Objectives include protection of the environment and integration of plan making processes into the sustainable planning of the country as a whole. The EU SEA Directive was transposed into Irish Law under S.I. 435 in 2004.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Environmental Protection Agency Act 1992	Objectives include the better protection of the environment and the control of pollution through improved licensing and monitoring.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Drinking Water Regulations SI 439 of 2000	Prescribe quality standards to be applied in relation to certain supplies of drinking water, including requirements as to sampling frequency, methods of analysis, the provision of information to consumers and related matters. Give effect to provisions of EU Council Directive 98/83/EC on the quality of	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	water intended for human consumption.		
Local Government (Water Pollution) Act, 1977 (Water Quality Standards for Phosphorus) Regulations 1998 (SI 258 of 1998)	Provides for specified improvements in water quality conditions in rivers and lakes based on phosphorus concentrations or related water quality classifications and give effect to certain requirements arising under Council Directive 76/46/EC on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
European Communities (Water Policy) Regulations (SI 722 of 2003)	Provide for the transposition into Irish national law of the provisions of the EU Water Framework Directive.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2005 (S.I. No. 378 of 2006)	Provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources. Give further effect to several EU Directives including Directives in relation to protection of waters against pollution from agricultural sources (“the Nitrates Directive”), dangerous substances in water, waste management, protection of groundwater, public participation in policy development and water policy (the Water Framework Directive).	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Government Policy Statement on Strategic Importance of Transmission & other Energy Infrastructure	The Government published a policy statement on the strategic importance of Transmission and other Energy Infrastructure on 17th July 2012. Local Authorities and An Bord Pleanála are	Yes, potential impacts may arise due to development of new, and renewal of existing, energy networks which could affect Natura 2000 sites.	Yes, both this policy statement and the proposed variation could lead to development which could have in-combination effects on the Natura 2000 network.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	<p>required to have regard to the Government policy statement as and from the date of publication. The statement reaffirms ‘the imperative need for development and renewal of our energy networks, in order to meet both economic and social policy goals’ and recognises the need to achieve balance between that need and the human, environmental and landscape impacts, in delivering the best possible engineering solutions.</p>		
<p>Delivering a Sustainable Energy Future for Ireland – the Energy Policy Framework 2007-2020 White Paper</p>	<p>The white paper set out the government’s energy policy framework to deliver a sustainable energy future for Ireland. It is set in the Global and European context that places energy security and climate change among the most pressing international challenges. The framework is closely aligned to the climate change strategy and sets out actions to achieve the strategic goals of:</p> <ul style="list-style-type: none"> • ensuring security of energy supply: through reliable access to oil and gas supplies with the infrastructure to import, distribute and store gas and oil, allied to robust networks and electricity generating capacity. • promoting sustainability of energy supply & use: through actions including accelerating growth of renewable 	<p>Yes, potential impacts may arise due to energy-related developments which could affect European sites.</p>	<p>Yes, both this paper and the Clare CDP could lead to development which could have in-combination effects on the European 2000 network.</p>

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	<p>energy sources, delivering an integrated approach to sustainable development and use of bio-energy resources. enhancing the competitiveness of energy supply:</p> <p>through structural change in the energy market, enabling competition and delivering consumer choice.</p> <p>The expansion in the economy and population has contributed to the 25% increase in Ireland’s greenhouse gas emissions over the past 15 years. Currently over 90% of Irish energy requirements are imported. Combined with its peripheral location and small market scale, this current reality leaves Ireland vulnerable to supply disruption and imported price volatility.</p>		
<p>National Climate Change Strategy (NCCS) 2007-2012</p>	<p>The national climate change strategy 2007-2012 sets target for the key sectors within the state and economy in order to achieve overall Kyoto targets. Energy policy is required to make a substantial contribution to reducing greenhouse gas emission through energy efficiency, changes in fuel mixes and the increased use of renewable energy. Renewable energy is identified as the most effective way to reduce the contribution of power generation to greenhouse gas emissions. In addition to a considerable natural resource in wind</p>	<p>Yes, potential impacts may arise due to energy-related developments which could affect Natura 2000 sites.</p>	<p>Yes, both this strategy and the County CDP could lead to development which could have in-combination effects on the Natura 2000 network.</p>

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	energy, Ireland also has the potential to be a world leader in ocean energy technology.		
Government Policy Statement on Strategic Importance of Transmission & other Energy Infrastructure	The Government published a policy statement on the strategic importance of Transmission and other Energy Infrastructure on 17th July 2012. Local Authorities and An Bord Pleanála are required to have regard to the Government policy statement as and from the date of publication. The statement reaffirms ‘the imperative need for development and renewal of our energy networks, in order to meet both economic and social policy goals’ and recognizes the need to achieve balance between that need and the human, environmental and landscape impacts, in delivering the best possible engineering solutions.	Yes, potential impacts may arise due to energy-related developments which could affect Natura 2000 sites.	Yes, both this policy statement and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.
National Ports Policy 2013	The core objective of National Ports Policy is to facilitate a competitive and effective market for maritime transport services. The long-term international trend in ports and shipping is toward increased consolidation of resources in order to achieve optimum efficiencies of scale. This has knock-on effects in terms of vessel size, the depths of water required at ports and the type and scale of port hinterland transport connections. National Ports Policy	Yes, port and port-related developments could affect Natura 2000 sites.	Yes, both this policy statement and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	introduces clear categorization of the ports sector into Ports of National Significance (Tier 1), Ports of National Significance (Tier 2) and Ports of Regional Significance.		
National Renewable Energy Action Plan	<p>Article 4 of Directive 2009/28/EC on renewable energy requires each member state to adopt a National Renewable Energy Action Plan (NREAP) to be submitted to the European Commission. Ireland has a target of achieving 16% of energy from renewable sources by 2020. The NREAP sets out national targets for 2020 in respect of the share of energy from renewable sources, consumed in transport, electricity and heating and cooling including 40% of electricity consumption from renewable sources by 2020. The Government is also looking beyond 2020 in terms of significant opportunities to develop Ireland’s abundant off-shore renewable energy resources including offshore wind, wave and tidal technology, recognising that these offer significant potential for coming decades.</p> <p>The Government acknowledges the need for a fully integrated approach to provide the economic, infrastructural and planning conditions conducive to the sustainable development of Ireland’s</p>	Yes, potential impacts may arise due to energy-related developments which could affect Natura 2000 sites.	Yes, both this strategy and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	renewable resource which offers the potential for Ireland to become a significant future exporter of renewable energy.		
Offshore Renewable Energy Development Plan (ORED)	The OREDP identifies the opportunity for the sustainable development of Ireland’s abundant offshore renewable energy resources for increasing indigenous production of renewable electricity, thereby contributing to reductions in our greenhouse gas emissions, improving the security of our energy supply and creating jobs in the green economy. The ORED sets out key principles, policy actions and enablers for delivery of Ireland’s significant potential in this area. In this way, the OREDP will provide a framework for the sustainable development of Ireland’s offshore renewable energy resources.	Yes, potential impacts may arise due to energy-related developments which could affect Natura 2000 sites.	Yes, both this plan and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.
Harnessing our Ocean Wealth: An Integrated Marine Plan for Ireland July, 2012	Harnessing Our Ocean Wealth is an Integrated Marine Plan (IMP), setting out a roadmap for the vision, high level goals and integrated actions across policy, governance and business to enable our marine potential to be realised. The Plan provides a momentum for growth in the marine area and seeks to ensure government departments work together more efficiently and effectively on the diverse issues related to the marine.	Yes, potential impacts may arise due to marine-related developments which could affect Natura 2000 sites.	Yes, both this plan and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
Air Quality Standards Regulations 2002 S.I. No. 271 of 2002)	Objectives include the reduction of certain airborne pollutants for the protection of human health and the environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Ozone in Ambient Air Regulations 2004 (S.I. No. 53 of 2004).	Objectives include the reduction of certain airborne pollutants for the protection of human health and the environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999	Objectives include the reduction of certain airborne pollutants for the protection of human health and the environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Flora Protection Order 1999	Objectives are to protect listed flora and their habitats from alteration, damage or interference in any way. This protection applies wherever the plants are found and is not confined to sites designated for nature conservation.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
National Climate Change Strategy (2000) and National Climate Change Strategy 2007-2012	Objectives include the reduction of national GHG emissions (including those from the water sector). The Plan should give regard to these objectives and targets for reductions in CO2 equivalents from the water sector.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
National Heritage Plan (2002)	Core objective is to protect Ireland’s heritage. Plan uses the “polluter pays principle” and the “precautionary principle.” Sets out archaeological policies and principles that should be applied by all bodies when undertaking a development.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
National Adaptation Framework 2018	The NAF sets out the national strategy	No significant negative impacts on	No risk of significant “in-combination”

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	to reduce the vulnerability of the country to the negative effects of climate change and to avail of positive impacts. The NAF was developed under the Climate Action and Low Carbon Development Act 2015	European sites either within or outside the plan area.	effects.
The Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999	Provides for the establishment of a National Inventory of Architectural Heritage (NIAH). The objective of the NIAH is to aid in the protection and conservation of the built heritage, especially by advising planning authorities on the inclusion of particular structures in the Record of Protected Structures (RPS).	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Framework and Principles for the Protection of the Archaeological Heritage (1999)	Objective is to set out for all concerned parties the basic principles and approaches for the protection of the archaeological heritage.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Policy and Guidelines on Archaeological Excavation (1999)	Objective is to set down policy on licensing of excavations, and guidelines for licensees on strategies and method statements, reports and publications.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Architectural Heritage Protection – Guidelines for Planning Authorities	Objective is to provide a practical guide for planning authorities and for all others who must comply with Part IV of the Planning and Development Act 2000 on the protection of the architectural heritage and support the effort of protecting Ireland’s architectural heritage.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
White Paper on Sustainable Energy	Objectives include the increased	No significant negative impacts on	No risk of significant “in-combination”

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023 effects.
(2007)	utilisation and development of renewable energies to meet EU targets.	European sites either within or outside the plan area.	
Sustainable Development: A Strategy for Ireland (1997) (DoEHLG)	Objectives are to ensure that future development in Ireland occurs in a sustainable manner.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Protection of the Environment Act 2003	Objectives include for better protection of the environment and the control of pollution through improved licensing and monitoring.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
Arterial Drainage Acts, 1945 and 1995	Deals with the improvement of lands by drainage and the preventing or sustainably reducing the flooding of lands. Sets up the process of Arterial Drainage Schemes and provides for the maintenance of these works. Also implements a number of drainage and flood reduction related measures such as approval procedures for bridges and weirs, and iterates reporting requirements for Drainage Districts.	Yes, possible impacts may arise where structures such as bridges, weirs and flood prevention measures are put in place at or near a protected site, or where dredging occurs.	Yes, a risk of significant in-combination effects, for example, in-combination with the new developments arising from implementation of the Clare CDP together with new structures under the Arterial Drainage Acts could combine to cause unacceptable pressure on a protected site.
Dumping at Sea Act, 1996	Make provision to control dumping at sea, to give effect to the convention for the protection of the marine environment of the north-east Atlantic done at Paris on the 22nd day of September, 1992.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Fisheries Acts 1959 to 1997	Amends and extends the laws relating to fisheries, to prohibit persons from engaging in aquaculture except with and in accordance with a licence, to establish a procedure for the granting, renewal, amendment and revocation of licences,	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
	to allow for appeals against decisions relating to licences and for connected purposes.		
The Harbours Act 1946	An Act to make further and better provision in relation to the membership of certain harbour authorities and to the management, control, operation and development of their harbours, to provide for the charging of rates by such harbour authorities, to make certain provisions in relation to pilotage authorities and to provide for other matters connected with the matters aforesaid.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.
The Foreshore Acts 1933 to 2005	The Foreshore Acts require that a lease or licence must be obtained from the Minister for Agriculture, Fisheries and Food for undertaking any works or placing structures or material on, or for the occupation of or removal of material from, State-owned foreshore which represents the greater part of the foreshore. The foreshore is the seabed and shore below the line of high water of ordinary or medium tides and extends outwards to the limit of twelve nautical miles (approximately 22.24 kilometres).	Yes, possible impacts may arise where the erection of long-term structures (e.g. piers, marinas, bridges, roads, carparks) and granting of licences for other works (e.g. laying of submarine pipelines and cables) and purposes (e.g. aquaculture) take place. However, these will primarily be at a site level.	Yes, there is a risk of significant in-combination effects along with any development arising from the implementation of the Clare CDP.
The Waste Management Act 1996 and amendments	Objectives include (amongst others) the more effective and environmentally sensitive management of wastes in Ireland.	Yes, possible impacts may arise where the siting of new waste infrastructure is in or near a protected site.	Yes, there is a risk of significant in-combination effects along with any development arising from the implementation of the proposed Clare CDP.

Policy, plan or programme	Summary of objectives	Possible impacts from policy, plan or programme?	Is there a risk of significant “in-combination” effects with other policies, plans or programmes and the County Development Plan 2017-2023
European Communities (Port Reception Facilities for Ship Generated Waste and Cargo Residues) Regulations 2003 (SI 117 of 2003)	Objective is to reduce the discharges of ship-generated waste and cargo residues into the sea, especially illegal discharges, from ships using ports in the Community, by improving the availability and use of port reception facilities for ship-generated waste and cargo residues, thereby enhancing the protection of the marine environment.	No significant negative impacts on European sites either within or outside the plan area.	No risk of significant “in-combination” effects.

The Mid Western Regional Strategy		No significant impacts on European sites either within or outside the plan area as the plan has already been subjected to Habitats Directive Assessment.	No risk of significant “in-combination” effects.
Mid-West Regional Guidelines	Set clear objectives and targets in relation to the development plans of the planning authorities that are specific in relation to future population, settlement strategy and development distribution and infrastructure investment priorities in line with the NDP 2007-2013. Promote the effective integration and coordination of development plans within an overall regional vision for development.	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment.	No risk of significant “in-combination” effects.
Mid-West Area Strategic Plan	1. Prioritisation of investment in the region 2. Strengthening the Limerick/Shannon Gateway as the core of the Region. The promotion of the existing city and environs (the metropolitan city) as the economic driver for the region is fundamental 3. Strengthening the Limerick/Shannon	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment.	No risk of significant “in-combination” effects.

	<p>Gateway, Nenagh and Ennis as the Hub in terms of population growth</p> <p>4. Create and support a well defined hierarchy of settlement, as defined in the Mid-West Regional Planning Guidelines, which will support the development of a series of rural economic nodes such as Newcastle West, Thurles and Roscrea</p> <p>5. Deliver the required transport infrastructure to meet the Plan objectives</p> <p>6. Optimise the organizational structure to facilitate the delivery of the Plan objectives</p> <p>7. Provide economic review and direction for the region.</p>		
Shannon Town and Environs Local Area Plan 2012-2018 as extended	This Plan aims to facilitate the sustainable economic and social development of Shannon Town & Environs, to conserve the natural and built environment of the area; and to improve its physical infrastructure.	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment.	No risk of significant “in-combination” effects.
County Clare Heritage Plan 2017-2023	The Clare Heritage Plan 2011-2017 sets out how Clare County Council, in association with other stakeholders, will identify manage and conserve heritage for the benefit of all. It will collect and make available heritage information and raise awareness through education initiatives, surveys and research. It will inform public policy on heritage and support the strategic and integrate management of heritage at a local level.	No significant impacts on European sites either within or outside the plan area as the guidelines have already Been subjected to Habitats Directive Assessment.	No risk of significant “in-combination” effects.
Shannon River Basin District Management Plan	To protect and enhance surface and groundwater resources and to achieve at least Good Ecological Status in all waterbodies by 2015.	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment.	No in-combination effects but there is a risk of conflict between the implementation of the Shannon RBMP and the objectives of the Clare CDP in terms of the measures required under the RBMP to restore or maintain ecological status and the identification

			within the Clare CDP of areas for future development which may prevent the achievement of the RBMP Objectives.
Shellfish Pollution Reduction Programmes	Designated shellfish water under the Shellfish Regulations for which Shellfish Pollution Reduction Programmes have been developed must have regard to the requirements of the Shannon river Basin Management Plan together with other specific measures. Developments adjoining, or in the vicinity of, Designated Shellfish Waters must have regards to the designation and ensure that development does not have a negative impact on the quality of the water and Natura 2000 sites in the area.	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment.	No risk of significant “in-combination” effects.
Cloon Freshwater Pearl Mussel Sub-Basin Management Plan	The Cloon Sub-Basin Management Plan (SBMP) has been produced to supplement the Shannon International River Basin Management Plan (RBMP). It provides the more detailed programme of measures required to restore the habitat of the freshwater pearl mussel to a condition that will support the longterm survival of the species and the achievement of favourable conservation status.	No significant impacts on European sites either within or outside the plan area as the guidelines have already been subjected to Habitats Directive Assessment.	Yes, due to the sites sensitivity the identification of agricultural objectives together with the zoning of lands for future development should be steered away from the Cloon River and the Clonderlaw Bay areas as there is potential for significant impact on this site from future development. The detailed site specific measures of the Cloon Sub- Basin Management Plan should be implemented and adhered to and cognisance of them taken into account during the preparation of the Clare CDP.
Shannon Airport Catchment Area Economic and Tourism Development Plan – Department of Transport (2008)	This Plan aims to establish a focused tourism marketing programme for the wider Shannon catchment area in addition to the existing programmes of Tourism Ireland, Fáilte Ireland and Shannon Development. It notes that a special tourism marketing initiative will only	Yes, potential impacts may arise due to developments which could affect Natura 2000 sites.	Yes, both this plan and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.

	deliver sustainable benefit, if there is a cost-efficient airport; proper route development particularly to mainland Europe and Britain; and accelerated provision of improved ground transport connections to the airport.		
Mid-West Regional Planning Guidelines 2010-2022	The Shannon Estuary is recognised as a major natural resource for the Mid-West Region, providing a major goods transport link and a valuable resource for the tourist sector. The protection of the capacities of the existing ports and improved access to them is a regional priority. The Guidelines also recognize the Estuary as one of the important landscapes of the region and advocate a common approach to landscape management across the relevant local authorities.	Yes, potential impacts may arise due to developments which could affect Natura 2000 sites.	Yes, both these RPGs and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.
Mid-West Area Strategic Plan (MWASP) 2010-2030	Mid-West Area Strategic Plan (MWASP) 2010-2030 provides a framework within which the physical and spatial development of the region can be developed to 2030, and is particularly relevant to the strategic integrated land use and transportation planning and development and provision of future infrastructure envisaged for the Shannon Estuary. MWASP promotes the strategic direction for the sustainable development of the region, the attainment of balanced regional growth, and support for the settlement hierarchy in terms of the RPGS, and the optimal social, economic, physical infrastructural and cultural development of the study area.	Yes, potential impacts may arise due to developments which could affect Natura 2000 sites.	Yes, both these RPGs and the Clare CDP could lead to development which could have in-combination effects on the Natura 2000 network.

CLARE COUNTY
DEVELOPMENT PLAN

2017
2023



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Strategic Environmental Assessment
Environmental Report
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