



Tullow Local Area Plan 2017-2023



C A R L O W
C O U N T Y C O U N C I L
COMHAIRLE CHONTAE CHEATHARLOCHA



Adopted 13th February 2017

TABLE OF CONTENTS		PAGE NO.
Chapter 1	Review Context	1
1.1	Introduction	
1.2	Form and Content of the Local Area Plan	
1.3	Strategic Environmental Assessment	
1.4	Appropriate Assessment	
1.5	Strategic Flood Risk Assessment (SFRA)	
1.6	Public Consultation	
Chapter 2	Tullow in Context	5
2.1	Introduction	
2.2	History and Evolution	
2.3	Town Function and Role	
2.3.1	Population	
2.3.2	Household Size and Profile	
2.3.3	Age Profile	
2.3.4	Residential Profile and Unit Target	
2.3.5	Economy	
2.3.6	Town Centre	
2.3.7	Movement and Access	
2.3.8	Environment, Social and Community	
2.3.9	Education	
2.3.10	Water and Wastewater	
2.4	Conclusion	
Chapter 3	Vision and Development Strategy Tullow	15
3.1	The Vision for Tullow	
3.2	Strategic Objectives and Priorities	
3.2.1	Strategic Objective No. 1	
3.2.2	Strategic Objective No. 2	
3.2.3	Strategic Objective No. 3	
3.3	Conclusion	
Chapter 4	Economic Development	21
4.1	Introduction	
4.1.1	Employment Profile	
4.1.2	Strengths of Location in Tullow	
4.2	Challenges	
4.3	Strategic Approach	
4.4	Policies and Objectives	
4.4.1	Enterprise and Industry	
4.4.2	Location of Employment lands in Tullow	
4.4.3	Economic Policies for Tullow	
4.4.4	Retail	
4.5	Brownfield / Derelict / Vacant / Underutilised Sites	
4.5.1	Town Centre Opportunity Sites	
4.6	Rural and Agricultural Development	

Chapter 5	Housing and Sustainable Neighbourhoods	33
5.1	Introduction	
5.2	Challenges	
5.3	Strategic Approach	
5.4	Policies and Objectives	
5.4.1	Compliance with Core Strategy	
5.4.2	Sustainable Residential Areas	
5.4.3	Sustainable Building Design	
5.4.4	Quality Housing for All	
5.4.5	Good Property Management	
5.4.6	Unfinished Estates	
5.4.7	Apartment Living	
5.4.8	Demolition and Reuse	
5.4.9	Social and Affordable Housing	
5.4.10	Social Inclusion and Regeneration	
Chapter 6	Town Centre, Landscape and Public Realm	41
6.1	Introduction	
6.2	Challenges	
6.3	Strategic Approach	
6.4	Character Areas	
6.5	Land Use and Function	
6.6	Landscape	
6.7	Streets and Movement	
6.8	Public Spaces and Public Realm	
6.9	Projects	
6.10	Guidelines for Future Development	
Chapter 7	Transportation and Movement	57
7.1	Introduction	
7.2	Challenges	
7.3	Strategic Approach	
7.4	Smarter Travel	
7.5	Transport Infrastructure	
7.6	Public Transport	
7.7	Traffic Management and Parking	
Chapter 8	Community, Social and Recreational Development	61
8.1	Introduction	
8.2	Challenges	
8.3	Strategic Approach	
8.4	Community Facilities	
8.5	Educational Facilities	
8.6	Sports, Recreation and Play	
8.7	Recreational Potential of the River Slaney	

Chapter 9	Utilities Infrastructure, Climate Change and Environmental Management	67
9.1	Introduction	
9.2	Challenges	
9.3	Strategic Approach	
9.4	Policies and Objectives	
9.4.1	Water Supply and Quality	
9.4.2	Wastewater	
9.4.3	Flooding	
9.4.4	Climate Change	
9.4.5	Waste Management	
9.4.6	Energy and Communications	
9.4.7	Noise / Air / Light Pollution	
Chapter 10	Built and Natural Heritage	77
10.1	Introduction	
10.2	Challenges	
10.3	Strategic Approach	
10.4	Architectural Heritage	
10.4.1	Record of Protected Structures	
10.4.2	Archaeological Heritage	
10.4.3	Cultural Heritage	
10.5	Natural Heritage	
10.5.1	European Directives, Natura 2000 Network and Biodiversity	
10.5.2	European and National Designated Protected Species	
10.5.3	Green Infrastructure	
10.5.4	Trees, Hedgerows, Woodlands and Non-Designated Habitats and Species	
10.5.5	Invasive and Non-Native Species	
10.6	Built and Natural Heritage Objectives	
Chapter 11	Tourism	95
11.1	Introduction	
11.2	Challenges	
11.3	Strategic Approach	
11.4	Sustainable Tourism	
11.5	Natural Amenities	
11.6	Cultural Tourism	
11.6.1	Indigenous Food, Drink and Crafts	
11.7	Recreational Amenities	
11.8	Tourism Policies and Objectives	
Chapter 12	Landuse Zoning Objectives	101
12.1	Land Use Zoning Objectives	
12.2	Zoning Matrix	
12.2.1	Application of Zoning Policy	
12.2.2	Definition of Terms	

Appendices

Appendix 1	Strategic Environmental Assessment
Appendix 2	Appropriate Assessment
Appendix 3	Strategic Flood Risk Assessment
Appendix 4	List of Civic and Community Facilities in Tullow

Figures

Figure 1	Graphic Recording of Public Consultation Event
Figure 2	Aerial Photograph Tullow
Figure 3	Tullow Urban and Rural Environs Population 1981 – 2011
Figure 4	Household Size
Figure 5	Tullow and National Age Profile (%)
Figure 6	Tullow Social Class
Figure 7	View to south of bridge in Tullow
Figure 8	Indicative Transformation of view to south of bridge in Tullow
Figure 9	View of Market Square
Figure 10	Indicative Transformation of Market Square
Figure 11	View of southern bank of River Slaney (opposite Supervalu Carpark)
Figure 12	Indicative Transformation of southern bank of River Slaney (opposite Supervalu Carpark)
Figure 13	Tullow Castle

Tables

Table 1	Tullow Population 1981 – 2011
Table 2	Tullow Household Size and Profile
Table 3	Tullow Age Profile
Table 4	Tullow Housing Unit Targets 2016 – 2022
Table 5	Tullow Social Class
Table 6	Profile of existing schools in Tullow
Table 7	Population aged 15 and over by Principle Economic Status and Sex
Table 8	Daytime working population Tullow
Table 9	Unit Potential Undeveloped Residential Zoned Land Phase 1
Table 10	Profile of existing schools in Tullow
Table 11	Record of Protected Structures in Tullow
Table 12	Specific Land Use Zoning Objectives
Table 13	Land Use Zoning Matrix

Maps

Map 1	1839 OSI Ordnance Survey Map
Map 2	1910 OSI Ordnance Survey Map
Map 3	Tullow Core Retail Area
Map 4	Tullow Town Centre Opportunity Sites
Map 5	Residential Sites
Map 6	Regeneration Sites
Map 7	Tullow Character Areas

Map 8	Tullow Core Retail Area – Building Uses
Map 9	Tullow Public Spaces
Map 10	Protected Structures in Tullow LAP area
Map 11	Protected Structures in Tullow LAP area
Map 12	Recorded Monuments in Tullow LAP area
Map 13	St. Patrick’s Trail
Map 14	Area covered by Gorden Bennett Rally
Map 15	Tullow Land Use Zoning Map
Map 16	Land Use Zoning Map showing SAC boundary

CHAPTER 1 REVIEW CONTEXT

1.1 Introduction

The Tullow Local Area Plan (LAP) 2010-2016 expired in June 2016. Under Section 19 of the Planning and Development Act 2000 as amended, a local area plan may be prepared in respect of any area, a Gaeltacht, or an existing suburb of an urban area as well as areas in need of renewal or areas likely to be subject to large-scale development.

A mandatory LAP is required in respect of an area which:

- is designated as a town in the most recent census of population, other than a town designated as a suburb or environs in that census,
- has a population in excess of 5,000 and
- is situated within the functional area of a planning authority which is a county council.

Tullow is below the population threshold for a mandatory LAP (recorded as 3,972 in CSO 2011). It is however, one of the key urban settlements in the county designated as a district town in the South Eastern Regional Planning Guidelines 2010-2022 and the Carlow County Development Plan 2015-2021 with an overall objective to facilitate development in a self-sufficient manner. Development should incorporate employment activities, sufficient services and social and community facilities in tandem with necessary improvements in physical infrastructure and public transport.

The period of this plan shall be taken as being six years from the date of its adoption or until it is reviewed or another plan made, unless it is extended under Section 19 (d) of the Planning and Development Act 2000, as amended.

1.2 Form and Content of the Local Area Plan

This local area plan for Tullow consists of a Written Statement and a land use zoning map. It comprises of 12 Chapters:

- Chapters 1-3 outline the context of the LAP, reviews the historical development of Tullow, the existing profile of the town together with the vision and strategic objectives for the future development of the area.
- Chapters 4-11 address key development objectives including economic development, housing, infrastructure, community facilities, natural and built heritage, tourism, town centre and public realm principles.
- Chapter 12 addresses landuse zoning objectives.

The Written Statement shall take precedence over the map should any discrepancy arise between them. In the full interpretation of all objectives for Tullow, it is essential that both the County Development Plan and the Local Area Plan are read in tandem. Where conflicting objectives arise between the Carlow County Development Plan and the Local Area Plan, the objectives of the County Development Plan shall take precedence. The general development management standards applicable to the local area plan area are included in the County Development Plan. Only specific objectives applicable to Tullow are included in the Local Area Plan.

1.3 Strategic Environmental Assessment

Strategic Environmental Assessment (SEA) is the formal systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt the plan or programme. The SEA Directive (2001/42/EC), was transposed into Irish Law through the European Communities (Environmental Assessment

of Certain Plans and Programmes) Regulations 2004 (SI No 435 of 2004) as amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (S.I No. 200 of 2011) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No 436 of 2004) as amended by the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (S.I. No. 201 of 2011).

Carlow County Council determined that the LAP would – if unmitigated- be likely to result in significant environmental effects – thus necessitates the undertaking of SEA. The SEA is being prepared in parallel to this LAP, informing the plan making process of the likely environmental impacts of alternative actions and contributes to the integration of environmental considerations into the LAP making process.

In accordance with Article 13D of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, a Scoping Assessment was prepared for the Tullow Local Area Plan and sent to the Environmental Authorities. The findings of the SEA are set out in the Environmental Report, which, while constituting part of the LAP documentation, is presented as a separate document. The Environmental Report was prepared in conjunction with the preparation of the LAP and the LAP has been informed by the environmental considerations of the Environmental Report. The likely environmental effects of the LAP (and the alternative development scenarios considered) are predicted in the Environmental Report and their significance is evaluated with reference to the area's environmental baseline. The Environmental Report therefore provides a clear understanding of the likely environmental consequences of decisions regarding the location of development in the LAP area. The mitigation measures needed to offset the potential adverse effects of the LAP and future monitoring proposals have been transposed from the Environmental Report into the LAP.

1.4 Appropriate Assessment

The purpose of carrying out an Appropriate Assessment (AA) of land use plans is to ensure that protection of the integrity of European sites is a part of the planning process at a regional and local level. The requirement for AA of plans or projects is outlined in Article 6(3) and (4) of the European Communities (1992) Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (“Habitats Directive”). Local Area Plans are screened for any potential impact on areas designated as Natura 2000 sites. In any case where, following screening, it is found that the plan may have an impact, a full ‘appropriate assessment’ must be carried out.

Having regard to the presence of the River Slaney cSAC within the LAP boundary the potential impacts could not be screened out and accordingly the LAP has been informed by a Stage 2 Appropriate Assessment which accompanies this LAP.

1.5 Strategic Flood Risk Assessment (SFRA)

Under Section 28 of the Planning and Development Act 2000, as amended statutory guidelines entitled “The Planning System and Flood Risk Management Guidelines for Planning Authorities” were published by the DoEHLG (November 2009). These guidelines require planning authorities to introduce flood risk assessment as an integral and leading element of the plan making process.

The Tullow area was assessed for risk of flooding in line with the standards and recommendations of the Flood Risk Management Guidelines for Planning Authorities. Certain lands within the Plan boundary were rezoned to water compatible uses (including lands from residential to open space and amenity uses). An assessment of flood risk is required in support of any planning application where flood risk may be an issue and this may include sites where a small watercourse or field drain exists nearby. The level of detail will vary depending on the risks identified and the proposed land use. As a minimum, all proposed development must consider the

impact of surface water flood risks on drainage design. In addition, flood risk from sources other than fluvial and tidal should be reviewed.

In the case of development at appropriate lands, which may be liable to flooding, a site-specific assessment will be carried out at each location. This assessment will include; a) measures to eliminate risk of flooding at the particular development and b) which will not increase the risk of flooding at other locations. Each application will be considered on its particular merits. This LAP also sets out general policy requirements contained in the guidelines to inform strategic land-use decisions with the purpose of ensuring that flood risk management is fully integrated into the plan.

1.6 Public Consultation

The preparation of this LAP included pre-draft consultation with the local community groups, infrastructure providers, sectoral groups, statutory agencies and adjoining local authorities. The pre-draft public consultation extended over a four-week period with the launch of a background Issues Paper. The background Issues Paper identified the key planning issues that the LAP could address and it was made available at a number of locations in the County including Tullow Civic Offices. Carlow County Council offices and online at www.carlow.ie.

A total of 6 submissions were received, 5 from statutory bodies and 1 from a private landowner. The contents of these submissions were considered in the Chief Executive's Report and were taken into account when formulating this local area plan.

A targeted public consultation event was also facilitated in Tullow on Thursday 19th May 2016. A total of 25 attendees contributed in a meaningful way to the preparation of this LAP.

This plan was adopted at the Council meeting on the 13th February 2017 and takes effect four weeks from the date it was made.



Fig 1: Graphic Recording of Public Consultation Event

CHAPTER 2 TULLOW TOWN IN CONTEXT

2.1 Introduction

Tullow is an important urban centre located on the River Slaney in the north east of the county amidst a rich, fertile agricultural hinterland. The town provides a range of residential, community, commercial and employment functions.

Tullow is located approximately 16km to the south east of Carlow town via the R725. Tullow is approximately 18km to the

south of Baltinglass via the N81 and is approximately 78km to the south west of Dublin along the R418. The M9 is located approximately 8km to the west of Tullow and is accessed via the N81 and N80. Tullow is also served by the R725 regional road linking Gorey to Carlow.

The town is sited to the east and west of the River Slaney. Development in recent years has taken place largely on the periphery of the town.



Fig 2: Aerial Photograph Tullow

2.2 History and Evolution

Tullow (Tulach O'Bhfeidhlim the hill of the O'Bhfeidhlim territory) is situated on the River Slaney. It is a market town with a good agricultural hinterland. Tullow is one of five settlements in Carlow originating from Anglo Norman Times.

The town declined in size during the later Middle Ages, but with the revival of English influence in Ireland during the sixteenth and seventeenth centuries, the town took on a new prosperity and much of its present layout particularly around Market Square originated from that time.

The first stone bridge across the Slaney in Tullow was built as late as 1767. That first five span structure, wide enough to take a horse and cart was subsequently doubled.

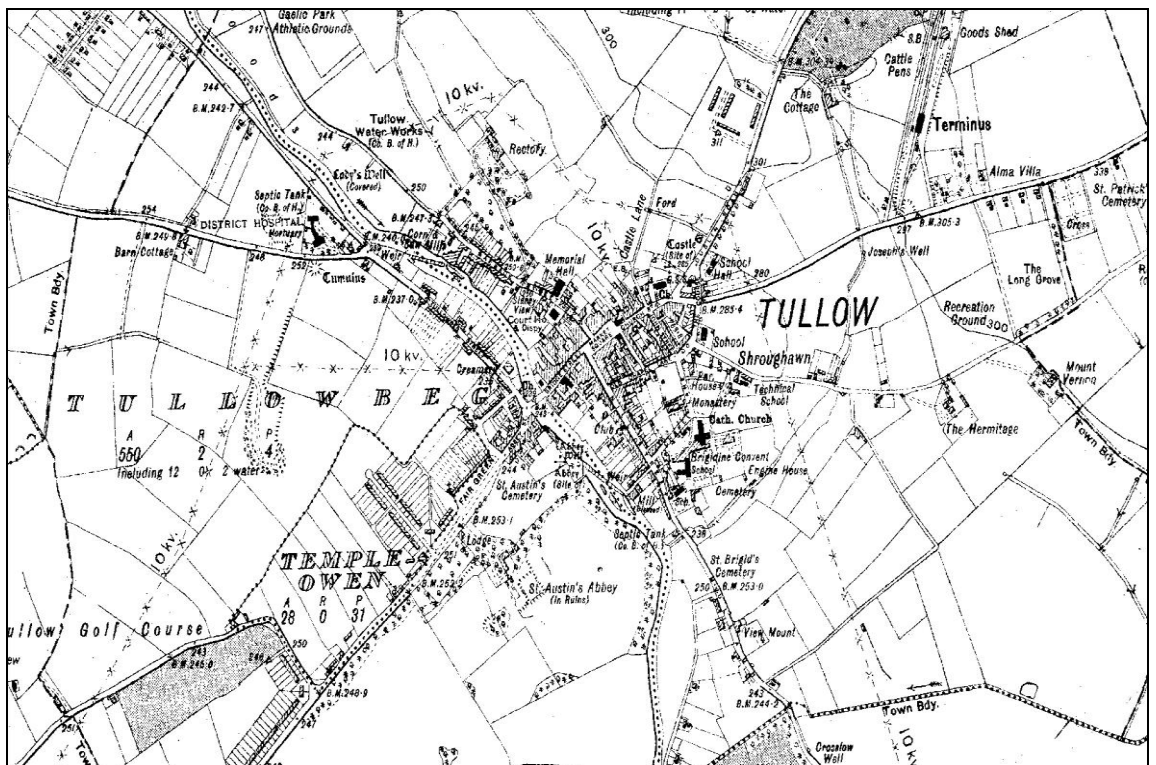
Tullow town has altered in more recent times with the introduction of Tullow Inner Relief Road promoting riverside development, the construction of infill housing schemes off Barrack Street and

the removal of industry to the edge of the town. The establishment of Mount Wolseley which includes extensive golfing and leisure facilities along with varying accommodation needs has boosted the local economy.

The completion of the M9 providing ease of access to Dublin gave rise to significant demand for housing in the town which led to substantial population growth with a 64% increase in population between 2002-2011. Over one third of the residential units built in Tullow took place between 2001-2011. The economic downturn which followed significantly impacted on the demand for housing in Tullow resulting in a number of unfinished estates in the town.



Map 1: 1839 OSI Ordnance Survey Map



Map 2: 1910 OSI Ordnance Survey Map

2.3 Town Function and Role

Tullow (in addition to nine other towns in the South East Region) is identified as a district town being targeted for growth. It has well-developed services and community facilities and has the capacity to accommodate additional growth (subject to certain physical infrastructural investments). It is recognised as having the potential to perform an important role in driving the development of a particular spatial component of the overall region.

The following section provides a demographic and economic overview of Tullow. This information is required in order for this plan to cater for the future sustainable growth of the town. Levels of growth in Tullow will be managed in line with the Core Strategy contained in the Carlow County Development Plan 2015 – 2021, together with the ability to provide

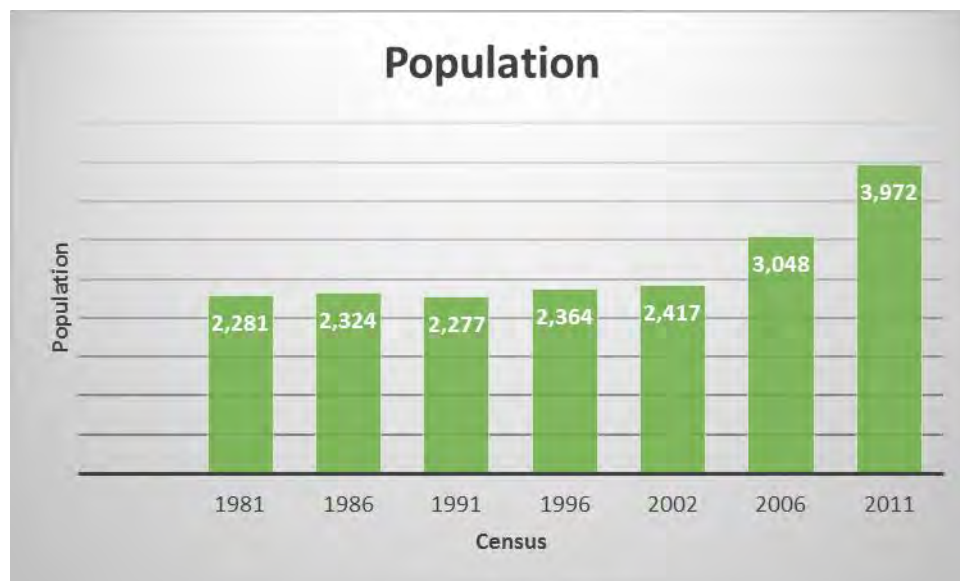
sufficient infrastructure and local services to cater for this growth.

2.3.1 Population

Tullow recorded a population of 3,972 in the 2011 census, representing a 30% increase on the 2006 population figure. In 2006, Tullow had a population of 3,048 persons, representing a 26% increase from its 2002 census population. Table 1 and Figure 3 shows how the town's population has fluctuated over the intercensal periods with a significant decrease experienced between 1986 and 1991. The period 2006 -2011 represented the most significant increase in population growth over the period 1981-2011. Levels of growth over the period 2002-2011 were significantly above the county and national average.

Census	Population	% Population Change Tullow	% Population Change Carlow	%Population Change Nationally
1981	2,281	-	-	
1986	2,324	1.9%	3%	3%
1991	2,277	-2%	-0.1%	1%
1996	2,364	3.8%	1.6%	3%
2002	2,417	2.2%	11%	8%
2006	3,048	26%	9%	8%
2011	3,972	30%	8%	8%

Table 1 & Fig 3 – Tullow Population 1981- 2011(Census 2011)



2.3.2 Household Size and Profile

The total housing stock in Tullow in 2011 census was 1,478 with 528 recorded as unoccupied. The town's average household size of 2.7 persons is lower than both the county average of 2.8 persons and the national average of 2.72 persons. A breakdown of the household unit size shows Tullow is predominantly made up of smaller households with over 70% made up of smaller household sizes of between one and three person households.



Household size	1 person	2 persons	3 persons	4 persons	5 persons	6 + persons	Total
Total No. of Households 2011	400	384	295	239	104	56	1,478
% of Total Households	27%	26%	20%	16%	7%	4%	100%
National Average (%)	24%	29%	18%	16%	9%	4%	100%

Table 2: Tullow Household Size and Profile (Census 2011)

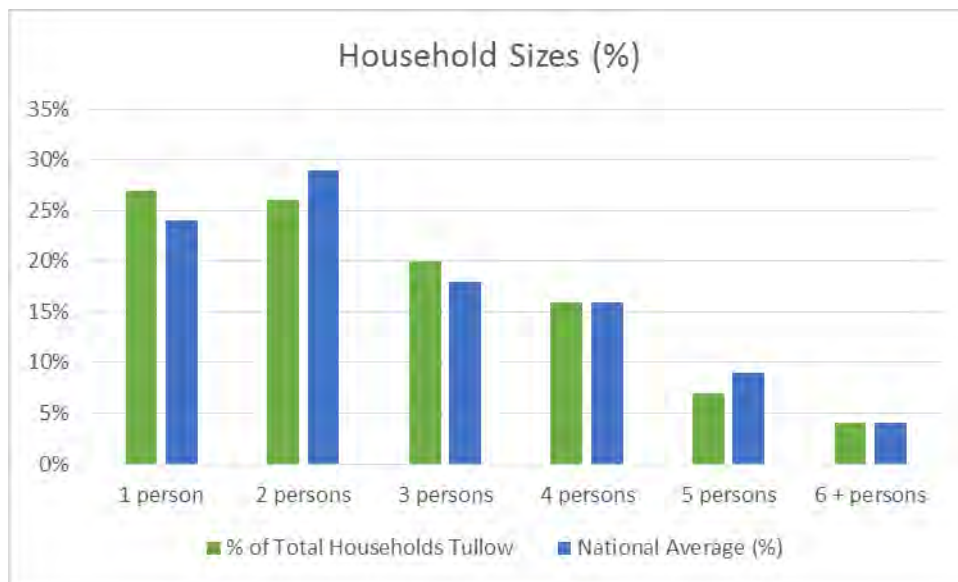


Fig 4: Household Size (Census 2011)

2.3.3 Age Profile

The 2011 Census reveals that Tullow has a population profile, which is comparable with the national average. 35% of the town's population is aged less than 24 years, with 35% aged between 25 and 44 years. The 2011 Census also revealed that the percentage of population over 65 years of age was slightly below the national average.



Age bracket	Population 2011	% of Total Population	National Average %
0-12	838	21%	19%
13-18	264	7%	7%
19-24	282	7%	8%
25-44	1392	35%	31%
45-64	768	19%	23%
65+	428	11%	12%

Table 3: Tullow Age Profile (Census 2011)

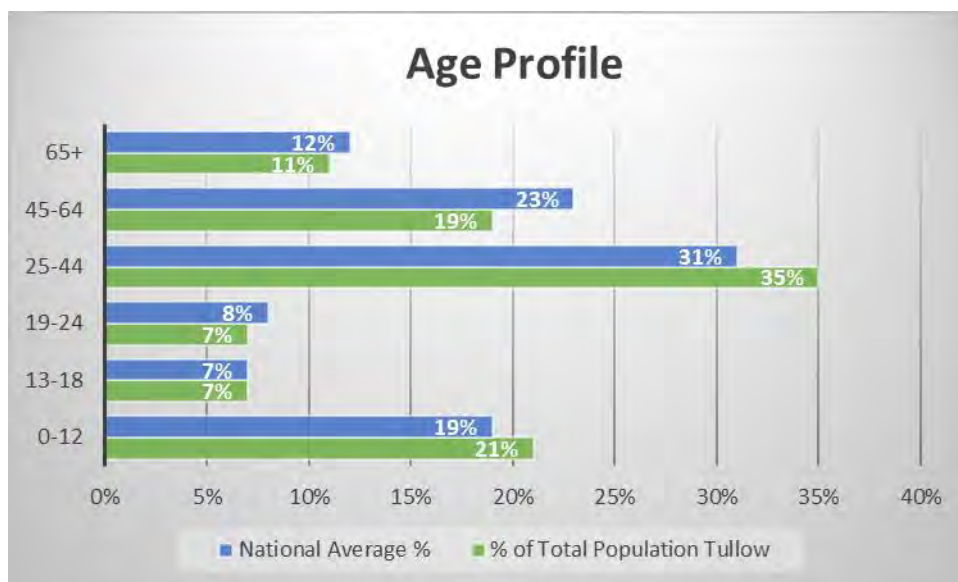


Fig 5: Tullow and National Age Profile (%) (Census 2011)

2.3.4 Residential Profile and Unit Target

Residential schemes in Tullow are concentrated along the approach roads into the town being most heavily concentrated along the Shillelagh Road, N81, Tullow Hill, the Carlow Road and Castledermot Road. Residential typologies within the town consist of traditional town houses, more recent apartment developments and low-density detached and semi-detached housing along the approach roads. There is a high proportion of social housing units in the town and while there continues to be a demand for further social housing the provision of private housing to compliment and facilitate social and community integration providing for sustainable communities is a key objective.

In line with the RPGs designation of Tullow as a *District Town*, the core strategy has set out a housing target for the town over the period 2015 – 2021. The target has been projected forward to 2022 in order to cover the LAP plan period of 2016-2022. The LAP target figure also accounts for unbuilt residential units with valid planning permissions. Table 4 summarises all the calculations discussed in the remainder of this section.

The Core Strategy within the current County Development Plan has set a target of 112 new housing units to be provided within Tullow over the period 2015-2021. This equates to 4.3% of the total residential unit growth target for the entire county for this period. The RPGs have further allocated a population target of 63,536 for County Carlow by 2022. This represents a population increase of 4,085 from the 2016 population target of 59,451. Applying an average allocation per annum, this amounts to a population of 680 per annum between 2016-2022. The allocation for Tullow to 2022 is therefore calculated as 4.3 % of the population target (29 pop / average household size (2.7) = 11 units with 75% over zoning = 19 additional units). Adding this to the 2021 housing target (112) gives a revised target of 131 housing units for Tullow for the period 2016-2022.

Timeframe	Unit Target	Basis of Calculation
2015 ¹ -2021	112	4.3% of the overall county unit target for 2015-2021 (being 2,603)
2021-2022	19	County Carlow Pop Target 2022 = 63,536 (pop increase of 680 /annum between 2016-2022). 4.3% Applied to 680 = 19 / annum divided by average household size of 2.7 = 11 with 75% over zoning of applied = additional 8 (11+8 = 19 units).
Overall Unit Target	131	

Table 4: Tullow Housing Unit Targets 2016-2022.

Currently valid planning permissions for schemes greater than 4 units exist for 99 residential units at various locations throughout the town but generally located on the outer edge of the town. 20 permitted units are also located within the Mount Wolseley Resort complex.

It is further noted that there are five no. unfinished housing schemes within the town which contain 126 units which are built and unoccupied as of April 2016.

A monitoring mechanism will be required to monitor the uptake and completion of existing permissions to ensure that the future development of the town accords with the provisions of the core strategy.

¹ Note: No units delivered in 2015. The figure for 2015 has been incorporated into figures for 2016-2022 to ensure sufficient housing provided in accordance with core strategy. No figure included for 2023 as new plan will be required by Jan/Feb of that year unless deferred by resolution in accordance with Article 19(d) of the Planning and Development Act 2000, as amended.

2.3.5 Economy

There were 1,940 persons aged 15 years and over in the labour force and of these 72.4% (1,405) persons were at work. The unemployment rate for this area was 27.6% compared with a national average rate of 19.0 percent. Of the 1,095 persons aged 15 years and over who were outside the labour force, 21.7 percent were students, 26.8% were looking after the home/family and 32.2 percent were retired.

Of the 1,405 workers enumerated in Tullow, 750 worked outside the area. The daytime working population in Tullow was recorded as 1,195. Over 70% of those working in Tullow were employed in Commerce and Trade and the Professional Services sector.

All other gainfully employed and skilled manual are the largest socio – economic groups within the town.

Social Class	% of Total Population Tullow	National Average %
Professional Workers	2.0%	7%
Managerial and technical	14.0%	27%
Non-manual	15.0%	18%
Skilled Manual	19%	15%
Semi-Skilled	17%	11%
Unskilled	6%	4%
All others gainfully occupied and unknown	26%	18%

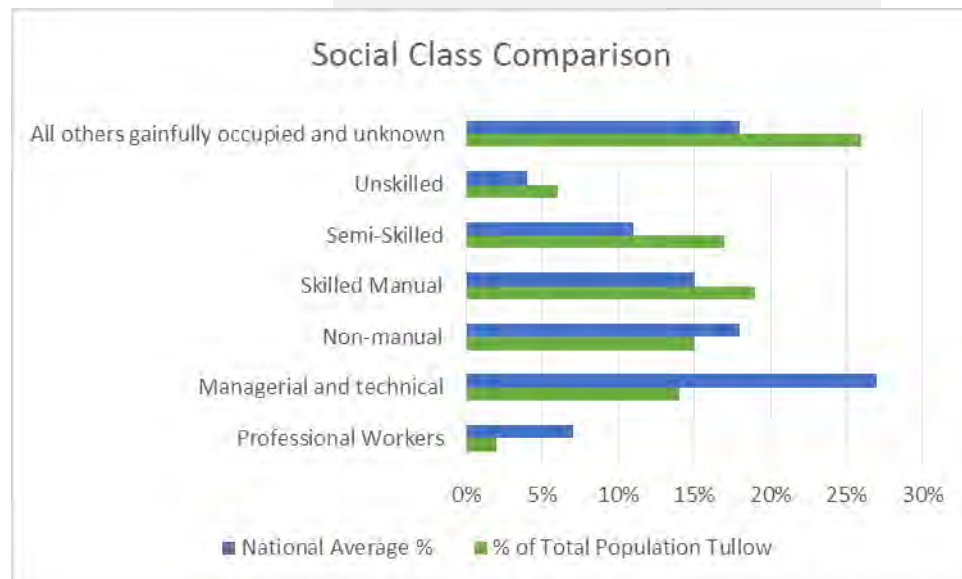


Table 5 and Fig 6: Tullow Social Class (Census 2011)

2.3.6 Town Centre

The town centre comprises a traditional townscape with a narrow street pattern which leads to the wider Market Square, Church Street and Bridge Street. This comprises the main retail core and accommodates the majority of shops, professional services, retail services, bars and restaurants. The town has an attractive streetscape and accommodates a number of historic attractions and buildings of historical merit. Opportunities to improve the vitality and vibrancy of the town centre should be promoted. There are clear opportunities to upgrade the public realm, develop further niche retail, and service facilities within the town. These issues are considered in further detail in Chapter 6.

2.3.7 Movement and Access

Tullow is strategically located on the N81 Wexford to Dublin route. The M9 is also located 8 km to the west of Tullow and is accessed via the N81 and the N80. Tullow is also served by the R725 regional road linking Gorey to Carlow.

Private car is the main means of accessibility in Tullow. A considerable amount of through traffic passes the town centre daily. The traditional layout of the town with narrow streets and the bridge over the River Slaney contribute to these traffic issues.

Bus Eireann route 132 provides a limited service between Dublin and Tullow, operating approximately three times a day each way Monday to Saturday and twice on Sunday. Private bus operators also provide a service between Hacketstown and Carlow Town serving Tullow approximately twice a day in each direction. There is no train service to Tullow, the nearest service being provided by Carlow town.

2.3.8 Environment, Social and Community

The natural and built environment of the town are unique attributes, which must be protected. The protection of the River Slaney has been considered in detail in the SEA and AA, which accompanies this Plan. The new LAP will contribute towards the protection of the environment.

Tullow benefits from a range of social and community services and amenities within walking distance of the town centre. These include primary and post primary educational facilities, library, a health centre, garda station, fire service and community hall.

The town also contains some significant amenity facilities including the river walk and the Mount Wolseley resort. This complex comprises a hotel, golf and spa facilities located to the south east of Tullow town centre and is an important facility and amenity for the town and residents alike. (Amenities are expanded upon in Chapter 8)

2.3.9 Education

Tullow has three primary schools and one post primary schools, which provide educational facilities for the town and the surrounding hinterland.

Table 6 details the names, current enrolment numbers for these facilities. Educational and community facilities are considered further in Chapter 8.

	Name	Enrolment 2015/2016
Primary	St. Columbas	74
	Scoil Phadraig Naofa	228
	Scoil Naisunta Mhuire Lourdes	221
Post-Primary	Tullow Community School	633

Table 6: Profile of existing schools in Tullow (Source: DoES)

2.3.10 Water and Wastewater

Since January 2014, Irish Water is the State Body responsible for the delivery, integration and implementation of strategic water and wastewater projects and infrastructural improvements. Carlow County Council no longer has a direct role in this area; however, the Local Authority will work with Irish Water to ensure that the Local Area Plan and Water Services Investment Plan align.

Carlow County Council commenced phase 1 of the Tullow upgrade in 2013 and completed these works in 2015. Phase 2 of the project received Irish Water approval in 2015 and is due to proceed in 2017.

2.4 Conclusion

Tullow is an important service centre in north east Carlow and has a significant

role in accommodating future population growth and economic development of the area. The policies and objectives as contained in this Plan will facilitate the planned, integrated economic and sustainable development of the town by balancing the needs of the community and preserving or enhancing the natural and built environment.

CHAPTER 3 VISION AND DEVELOPMENT STRATEGY TULLOW

3.1 The Vision for Tullow

The overall vision for Tullow is to ensure that future development is sustainable. The development strategy for the town seeks to improve the quality of life for the local community and provide for the future sustainable growth of the town over the period of 6 years and beyond.

The key objective of the Council is to provide for sustainable development that will enhance the vitality and prosperity of the town while not overburdening existing services.

The Council recognises that Tullow must offer living, working, educational, recreational and cultural opportunities of the highest standard in an attractive urban environment. Significant population growth has occurred in the intercensal periods between 2002 – 2011 giving rise to the requirement for community and social infrastructure to support an increasing population.

A key focus for the future development of Tullow is to address the high level of residential vacancies in the town and to encourage more sustainable communities in the town. The LAP will also focus on the

need to attract higher levels of employment within the town, thereby creating more opportunity for residents to reside proximate to their place of employment. The importance of the natural amenities of the area including the River Slaney and the biodiversity of the town is of importance, which in turn has potential to give rise to significant benefits within the town.

This LAP provides an opportunity to create a vision for coherent and sustainable development which benefits Tullow town and its citizens. This vision is a statement of what Tullow aspires to be, not in the six-year lifetime of a local area plan, but over the next 20 to 30 years. It is only by developing a shared long-term vision that we can deliver and support the short-term goals of subsequent plans and core strategies.

This long-term vision is based on the principles of sustainable development and will be implemented by providing a planning framework to secure development that balances social, economic and environmental considerations while minimising the potential adverse effects on the environment.

Vision for Tullow

To provide a focused approach to planning for the future growth of Tullow in a coherent and spatial fashion which seeks to deliver high levels of employment and balances future sustainable development with the conservation and enhancement of the town's natural and built environment.



3.2 Strategic Objectives and Priorities

The strategic vision outlined above along with compliance with the Core Strategy will provide the overall strategy for the proper planning and sustainable development of Tullow.

For the purposes of guiding this plan, the strategic vision, the core strategy, key findings from analysis and submissions from public consultation can be translated into three key overall strategic objectives to ensure appropriate growth rates over the short to medium term achieving a level, which will support competitiveness, sustainability and create opportunities for local economic development.

3.2.1 Strategic Objective No. 1

It is an objective of Carlow County Council:

SO 1: To create vibrant integrated communities in a more consolidated urban form.

SO 1.1 Achieving a more Consolidated Urban Form

Tullow experienced significant demand for housing during the boom period largely as a result of the extension of the Dublin commuter belt. This pressure for development focused on the main approach routes of the town resulting in development extending to more peripheral locations in the town. This poorly structured suburban expansion has resulted in a significant number of built and unoccupied units throughout the town.

This Plan seeks to encourage occupancy of such units and the concentration of development in more central locations proximate to the town centre providing for more compact sustainable urban development.

SO 1.2 Creating Sustainable Neighbourhoods

The creation of good, sustainable neighbourhoods, which support thriving communities and provide for a wide range of household types, age groups and tenures with community facilities close by is a priority. In order to achieve this, criteria and standards for good neighbourhoods are a central part of this strategy. These principles are intended to ensure, for example, that infrastructure such as schools, shops and childcare facilities are provided in a phased and co-ordinated manner. The importance of shops within walking distance of residential developments is re-affirmed in this key strategy.

The council will work with various stakeholders who fund and provide community services and facilities, including but not limited to the Department of Health and Children, the Department of Education and Skills, the HSE, registered charities, not-for-profit companies and foundations, religious orders, sports and community groups and organisations, to ensure social and community infrastructure is provided in a timely manner. This objective will be supported through the implementation of the actions arising from the Local Economic and Community Plan.

SO 1.3 Providing Quality Homes

The sustainable management of land zoned for housing is a central element of this priority. New residential development close to the town centre will be promoted which provides for a quality compact town of mixed tenure neighbourhoods, catering for a wide range of family types and individuals.

The provision of quality housing that is suitable for all citizens throughout their lives and adaptable to peoples changing circumstances is fundamental to creating a compact town with sustainable

neighbourhoods. Requiring residential schemes to have good local facilities and ensuring schemes are of an appropriate scale and phased so that support infrastructure is provided in tandem with residential development will assist in achieving this key strategy.

Providing quality homes for all includes the provision of social and affordable housing. The delivery of the housing strategy as contained in the current County Development Plan, together with legislative amendments, will help meet the needs of those on lower incomes and those in special circumstances.

3.2.2 Strategic Objective No. 2

It is an objective of Carlow County Council:

SO 2: To create a thriving town which contributes to the natural and built heritage amenities of the town and provides a vibrant and vital mixed-use environment.

SO 2.1 Facilitating a Diverse Range of Activities

Tullow is the main retail centre for the east of County Carlow and serves an extensive retail catchment area that includes adjoining areas in County Wicklow. It also provides a range of complementary uses such as financial institutions, restaurants and public houses. Its core retail area has been defined as part of the Carlow County Retail Strategy (July 2015), which recognises that Tullow is performing relatively well offering a good range of convenience retail multiples. However, it is considered that there is scope for the improvement and expansion of retail facilities, particularly comparison retail, in the town centre core, which would reinforce the role and function of Tullow as a service centre.

The town also accommodates key community infrastructure and services. The importance of residential occupancy within the town centre as opposed to development on the periphery is an important element to ensure the vibrancy of the town into the future. Opportunities to develop the tourism role of the town and surrounding attractions is also a key

priority. This in conjunction with opportunities to upgrade the public realm provides an opportunity to develop further niche retail and service facilities within the town.

SO 2.2 Connecting Infrastructure

Connecting the town through services infrastructure and a network of transport infrastructure will make it accessible with greater levels of permeability, allowing the town to intensify and grow.

Movement and Transport

One of the key objectives of this LAP is to investigate the feasibility of providing the Tullow Relief Road (or parts thereof) to facilitate by-passable traffic using the N81, R725, R726 or R418. This is necessary to relieve HGV congestion on the main thoroughfare providing for a significantly improved quality environment. Promoting more sustainable modes of transport such as public transport, walking and cycling are also key objectives. The LAP seeks to facilitate sustainable accessibility and legibility within the town core area in favour of the needs of pedestrians, the mobility impaired and cyclists. The creation of a network of strategic green routes within the town extending into the wider hinterland will cater for the recreational needs of the population and contribute to an improved quality of life as part of a compact town.

Services Infrastructure

The key priority in terms of services infrastructure is on achieving a clean, healthy town with improvements to air and water quality, bio-diversity value and the use of renewable energy sources. There is also a requirement to address flood risk management strategies and sustainable urban drainage systems to enable the town to adapt to climate change.

This emphasis on a sustainable pattern of development and sustainable infrastructure will help mitigate climate change, protect and improve water courses and ecosystems and support the creation of a green network.

Green Infrastructure

Green infrastructure, recreation and biodiversity are vital components of a compact town. Their reinforcement is a

key priority of this LAP. A green infrastructure strategy reflects an integrated approach to the town's provision of open space, recreational, landscape and biodiversity assets. The recently published Habitat Survey and Biodiversity Report (August 2015) commissioned by Develop Tullow Association Limited and Tullow Tidy Towns Committee has informed the preparation of Chapter 10.

SO 2.3 Promoting Character and Heritage

The towns built and natural heritage make a significant contribution to the town's character and is a unique resource that attracts tourism. The town centre core area is concentrated around Market Square, Church Street and Bridge Street and is generally attractive in character due to its traditional streetscape. The River Slaney also provides an important natural resource as well as biodiversity for the town and its residents.

This LAP seeks to renew the Market Square and surrounding streetscapes in order to enhance, improve and build on the inherent character of the town. The key approach is to balance the needs of a growing town with the need to protect and conserve the elements, which give the town its identity.

Urban design principles identified focus on the need for regeneration of key sites within the town centre area. This key priority will entail strengthening and improving the image of the town through proposals for the public realm.

3.2.3 Strategic Objective No. 3

It is an objective of Carlow County Council:

SO 3: To facilitate the creation of a sustainable vibrant economy which maximises the unique attributes of the town.

SO 3.1 Facilitating Sustainable Development of the Local Economy

It will be necessary to stimulate the long term economic growth of the town by

promoting employment and enterprise land uses to provide opportunities for Tullow to become a self-sustaining town.

This priority seeks to promote sustainable growth of the local economy by supporting agricultural related industries, manufacturing and office based industries, enterprise development and tourism through:

- The development of manufacturing industries and warehousing at appropriate locations.
- The development of small-scale enterprises and office based employment adjacent to the town centre and on appropriately zoned land.
- The promotion and facilitation of tourism based industries and spin offs arising from same.

The land use provisions in this local area plan provide a range of zones to cater for the economic needs of the town.

Revitalising, strengthening and consolidating the town centre area is an important consideration. The creation of a successful mixed-use viable town centre is a key priority for this LAP. It is recognised that there is a need to recapture the market share through a variety of policies and initiatives to support the town centre. This can be achieved by facilitating healthy competition by providing for a variety of retail floor space without compromising the integrity of the town centre.

It is proposed to provide easier access to the town centre by promoting linkages from the surrounding residentially zoned lands. Providing easier access to the town centre will aid its future development and ensure that the town core will be an attractive and vibrant area.

3.3 Conclusion

The purpose of the vision and strategic objectives is to ensure the effective delivery of the core strategy of the County Development Plan 2015-2021 for Tullow. These priorities are elaborated upon

further in the following chapters of this plan, with a range of supporting policies and objectives

CHAPTER 4 ECONOMIC DEVELOPMENT

4.1 Introduction

Tullow is an expanding market town situated 15km (9.5 miles) from Carlow town, 88km (55 miles) from Dublin city and 76km (50 miles) from Rosslare port. Tullow grew significantly in the last 15 years due to the ever expanding Dublin commuter belt, with the N81 running through Tullow and onwards to Tallaght in Dublin. The M9 motorway is located 11km (7 miles) from the town making it accessible to the major urban centres of Carlow, Kilkenny, Naas, Newbridge and Wexford.

Tullow's main economic driver is agricultural related industry, with agricultural machinery, animal sales and agricultural produce such as grain, animal feeds and fertilisers being significant businesses in the town. Tourism is also an important industry locally. The resort development at Mount Wolseley includes extensive golfing and leisure facilities along with varying accommodation needs. The concentration of light industry is mainly on the south western side of town, including Burnside Autocyl (Tullow) Ltd., one of the town's largest employers.

This plan seeks to promote employment, enterprise and tourism associated development in order to provide opportunities for Tullow to become a self-sustaining town as well as encouraging and facilitating the mixed use regeneration of the town centre, with Market Square being of particular importance.

4.1.1 Employment Profile

According to Census 2011, there were 1,940 persons aged 15 years and over in the labour force and of these, 72.4% (1405 persons) were "at work" in the Tullow area, comprising 35% of the overall population.



Population aged 15 years and over by Principal Economic Status and Sex

Principal Economic Status	Male	Female	Total
At work	720	685	1405
Looking for first regular job	22	19	41
Unemployed having lost or given up previous job	313	181	494
Student	107	131	238
Looking after home/family	12	282	294
Retired	177	176	353
Unable to work due to permanent sickness or disability	95	98	193
Other	9	8	17
Total	1,455	1,580	3,035

Table 7: Population aged 15 years and over by Principal Economic Status and Sex - Census 2011

In April 2016, records show that there were 1,108 persons in Tullow on the Live Register, 594 males and 514 females.

A spatial analysis of the Pobal Haase – Pratschke Deprivation Index (HP Index) highlights that Tullow scores a -8.18 in this index and this is classed marginally below the national average.

4.1.2 Strengths of Location in Tullow

Tullow has good road infrastructure with the N81 traversing through the town leading to Dublin's M50 and the R762 crossing the town to Wicklow. The town is within one hours driving distance of Dublin and Waterford airports and Dublin and Rosslare seaports.

The town is also proximate to larger towns such as Carlow, Naas, Newbridge, Kilkenny and Enniscorthy, all being within a 39 km (25 mile) radius of Tullow.

Bus Éireann provides a daily service each way commuter link to Dublin via Tallaght. There are also a limited range (usually one/two journeys a day each way) of Bus Éireann Expressway services linking the town to Dublin, New Ross, Waterford and Rosslare Europort. JJ Kavanagh and Sons route from Hacketstown to Carlow also serves the town. The main stopping place for buses is on the Square.

Tullow is proximate to various third level colleges and an educated population cohort is required to support highly skilled economic enterprises.

4.2 Challenges

Carlow County Council, under its remit for Economic Development and Business Support (via its Local Enterprise Office), will work in collaboration with Enterprise Ireland, IDA, Chamber of Commerce, Develop Tullow Association Ltd. and the business sector to promote Tullow as an attractive location for inward investment. To the west of the town, Carlow County Council have a fully serviced industrial estate, with available sites while the Business Park on the west of the town is near capacity.

High level educational attainment is a pre-requisite to attract high quality jobs. In 2011 of those 15 years and over in Tullow whose fulltime education had ceased, 17.3% were educated to at most primary level only, a further 64.7% attained second level while 18% were educated to third level. It is estimated that 38% of the national population are third level graduates.

Quality of life is now a key determinant of a town's success, demanded not only by its residents but also necessary to attract and hold onto a talented workforce. Strategic assets need to be promoted in order to compete and collaborate with other towns including Carlow and Bagenalstown for economic investment.

Addressing high levels of unemployment, availability of affordable child care facilities and ensuring availability of good quality housing stock is a key requirement.

It is also important that the town has excellent infrastructural provision in such areas as transportation and traffic

management, broadband, recreation and amenity provision along with visual improvement projects to support the town's economic vibrancy.

4.3 Strategic Approach

This LAP seeks to develop Tullow as a strong dynamic town which will provide for a sustainable economic future creating jobs for a skilled workforce based on a good quality of life for all its citizens. The approach will be achieved by:

- Assisting development of all economic sectors including commerce and tourism development by the implementation of relevant policies to cater for such growth.
- Providing adequate infrastructural facilities, good quality housing and community facilities.
- Promoting e-business.
- Zoning sufficient and appropriately located lands for industrial and commercial development.
- Provision of enterprise areas and training infrastructure as well as the creation of small incubation units for small start-up businesses.
- Encouragement of collaborative structures focusing on economic development.
- Development of the public realm and amenities so as to improve the quality of life of employees and residents.
- Addressing, where feasible, any infrastructural deficiencies that may be hindering economic development and aim to ensure that sustainable infrastructure facilitates economic development.



4.4 Policies and Objectives

4.4.1 Enterprise and Industry

Tullow is a strategic location in County Carlow for enterprise, industry and employment with the major employers being Burnside Autocyl Ltd., Mount Wolseley Resort, Tellab, Doyles Hire and Sales, Supervalu and Tesco.

Workers by Industry

Industry	Daytime Working Population
Agriculture, forestry and fishing	11
Building and construction	17
Manufacturing industries	136
Commerce and trade	496
Transport and communications	24
Public administration	44
Professional services	341
Other	126
Total	1,195

Table 8: Daytime Working Population Tullow Census 2011

4.4.2 Location of Employment lands in Tullow

This LAP seeks to identify a range of optimum locations which can present opportunities for the location of industry and warehousing, specific / specialised enterprise and employment uses and tourism uses throughout the plan area. In particular the plan provides:

- 13.35 hectares of land zoned for industry on the south western side of the town, which can facilitate further manufacturing, engineering and other appropriate uses.

- C.70 hectares is zoned for Enterprise and Employment to the west and south western side of town, much of which is undeveloped. This will suit a variety of appropriate uses.
- For the re-use and redevelopment of brownfield lands i.e. those lands formerly used for other uses and underutilised lands.

4.4.3 Economic Policies for Tullow

It is the policy of Carlow County Council:

- EC 1:** To accelerate the sustainable development of Tullow through sustainable employment creation, in a structured and cohesive way, recognising its importance as one of the key drivers of economic growth in County Carlow.
- EC 2:** To facilitate development agencies such as IDA Ireland, in partnership with Carlow County Council, to promote development of foreign-owned and indigenous sector higher value-added, knowledge based industrial and internationally traded activities.
- EC 3:** To foster and support industry and enterprise in Tullow, including indigenous businesses.
- EC 4:** To ensure the availability of lands for employment uses, allied to defined development needs and to develop same in conjunction with the relevant Development Agencies.
- EC 5:** To promote innovative economic sectors and encourage clustering which positively exploits synergies between interconnected companies.
- EC 6:** To facilitate and encourage the development of the alternative energy sector and to recognise its potential in the creation of Enterprise and opportunities.
- EC 7:** To support and facilitate the development of start up enterprise units for local indigenous enterprises in Tullow.
- EC 8:** To facilitate innovative work practices such as 'live-work' units where they do not negatively impact on residential amenity.

- EC 9:** To improve access to major areas of employment through sustainable transport modes.
- EC 10:** To support childcare facilities in appropriate locations thereby promoting labour market participation among parents and supporting parents in accessing employment, training and education.
- EC 11:** To actively encourage the redevelopment of brownfield sites and re-use of disused buildings for enterprise and employment creation, subject to meeting Development Management Criteria as presented in the County Development Plan.
- EC 12:** To encourage and facilitate at appropriate designated locations, small indigenous industries in recognition of their increasing importance in providing local employment and helping to stimulate economic activity.
- EC 13:** To promote, protect, improve, encourage and facilitate the development of tourism in Tullow as an important contributor to job creation in the town.
- EC 14:** To operate an order of priority for release of land identified Enterprise and Employment in compliance with the following requirements:
- 1) The lands identified with an E1 and E2 Enterprise and Employment land use zoning objective are available for development within the lifetime of this Local Area Plan.
 - 2) The lands identified E2* Enterprise and Employment land use zoning objective but qualified as 'Phase 2' will be available for development when Phase 1 lands have been substantially developed or committed for development within the lifetime of this Local Area Plan.
 - 3) Should a significant development be proposed which could not be accommodated only within the lands identified as Phase 1, lands within Phase 2 maybe considered in this regard.
 - 4) Development proposals for employment lands will be subject to consultation with the planning authority prior to the submission of any planning application on the said lands.

It is an objective of the Council:

- ECO 1:** To promote and facilitate the development of light industry, manufacturing, warehousing and logistics on lands zoned industry and warehousing. Developments must achieve a high standard of layout and design including landscaping and screening and the delivery of a high quality working environment which is attractive to both customers and employees.
- ECO 2:** To facilitate and promote the growth of the Industrial Estate on the south western side of the town, with a mix of employment uses within a high-quality landscaped development including office-based industry, enterprise and incubator units, business, science and technology.
- ECO 3:** To provide access to lands located within the 50-60kph speed limit and zoned enterprise and employment to the south west of the town and adjoining the N81 shall be provided at the two existing authorised access points unless it can be clearly demonstrated that the relocation or provision of an alternative proposed access point is in accordance with national policy and has been subject to a road safety audit in accordance with the requirements of Transport Infrastructure Ireland. The proliferation of further access points with access to the N81 shall generally be avoided in the interests of road safety and compliance with national policy.

4.4.4 Retail

Tullow is the main retail centre for the east of County Carlow and serves an extensive retail catchment area that includes adjoining areas in County Wicklow. In retail terms, Tullow acts as a convenience retail centre for the surrounding catchment and also provides a range of complementary uses such as financial institutions, restaurants and public houses.

The town centre core is concentrated around Market Square and Bridge Street and the town has a relatively strong representation in terms of convenience stores, accommodating national / international multiples such as Tesco, Supervalu, Lidl and Aldi. There are also smaller conveniences throughout the town such as Spar and Centra. Collectively, these large and smaller operators largely

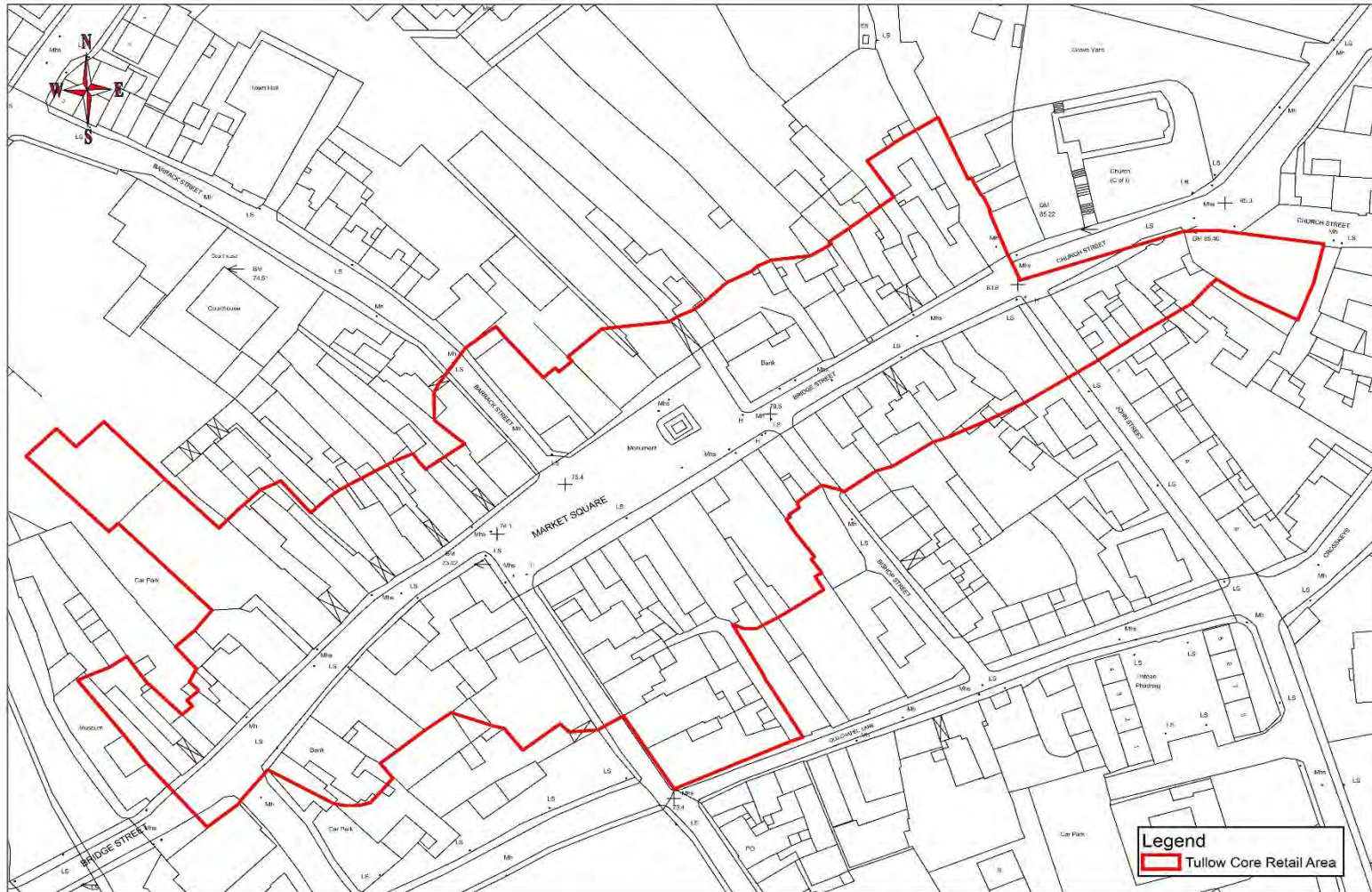
cater for the convenience shopping needs of the local population.

Tullow is also serviced by a number of smaller independent comparison goods retailers generally located within the town centre, however these are mainly local businesses with no national / international comparison multiples operating out of Tullow.

Additionally, on the outskirts of town, there are some retail warehousing selling primarily bulky goods such as furniture and household goods. Such uses are located principally to the south of the river, on the Thomas Traynor Road, along the N81 on the Bunclody Road and in the Tullow Business Park to the south of the town, off the N81.

Due to the expansive rural hinterland, a lot of agricultural businesses are based in the town and are concentrated along the N81 to the south of the river. These include agricultural machinery sales and hire, sales of animal foodstuffs and fertiliser and livestock sales.

The vacancy levels within the core retail area of Tullow are significantly lower than the levels of vacancy observed in Carlow Town and Bagenalstown.



Map 3: Tullow Core Retail Area (Source: Carlow Retail Strategy (CDP 2015-2021))

It is the policy of Carlow County Council:

- EC 15:** To protect and strengthen the retail primacy of Tullow within the County and more specifically within Eastern Carlow.
- EC 16:** To encourage the development of the retail and service role of Tullow as a self-sustaining centre in accordance with the policies contained in the Carlow County Development Plan 2015-2021 and the Retail Planning Guidelines 2012.
- EC 17:** To protect the retail function of the Core Shopping Area.
- EC 18:** To sustain the vitality and viability of the main shopping area and to encourage measures to improve its attractiveness.
- EC 19:** To adhere to the provisions of the Sequential Approach in the consideration of retail applications located outside of Core Retail Area.
- EC 20:** To promote and facilitate the development of local markets devoted to the sale of local agricultural and craft produce and support their role as visitor attractions, whilst not detracting from the local small shops.
- EC 21:** To ensure that best quality of design is achieved for all proposed retail developments and that design respects and enhances the specific characteristics of the town.
- EC 22:** To pursue all avenues of funding to secure resources for the continued enhancement, renewal and regeneration of the public realm of the Town Centre.
- EC 23:** To discourage non retail and excessive lower grade retail uses, such as, take-away's and betting offices in the core retail area and other principal streets in the town centre, in the interests of maintaining and sustaining the retail attraction of the town centre.
- EC 24:** To improve the public realm and support boutique style retailing in the town centre.
- EC 25:** To secure the continued consolidation of Tullow Town Centre through progressing the regeneration of backland and brown field areas in the town centre.
- EC 26:** To encourage and facilitate the delivery of tourism related retail developments and initiatives in and around the Town Centre.

It is an objective of the Council:

- ECO 4:** To maintain the role of Tullow's town core area as the primary retail centre for convenience and local comparison shopping through continuing to develop the retail environment, the quality of the public realm, the range of retail uses and to facilitate complementary uses to retail.
- ECO 5:** To actively promote from a planning perspective, the range of specialist shops within the town core, which will contribute to the character of the town and attractiveness of the area as a destination for shopping.
- ECO 6:** To seek to secure funding to implement environmental improvements for the town core area such as improving facilities for pedestrians, provision of a high quality streetscape, improved connectivity with adjoining residential areas and tourist attractions.

4.5 Brownfield / Derelict / Vacant / Underutilised Sites

There are a number of brownfield, vacant and derelict sites in Tullow, some of which continue to detract from the overall ambience of the town. The Council is committed to using its powers under the Derelict Sites Act 1990 to ensure that relevant landowners take the necessary steps to protect and enhance the streetscape in Tullow.

Vacant development sites are an opportunity for Tullow to provide for additional housing, employment and other space. Active land management including the implementation of the vacant land levy are key planning policies to implement the vision of the LAP and the core strategy of the County Development Plan. The Urban Regeneration and Housing Act 2015 provides for a levy on vacant sites and this is a key measure in implementing the Core Strategy by encouraging the development of such vacant sites.

4.5.1 Town Centre Opportunity Sites

Within the town centre there are a number of opportunity sites identified for redevelopment (see Map 4). Specific flood risk requirements associated with these sites are contained in the SFRA for this plan and in Chapter 12 Land Use Zoning Objectives.

Site 1: Mill Street Car Park

The site comprises an existing surface car park located to the east of Bridge Street and to the south of Mill Street and across from the Tullow Civic Offices. The site has frontage to Mill Street and the Inner Relief Road and is considered to be a key town centre opportunity site. It is strategically located to form an extension to the town centre core and has the potential to deliver additional retail development that would complement and improve existing services in the town. Also, the redevelopment of this site has the potential to directly link with the town centre core at Mill Street, leading to Market Square and Bridge Street and its redevelopment may act as a catalyst for additional development and the attraction of additional uses at these locations.

Site 2: The Thomas Traynor Road

This site is located on both sides of the Thomas Traynor Road, near its junction with the N81, to the south of the River Slaney. The site currently consists of a number of warehouse / light industrial units alongside the river, and Wynne's grain store facility is along the southern side of this approach road towards the N81. The site is considered to be a key opportunity site and should be prioritised for development. The site is strategically located along a main approach to the town centre and the areas redevelopment would allow for replacement of some of the existing buildings with a high quality development which would improve the character and appearance of the area.

It is an objective of the Council:

ECO 7: To provide for the development of vacant sites in designated areas (zoned residential / infill land and / or identified as potential regeneration lands) and to encourage and facilitate the appropriate development and renewal of sites and areas in need of regeneration in order to prevent;

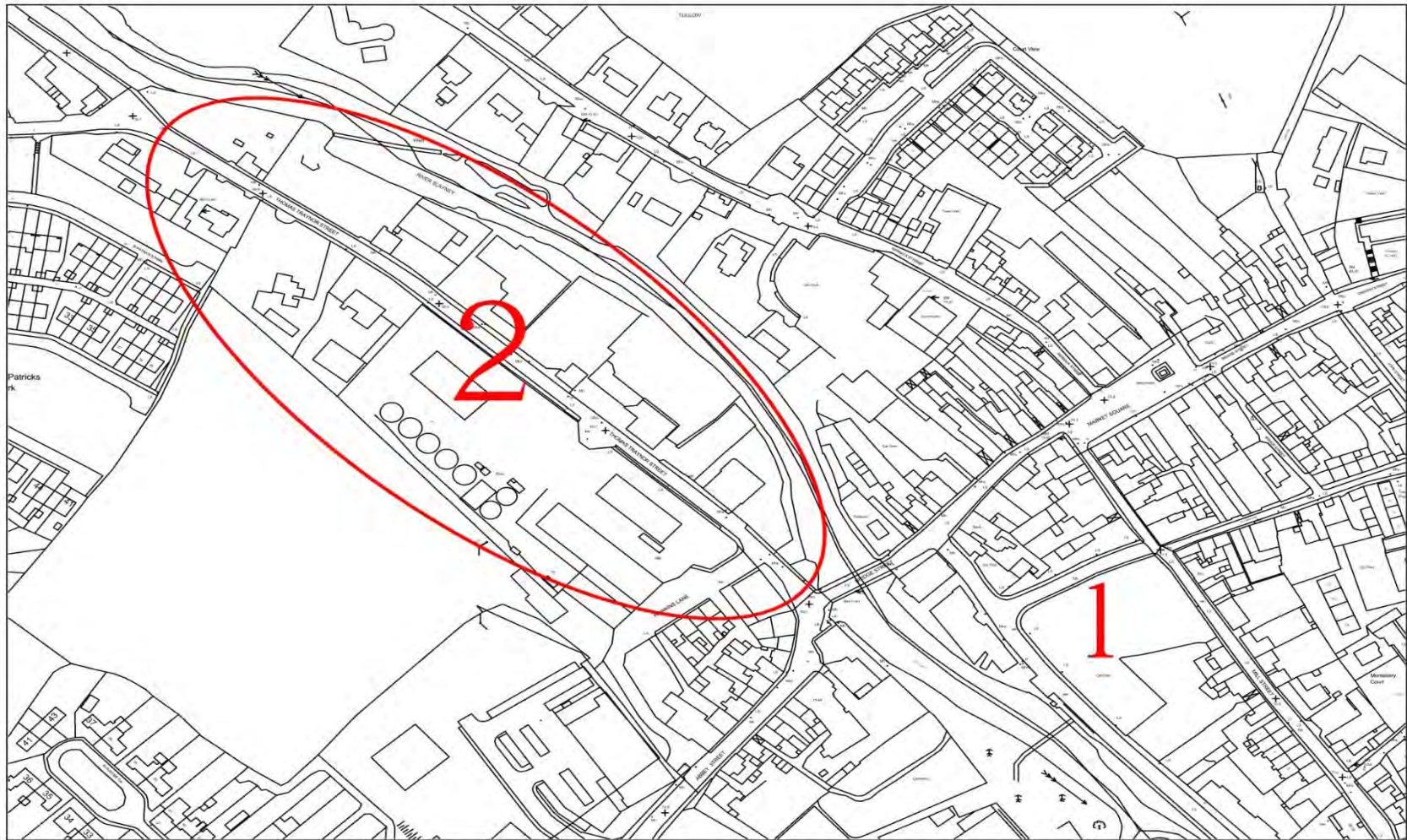
- o Adverse effects on existing amenities in such areas, in particular as a result of the ruinous or neglected condition of any land
- o Urban blight or decay
- o Anti-social behaviour, or
- o A shortage of habitable houses or of land for residential use or a mixture of residential and other uses.

It is the policy of Carlow County Council:

EC 27: To promote the redevelopment and generation of strategic sites and vacant areas within and adjacent to the town centre to achieve a consolidated town with an intensity of development from the core to the edge.

EC 28: To promote quality in architecture and urban design.

EC 29: To encourage and facilitate the reuse and regeneration of vacant/ derelict land / buildings. The Council will use its powers, where appropriate, to consider such sites for inclusion in the Register of Derelict Sites.



Map 4: Tullow Town Centre Opportunity Sites

Map 5: Tullow Potential Regeneration Sites





4.6 Rural and Agricultural Development

Tullow, due to its location in eastern County Carlow, is a market town serving an expansive rural hinterland, which also includes parts of west County Wicklow. The rural economy is an important component of the town's overall economy. There is approximately 222.6 hectares of agriculturally zoned land within the boundary. Whilst this land is zoned for agricultural purposes, it also acts as a greenbelt around the environs of Tullow, preventing urban sprawl.

Certain types of rural enterprises and agribusiness, especially those that involve natural resources may, at an appropriate scale, have a role to play in the agricultural zone. Strategic food production and processing has become an important component of the rural economy. This area of economic development will be encouraged and promoted. Rural based tourism which includes fishing, forestry, trekking, equine and farm based activities also provides opportunities for the diversification of the rural economy.

Given the importance of the rural environment it is essential that its integrity is maintained and enhanced and that the activities which rely upon it do not degrade or detract from it.

It is the policy of Carlow County Council:

EC 30: To promote an environmentally sustainable agricultural / horticultural sector, which contributes to a dynamic and successful rural economy.

EC 31: To promote the diversification of the rural economy and the development of rural indigenous industry while safeguarding the

CHAPTER 5 HOUSING AND SUSTAINABLE NEIGHBOURHOODS



5.1 Introduction

Tullow has experienced rapid population growth in a short period of time and over one third of private housing units constructed in Tullow have taken place post 2001. While the town has a good network of social and community facilities a sustainable town needs to be attractive as a place to live for all people. Providing adaptable homes which are affordable, pleasant and connected to areas where people work and socialise is fundamental to the creation of a compact town and a key factor in providing quality of life.

A good neighbourhood should be of a scale to support a range of services and facilities and small enough to foster a sense of community and belonging, with essential services and facilities all within walking distance of each other.

5.2 Challenges

The key principle which directs the housing policies in this plan is the delivery of a high quality living environment in neighbourhoods with a range of house types and sufficient community facilities to serve the needs of residents. It is important that housing and associated physical and community infrastructure in Tullow is of a high standard for all who want to live within the town. In order to

ensure the delivery of quality housing and the creation of sustainable communities the LAP must seek to deliver:

- Occupancy of existing vacant residential units throughout the town.
- High quality, spacious housing units.
- Good levels of amenity in terms of green open space.
- Adaptable and flexible units that readily provide for changing needs over time including the needs of families with children.
- High quality well designed communal areas.
- Sustainable building designs which are energy efficient and utilise renewable energy resources.
- Delivery of social and community facilities in tandem with residential developments.

Implementation of actions from the Local Economic and Community Plan will help provide the strategic framework for publically funded economic, local and community development programmes in the county.

5.3 Strategic Approach

The approach to providing quality homes and sustainable neighbourhoods will be achieved by:

- Encouraging uptake of vacant units.
- Providing for an appropriate quantity and quality of residential accommodation incorporating sustainable densities and designs.
- Providing for a variety of housing typologies and tenures which are adaptable, flexible and meet family needs and the changing needs of people throughout their lives.
- Providing housing that is accessible and affordable for all residents through

the implementation of the housing strategy.

- Providing for the creation of attractive mixed use sustainable neighbourhoods which benefit from the phased delivery of supporting infrastructure.
- Providing for the integration of new development and associated infrastructure with the existing town and landscape by extending the focus beyond the residential scheme with an equal emphasis on the quality of the surrounding area.

5.4 Policies and Objectives

5.4.1 Compliance with Core Strategy

The Core Strategy in the current County Development Plan sets out a new housing unit target for Tullow over the period 2015-2021. As outlined in Section 2.3.4 and Table 4 the overall unit target is 131 units between 2016-2022. Valid planning permissions exist on phase 1 residential lands (as of Jan 2017) for 99 residential units (excluding 20 permitted units in Mount Wolseley Resort). As of April 2016, there were also 126 units built and unoccupied.

The Carlow County Development Plan 2015-2021 recognises that the Tullow LAP (2010 -2016) significantly over zoned lands for residential purposes. This plan provides for the rezoning of land from residential and mixed use zonings to alternative landuse zonings including significant agricultural zonings. These lands are located largely on the periphery of the town and maybe considered for development under any further review of the Tullow Local Area Plan in the medium to longer term in accordance with the core strategy then pertaining.

Controlled phasing of land is required to ensure compliance with the provisions of the strategy. Phasing of land must be based on a clear sequential approach with zoning extending outwards from the town core. A strong emphasis is also placed on encouraging infill opportunities and better

use of underutilised lands with options for brownfield / regeneration prioritised.

Location (PI Ref)	Site Size (ha)	Committed	Unit Potential
Site ref 1	2	N/A	40
Site ref 2 (11/296 - expired)	3.56	N/A	31
Site ref 3 (11/322 - expired)	3.3	N/A	34
Site ref 4 (12/64)	4.6	49	49
Site ref 5 (14/115)	3.17	46	46
Site ref 6	4.8	N/A	95
		99	295

Note: Part 8 Scheme approved St. Patricks Park (14 no. units). Permission granted 12/230 for 4 no. residential units zoned existing residential.

Table 9: Permitted and Potential Units Deliverable on Residentially Zoned Land Phase 1

Map 6 identifies the location of permitted residential schemes, and key infill residential sites which comprise the balance of lands associated with the unfinished housing schemes of Phelim Wood, Park Gate and Glendale Estates.

With the exception of the foregoing (permitted and unfinished schemes) only two additional sites have been zoned phase 1 residential comprising approximately 6.8ha (site ref 1 and 6) with a potential to deliver circa 135 units.

A monitoring mechanism will be required to ensure compliance with the core strategy.

It is the Policy of the Council

HP 1: To monitor the scale, rate and location of newly permitted development to ensure compliance with the core strategy with regard to population targets in order to achieve the delivery of strategic plan led and coordinated balanced development within the town.

HP 2: To operate an order of priority for the release of residential lands to comply

with the Core Strategy of the Carlow County Development Plan 2015-2021 as follows:

- (i) The lands identified as “New Residential – Phase 1” land use zoning objective maybe appropriate subject to compliance with the core strategy targets for residential development within the lifetime of this plan.
- (ii) The lands identified as “New Residential – Phase 2” land use zoning objective are not available for residential development within the lifetime of this LAP unless the Plan is reviewed / amended in accordance with planning legislation.

HP 3: To facilitate where appropriate residential development on appropriate infill / regeneration and town centre sites in accordance with the principles of proper planning and sustainable development.

HP 4: To have regard to the DoECLG Guidelines on ‘Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities (2007); ‘Delivering Homes Sustaining Communities –Statement on Housing Policy’ (2007), ‘Sustainable Urban Housing: Design Standards for New Apartments’ (2007) and Sustainable Residential Development in Urban Areas’ and the accompanying Urban Design Manual: Best Practice Guide (2009).

HP 5: To require that all new residential developments comply with the Housing Strategy and Development Management Standards of the Carlow County Development Plan 2015-2021 or as may be amended.

It is an objective of the Council

HPO 1: To facilitate significant residential development on a spatially sequential basis with preference afforded to more central sites (1, 2, 3, & 6) in the early years of the plan with the development of more remote greenfield sites on a medium term basis. In this regard: Further residential permissions on remote greenfield sites no’s 4 and 5 given their outer suburban location will be facilitated only where it can be demonstrated that the development is

appropriate on a sequential basis, would comply with the provisions of the Core Strategy and the proper planning and sustainable development of the area.

- Residential and appropriate community and ancillary uses on Site no. 6 shall be facilitated on a phased basis where it can be demonstrated that the development would comply with the provisions of the core strategy and the proper planning and sustainable development of the area.

5.4.2 Sustainable Residential Areas

The Council will require the provision of neighbourhoods rather than traditional housing estates. The neighbourhood concept is based on the principle that people should be able to access many of the requirements of daily living within easy reach of their home. Varied housing typologies will also be sought within neighbourhoods in order to encourage a diverse choice of housing options in terms of tenure, unit size, building design and to ensure demographic balance in residential communities. Larger residential schemes will be required to phase their building programme so as to ensure that important physical, social and community infrastructure are delivered in tandem with residential development. Carlow County Council will seek to ensure that such development is phased in line with the availability of essential infrastructure such as transport, schools, childcare facilities, health facilities and recreational facilities.

It is the Policy of the Council

HP 6: To encourage and foster the creation of attractive mixed-use sustainable neighbourhoods which contain a variety of housing types and tenures with supporting community facilities, public realm and residential amenities.

HP 7: To promote the development of underutilised infill town centre sites and to facilitate high quality development which respects the design of surrounding development and the character of the area.

HP 8: To require larger schemes to be developed in a phased manner ensuring that necessary community

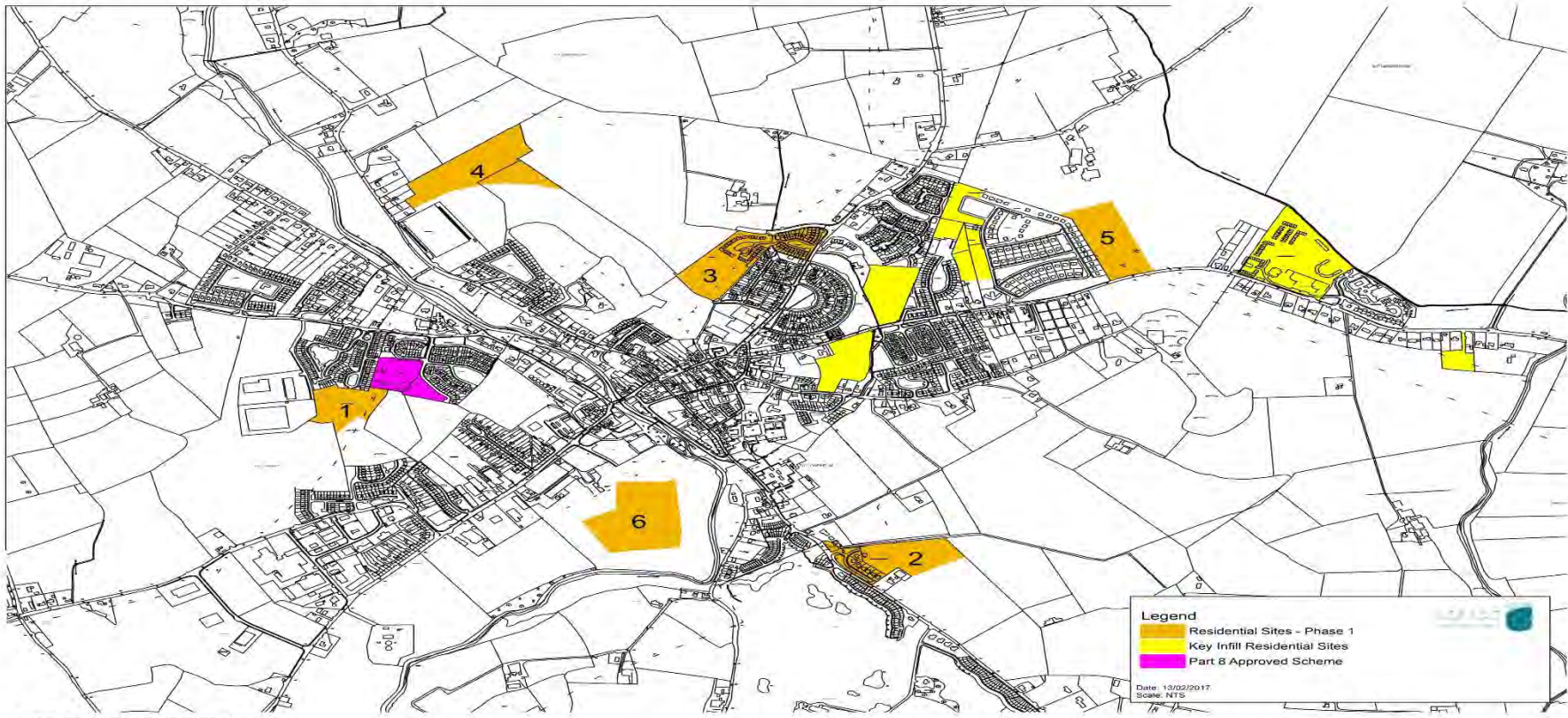
infrastructure is delivered in tandem with residential development.

HP 9: To encourage strong frontages along main thoroughfares creating definite building lines and continuity of the structure of the town centre.

HP 10: To ensure that new housing development close to existing houses reflect the character and scale of the existing houses unless there are exceptional design reasons for doing otherwise.

HP 11: To require applications for residential development where appropriate to demonstrate the provision of an appropriate mix of dwelling types having regard to the following:

- The nature of the existing housing stock and existing social mix in the area;
- The desirability of providing mixed communities;
- The provision of a range of housing types and tenures;
- The need to provide a choice of housing, suitable for all age groups and persons at different stages of the life cycle.



Map 5. Residential Sites

Map 6: Residential Sites

5.4.3 Sustainable Building Design

Carlow County Council will support a sustainable approach to housing development by promoting high standards of energy efficiency in all housing developments, promoting improvements to the environmental performance of building including the use of renewable energy and through the spatial planning, layout, design and detailed specification of proposals.

It is the Policy of the Council

HP 12: To promote more sustainable development through energy end use efficiency, increasing the use of renewable energy, and improved energy performance of all new development.

5.4.4 Quality Housing for All

Housing with long term adaptability and potential for flexibility allows for change as circumstances alter and families grow. Adaptability that allows for the alteration of the fabric of a building and flexibility which allows for spaces to accommodate a range of uses are key considerations in the design of a home. Carlow County Council will have regard to Lifetime Homes guidance contained in Section 5.2 of the Department of Environment, Community and Local Government 'Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities' (2007).

It is the Policy of the Council

HP 13: To ensure that all housing is designed in a way that is adaptable and flexible to the changing needs of the homeowner having regard to the Lifetime Homes Guidance contained in Section 5.2 of the Department of Environment, Community and Local Government 'Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities' (2007).

5.4.5 Good Property Management

Good property management arrangements are needed to secure the satisfactory upkeep and maintenance of communal areas and facilities. Carlow County Council will endeavour to take in charge developments as soon as possible following compliance with relevant conditions and in accordance with Carlow County Council's "Taking-in Charge Policy".

It is the Policy of the Council

HP 14: To require compliance with Carlow County Council's policy on the taking-in charge of residential developments.

5.4.6 Unfinished Estates

There are five unfinished estates in Tullow and planning permissions remains valid on two schemes. Where appropriate the Council will seek the completion of unfinished schemes to ensure public health and safety is maintained and that essential services such as roads, public lighting, footpaths, piped services and amenity areas are satisfactorily completed. The onus is on the developer to demonstrate that the completion of any unfinished estate complies with the principles of sustainable development and is of a high quality standard.

It is the Policy of the Council

HP 15: To have regard to the DoECLG's 'Stakeholders Code of Practice, between the Representative Bodies Dealing with Unfinished Housing Developments (2011).



5.4.7 Apartment Living

The provision of apartment development or other types of residential development may be considered at appropriate locations within the town centre area. Successful apartment living requires that the scheme must be designed as an integral part of the neighbourhood.

Apartment standards aim to ensure that new apartment developments provide housing with high levels of amenity; within individual apartments; within the overall development including all communal facilities; and by ensuring that suitable social infrastructure and other support facilities are available in the neighbourhood.

It is the Policy of the Council

HP 16: To restrict apartment developments generally to town centre locations or suitably located sites adjoining public transport connections. Apartments will not be permitted where there is an over concentration of this type of development. Higher density schemes will only be considered where they exhibit a high architectural design standard creating an attractive and sustainable living environment.

HP 17: To seek the provision of high quality apartments where permitted within sustainable neighbourhoods by achieving appropriate floor area sizes and levels of amenity within each apartment development; and ensuring that suitable social infrastructure and other support facilities are available in the neighbourhood.

5.4.8 Demolition and Reuse

The demolition of existing housing is generally discouraged on sustainability grounds. It may also lead to a loss of residential accommodation and streetscape character. Providing residential accommodation on upper floors is encouraged, particularly in the town centre area as it will contribute to the creation of a vibrant mixed-use compact urban core.

It is the Policy of the Council

HP 18: To discourage the demolition of habitable housing unless streetscape, environmental and amenity considerations are satisfied.

HP 19: To resist the loss of residential use on upper floors and actively support proposals that retain or bring upper floors above ground floor premises into residential use.

5.4.9 Social and Affordable Housing

The Carlow County Council Housing Strategy of the Carlow County Development Plan 2015-2021 and the policies and objectives contained in Chapter 4 Housing of the Carlow County Development Plan 2015-2021 addresses issues associated with housing in the county including housing need, the need for housing units of different types and sizes, improving social mix and catering for those with special needs including the elderly, travellers, homeless and disabled people.

It is the Policy of the Council

HP 20: To secure the implementation of the Carlow Housing Strategy 2015-2021 or any amendment or review thereto during the lifetime of this plan.

HP 21: To promote the provision of appropriate accommodation for people with special needs including people with disabilities, students, travellers, the homeless and the elderly in conjunction with voluntary bodies and the private sector in accordance with the Carlow County Development Plan 2015-2021 (or as may be amended).

5.4.10 Social Inclusion and Regeneration

Social inclusion is important in creating sustainable neighbourhoods. In the Census of 2011 approximately 12% of the residents in Tullow were Polish nationals. The promotion of inclusive neighbourhoods that cater for all nationalities, age groups, based on the principles of universal design, quality of design, and good services and facilities to all will be a priority. The regeneration of the town centre and increasing connectivity between neighbourhoods into the fabric of the town is also essential to achieve this.

It is the Policy of the Council

HP 22: To support urban regeneration in order to enhance social cohesion and the potential for positive change.

HP 23: To promote sustainable neighbourhoods which cater for the needs of persons of all stages in their lifecycle i.e. children, people of working age, elderly, people with disabilities.

HP 24: To promote multi use of community facilities and outdoor shared spaces which are accessible to all. Such developments should be in accordance with the principles of universal design.

CHAPTER 6 TOWN CENTRE, LANDSCAPE AND PUBLIC REALM

6.1 Introduction

Tullow is a comparatively old town originating from Anglo-Norman times. It suffered a decline in size during the late middle ages, but evolved as a market town in the 16th and 17th centuries. The present layout evolved around Market Square with a compact town centre. The town centre of Market Square consists of a wide square off which a system of small and narrow streets lead away from the town centre to other areas of the town.

Tullow also has a distinctive sense of place derived from a variety of elements including the River Slaney, its importance as a market and agricultural town serving an extensive hinterland which extends into both County's Wicklow and Kildare. The town also has an extensive history with several buildings of historical and architectural significance and a range of uses and activities.

The visual qualities of Tullow define the town's unique identity and sense of place. The principal visual element to the town is Market Square. This space extends from the north of Bridge Street to the Dublin Road at the top of the town and its main focal point and landmark being Fr. John Murphy Memorial Statue in the Square.

The River Slaney is an important visual element which can be mainly enjoyed on the approaches from the west to the town and along the New Link Road, which includes seating areas along the riverside. The visual characteristics of this area largely comprise the riverscape and its mature landscape.

6.2 Challenges

Successful towns are often judged in terms of their vitality and viability which are deemed as the essential elements of thriving town centres. Vitality is the consideration of a successful public realm which is measured in social terms whereas viability is a gauge of successful development which is measured in financial terms. It is important to note that these two separate issues are wholly reliant and interdependent on each other if a successful and attractive town centre is to be achieved.

The town centre has a sense of vitality, with lower levels of vacancy than other towns of similar size. However, as is the case in many

town centres, the 'living above the shop' concept is not prominent in Tullow town centre.

Factors which impact on the image of the town include quality of built form; public realm; shopfronts; use of colour; maintenance and upkeep of buildings. Other issues which would affect the vitality of Tullow include poor mix of uses, lack of active frontages onto the street as well as the amount of social and cultural activity within the public realm.

Vacant sites, derelict buildings and empty shop units, in particular in the town centre, have a negative impact on the viability of a town and as a result weaken its position as the primary commercial centre within the town. Tullow has a good mix of retail in the core town centre, with 4 major supermarkets, 2 newsagents, 2 florists, several public houses, one which offers food all day, a café, clothes and gift outlets, several hair and beauty salons, 3 pharmacies, 2 banks, a credit union and more. Thus, Tullow offers services and shopping to a large population in the town and surrounding area.

Tullow's urban fabric and image form a fundamental part of the town's character and therefore must be enhanced through the policies and objectives of this Local Area Plan. Measures such as increasing permeability, intensifying development and improving the overall image of Tullow will consolidate and strengthen the town core and support its role as the principle commercial area. The town would also benefit from the promotion of high quality shop fronts and use of colour schemes, such as heritage colours.

Future development must be sustainable and integrated to achieve a compact, well connected viable and vital town. The challenges are therefore threefold:

- Strengthening the town by improving the image, physical and environmental qualities of the public realm.
- Encouraging the consolidation of the town; improving connectivity and permeability; and facilitating the comprehensive mixed use regeneration of the core retail area.
- Extending the form and structure of the town for the benefit of the existing communities and

developing well connected sustainable neighbourhoods.

6.3 Strategic Approach

The strategic approach for Tullow is to seek to establish an attractive, self-sufficient and sustainable town with a unique character and high quality of life in a place where the needs and aspirations of the community can be realised.

In order to achieve same, the following development principles must be adhered to;

- Protect and enhance existing, positive aspects of character, environment and heritage.
- Promote compact and sustainable development whilst providing for the growth and improvement of the town.
- Promote the sustainable redevelopment of key infill and opportunity sites.
- Encourage and facilitate the appropriate development and renewal of sites and areas in need of regeneration in order to prevent;
 - o Adverse effects on existing amenities in such areas, in particular as a result of ruinous or neglected condition of any land
 - o Urban blight or decay
 - o Anti-social behaviour
 - o A shortage of habitable houses or of land for residential use or a mixture of residential and other uses.
- Achieve the greatest mix and range of uses possible and protect the vitality of the town's core retail area.
- Prioritise the use and enjoyment of the town streets and spaces by pedestrians and cyclists while providing for all means of travel and increased provision for off-street parking.
- Attract a residential population to the town centre through high quality design.
- Promote sustainable development and energy efficient technologies.

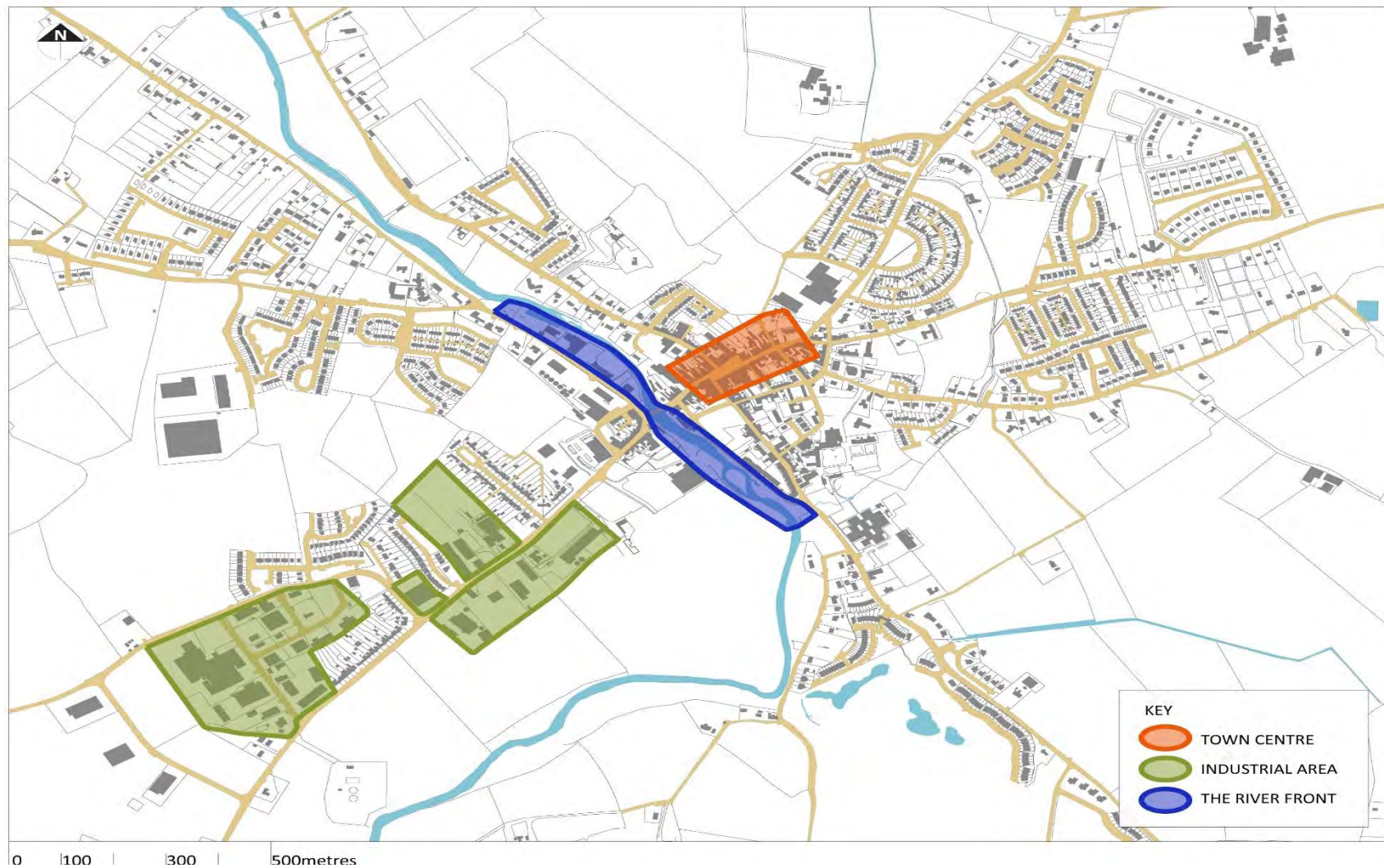
6.4 Character Areas

Tullow contains several character areas that are distinct from other parts of the town centre. These areas include;

- The town centre which is largely the compact traditional core surrounding Market Square. Building scale is consistently 2 to 3 storeys. The street frontage is generally continuous providing enclosure and an active streetscape.
- The River Front. Building typologies include operational and derelict industrial buildings, car parking, civic offices and commercial buildings. Many buildings back onto the river though to the south east of the bridge, there is green space and the public park adjoining the riverside.
- The Industrial Area. This area of the town out the Bunclody Road and also along the Rathoe Road comprises industrial buildings and sheds including medium scale engineering works and large commercial units. This is also where the bulk of the industrial and enterprise and employment lands will be located in the new plan.

It is a policy of Carlow County Council:

- CA 1:** To protect the traditional urban structure of streets and lanes in the town by maintaining historic building lines and minimising road and junction widening and, where appropriate, restoring historic building lines.
- CA 2:** To protect the historic urban fabric of fine plots and subdivisions by avoiding extensive consolidation of the plots and to promote narrow, deep plots in redevelopment proposals fronting the main streets.
- CA 3:** To protect the integrity and character of important building groups in the town by ensuring that new development and redevelopment is compatible in terms of appearance and scale.
- CA 4:** To protect features and sites of historical interest and their context setting in any development, through appropriate statutory and policy protection.



Map 7: Tullow Character Areas

6.5 Land Use and Function

Providing opportunities for business and employment, housing, recreation and health are all essential ingredients for healthy towns. The future of Tullow hinges on it retaining and enhancing a diverse range of uses and activities. Existing range of activities in Tullow's core retail area are outlined in Map 8. In recent years, there has been a tendency for development to locate on the fringe of Tullow, whilst large parts of the town centre, such as the car park on the New Link Road / Mill Street and backland areas remain underused or vacant. New housing developments in the town centre have also been limited in terms of quantity and quality reflecting the gradual decrease in the town centre population. Due to the imbalance in the town in favour of the fringe, this has had a knock-on effect on the town centre, with its decline up until recently.

This LAP seeks to create a balanced and self-sustaining development of the town by promoting the greatest mix and range of compatible uses in line with the current zoning objective for town centre activities, and by seeking a balance between the development of the town centre and the fringe.

Within this LAP, there are also opportunities to consolidate the existing retail core. This should be supplemented by residential use where possible. A broader range of uses maybe appropriate to the river front, including services, tourism and living opportunities. A number of opportunity sites are also identified (see Section 4.5.1) that may be suitable for a broad range of town centre uses, including retail, employment and enterprise.

It is a policy of Carlow County Council:

LU 1: To seek to attract a residential population and commercial activity in the town centre through high quality design with a continuous street frontage with a variety of buildings, well maintained and attractive facades and active ground floors providing a pleasant and distinctive place.

LU 2: To prioritise the use and enjoyment of the town streets and spaces by pedestrians and cyclists in accordance with the Design Manual for Urban Roads and Streets (2013), so that the impact of the private car and HGV traffic is moderated and a more reasonable balance is achieved between the interests of pedestrians, cyclists and drivers, including a more consistent approach to car parking in the town centre including

increased provision of off-street car parking”.

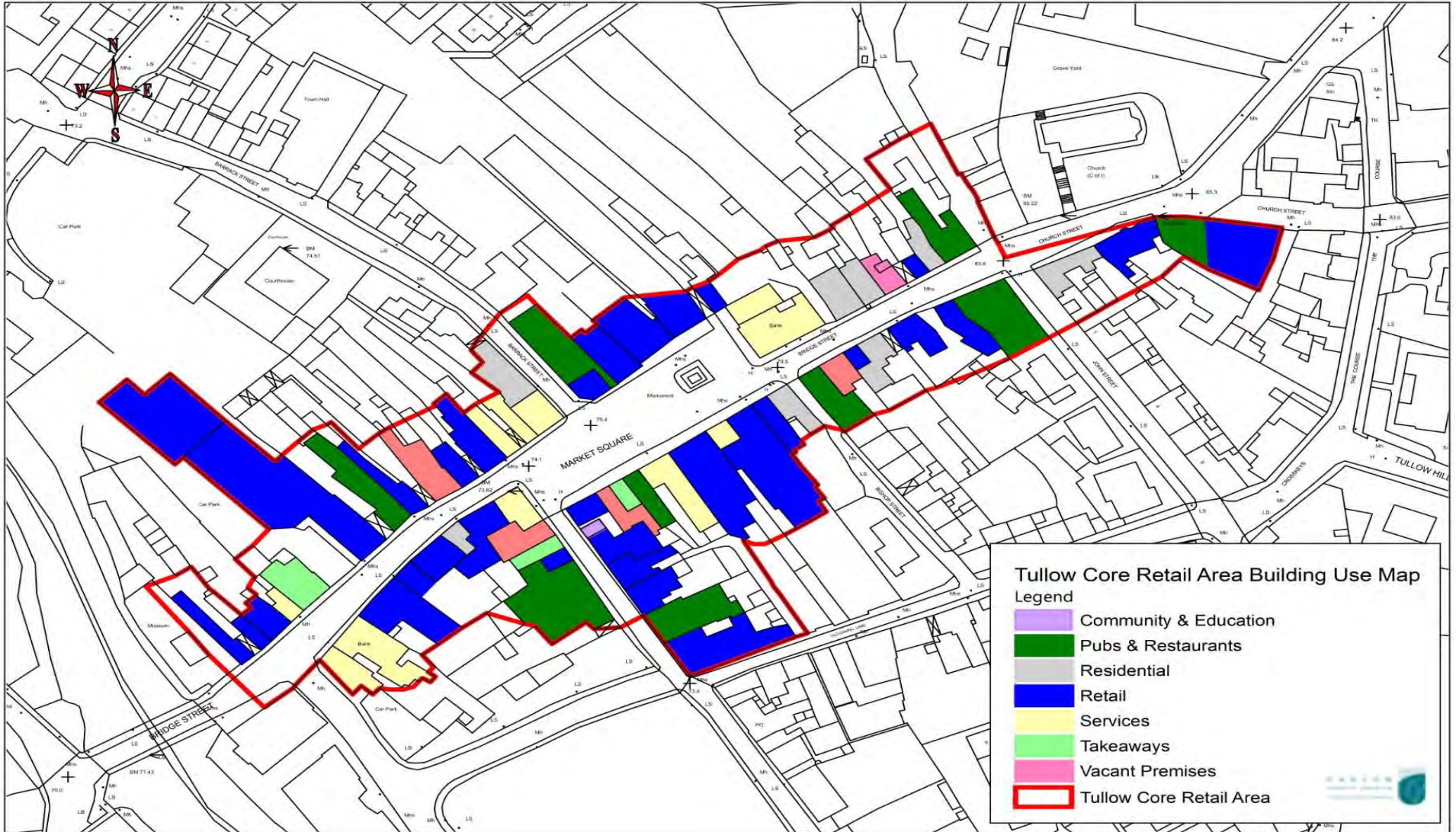
- LU 3:** To promote the mixed use nature of the town and to preserve its role as the centre of business and commerce in Tullow.
- LU 4:** To secure a broad base of employment and enterprise in the town through small, medium and large scale commercial development.
- LU 5:** To require the inclusion of opportunities for mixed uses in new development in the town centre.
- LU 6:** To reinforce tourism, related facilities and services and to actively market Tullow.
- LU 7:** To retain and improve the existing housing stock in the town centre and focus on opportunities for a range of household types in the town.
- LU 8:** To investigate the feasibility of developing of water-related activities, subject to the requirements of the Habitats Directive.
- LU 9:** To encourage town centre services, tourism and living along the river front where appropriate.
- LU 10:** To promote the development of quality shopfronts and in particular traditional shopfronts which contribute to the distinctive character of the town and to facilitate the improvement of vacant shops and premises in the town centre
- LU 11:** To support improved pedestrian connections throughout the town and to investigate the feasibility of providing a pedestrian bridge(s) linking:
 - (i) the Carlow Road to the Ballymurphy Road (amenity facilities) and
 - (ii) the Ouragh Road to the proposed amenity lands to the west bank of the Slaney River. Any such proposals shall be subject to Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and shall be subject to a Flood Risk Assessment and OPW consent under Section 50 of the Arterial Drainage Act.

It is an objective of Carlow County Council:

- LUO 1:** To extend the existing pedestrian network and facilities and look at the possibility of cycling facilities.
- LUO 2:** To provide small scale leisure / recreation facilities in the town centre, such as for example, a tennis court, basketball court, skate park.

LUO 3: To require the integration of off-street car parking facilities in the redevelopment of large sites.

Map 8: Tullow Core Retail Area – Building Uses



6.6 Landscape

The topography of Tullow rises to the north east of the town once you cross the bridge and also in a north westerly direction along the Castledermot Road and gradually in a westerly direction and evens out once past Abbey Street towards Lidl and Tesco. The River Slaney and surrounding lands are designated a candidate Special Area of Conservation.

It is the policy of Carlow County Council:

L 1: To contribute towards the protection of county and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.

6.7 Streets and Movement

Tullow grew around Market Square, the centre of the town and as a result has a system of narrow roads leading off this wide area, which provides good levels of permeability. The main approach roads to the main square are Mill Street, the Dublin Road (N81), Bridge Street and the Ballymurphy Road.

The sustainable development of urban areas relies on minimising reliance on the car to carry out daily functions. At the same time the use of environmentally friendly modes of transport such as walking, cycling and public transport should be encouraged.

In Tullow, there are three main elements that support the enhancement of the town and these are enhancing walking routes, designating car parking areas outside of the town centre, and modifying the flow of through traffic to improve circulation and reduce congestion.

The quality of Tullow's streets and spaces is compromised where:

- Wirescape dominates;

- Surfaces including footpaths and carriageways are of poor quality or restricted;
- Street furniture is limited;
- Street lighting is unattractive;
- Street planting is intermittent and
- Car parking dominates.

It is a policy of Carlow County Council:

SM 1: To ensure that any new development is well connected to the rest of the town and is within a comfortable walking distance.

SM 2: To seek to reduce clutter in the town centre and to make the town centre a pedestrian-friendly place by improving safety and comfort and improving pedestrian facilities such as street furniture, footpaths and crossings.

SM 3: To improve the network of walking routes in and through the town centre and between notable features and attractions.

SM 4: To utilise existing features such as the River Slaney as the focus and basis for developing walking routes connecting the town to its wider county context, subject to the requirements of the Habitats Directive.

SM 5: To reduce unnecessary vehicular traffic from the town centre.

It is an objective of Carlow County Council:

SMO 1: To designate off street car parking areas at key sites.

SMO 2: To upgrade and resurface Market Square and possibly eliminate some car parking spaces outside the Bank of Ireland and increase pedestrian access to allow for temporary events such as fairs, farmers markets etc.

6.8 Public Spaces and Public Realm

The public realm in a town is comprised of streets, squares, parks, courtyards, alleys, malls, car parks and the spaces between buildings, all those parts of the town that are accessible to the public. Features within the public realm may include trees, seats, flower planters, public art and sculpture, traffic signs, railings, steps, water features and advertising hoardings. The use of space can vary from a place to meet or relax, street cafes and restaurants, a venue for events, area for trading to a place for public art and sculpture. Successful public realm in a town is essential

in the creation of an attractive and sustainable living and working environment and the establishment of a unique identity and sense of place for the town.

Market Square and the River front, especially along the Inner Relief Road are the principal urban spaces in Tullow. Each space is unique in form and function and enriches the urban fabric of the town. Unfortunately, the value of these spaces has deteriorated where development has not been sympathetic to the integrity of the public domain. Other focal spaces include junctions and intersections where activity and movement is concentrated and corner buildings are prominent.

In Tullow it is important to protect the distinctive market and agricultural character of the town and to enhance the quality of the built environment so as to enable people to continue living in attractive and safe surroundings, and to ensure a similar standard for future generations. This can be achieved through promoting new development, places and spaces that are of high quality, which promote sustainable lifestyles, are appropriately scaled, are responsive to their contextual surroundings, amenity, heritage, environment and landscape of the town and contribute to the future potential of the area.

The key aim for public space in Tullow is to place renewed emphasis on the quality and design of public space in the town. The River Slaney, the towns market square and main approach roads can be regarded as the primary structuring elements that, together with the 19th and 20th Century building stock, collectively define the unique urban character of Tullow.

Improving public space in the town will involve;

- Upgrading of the key streets and spaces; and
- Consolidation and augmentation of existing tree lines and groups and new structured tree planting on the approaches to the town and along key routes.

These are jointly designed to increase the attractiveness of the retail core as a destination and strengthen the approaches and sense of arrival into the town.

It is a policy of Carlow County Council:

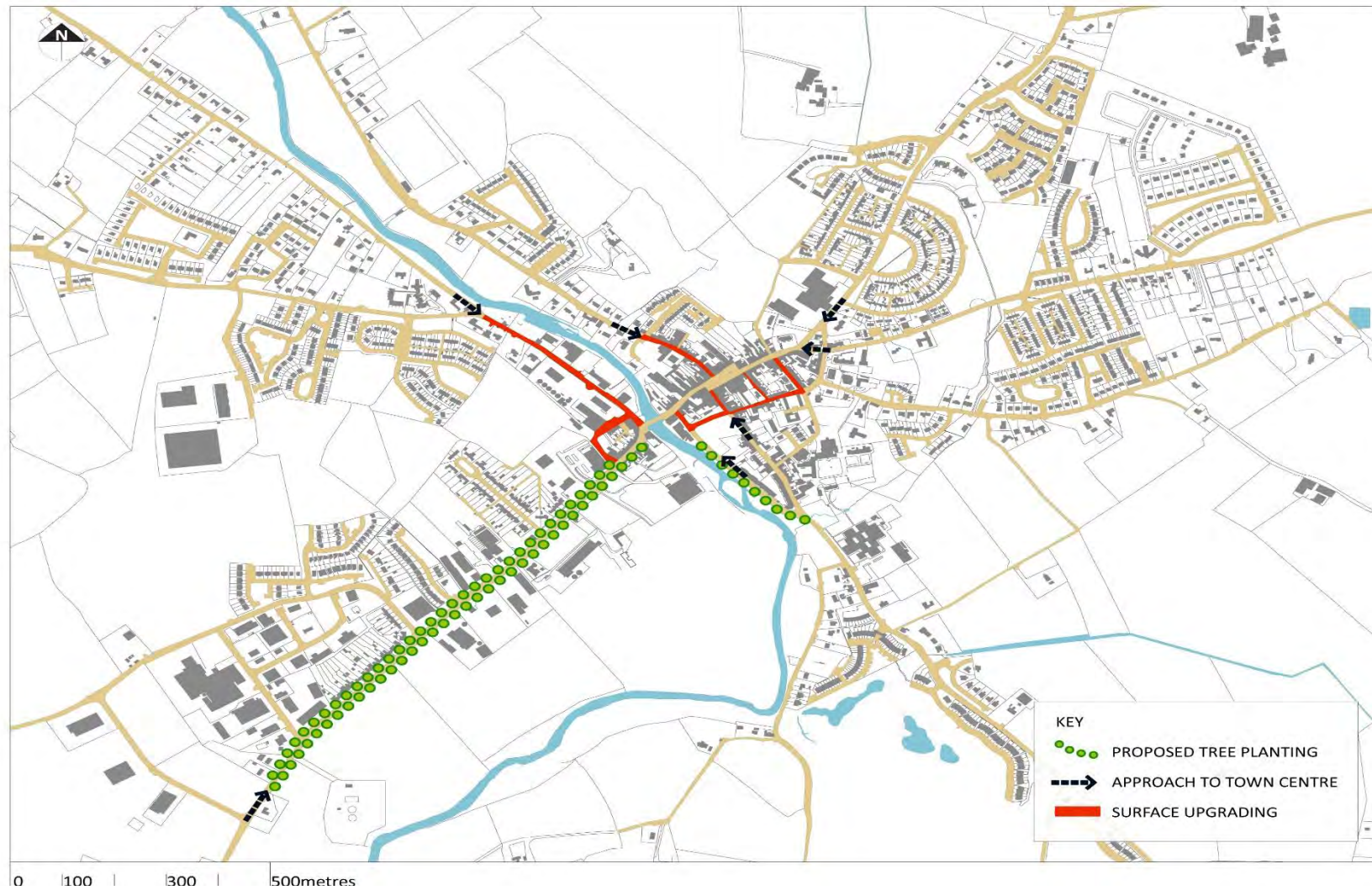
PR 1: To promote diversity, structure and continuity in the public realm through the creation, maintenance and restoration of urban spaces such as streets and squares and to provide a pleasant sense of place and enclosure.

PR 2: To prioritise the improvement of, and access to, subject to the requirements of the Habitats Directive, the waterfront area and the retail core for the enjoyment of both visitors and residents alike.

It is an objective of Carlow County Council:

PRO 1: To upgrade footpath and roadway surfaces where appropriate and seek removal of overhead wires.

PRO 2: To enrich the local streetscape character through the provision of appropriate street paving, furniture and planting of street trees at appropriate locations.



Map 9: Tullow Public Spaces

6.9 Projects

Key projects involving the public and private sectors will play an important role in promoting sustainable development for Tullow Town Centre. The following are projects that would go some way in improving the public realm and overall attractiveness of the town;

- **Bridge:** Power washing the stone on the bridge and painting the old lamp lighting present. These along with the raised box planting that is present in summer months will hugely enhance this main corridor through the town.
- **Mill Street / Inner Relief Road Car Park Site:** Development to complement and enhance existing character and heritage of Tullow.
- **The Thomas Traynor Road:** This area would benefit from regeneration and also this should include designs which relate to the River running in close proximity to the site.
- **Town Park:** Extend and enhance this area so as to provide greater connectivity to the town centre and residential areas.
- **Bridge Street / Market Square / Church Street / Mill Street / Abbey Street:** Resurfacing of town centre areas to enhance pedestrian environment.
- **Town Centre/ Neighbourhood Centre:** Removal of wirescape from town centre streets.

The following images show how a number of key areas within the Tullow Plan area can be transformed into attractive civic spaces.



Fig 7: View to south of bridge in Tullow



Fig 8: Indicative Transformation of view to south of bridge in Tullow



Fig 9: View of Market Square



Fig 10: Indicative Transformation of Market Square



Fig 11: View of southern bank of River Slaney (opposite Supervalu Carpark)



Fig 12: Indicative Transformation of southern bank of River Slaney (opposite Supervalu Carpark)

6.10 Guidelines for Future Development

Sustainability

Sustainability criteria for future development should be considered at macro and micro levels. Further, sustainable objectives should not only seek to satisfy environmental criteria but also ensure that social and economic objectives are achieved.

At a macro level, proposed development should seek to :

- Utilise land effectively.
- Ensure an adequate mix of uses are provided locally in order to reduce the need to travel, and
- Maximise access to sustainable modes of transport including cycling and public transport.

At a site planning level, sustainable urban form should ensure appropriate micro-climates are established between buildings. Equally, sustainable urban forms should ensure that buildings receive adequate levels of light, ventilation and passive solar energy whilst minimising heat loss and exposure.

At this scale, proposals should also investigate the feasibility of;

- Alternative energy sources
- Sustainable Urban Drainage Systems (SUDs) and
- Waste recycling facilities.

At a micro level building designs should seek to;

- Reduce energy demand including thermal energy for space and water heating and electrical energy for power and lighting
- Maximise solar potential and aspect, and
- Provide for building evolution through adaptable design.

Urban Grain

The fine grain plot subdivisions (i.e., deep plots with narrow street frontage) of the town centre should inform the development of any future town centre or adjacent development. On brownfield sites there are opportunities to retain some of the larger plots but also to create smaller parcels of mixed size for development. It is important that this essential element of character, identity and diversity is retained in new development by prioritising sensitive infill development and by discouraging amalgamation of individual plots into larger sites by developers.

Although development of some existing large sites in the town is likely to be approached in a more comprehensive manner, the breaking up of existing large sites into smaller parcels with shared courtyards will be encouraged, particularly on those parts of the site fronting existing streets.

Built Form

New developments should adapt the perimeter block typology and respect the established historical street pattern. The perimeter block typology promotes a unity of built form in terms of continuity of building line whilst facilitating a fine grain and variety of plot sizes and building heights within each block.

Height and Scale

The context height of the area is influenced by the following parameters;

- Respecting existing scale and typologies of the town.
- Achieving sustainable densities of development.
- Maintaining a human scale to streets, spaces and the river front.
- Providing appropriate levels, continuity and enclosure.
- Reflecting local constraints such as protected structures and existing development.
- Emphasising place and location.
- Emphasising significant use or function.

- Maintaining quality private and semi-private open spaces.

New buildings on the riverfront should be a minimum of two storeys with exceptionally well designed proposals up to four storeys being considered on their individual merits. Height variation will be encouraged through diversity of building usage and type.

The context height of the town centre is generally two to three storeys. It may be possible for higher buildings to achieve this through good quality design however, and proposals in excess of this context height will be examined on their individual merit.

Access and Car Parking

Individual or 'own door' access should be required where feasible. Vehicular access to the rear should be carefully considered having regard to the tradition of providing arched lanes either between or under buildings. In particular, care must be taken to avoid oversized or crudely designed gates or ramps that unduly disrupt the continuity of the streetscape.

In larger developments the impact of new street access on the continuity of the street should be minimised. Side lane or street access should be considered where possible, in preference to access off main town centre streets. Development proposals for large sites will be required to accommodate provision for multi-level car parking. Developments where significant loading and unloading is likely to occur will be required to seek solutions on-site.

CHAPTER 7 TRANSPORTATION AND MOVEMENT

7.1 Introduction

The availability of an efficient transport system is vital for the development of Tullow and its expansive hinterland as it will enhance the capability of the town to support business, commercial and manufacturing activities that are crucial for the towns continued development.

The provision of transport infrastructure plays a central role in the economy of any urban centre, with the attractiveness of a location for business and residential development dependent on the provision of a full range of transportation services. The N81 national route running through the town, the proximity to the M9 motorway and the regional road network serving the town, namely the R725, R726 and the R418 are important infrastructural assets which can contribute to the future sustainable development of the area.

In addition the effective integration of land use and transportation will generate and reinforce sustainable settlement patterns and make the most efficient use of land. In this regard the Plan has a significant part to play in seeking to deliver sustainable development into the future and minimising the need to travel by car.

7.2 Challenges

Access and circulation routes in Tullow are largely defined by the historical development of the town and its relationship to its topography as well as the River Slaney which act as a barrier and restricts access. Private car is the main means of accessibility in Tullow with considerable amounts of traffic running through the town.

Permeability within the town centre is restricted to an extent, as many streets off the N81 are extremely narrow, with some being one way systems. Also connections and linkages between residential areas back into the town centre are poor. The main artery through the town namely the N81 experiences congestion particularly on Bridge Street and Church Street at the peak hour times. The medium to long term objective of the

Council is to provide a bypass of the town centre to the north which would remove the by-passable traffic from the town centre. Until such time as this is delivered interventions will be undertaken to alleviate the congestion. It is expected that work will commence in 2017 to widen the bridge at the intersection of the N81 and the R725 which is expected to provide the space necessary for a roundabout at this junction. This will make right turning manoeuvres easier and will contribute to easier traffic movement through the town centre.

Traffic congestion at Church Street and Bridge Street at peak morning and evening times is also problematic in the town centre.

The previous LAP 2010-2016 indicated a relief road system around the town, to facilitate by-passable traffic using the regional road network to east coast / midlands and the National Primary Road corridor. This objective is also contained within this LAP and by facilitating by-passable traffic, HGVs in particular would be diverted from the town centre thereby maintaining a more appropriate environmental quality to the town centre.



7.3 Strategic Approach

Carlow County Council recognises that the current trends in transportation are unsustainable, in particular the increase in vehicular traffic throughout the town, which in turn causes congestion and reduces traffic flow, especially at peak times such as schools, businesses and factories opening / closing hours. The Council therefore has a responsibility to encourage a modal change from private car usage to more sustainable means such as walking, cycling and increased usage of public transport.

The provision of a full range of transportation services for those residing in and also for those working in and visiting Tullow is crucial in promoting a modal change to a more sustainable transport network in the town and its environs.

The approach is to;

- Place a stronger emphasis on sustainable modes of transport such as walking, cycling and public transport, particularly for short trips and journeys to work and school.
- Improve and enhance connectivity between the town centre, residential areas, community facilities, tourist attractions and amenity areas where appropriate.
- Improve transport and movement within the town and reduce congestion.

7.4 Smarter Travel

The Tullow Local Area Plan recognises and supports the importance of sustainable transport, including the effective integration of land use and transport and encouraging a modal shift from private transport to public transport, walking and cycling. In the 2011 Census, the most popular means of travelling to work was by car (driver) with this mode accounting for 62.3% of all journeys. 13 persons commuted using public transport (bus or rail). The average journey time was 26 minutes and 22.2% of workers faced a commuting time in excess of 30 minutes. 30.4% of all households in Tullow had two or more cars.

The LAP has had due regard to applicable national legislation and policy, including Smarter Travel: A New Transport Policy for Ireland 2009-2020, which sets out five goals for sustainable transportation, The Spatial Planning and National Roads Guidelines for Planning Authorities(2012), The Traffic Management Guidelines (2003) and the Design Manual for Urban Roads and Streets (2013). This new manual aims to end the practice of designing streets as traffic corridors, and instead focuses on the needs of pedestrians, cyclists and public transport users.

It is the policy of Carlow County Council:

- TP 1:** To continue to promote a modal shift from private car use towards increased use of more sustainable modes of transport such as cycling, walking and public transport and to implement the initiatives contained in Government's "Smarter Travel, A Sustainable Transport Future 2009-2020".
- TP 2:** To improve the pedestrian environment and promote the development of a network of pedestrian routes which link residential areas with recreational, educational, employment and tourist destinations to create a pedestrian environment that is safe and accessible by all.
- TP 3:** To support co-ordination by transport providers to promote linked up transport services enabling complete coverage of Tullow through the creation of an integrated transport hub and improvement of bus/ rail linkages to the town of Tullow. This will be developed by providing bus stops beyond Market Square, cycle parking stands at various locations in the town and by providing good pedestrian facilities throughout Tullow.
- TP 4:** To support the Government's Electric Transport Programme 2008 – 2020 by facilitating the roll-out of battery charging infrastructure for electric vehicles at various locations throughout Tullow. The provision of such infrastructure shall comply with the requirements and specifications of Trans Policy 14 and Energy Policy 12 as contained in the Carlow County Development Plan 2015-2021.

It is an objective of Carlow County Council:

- TO 1:** To provide appropriate facilities for pedestrians and for people with special mobility needs in line with the aims of the European Charter of Pedestrian Rights and the principles of Universal Design as defined in the Disability Act 2005.
- TO 2:** To promote and facilitate the provision of secure parking areas for bicycles in Tullow town centre and at key tourist attractions throughout the town.



7.5 Transport Infrastructure

Tullow has good infrastructure in terms of its roads network. It has access to airports and seaports, being located 97km from Dublin, 90km from Waterford and 76km from Rosslare.

The town is also strategically located on the N81 and within 10 minutes from the M9 Dublin to Waterford motorway. Due to Junction 5 and 4 on the M9 being within 10 minutes from Tullow, this is an important factor affecting the physical expansion of the town. The close proximity of interchanges, as well as being on the N81 leading to Dublin, these influence the location and the viability of new industrial and business areas that are developed, as accessibility to these major transport corridors are an important business determinant.

The town is also within 15km of Carlow, 60km of Naas and 49km from Kilkenny and is also served by the R726, regional route from the east coast to the midlands, the R418 to Carlow and the R725 to Castledermot.

It is the policy of Carlow County Council:

TP 5: To ensure that the road and street network of Tullow is safe and convenient, that it has adequate capacity to accommodate motorised traffic and non-motorised movements, that it has a high environmental quality with appropriate adjacent development and built form, particularly in the case of urban streets and streetscapes, and that adequate parking facilities are provided to serve the needs of the town.

In this regard, the principles, approaches and standards as set out in relevant national policy shall inform future transport infrastructure and urban development. This shall include the Spatial Planning and National Roads Guidelines 2012, the Sustainable Residential Development in

Urban Areas Guidelines for Planning Authorities 2009 and accompanying Urban Design Manual 2009, the Traffic Management Guidelines 2003, the Traffic and Transport Assessment Guidelines 2007, the Design Manual for Urban Roads and Streets (2013), the NRA Design Manual for Roads and Bridges (as appropriate to the regional road network outside areas subject to a reduced urban speed limit) and any updates or forthcoming guidelines in relation to street design and walking / cycling facilities.

TP 6: To promote road and traffic safety measures in conjunction with relevant Government Departments and other agencies through the provision of appropriate signage, minimising or removing existing traffic hazards and preventing the creation of additional or new traffic hazards.

It is an objective of Carlow County Council:

TO 3: To investigate the feasibility of providing the Tullow Relief Road to facilitate by-passable traffic using the N81 or the R725, R726 or R418.

TO 4: To continue to upgrade the condition of road and footpath surfaces in conjunction with the Council's annual roads programme.

TO 5: To monitor and upgrade, where necessary, the standard of public lighting throughout the town.

TO 6: To investigate and seek the improvement of pedestrian facilities throughout the town.

TO 7: To improve deficiencies in pavement surface, quality and general alignment and to protect future road lines where required.

7.6 Public Transport

Both Bus Eireann and private operators run a regular bus service serving the area. There is a service between Dublin and Bunclody which passes through Tullow each day. Also J.J. Kavanagh's Bus runs an inter-county service which would also include Tullow as one of its stops.

Currently, buses stop on the roadside in Market Square, which can cause congestion at busy times. Rationalisation of the car parking

layout and re-siting of the bus stop within the square could facilitate freer movement of traffic in the town centre. Consideration could also be given to a designated bus stop / shelter provided possibly on the Dublin Road near Aldi / Flynn's Service Station or on the Bunclody Road near O' Tooles Service Station, where further stopping points could be provided for both traffic and those using these bus services.

It is the policy of Carlow County Council:

TP 7: To co-operate with public transport service providers to ensure that adequate public transport services are provided to the town.

TP 8: To support the provision of public transport services by reserving land in suitable locations for public transport infrastructure and ancillary facilities such as park-and-ride.

It is an objective of Carlow County Council:

TO 8: To investigate the feasibility of providing a bus shelter either or both to the north of the town and to the south of the town.

7.7 Traffic Management and Parking

The aim of Carlow County Council is to support the enhancement of the urban street network, to promote the efficiency of traffic circulation and management around Tullow and to facilitate the appropriate provision of parking convenient to the town centre.

Due to the main transport corridor through the town being the N81, this can generate traffic congestion at Church Street, Market Square and Bridge Street during peak periods. This can be exacerbated due to the merging of the R726, the R725 and the R418 onto the N81 at the bridge south of the town or at the north of the town centre at Church Street.

In terms of car parks, there is a surface public car park on Barrack Street, located to the rear of Supervalu and a car park off Market Square/ Mill Street adjacent to the Credit Union. There are a number of other surface car parks associated with businesses in the town.

It is the policy of Carlow County Council:

TP 9: To monitor traffic movements in the town and to provide passive traffic calming measures at appropriate locations as the need arises.

TP 10: To ensure that new entrances are located in such a manner as to provide effective visibility for both users of the entrance and users of the public roads and footpaths throughout the town and its environs, so that opportunities for conflicting traffic movements are avoided, in the interests of public safety.

It is an objective of Carlow County Council:

TO 9: To examine levels of usage and demand for car parking in Tullow Town Centre and where additional car parking and / or relocation of car parking away from the main street is warranted the Council will examine the feasibility of providing alternative / additional off street car parking within and in close proximity to the town centre and to seek the provision of same following identification of suitable sites.

TO 10: To provide accessible car parking spaces at appropriate locations throughout the town.

CHAPTER 8 COMMUNITY, SOCIAL AND RECREATIONAL DEVELOPMENT

8.1 Introduction

Tullow has many community facilities, community groups, clubs and recreational / amenity facilities. An important driver in the provision of such facilities is the long standing and sustained activity among the community and interest groups in providing facilities in Tullow which benefit locals and those beyond the town. The Council will support and engage with the local community and government departments in relation to the development of existing or new facilities within Tullow and its surrounding hinterlands.

It is recognised that the provision of such facilities are critical to the creation of sustainable communities and constitute an important element in social infrastructure which will continue to make Tullow a desirable place in which to live, work and recreate.

8.2 Challenges

An expanding population generates an increased demand for the provision of services, community facilities, school places and amenities. It is essential that these facilities are provided in tandem with new development and as new communities emerge. The primary role of the Planning Authority regarding social and community infrastructure is the provision of the planning framework in the LAP. This includes the zoning of sufficient lands at appropriate locations, to accommodate educational, community, leisure and recreational facilities along with providing the policies and objectives in the plan which support and facilitate future quality developments of this kind.

Some key challenges in achieving delivery of social and community facilities include adequate funding provision and environmental sensitivities. Encouraging multi-functional use of social, community and recreational facilities is a factor which is now greatly encouraged and it is hoped that all such existing facilities within the LAP area will embrace this throughout the lifetime of the plan and beyond.

Encouraging increased community engagement and interest is supported by the Council. Engagement must seek to include all ages and nationalities as there are many

diverse communities in Tullow. Social inclusion is important in that it ensures all people are provided with equal opportunities to participate. Carlow County Council will ensure that there are adequate lands zoned for community and recreational purposes within this LAP and will seek to support the consolidation and enhancement of existing recreational and community facilities within Tullow.

8.3 Strategic Approach

Carlow County Council will take the following approach in facilitating the provision of good quality social, community and recreational facilities beneficial to all persons in Tullow:

- Continue to support and facilitate voluntary organisations within the town and community of Tullow.
- Promote the development of social capital by providing opportunities for interaction, participation and the co-ordinated provision of public services.
- Make Tullow an attractive place to live and work by building strong, inclusive communities that have a sense of place and belonging, with adequate provision of and access to services and facilities to meet future needs.

8.4 Community Facilities

Tullow possesses a wealth of community facilities, located throughout the Plan area. These include a health centre, a nursing home, a family resource centre, library, fire station, community hall, civic offices, community centres such as Forward Steps, Tullow Youth Project, the Cairdeas Centre and Teach Bhride, the Men's Shed, banks, churches and the credit union.

The community also participates in multi-functional use of certain vacant buildings which is welcomed and should be further explored in other buildings. (e.g. the Scouts now use the vacant Courthouse as their base in Tullow). The sharing of community facilities is a big step forward in terms of creating sustainable communities and should be

encouraged throughout clubs and community groups.

It is the policy of Carlow County Council to:

CF 1:	To support and nurture intergenerational and cross cultural relationships through the development of community initiatives such as community gardens / allotments.
CF 2:	To promote the development of sustainable communities on the basis of a high quality of life where people can live, work and enjoy access to a wide range of community, health and educational facilities suitable for all ages, needs and abilities.
CF 3:	To encourage high standards in the design and finishes of community facilities.
CF 4:	To optimise existing and proposed physical resources / infrastructure by supporting multi-functional building / facility use and provision.
CF 5:	To encourage the siting of community facilities in suitable locations, close to existing facilities / services and public transport routes.
CF 6:	To recognise the importance of community participation in the improvement of existing community and recreational facilities, and encourage increased involvement of local groups, both independently and in association with the relevant statutory bodies, in the future provision of such facilities. Carlow PPN structures are a vital source in terms of progressing community participation.
CF 7:	To consider the accommodation of small-scale community enterprise developments within existing and proposed community facilities, subject to appropriate design, layout and servicing.

It is an objective of Carlow County Council:

CFO 1:	To endeavour to ensure that all community, social and recreational facilities are inclusive and accessible to all.
CFO 2:	To assist as far as possible in the provision of community facilities by

	reserving suitably located land and / or by the use of the development management process to ensure provision is made for such facilities as the Council considers appropriate.
CFO 3:	To continue to support and facilitate voluntary organisations in the town and environs.
CFO 4:	To advance social inclusion and community development by developing the co-ordinated delivery of services and facilities in Tullow.

8.5 Educational Facilities

Tullow is served by three National Schools and one secondary school. The primary schools are St. Columba's N.S., Scoil Phadraig Naofa and Scoil Naisiunta Muine Lourdes and the post primary school being Tullow Community School.

	Name	Enrolment 2015/2016
Primary	St. Columba's National School	74
	Scoil Phadraig Naofa	228
	Scoil Naisiunta Muine Lourdes	221
Post-Primary	Tullow Community School	633

Table 10: Profile of existing schools in Tullow (Source: DoES)



Carlow County Council has made suitable provision in this Plan by zoning appropriate lands to facilitate the development and potential future expansion of schools, where feasible, and will continue to work with the Department of Education and Skills and all schools to facilitate all future educational requirements as necessary. Particular account needs to be taken of the Core Strategy population target, the extent of housing lands zoned within the Plan area and the future effects that this will have on school capacities and educational demands.



It is the policy of Carlow County Council to:

- EU 1:** To facilitate and co-operate in the provision of schools, crèches and other education and childcare facilities.
- EU 2:** To facilitate the provision of continuing educational facilities which provide for lifelong learning for all, including the elderly.

It is an objective of Carlow County Council:

- EUO 1:** To actively assist and liaise with the Department of Education and Skills in the provision of new and additional school places as may be required.

8.6 Sports, Recreation and Play

Children’s play is important to their development. It is through play that they learn to socialise and interact with the world. In supporting play we need residential areas, parks and open spaces that are safe and enjoyable for children of different ages. Tullow possesses an abundance of recreational facilities, these include GAA and soccer pitches, football, soccer, hurling clubs, a golf course and leisure centre at Mount Wolseley, a kayaking club, a boxing club, a youth

services centre, a tennis club and a rugby club which is located outside the plan area.

Tullow also has a Scouts Den in the former courthouse, a children’s playpark and skate park beside the River Slaney and Tesco’s.

It is also acknowledged that some of these facilities are expanding with the Brother Leo’s Park now containing a walking track around the perimeter of its site. Also Tullow Tennis Club is planning to expand and it is anticipated that it will contain indoor courts, tennis rooms, meeting rooms and a gym. The project objectives are to create a unique quality community based sports facility with tennis as the anchor sport while providing the local and wider community with a broad range of services and facilities that are lacking in Tullow. It is hoped that these facilities can be multi use to maximise the value of the facility for the local community, surrounding hinterland and towns and villages in the immediate area.



Carlow County Council acknowledges the very important roles that sporting and social clubs play in enhancing the social and recreational life of the town’s communities. Facilities for both formal and informal recreation and catering for the entire community of all abilities are required.

Walking trails which are actively used by the community and visitors alike, are becoming increasingly popular. The River Slaney runs through Tullow and currently there is no walking trail along this river. A looped walk along the river and beyond, towards Altamont Gardens and back to town would be a welcome facility in the town, subject to compliance with environmental legislation and assessment.

Currently in Tullow there is a lack of indoor sporting and recreational facilities for all ages.

Apart from Mount Wolseley, a resort hotel, there is no leisure centre or swimming pool in the town which would be beneficial to the locals and residents in the area. Indoor facilities including astro turf facilities / gyms / community hall and outdoor exercise equipment in appropriate areas would be desirable in a town setting. Amenities for teenagers would be of benefit to the town also.

If existing sports pitches / community and school halls were all multi-functional, this expands their potential and movie screenings / music concerts / comedy festivals etc. are all possible.

Carlow County Council through policies and objectives contained within this plan, as well as through the Community Sports Partnership and other recreational groups will continue to support and enhance the recreational amenities of Tullow.



It is the policy of Carlow County Council to:

- SP 1:** To maintain and enhance existing recreational facilities.
- SP 2:** To continue to co-operate with community and sports bodies in the development of recreational areas in the town.
- SP 3:** To prohibit the loss of existing public and private recreational open space unless alternative recreational facilities are provided at a suitable location.
- SP 4:** To seek the provision of children's play facilities in new residential developments where deemed appropriate.
- SP 5:** To seek that all sports halls and pitches/ community halls and centres are multi-functional.

It is an objective of Carlow County Council:

- SPO 1:** To endeavour to provide play spaces throughout the town.
- SPO 2:** To encourage and facilitate the provision of adult amenities in parks such as table tennis, outdoor gyms, basketball courts, bowling greens and associated facilities etc.
- SPO 3:** To involve children and young people in greening initiatives and biodiversity projects, having regard to their need to interact with and be educated by nature.

8.7 Recreational Potential of the River Slaney

Tullow, with the River Slaney running through the town, affords the opportunity to improve the recreational, amenity, ecological and tourism potential offered by the water through the provision of a more vibrant riverside landscape. The River Slaney has considerable potential both waterside and landside to be used as a recreational asset to Tullow. This can be done by improving the visual amenity along the riverside, by more tree and flower planting, regeneration of vacant buildings or maintaining and improving facades. There are some well maintained green spaces alongside the river, but this needs to be continued the extent of the river within the Plan area, subject to consultation with the NPWS to ensure that any works / improvement schemes will minimise any disturbance to the Natura 2000 site and its flora and fauna.

The river amenities need to be utilised to their full potential in order to be seen as a public gain, such as the area by the Kayak Club being a central point around which water sport clubs can build, again all subject to no adverse effects on the Natura 2000 site.

Maintaining adequate lighting and surfaces along the river are optimum in terms of ensuring pedestrian / cyclist safety and ensure Tullow's riverside is a safe area to walk / cycle.



It is the policy of Carlow County Council to:

RC 1: To facilitate where practicable the provision of cycle-ways / walkways along the River Slaney in co-operation with landowners, Waterways Ireland and government departments. Any proposed cycling or walking routes along the River will be subject to Appropriate Assessment in accordance with the Habitats Directive.

RC 2: To support the conservation of local angling waters and investigate the feasibility of developing these waters and associated infrastructure required to advance the sport in the town, subject to the requirements of the Habitats Directive.

RC 3: To continue to co-operate with community and sports bodies in the development of the River Slaney for recreational uses. Projects shall have regard to the requirement for Appropriate Assessment in accordance with the Habitats Directive.

CHAPTER 9 UTILITIES INFRASTRUCTURE, CLIMATE CHANGE AND ENVIRONMENTAL MANAGEMENT

9.1 Introduction

The future development and sustainable growth of Tullow is dependent on the satisfactory provision of infrastructure including water, wastewater, utilities, energy and good quality communication networks. Adequate capacity is necessary to support future development, in a manner that is environmentally and ecologically appropriate, cost effective and protective of public health.

Carlow County Council is committed to facilitating the provision and delivery of infrastructural services, which will enhance the environment and facilitate sustainable economic development. The policies and objectives of Carlow County Council seek to provide high quality public infrastructure, to minimise waste, mitigate where possible and adapt to the impacts of climate change, protect and improve water resources/water dependant ecosystems, ensure efficient and effective wastewater treatment, and to support the provision of a green infrastructure network.

Certain infrastructural requirements including energy supply, telecommunications, the production and distribution of public drinking water supply and the collection and treatment of waste water, while not a direct remit of Carlow County Council have implications for planning and development. Carlow County Council will continue to support where appropriate the delivery of such infrastructure.

9.2 Challenges

One challenge is to seek the provision of adequate waste water treatment to meet future demand due to economic development and population growth. Improving the efficiency of the existing networks and encouraging water conservation is also a key priority.

The main objective with regard to waste management is to facilitate the development of recycling in order to minimise the use of landfill.

The issue of climate change and the impact of increased flood risk due to extremes of weather by flood risk management is also a key challenge for the future development of the town. Flood risk assessment and management is required for all aspects of the

local area plan, including the areas of urban design, flood resilient construction materials and individual developments. In this matter the local area plan has had regard to the Department of the Environment, Heritage and Local Government, Guidelines for Planning Authorities on Flood Risk Management Guidelines, 2009. A sustainable approach is required in relation to the management of the essential engineering and water services with the emphasis on conservation and efficient use of resources.

9.3 Strategic Approach

Infrastructural services policies and objectives will address these issues in order to achieve a clean, healthy town with improvements to air and water quality, biodiversity value and the use of renewable energy sources. The approach is to;

- Collaborate with and support Irish Water as lead authority in the provision of water services for the town and in particular to ensure:
 - The quality and capacity of the wastewater treatment plant is sufficient to cater for sustainable growth into the future.
 - The provision of a resilient supply of wholesome and clean drinking water in compliance with EU and Irish National Legislation (Drinking Water Regulations and future amendments).
- Reduce the town's reliance on unsustainable energy and fuel sources and its contribution to climate change in order to secure a sustainable, low carbon future.
- Protect and achieve the efficient use of natural resources, such as water.
- Encourage sustainable production, delivery and consumption of drinking water.
- Reduce dependency on fossil fuels and improve energy efficiency in new and existing buildings and promote the

use of renewable energy in the town's building stock.

- Minimise waste, with an emphasis on maximum recycling.
- Utilise Flood Risk Assessment techniques, through the identification and protection of existing and proposed flood defences and the delivery of flood resilient urban and building design and construction.
- Develop greater co-ordination with other planning authorities, the Environmental Protection Agency and utility providers with regard to infrastructural and climate change issues.
- Improve the town's resilience and ability to adapt to climate change.

9.4 Policies and Objectives

9.4.1 Water Supply and Quality

Carlow County Council seeks to ensure that there is adequate services and infrastructure associated with the water supply network for current and future development in co-operation with Irish Water.

The Tullow town network is interconnected to the North Regional Water Supply Scheme which is the surface water source at Rathvilly Water Treatment Plant. This plant is operating below its capacity and has adequate reserve to cater for predicted future growth in Tullow over the lifetime of this plan. The town also has its own water treatment plant which has a capacity of 1,200 cubic metres of water per day. It has a surface water abstraction from the River Slaney and is located on the Ballymurphy Road. This plant is currently operating at capacity.

Water supplied to the town is tested regularly and is consistently of the highest quality.



It is a policy of Carlow County Council:

WSP 1: To contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.

WSP 2: To support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the plan, as well as relevant recommendations contained in the Water Quality in Ireland 2010 – 2012 (EPA, 2015, and any updated/superseding document). Proposals for development would not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also

to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 which provides guidance on exemptions to the environmental objectives of the Water Framework Directive.

- WSP 3:** To facilitate Irish Water in providing water, sufficient in quantity and quality to serve the needs of the existing and future population of Tullow and to promote the sustainable management of the town's water supply.
- WSP 4:** To maximise the potential for beneficial re-use of water through rainwater harvesting systems and to reduce leakage to the minimum possible level in the water supply system through operational leak detection measures.
- WSP 5:** To ensure that in the case of all new developments where public mains are available or likely to be available, the development will be required to connect into them subject to an agreement with Irish Water.
- WSP 6:** To ensure that development proposals comply with the standards and requirements of Irish Water in relation to water to facilitate proposed developments and to encourage all developers requiring a connection to the public water supply to contact Irish Water prior to submitting a planning application.
- WSP 7:** To protect surface water and ground water resources and their associated habitats and species including fisheries and in particular Annex II listed species.

It is an objective of Carlow County Council:

- WSO 1:** To collaborate with Irish Water in contributing towards compliance with the European Communities (Drinking Water) Regulations (No.2) 2007 and ensure, that the water supply serving Tullow complies with the 48 parameters identified in these regulations.
- WSO 2:** To facilitate the implementation of water conservation projects, which reduce consumption and leakage in existing water distribution systems, in co-operation with Irish Water.
- WSO 3:** To require the adoption of water saving measures in new development proposals. Such measures may include:
- Water butts to collect rainwater

- Low flush and dual flush toilets
- Low water use appliances
- Rainwater harvesting.

- WSO 4:** To have regard to the EPA publication 'The Provision and Quality of Drinking Water in Ireland – A Report for the year 2014' (and any subsequent update) in the maintenance of Tullow's water source in conjunction with Irish Water.
- WSO 5:** To seek the implementation of recommendations made by the EPA arising from any failure to meet drinking water standards and any enlistment on the EPA's Remedial Action List in conjunction with Irish Water.
- WSO 6:** To protect and safeguard the integrity of water supply facilities, installations and pipes.
- WSO 7:** To facilitate the identification and securing of service corridors for any future new water supply for Tullow.
- WSO 8:** To ensure that all proposals for the development of an upgrade to the water supply system will be screened for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and where potential impacts to the integrity of the Natura 2000 network are identified, a Natura Impact Statement will be prepared.
- WSO 9:** To implement the Water Services Investment Programme 2016 - 2021 and all subsequent Water Services Investment Programmes.

9.4.2 Wastewater

The development of the town's wastewater drainage system is essential to facilitate growth. The current Tullow waste water treatment plant, located on the Bunclody Road, was originally designed with a treatment capacity of 4,000 population equivalent (PE). Recent upgrades to the plant including new intake works, new aeration system and tertiary treatment have allowed for an increase in the organic treatment capacity of the plant. The current loading on the plant is determined at 5,100 PE equivalent. Irish Water have acknowledged that the existing plant is overloaded and have committed to including this plant in Irish Waters Emerging Investment Plan for inclusion in the next Capital Investment Plan. Preliminary works have commenced regarding the design phase of the

upgrade works to both the treatment plant and the network.

It is the policy of Carlow County Council:

- WW 1:** To collaborate with Irish Water to ensure that public wastewater collection and treatment infrastructure fully complies with the requirements of the Urban Waste Water Treatment Regulations 2001 and 2004, the Waste Water Discharge Regulations 2007 and the EC Surface Water Regulations 2009.
- WW 2:** To promote, as appropriate, specific provisions for the implementation of the relevant recommendations set out in the recent Urban Waste Water Treatment in 2014 Report (EPA, 2015), in conjunction with Irish Water.
- WW 3:** To ensure the changeover from septic tanks to mains connections in all cases where this is feasible, and that all new developments utilise and connect to the existing wastewater infrastructure. The provision of individual septic tanks and treatment plants within the Plan boundary will be strongly discouraged to minimise the risk of groundwater pollution. Where such facilities are permitted, full compliance with the 2009 EPA Code of Practice - Code of Practice Wastewater treatment and Disposal Systems serving single houses (p.e. ≤ 10), is required.
- WW 4:** To facilitate Irish Water in providing additional and improved wastewater treatment capacity by the upgrading of the Tullow Treatment Plant and to facilitate the provision and safeguarding of infrastructure corridors required to facilitate the sustainable development of the town.

It is an objective of Carlow County Council:

- WWO 1:** To co-operate with Irish Water in the provision of an improved sewerage network and sewage treatment capacity for Tullow.
- WWO 2:** To investigate the possible extension of the public sewerage system to any un-serviced areas within the Local Area Plan Boundary, in co-operation with Irish Water.
- WWO 3:** To ensure that any proposals for the development and /or upgrade of the Tullow waste water treatment plant and waste water network will be subject to

Appropriate Assessment in accordance with Article 6(3) and 6(4) of the EU Habitats Directive.

- WWO 4:** To ensure that all new developments shall be provided with separate foul and surface water networks. In redevelopments, combined systems shall be separated where feasible.

9.4.3 Flooding

The Office of Public Works is responsible at a national level to monitor and address situations pertaining to flooding and along with the Department of Environment, Community and Local Government has published a national guidance document on the consideration of flood risk within planning and development management.

The developer will be required to show that the flood risk can be managed at an acceptable level without increasing flood risk elsewhere and where possible, show a reduction in the overall flood risk.

CFRAM Programme

The CFRAM (Catchment Flood Risk Assessment and Management) Programme is a medium to long-term strategy for the reduction and management of flood risk in Ireland. The Office of Public Works work in close partnership with Carlow County Council in delivering the objectives of the CFRAM Programme in County Carlow.

Tullow falls within the South Eastern CFRAM Study area. The initial Flood Risk Review (FRR) stage of the South Eastern CFRAM has been completed and this included a site based review of the PFRA flood outlines for the area, which provided feedback on flood risk and potential for inclusion as a detailed Area of Further Assessment.

The area was designated as a probable AFA (Area for Further Assessment). The area was subject to the full analysis under the South Eastern CFRAM. This included a detailed 1D-2D hydraulic model, the model represents the Tullow AFA and encompasses the River Slaney upstream and downstream of its extent, plus associated tributaries¹. Three tributaries are included in the model these are the Derreen River and one of its tributaries the Coppengh stream, the urban Tullowphelim and Mount Wolseley streams that flow through the study area. The CFRAM mapping represents a

¹South Eastern CFRAM Study HA12 Hydraulics Report Tullow

(Tullowphelim) Model, August 2015

significant improvement compared to the accuracy provided by the PFRA mapping and the CFRAM mapping has been verified by a site walkover and consultation with the Local Authority.

The draft recommendation for the Tullow AFA is that flood risk continues to be managed by the Flood Relief Scheme (FRS) and that a further single house can potentially be defended under a minor works proposal. The Tullow FRS was completed in 2011 and has a standard of protection up to a 1% AEP flood event. It includes a series of walls, embankments and six demountable flood barriers. In addition, the channel of the River Slaney has been widened downstream of the bridge.

The CFRAM Programme has informed the Strategic Flood Risk Assessment in Appendix 3 of this LAP.

It is a policy of Carlow County Council:

- FL 1 :** To support, in co-operation with the OPW, the implementation of the EU Flood Risk Directive (2007/60/EC), the Flood Risk Regulations (SI No. 122 of 2010) and the DoEHLG/OPW publication The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009 and Departmental Circular PL2/2014 (or any updated/superseding legislation or policy guidance). Carlow County Council will also take account of the OPW Catchment Flood Risk Management Plans (CFRAMS) as appropriate, the Preliminary Flood Risk Assessment (PFRA) and the Strategic Flood Risk Assessment for County Carlow 2015 – 2021.
- FL 2:** To have regard to the findings and recommendations of the current Strategic Flood Risk Assessment carried out for the Tullow Local Area Plan area.
- FL 3:** To implement the use of the sequential approach and application of the Justification Tests for Development Management and Development Plans, during the period of this plan, as set out in the Flood Risk Management Guidelines as follows: 1) Avoid development that will be at risk of flooding or that will increase the flooding risk elsewhere, where possible; 2) Substitute less vulnerable uses, where avoidance is not possible; and 3) Justify, mitigate and manage the risk, where avoidance and substitution are not possible. Development should only be permitted in areas at risk of flooding when there are no alternative, reasonable sites available in areas at lower risk that also

meet the objectives of proper planning and sustainable development.

- FL 4:** To ensure that all developments have regard to the surface water management conditions contained within the SFRA and appropriate section of the Local Area Plan / County Development Plan.

It is an objective of Carlow County Council:

- FLO 1:** To ensure the implementation of the DoEHLG/OPW publication The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009 (including its accompanying Technical Appendices) and including the Department of the Environment, Community and Local Government’s Circular PL 2/2014 (or any updated/superseding document) in relation to flood risk management within the plan area.
- FLO 2:** To undertake a review of the SFRA following any subsequent alteration of flood mapping produced as part of the CFRAM.
- FLO 3:** To ensure that Flood Risk Assessments are carried out for any development proposal, in accordance with the “Planning System and Flood Risk Management – Guidelines for Planning Authorities (DoECLG/OPW 2009). This assessment shall be appropriate to the scale and nature of risk to the potential development.
- FLO 4:** To protect water bodies and watercourses within the plan area from inappropriate development, including the river, canal, streams, associated undeveloped riparian strips, wetlands and natural floodplains. A 10 metre strip on either side of such channel will be retained, where required, to facilitate access thereto. In addition, promote the sustainable management and uses of water bodies and avoid culverting or realignment of these features.

SUDs

Sustainable Urban Drainage Systems (SUDs) are a method of replicating the natural character of rainfall runoff from any site. They provide hydraulic, water quality and environmental benefits. The overall objective is to minimise storm water runoff. Therefore permeable surfacing should be maximised in all new developments.

It is a policy of Carlow County Council:

- SW 1:** To require the use of Sustainable Urban Drainage Systems in all new developments where appropriate. The following measures will apply;
- The infiltration into the ground through the development of porous paving, swales and detention basins.
 - The holding of water in storage areas through the construction of green roofs, rainwater harvesting, detention basins, ponds and wetlands.
 - The slowdown of the movement of water.

It is an objective of Carlow County Council:

- SWO 1:** To improve and extend where technically feasible and economically viable the surface water disposal infrastructure to serve all zoned land, in order to facilitate development.



9.4.4 Climate Change

Current levels of greenhouse gas emissions such as carbon dioxide, methane and nitrous oxide are changing climates. The impacts of climate change present serious global risks and threaten the basic components of life, including health, access to water, food production and the use of land. With climate change there are increasing threats in terms of likelihood and severity of flooding and impacts on water resources, biodiversity, natural habitats and species distribution. Increased flooding caused by the River Slaney would be the most immediate threat to Tullow as a result of climate change.

The Climate Action and Low Carbon Development Bill 2015 puts a framework in place to enable Ireland to make the transition to a low carbon economy by 2050. This will be achieved through a National Mitigation Plan to lower the level of greenhouse emissions and a National Adaptation Framework to provide for responses to changes caused by climate change. Furthermore the aforementioned Bill, targets a reduction in greenhouse gas emissions of 20 per cent over 1995 levels by 2020.

At a local level, Carlow County Council must contribute to the stabilisation and reduction of national greenhouse gas emissions, including climate change adaptation through the promotion of renewable energy sources and energy conservation in policies and objectives regarding the environment, housing and infrastructure. These policies and objectives will contribute to the national commitment to limit the impact of climate change and reduce energy consumption and greenhouse gas emissions. This includes support for measures aimed at reducing travel demand by integrating land use and transportation, facilitating an increased modal share of sustainable travel modes, encouraging passive solar design and energy efficient buildings, promoting greater use of renewable energy and energy conservation, re-use of existing building stock, promoting waste reduction and addressing increased flooding risks due to climate change.

It is a policy of Carlow County Council:

- CCP 1:** To recognise European and national objectives for climate adaptation and work with the EPA, the Southern Regional Assembly and neighbouring planning authorities in implementing future Guidance for climate change proofing of landuse plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012).
- CCP 2:** To support EU and national legislation and strategies on climate change in its decision making, in order to contribute to a reduction and avoidance of human induced climate change and to assist in achieving the national targets set out under the Kyoto Protocol (as updated).
- CCP 3:** To support the National Climate Change Adaptation Framework 2012 (including any superseding document), the actions contained therein and any future local adaptation plan that relates to the plan area.

It is an objective of Carlow County Council:

- CCO 1:** To promote the integration of green infrastructure/networks (e.g. interconnected networks of green spaces /ecosystems) and other physical features on land into new development proposals in order to mitigate and adapt to climate change.

9.4.5 Waste Management

The Management of waste in Tullow is governed by the Southern Waste Management Plan 2015-2021. This plan sets out a framework for the management of waste within the Southern Region and follows the waste management hierarchy which promotes in order of priority the prevention, recycling and safe disposal of waste. The Council will continue to promote waste prevention and minimisation initiatives to target all aspects of waste in Tullow, focusing on both commercial and domestic waste producers. It is considered that raising the awareness of citizens and businesses with regard to their responsibility as generators is essential.



Waste Disposal

Refuse collection in Tullow is currently carried out by a number of private contractors using waste collection permits issued by Carlow County Council. The County's landfill is located approximately 15km to the south west of Tullow at Powerstown, beside the M9 interchange at Junction 6.

The Council has provided bring banks for the collection of glass, aluminium cans, newspaper, cardboard and textiles at a site on the Thomas Traynor Road. There are also some bring centres for textiles at various locations throughout the town, such as Flynn's Garage to the north of the town and Supervalu carpark in the centre of town. The closest Civic Amenity Centre is located in Powerstown, which provides for a wide range of household recycling materials. The Council will continue to encourage recycling and the minimisation of waste through its environmental education programme and the Green-Schools programme.

Where large-scale development takes place land should be set aside for the duration of the construction period to facilitate the sorting and storing of waste inert material. The Council will permit the use of appropriate inert and non-hazardous wastes such as construction and demolition waste for landscaping activities. The Council will encourage the provision of recycling systems of an appropriate scale in all new developments and will investigate how best to achieve expansion to the network of public recycling facilities in the existing built-up area. Any residual waste material to be removed from sites must be carefully managed to ensure that any environmental damage is avoided and be transported and accommodated by authorised operators. The Council will require Waste Management Plans to be prepared for Construction and Demolition Projects of a particular scale in accordance with Best Practice Guidelines issued by the Department of Environment Heritage and Local Government, July 2006.

Litter Management

With regard to litter control, the Council adheres to the Litter Management Plan 2014 - 2017. The main objective of this plan is to prevent and control litter and it specifies the measures being undertaken to encourage public awareness of the litter problem, with particular emphasis on educational and information strategies aimed at young people. It also indicates the measures and arrangements that are to be undertaken to achieve the objectives of the plan.

Tullow is generally clean and well presented, which is a sign of good civic organisation and pride. While the Council plays a very important role in terms of both prevention and reduction of litter in the town, this can only be achieved by the co-operation of the local community, groups such as the Tidy Towns Committee, Residents Associations, Develop Tullow Association Ltd., the business community and the public in general.

It is a policy of Carlow County Council:

WMP 1: To support the minimisation of waste creation and to promote and encourage education and awareness on all issues associated with waste prevention, minimisation, reuse, recycling and recovery, at household, industry and community level.

WMP 2: To safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.

WMP 3: To seek to ensure that Tullow is served by adequate recycling facilities in the form of kerbside collection, civic site and bring bank-recycling facilities and to adequately maintain existing recycling facilities.

WMP 4: To support the implementation of the Southern Waste Management Plan 2015-2021, Carlow County Council's Litter Management Plan 2014 - 2017, the National Waste Prevention Programme, the EPA's National Hazardous Waste Management Plan 2014-2020 and any superseding versions of these plans over the lifetime of this Local Area Plan.

WMP 5: To seek to manage and dispose of construction waste in a way that ensures the provisions of the Waste Management Acts and new Southern Waste Management Plan 2015-2021. Construction Waste Management Plans will be implemented where relevant to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, July 2006.

It is an objective of Carlow County Council:

WMO 1: To eliminate all unauthorised fly tipping and to regulate and control the disposal of all builders spoil and rubble.

WMO 2: To assess the feasibility of additional recycling, including composting facilities in the town or environs at a location(s) that will not adversely affect residential amenity or environmental quality.

WMO 3: To promote and facilitate communities to become involved in environmental awareness activities and community-based recycling initiatives or environmental management initiatives that will lead to local sustainable waste management practices.

9.4.6 Energy and Communications

All developments require adequate power, energy and telecommunications services, including electricity, gas supply, telephone services and broadband, which are provided in Tullow by a number of different service

providers. The ability to deliver a secure and uninterrupted sustainable energy supply at a competitive cost is critical for Tullow to continue to attract inward investment and to provide a supportive environment for industry.

The plan aims to seek a balance between the need to maintain and develop energy and telecommunications infrastructure while having regard to amenities, protected areas and sensitive landscapes. Carlow County Council will continue to promote and implement energy efficiency and conservation in existing and future residential, commercial and industrial buildings within Tullow.

Renewable energy is increasingly seen as a means to address climate change challenges, reduce carbon dioxide emissions and increase national energy security. Ireland's need to support renewable energy stems from its EU commitments, namely the EU Directive 2009/29/EC on the Promotion of Renewable Energy Sources. Carlow County Council recognises the importance of developing renewable energy resources in the interest of delivering on the National Climate Change Adaptation Framework.

The Planning and Development Regulations 2007 and 2008 provide some exemptions from planning permission for solar panel, heat pumps, wind turbines and wood pellet burners subject to certain conditions and limitations. However, the restrictions on exempted development as set out in Article 9 of the Planning and Development Regulations 2001 (as amended) also still apply. Where an individual wishes to install any class of micro-renewable technology that does not fall within the exemptions, they are required to apply for planning permission.

It is the policy of Carlow County Council:

ECP 1: To support the provision of adequate energy and communications infrastructure to service developments including gas, electricity, broadband, and telephone services. In particular, the Council supports the increased use of renewable energy and the aims of sustainable energy use and conservation in building design and construction.

It is an objective of Carlow County Council:

- ECO 1:** To facilitate the provision of an adequate telecommunications infrastructure within the plan area, including telephone and broadband services, to the requirements of the relevant service providers and in accordance with the principles of proper planning and sustainable development.
- ECO 2:** To facilitate the provision of an adequate supply of electricity and gas to developments in the plan area, to the requirements of the relevant service provider, and in accordance with the principles of proper planning and sustainable development.
- ECO 3:** To require new buildings to be sustainable in their siting, orientation, design and construction. Passive solar design techniques, high energy efficiency, low impact construction methods and the use of local building materials shall be encouraged to ensure that new developments minimise the environmental impacts and long term costs.
- ECO 4:** To promote and facilitate the development of renewable sources of energy within the plan area and encourage the integration of micro-renewable energy sources into the design and construction of new developments, as appropriate.
- ECO 5:** To seek to provide more public wi-fi zones in Tullow.
- ECO 6:** To liaise with the ESB to investigate and encourage where possible the ducting and underground routing of overhead powerlines in Tullow in tandem with other work programmes, such as road resurfacing and footpath construction works.

9.4.7 Noise / Air / Light Pollution

The importance of a clean environment for the economic and social life of Tullow is recognised. In this regard, continuous effective monitoring and enforcement in relation to pollution control measures is imperative and will continue over the period of this Plan.

Noise

Noise pollution has become an increasingly important issue as it affects the quality of life and also has health impacts. Carlow County Council will seek to control noise and/or vibration levels at site boundaries or within adjacent sensitive areas, especially residential

areas, by measures such as layout, design and/or attenuation mechanisms. The cost of such measures shall be borne by the developer.

The Council will require the submission of Noise Impact Assessments where it is proposed to introduce noise creating uses in proximity to noise sensitive uses, such as residential areas, and if permission is being granted may impose conditions mitigating impact. Similarly, where noise sensitive uses are proposed within proximity to a noise source, such as busy roads, rail lines, etc., proposals shall include noise and/or vibration attenuation measures in any planning application.

Air

Air pollution can affect the health and well-being of sensitive population groups and ecosystems. The most sensitive areas in relation to air quality are built-up urban areas and major transport developments. Carlow County Council supports the Polluter Pays Principle and will have regard to the EU Framework Directive on Air Quality Assessment relating to air quality standards.

Light

Carlow County Council will consider potential impacts arising from light pollution relating to new development and the intensification or alteration of existing developments. The control of light pollution is appropriate in the interests of nature conservation, residential amenity and energy efficiency.

It is the policy of Carlow County Council:

- P 1:** To promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as set out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) (or any updated/superseding documents).
- P 2:** To seek to preserve and maintain good air and noise quality standards in Tullow in accordance with best practice and relevant legislation.

- P 3:** To promote the preservation of best ambient air quality compatible with sustainable development.
- P 4:** To seek the control of lighting of development in particular sensitive locations.
- P 5:** To ensure that adequate soil protection measures are undertaken where appropriate. Appropriate investigations shall be carried out into the nature of any soil and groundwater contamination and the risks associated with site development works.

It is an objective of Carlow County Council:

- PO 1:** To assess proposals for development in terms of, inter alia, potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, the Council shall ensure the introduction of mitigation measures in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level.
- PO 2:** To ensure the implementation of the specific guidance on radon prevention measures for new homes as contained within the existing Building Regulations (including any updated/superseding regulations that may be published within the lifetime of this Plan).

CHAPTER 10 BUILT AND NATURAL HERITAGE

10.1 Introduction

Tullow is one of five settlements in Carlow originating from Anglo Norman Times and along with Leighlinbridge and Carlow Town it has survived as a population centre since that time. The town declined in size during the later Middle Ages, but with the revival of English influence in Ireland during the sixteenth and seventeenth centuries, the town took on a new prosperity and much of its present layout particularly around Market Square originated from that time.

The LAP area adjoins the River Slaney, a designated Special Area of Conservation (Refer section 10.5.1). It is a requirement under the EU Habitats and Birds Directives to protect EU Designated Sites. Tullow has a high amenity and attractive green setting, especially to the south east of the bridge, with areas of important natural heritage encompassing wetlands, grassed areas and wildlife corridors.

The environment is a valuable but vulnerable resource. The quality and integrity of the natural and built environment is retained when it is managed, protected and where necessary, enhanced. Policies and objectives are outlined to seek to balance the need to facilitate sustainable development while protecting the environment. The LAP also promotes the development of a green infrastructure network for Tullow and its environs where walking, cycling, recreation and nature/ biodiversity are integrated and can complement the future sustainable development of the area.



10.2 Challenges

The key challenge in terms of the built heritage in Tullow is to balance the archaeological and architectural heritage of the town with its future growth. An important mechanism to achieve this is to formulate appropriate objectives for the protection, enhancement and management of the built heritage, while encouraging regeneration and change. It is equally important to increase public awareness of the importance of conserving important architectural features and streetscapes.

The tourism industry is an area where this town can grow significantly into the future, and this relies largely on the attractiveness of the town, showing off its heritage and developing facilities accordingly. Unlocking the tourism potential of the town centre and especially along the river is a key challenge of this Local Area Plan. Enlivening streets and public spaces with markets and entertainment, greening and creating pedestrian friendly routes will be required to regenerate Tullow and create an attractive and active centre. Developing greenways in a sensitive manner along the river or enhancing the walking routes along the river out of town towards places like Altamont Gardens would be of huge benefit to the town, its economy and ultimately its sustainable growth. In the town centre, how buildings adjoining the river relate to and visually enhance their prominent location on the River Slaney must be given high consideration.

It is also important that people are encouraged to live above shops and businesses in the town core. The challenge for the future is to protect the unique character of Tullow as a historic market town with sensitive infill projects and complementary buildings which mutually respect their surroundings.

Facilitating development and maintaining the integrity of the natural environment, is also a key challenge. Enhancing and improving public open space and providing opportunities for passive and active recreation are required. These can be achieved by:

- Re-evaluating the existing public open space hierarchy for the future.

- Recognising the potential of existing open spaces for improvement and the creation of linkages between areas of open space.

- Balancing measures to support and enhance biodiversity against recreational needs.

- Promoting of physical activity and healthy lifestyles.

- Providing and maintaining play-spaces and sports facilities at neighbourhood level.

10.3 Strategic Approach

Carlow County Council will take the following approach to protecting and enhancing Tullow's built and natural heritage:

- Emphasising the regeneration of the historic market town core to its former cultural and historic importance so as to leverage economic and social benefits for the town.
- Protecting and embracing the built heritage as a finite resource.
- Promoting a reasonable balance between conservation measures and development objectives in the interest of promoting the orderly development of the town.
- Protecting national important sites including the Special Area of Conservation (River Slaney).
- Promote habitat enhancement as an integral part of any development.
- Creating sustainable connectivity between green areas.
- Providing for the recreational and amenity needs of the community.

10.4 Architectural Heritage

Architectural heritage is an intrinsic part of our heritage and refers to all manmade features in the environment including buildings and other structures such as bridges, wells, walls and street furniture. The structures which form the architectural heritage of the town play an integral part in the life of the town.

10.4.1 Record of Protected Structures

The current Carlow County Development Plan incorporates the Record of Protected Structures, which protects structures which are considered to be of special architectural, historical, archaeological, artistic, cultural, scientific, social, technical interest or value. A statutory framework for protecting, managing and enhancing historic towns is set out in the Planning and Development Act 2000 (as amended). The inclusion of a structure on the RPS does not preclude appropriate use or development.

There are 34 protected structures located within Tullow plan area, examples include Tullow Monastery National School, St. Columba's National School, the Bridge House, the Coachhouse on the Dublin Road, the Courthouse and the Museum. Planning permission must be obtained before significant works which would materially alter the character of a protected structure can be carried out. A full list of the Record of Protected Structures within the Plan area is contained in Table 11 and Map 10 and 11 of this plan.

Structures of local interest in Tullow are buildings of significance that retain traditional features and that contribute to local distinctiveness while sharing forms and styles that are unique to Ireland. Carlow County Council recognises the importance of structures of local interest such as Carlow granite fencing posts and the important contribution they make to the heritage attributes of the town.



10.4.2 Archaeological Heritage

The archaeological heritage of an area includes structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other kinds as well as their context, whether situated on land or under water.

There are 20 designated areas of archaeological potential within Tullow's zoning boundary recorded on the OPW's Sites and Monuments Record (please refer to Map 12).

These are as follows;

- CW008-043 - Tullowphelim – A Holy Well;
- CW008-044 – Tullowphelim – Tumulus Site;
- CW008-045 – Tullowbeg / Templeowen / Tullowphelim – Town;
- CW008-047 – Mount Wolseley or Crosslow – Mound;
- CW008-061 – Tullowphelim – Enclosure;
- CW008-045001 – Tullowbeg – Religious House Augustinian Brothers;
- CW008-045002 – Tullowphelim – Castle Motte;
- CW008-045003 – Tullowphelim – Castle (Anglo Norman Masonry Castle);
- CW008-045005 – Tullowbeg – Graveyard;
- CW008-045006 – Tullowphelim – Church;
- CW008-045009 – Tullowbeg – Ritual Site / holy well;
- CW008-045011 – Tullowbeg – Cross (high cross);
- CW008-045012 – Tullowphelim – Font;
- CW008-045013 – Tullowphelim – Cross;
- CW008-045014 – Tullowphelim – Graveyard;
- CW008-045015 – Tullowbeg – Cross;
- CW008-045016 – Tullowphelim – Graveslab;
- CW008-045017 – Tullowphelim – Graveslab;
- CW008-045018 – Tullowphelim – Graveslab; and
- CW013-017 – MountWolseley or Crosslow – Cross.

In terms of the named above sites, on the ground there is no visible evidence of CW008-

044, CW008-061, CW008-045001, CW008-045002, CW008-045003 or CW008-047.

It is a policy of Carlow County Council:

HR 1: To contribute, as appropriate, towards the protection and sympathetic enhancement of archaeological heritage, in particular by implementing the relevant provisions of the Planning and Development Act 2000 (as amended) and the National Monuments Act, 1930 (as amended).

HR 2: To contribute, as appropriate, towards the protection of archaeological sites and monuments and their settings, archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments. Contribute, as appropriate, towards the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places.

HR 3: To ensure the implementation of the legislative, statutory and policy provisions relevant to the conservation of the built heritage including the following (and any updated/superseding documents):

- Legislative provisions in the Planning and Development Act 2000 (as amended) and the National Monuments Act 1930 (as amended).
- Statutory provisions in the Carlow County Development Plan, including the Record of Protected Structures.
- Policy guidance in Government Policy on Architecture 2009-2015, the Architectural Heritage Protection Guidelines 2004/2011, the Archaeology and Development: Guidelines for Good Practice for Developers.

HR 4: To acknowledge and promote awareness of the origins, historical development and cultural heritage of the town and to generally support high quality developments that relate to local heritage and to ensure that new development respects and is responsive to same.

HR 5: To require an appropriate archaeological assessment to be carried out by licenced archaeologist in respect of any proposed development likely to have an impact on a recorded monument or its setting and to consult with the National Monuments Service of the Department of Arts Heritage and the

Gaeltacht in relation to proposed developments adjoining archaeological sites.

10.4.3 Cultural Heritage

The cultural heritage of an area is a general term that includes cultural services, such as public buildings (e.g. libraries and museums) and also encompasses a range of characteristics that help to define an area and its population, including local customs and traditions, language and literature. It is important to acknowledge the historic and cultural identity that a town like Tullow displays and ensure that new development supports and complements same.

There is a wealth of protected buildings such as the Courthouse, the Museum, both churches in the town and St. Austin's Abbey, which are attributes that can be developed further into the future e.g. create a trail through the town showing the historic buildings and how they relate to the town's history. An historic study of Tullow should firstly be undertaken to see how all these historic buildings relate to each other and even though Tullow Castle (built in 1181) is no longer in existence, it is something that could be referenced in any historic trail through the town.

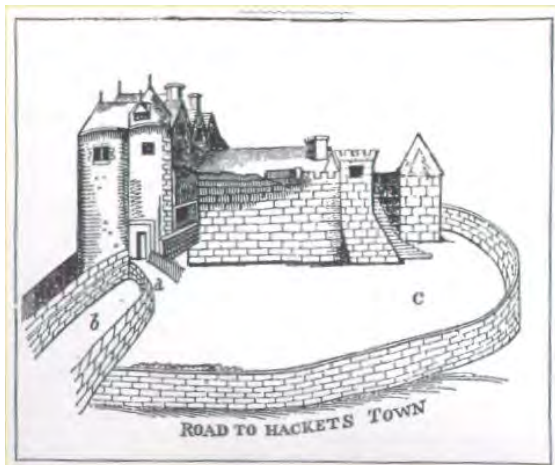


Fig 13 : Tullow Castle

Recent research has shown that cultural tourism constitutes one of the central planks of the Irish tourism industry, and it is also one of the fastest growing areas of tourism internationally. Research also shows that historic towns constitute a significant part of the attraction for culture and heritage seekers. The unique characteristics of towns such as Tullow, a market town with an extensive wealth of history, the stories the historic

buildings tell, the people that live in them and the opportunities to engage with aspects of traditional culture, generate a strong appeal to visitors and this may be a key area to be investigated further into the future.

It is a policy of Carlow County Council:

HR 6: To support and promote the development of cultural facilities in the town.

10.5 Natural Heritage

Natural heritage includes the variety of life we see around us every day and also includes the landscape and its geological foundation. The variety of life is often referred to as biological diversity or biodiversity. Biodiversity is a word used to describe the natural world that includes people, animals, plants, microbes as well as the places they live which are called habitats. Natural heritage includes a wide range of natural features and processes that make an essential contribution to the environmental quality, ecological biodiversity, landscape character, visual amenity, recreational activities, public health and investment potential of the town and its environs.

A Habitat Survey and Biodiversity Report was commissioned by the Tullow Tidy Towns Committee and the Develop Tullow Association Ltd. for Tullow and completed in August 2015. This is a hugely beneficial document and gives great insight into the Biodiversity and Habitats of the town.

10.5.1 European Directives, Natura 2000 Network and Biodiversity

At a European level, the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC) mandate the identification and protection of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), which together create a network of protected wildlife areas, known as the Natura 2000 network, across the European Union. The designation of these sites forms part of a range of measures aimed at conserving important or threatened habitats and species. There is a legal requirement that all land use plans comply with the Birds and Habitats Directives, in particular through the preparation of a Habitats Directive Assessment. The Strategic Environmental Assessment Directive (2001/42/EC) also requires that all land-use plans legally comply with the Strategic Environmental Assessment Directive, including

the preparation of a Strategic Environmental Assessment, where necessary. Further details regarding the Habitats Directive Assessment and the Strategic Environmental Assessment are available as Appendices to this plan. Tullow has one Special Area of Conservation (SAC) that traverses the plan area, namely the River Slaney.

The Water Framework Directive Register of Protected Areas as required under the Directive also contains an inventory of protected area sites representing area categories to include areas designated for the protection of habitat and species.

It is a policy of Carlow County Council:

HR 7: To contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including proposed Natural Heritage Areas); and Flora Protection Order sites.

HR 8: To contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents:

- EU Directives, including the Habitats Directive (92/43/EEC, as amended)^[1], the Birds Directive (2009/147/EC)^[2], the Environmental Liability Directive (2004/35/EC)^[3], the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC).
- National legislation, including the Wildlife Act 1976^[4], the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 2008^[5].
- National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-

Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010.

- Catchment and water resource management Plans, including the relevant River Basin Management Plan.
- Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland's 2nd National Biodiversity Plan (including any superseding version of same).
- Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans).
- Ireland's Environment 2014 (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges.

HR 9: That all projects and plans arising from this plan¹ (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:

- (a) *The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or*
- (b) *The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or*
- © *The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.*

^[1] Including Annex I habitats, Annex II species and their habitats and Annex IV species and their breeding sites and resting places (wherever they occur).

^[2] Including Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).

^[3] Including protected species and natural habitats.

^[4] Including species of flora and fauna and their key habitats.

^[5] Including protected species and natural habitats.

¹ Such projects include but are not limited to those relating to: agriculture; amenity and recreation; contaminated sites; electricity transmission; flood alleviation and prevention; forestry; mineral extraction; renewable energy projects; roads; telecommunications; tourism; wastewater and discharges; and water supply and abstraction.

HR 10: (a) Not to permit projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other on the basis of this plan (either individually or in combination with other plans or projects^[6]).

(b) To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 14) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.

HR 11: To facilitate the conservation, protection and enhancement of the River Slaney including the adjacent wetlands and associated habitats and to ensure that development does not significantly adversely affect conservation values.

HR 12: To seek the submission of an Ecological Impact Assessment for all development which may have a significant impact on the river and riparian habitats. This assessment should where appropriate suggest a minimum buffer of undisturbed vegetation to be retained to mitigate against pollution risks, reduce flooding potential, maintain habitats and provide an ecological corridor. The buffer zone shall, where possible be maintained free of development and hard surfaces. The assessment shall address protected species i.e. bats, otters including the requirement for derogation licences together with the cumulative impact of the proposed development.

10.5.2 European and National Designated Protected Species

Certain plant, animal and bird species are also protected by law. This protection applies wherever the plant, animal or bird species are found and is not confined to sites designated by law and their habitats. This includes plant species listed in the Flora Protection Order 1999 and animals and birds listed in the Wildlife Act 1976 and subsequent statutory

^[6] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

a) no alternative solution available,

instruments, those listed in Annex IV of the Habitats Directive and those listed in Annex I of the Birds Directive.

It is a policy of Carlow County Council:

HR 13: To ensure that development does not have a significant adverse impact on plant species, animals and birds listed in the Flora Protection Order, Wildlife Act 1976 as amended, those listed in Annex IV of the Habitats Directive and those listed in Annex I of the Birds Directive.

10.5.3 Green Infrastructure

Green infrastructure can be defined as networks of green areas that provide multiple environmental, social, educational and economic benefits to society and can include open spaces, woodlands, parks, farmland and private gardens. The environmental benefits of identifying a green infrastructure network cannot be underestimated as the protection of natural features like flood plains, wetlands, woodlands and hedgerows provide far-reaching benefits, e.g. in climate change adaptation. Developing a green infrastructure approach can assist with the loss of biodiversity while enhancing an environment in which we live and thereby creating a high quality environment. Comhar Sustainable Development Council publication (2010) 'Creating Green Infrastructure for Ireland: Enhancing Natural Capital for Human Wellbeing' sets out how a network of green spaces can be developed to benefit natural heritage and biodiversity as well as the greater economy and society. The provision of green infrastructure is an essential element in delivering a high quality of life for both existing and new communities. It can create a distinctive local built environment ('sense of place') and improve the existing built environment.

In developing green infrastructure strategies there is an opportunity to create places that not only function sustainably but also are very attractive places to live and work and foster a strong sense of community. In this regard, the plan will focus on protecting, enhancing, creating and connecting green infrastructure resources and ensuring that development is planned and managed so that it does not result in undue damage to the surrounding

b) imperative reasons of overriding public interest for the project to proceed; and

c) Adequate compensatory measures in place.

environment and natural assets. Wildlife and natural ecological processes are more likely to be maintained in landscapes that comprise an interconnected system of habitats.



Green Infrastructure (GI) should as far as possible provide an integrated infrastructure for multi-functional uses i.e. wildlife, leisure and cultural experience and deliver environmental services such as sustainable water drainage and flood protection that operates at all spatial scales from the urban neighbourhood to the open countryside. In urban areas such as Tullow, green infrastructure is about putting the environment at the centre of the planning process and producing a network of spaces which benefit both people and wildlife. The spatial concepts around which the green infrastructure and landscape strategy are as follows:

- The open space network within the plan lands is designed in a series of interconnected zones to manage the natural character and resources of the area and to provide for the needs of biodiversity and the new community.
- A linear park along the River Slaney to provide passive and active walks and cycle routes along this man made habitat.
- Pocket parks in all new residential and mixed use developments to ensure all dwellings are within a short (100m) walk of usable open space.
- A well integrated network of green routes that promotes walking and cycling for everyday needs and recreation. These will include where appropriate routes along the River.
- A civic/public space within the town centre.

- Consider creating a Wildlife Sanctuary on one of the man-made islands in the River Slaney, possibly near the town park.

It is the policy of Carlow County Council:

HR 14: To encourage and facilitate, in consultation with relevant stakeholders, the development of green infrastructure that recognises the synergies that can be achieved with regard to the following:

- Provision of open space amenities
- Sustainable management of water
- Protection and management of biodiversity
- Protection of cultural heritage
- Protection of protected landscape sensitivities.

HR 15: To seek to contribute towards the protection and enhancement of biodiversity and ecological connectivity, including trees, hedgerows, rivers, streams, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.

HR 16: To explore the feasibility, subject to the requirements of the Habitats Directive, of developing a linear park, along the river Slaney, linking to areas of open space and amenity. Where lands are in private ownership it shall be policy, in any development proposal, to secure public access along the waterway.

HP 17: To co-ordinate between open space, biodiversity and flood management, in progressing a green infrastructure network.

10.5.4 Trees, Hedgerows, Woodlands and Non-Designated Habitats and Species

Trees and hedgerows constitute an important natural and historic resource, given their contribution to landscape quality, their ecological importance as wildlife habitats and historical significance as townland and field boundaries. In urban settings trees and groups of trees can contribute significantly to the local landscape/ townscape and in the successful integration of new buildings into the landscape.

It is the policy of Carlow County Council:

HR 18: To promote the protection of trees, in particular native and broadleaf species, which are of conservation and / or amenity value. Development that requires the felling of mature trees of special interest will be discouraged.

HP 19: To promote the protection and preservation of existing hedgerows, where appropriate and encourage planting of native hedgerow species.

HP 20: To contribute towards the protection of non-designated habitats and species which are of local biodiversity significance

10.5.5 Invasive and Non-Native Species

Non-native species both animal and plants can represent a major threat to local, regional and global biodiversity. Terrestrial and aquatic habitats can be negatively affected, resulting in significant damage to conservation and economic interests such as agriculture, forestry and civil infrastructure. The Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 lists restricted non-native species and Regulation No.49 and No.50 specifically relate to non-native species. Development proposals must ensure that the presence or absence of invasive alien species has been addressed in accordance with the new European Regulations for the prevention and management of the introduction and spread of Invasive Alien Species (1st Jan 2015) and the EC (Birds and Habitats) Regulations 2011. Where invasive alien species are present on a development site an invasive alien species management plan will be required.

It is a policy of Carlow County Council:

HR 21: To support as appropriate the National Parks and Wildlife Service's efforts to seek to control the spread of non-native species on land and water and where appropriate seek the submission of an invasive species management plan.

10.6 Built and Natural Heritage Objectives

It is an objective of Carlow County Council:

HO 1: To safeguard and enhance all buildings of intrinsic heritage value within Tullow and its environs and to protect all existing Protected Structures, as set out in the Record of Protected Structures.

HO 2: To encourage the facilitation and active and appropriate reuse of vacant structures within the plan area.

HO 3: To promote the planting of tree species which are suited to the Slaney landscape





as part of any public landscaping projects, or planting associated with developments.







HO 4: To promote educational and leisure activities such as bird watching, guided wildlife walks, photography, art etc. which increase awareness and appreciation of the Slaney River Valley but which will not result in significant disturbance to wildfowl and waders and will not have a negative impact on water quality, or on the condition of the protected habitats and species.








HO 5: To develop a network of green corridors throughout the town interconnecting open space and extending out to the wider hinterland.







HO 6: To assess the possibility of looped pedestrian and cycle routes along the river, the town centre and sites / facilities of interest in the town and its environs.


Table 11 : Record of Protected Structures in Tullow







RPS NO.	NIAH	Address	Town Land	Composition		Rating	Importance
CW80	10400327	Gate Lodge, St. Austins Abbey, Tullow	Tullowbeg	The gate lodge to St Austin's Abbey dates from circa 1856 and was designed by Deane and Woodward. It is built of large, squared blocks of granite placed at random. It has a single storey of three bays with an enclosed porch and an exceptionally, high-pitched roof of natural slate, with granite brackets under the eaves, granite dormer windows with high-pitched roofs and exceptionally tall, granite stacks. The ground-floor windows have single granite mullions. uPVC windows have been inserted recently. The building is in a French gothic revival style very similar to St. Ann's Schools in Molesworth Street, Dublin which were demolished in the 1970s.		R	A, Art
CW81	10400320	The Cottage, Dublin Road, Tullow	Tullowphelim	A detached, single-storey house with an L plan at the front and wings flanking the centre of the house at the rere making it a U plan at the rere. It has whitewashed walls and wide windows and a slated, sprocketed roof with wide eaves which are supported on slender piers. The wings at the rear are of two storeys. The house appears to date from circa 1840 and renovated in the mid-20 th century as the columns were replaced and an iron framework attached to the walls to allow creeping plants to grow against the walls. The profile of the house and the general, rustic character make it important.		R	A
CW82	10400325	Slaney River Bridge, Tullow	Tullowphelim & Tullowbeg	Four-arch road bridge over river, c. 1855, with triangular cut waters.		R	A, Tc, Art
CW83	10400321	The Coachhouse, Dublin Road, Tullow	Tullowphelim	A very fine, architect-designed stable block of circa 1840 facing the Rathvilly-Tullow road. It has a U plan and is built of coursed-rubble granite with gabled wings which have blank, segmental-headed carriage arches with brick dressings to the heads of the arches. Over the arches are small, brick-dressed windows while the gables have finely dressed granite coping. The roof of the stables is now in very poor repair.		R	A

CW84	10400313	Water Ballif's Hut, Tullow	Tullowphelim	A square-plan watch hut of coursed-rubble granite with open windows and door and steps to the roof. The hut dates from circa 1835 and is an unusual structure.		R	A, U, R
CW85	10400324	Tullow Methodist Church/Museum, Bridge Street, Tullow	Tullowphelim	A simple, three-bay, gable-ended, single-cell conventicle of circa 1840, built of coursed-rubble granite with a high basement. The pointed doorcase has a granite architrave and is approached up a tall flight of steps which divide at the bottom. The side windows all have brick dressings, are pointed for the hall and square-headed in the basement. The roof has wide eaves and is covered with natural slates.		R	A, S
CW399	10300837	Gate Lodge, Mount Wolseley, Tullow	Mount Wolseley or Crosslow	The gate lodge is of three bays and a single storey with a pedimented, porch with a tall arch and segmental-headed windows with plain architraves. The roof is hipped with natural slates. The entrance gates and piers are of cast iron with heraldic ornament. The lodge and gates date from circa 1870.		R	A, Art
CW400	10301313	Mount Wolseley, Tullow	Mount Wolseley or Crosslow	A three-bay, two-storey, Italianate house designed by the firm of Sir John Lanyon about 1870. It has painted, lined and rendered walls, a basement, raised coigns, string courses, an enclosed porch with a segmental-headed doorcase and side lights, windows with architraves, wide, bracketed eaves and a hipped roof with a pair of stacks. The sash windows have large panes of glass. On the left-hand side is a service wing. The house is well maintained and in use as a hotel.		R	A, Art
CW513	10400328	St. Austins Abbey, Tullow	Tullowbeg	The house was designed by the partnership of Deane and Woodward circa 1856 and burnt in 1921. It is Venetian gothic in style and built of squared blocks of randomly set granite ashlar. It is increasingly being covered with ivy which is obscuring the finely carved granite details including a balcony, pointed windows and the remains of a granite staircase. Though a ruin this is a very important architectural site.		N	A, S
CW514	10400326	The Bridge House, Tullow	Tullowbeg	A three-bay, two-storey house of circa 1820 with a half-hipped roof, painted and rendered walls with raised coigns and a round-headed doorcase which has a simple architrave and a scroll keystone. The roof has natural slates and wide eaves but both chimney-stacks have been removed. The windows have mid-19 th century architraves and have had uPVC glazing inserted. A modern pub front has been inserted on the ground floor. The name Bridge House has been there for many years, the type of lettering used and size of lettering add to the character of the building. The placing of the house is important as it faces up the Castledermot road.		R	A

CW515		Former Stable Block, St. Austin's Abbey, Tullow	Tullowbeg	The stables are at the rear of the main house and form an L plan. They are built of a mixture of yellow brick (such as Dolphin's Barn brick) with granite banding. There are canted carriage arches and windows of varying sizes. At the back there is a very sophisticated play of different wall surfaces (brick, rubble stone and ashlar) with tiny trefoil windows in the wing which once houses the horses. The slated roof has two tall, brick stacks with granite caps.		R	A, S
CW516		Shed, St. Austin's Abbey, Tullow	Tullowbeg	A small, derelict building at the back of the house which is built of random blocks of granite ashlar. It is rectangular in plan with two, wide, square-headed openings opposite each other. The high-pitched, slated roof is pyramidal in shape and supported on granite brackets.		R	A
CW519	10400307	No. 79 Market Square, Tullow	Tullowphelim	A five-bay, two-storey, gable-ended house of circa 1840 now divided into two parts. It has a pitched, slated roof with end stacks and rendered walls. At the gable end there is a round-headed doorcase with panelled dressings and a keystone. The façade has a late 19 th century cornice and the shopfronts are recent.		R	A
CW520	10400302	B&D Solicitors, Barracks Street, Tullow	Tullowphelim	An early-19 th century, three-bay, two-storey house with a pitched roof, rough-cast walls and sash windows with a round-headed, inset, Doric doorcase with leaded fanlight of unusual seign intended to contain a lantern. The columns are unusual having moulded bases which are classically incorrect. There are bars on the ground-floor windows.		R	A
CW521	10400304	Sextons House, The Course, Tullow	Tullowphelim	This is a fragment of a single-storey, early-19 th century cottage. The fragment, which is little more than a corner of a wall, is built of coursed-rubble granite with the remains of a single window which has a drip label and a sill and has been filled in with coursed rubble granite.		L	A
CW522	10400329	Church of the Most Holy Rosary, Tullow	Tullowphelim	The church has been much altered but appears originally to have had a six-bay, single-cell nave. This was widened in the late 19 th century using the same type of pointed windows and with an arcade inserted between the original nave and the aisles. The tower was added about 1840. The interior was thoroughly renovated about 1980 when dormer windows were inserted. The tower and spire are of granite ashlar in a gothic-revival style.		R	A, S, Int
CW523	10400317	The Grill, Mill St, Tullow	Tullowphelim	A four-bay, two-storey house of circa 1820 with a very fine, segmental-headed, granite carriage arch at the south end. The building has been much altered in recent years with fancy plaster surfaces, windows widened and modern shopfront added.		R	A

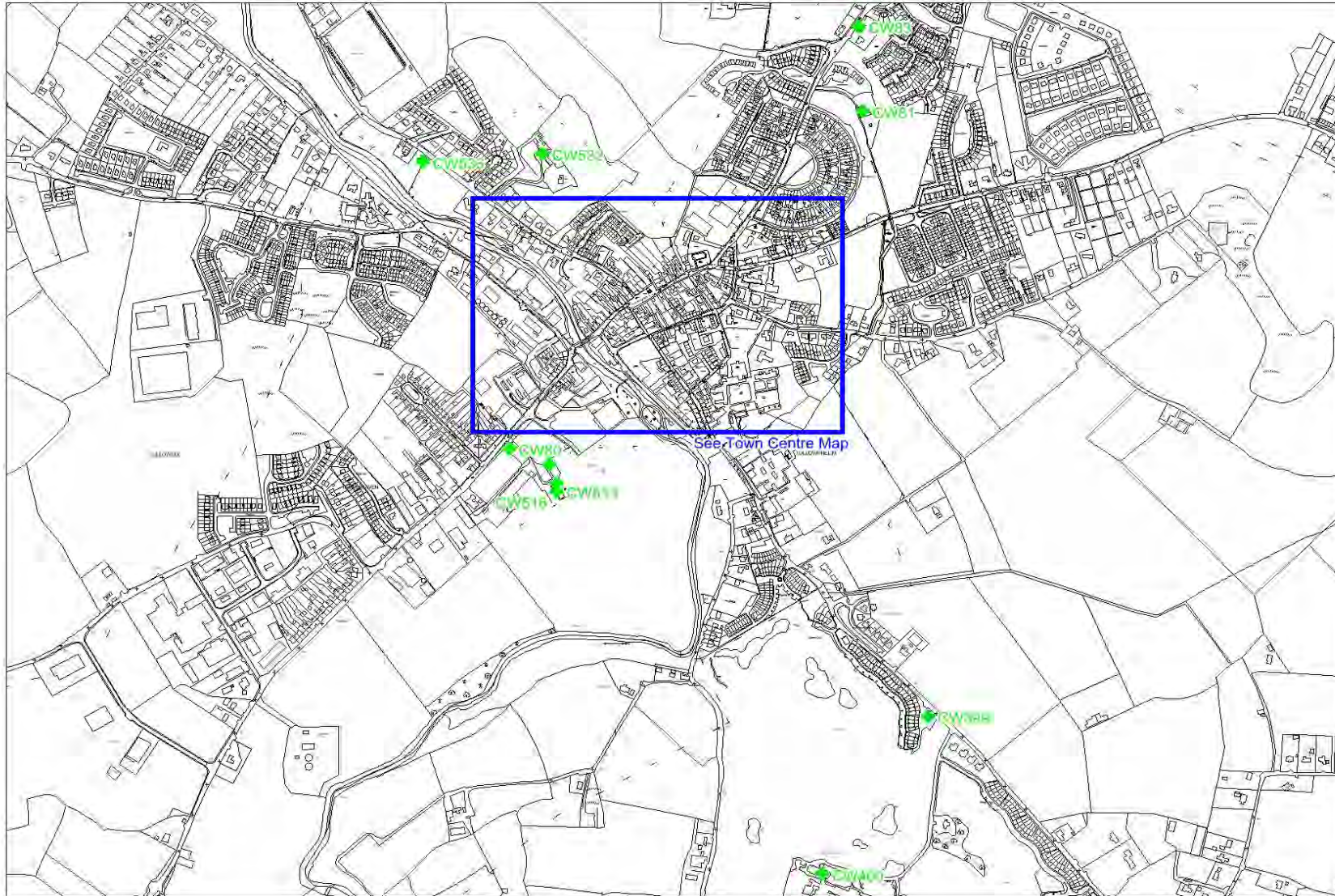
CW524	10400314	FBD Insurance, Mill Street, Tullow	Tullowphelim	A five-bay, three-storey, gable-ended house dating from the mid to late 18 th century. It has a high-pitched roof with natural slates and painted and rendered walls which have a slight batter. The rhythm of the fenestration is Palladian in origin with a slightly larger length of wall between the central windows and the next windows than between those windows and the outer windows. The ground floor was rebuilt in the mid-19 th century with a square-headed, Doric doorcase and matching shopfronts on either side. The shopfront is a rare survival and an unusual design. The windows in the house and in the shopfront have uPVC glazing inserted.		R	A, U, R
CW525	10400316	D and A Laundrette, Mill Street, Tullow	Tullowphelim	A four-bay, two-storey, terraced house dating from the late 18 th century and partially reconstructed in the 1980s. It retains a very fine round-headed, block and start, granite carriage arch with cornices at the impost. On the wall is a plaque recording the founding of a religious order.		R	A, H
CW526	10400315	The Gift Gallery, Mill Street, Tullow	Tullowphelim	A three-bay, two-storey, terraced house of circa 1820 with a natural slate roof, lined, smooth-rendered and painted walls, simple shopfront of circa 1875 with original mullions, simple doorcase and a single, ground-floor window with strip moulding and keystone. All windows now contain uPVC glazing-bars.		R	A
CW527	10400312	Doyles Dry Cleaners, Bridge St, Tullow	Tullowphelim	A four-bay, two-storey gable-ended house of circa 1810, with natural slates on the roof, painted, lined and rendered walls, small windows with architraves and a segmental-headed, architraved doorcase with an inset door. The door is original and has raised and fielded panels. A traditional, timber shopfront with cornice, fascia-board and strip pilasters was inserted in the late 19 th century. The original, perpendicular glazing bars survive in the opening over the door. The chimney stacks have been removed.		R	A
CW528	10400310	MacDermott, Bridge Street, Tullow	Tullowphelim	A three-bay, three-storey, late-19 th century house with an ornate, rendered façade over the ground floor which has architraves and bracketed pediments over the first floor windows, strip architraves and bracketed cornices over the second floor windows, a string course on the second floor sill level and raised coigns. The roof has replacement asbestos slates, terracotta ridge tiles and a brick stack. The ground floor was replaced with granite piers circa 1985. The windows have uPVC glazing.		R	A
CW529	10400309	Fitzpatricks, Bridge Street, Tullow	Tullowphelim	A two-bay, three-storey house of circa 1870 with a façade of rough cast, a string-course on the second-floor sill level, a raised strip in place of coigns, segmental-headed windows with architraves, late-19 th century sashes, a timber shopfront with simple brackets and a natural slate roof with eaves and a brick stack.		R	A

CW530	10400301	The Courthouse, Barracks Street, Tullow	Tullowphelim	The court house is a very unusual design and dates from circa 1820. It is built of coursed-rubble granite with a three-bay, two-storey façade, which has a pair of architraved doorcases with cornice on the ground floor, a stringcourse, on which rest three, architraved, half-moon windows with keystones and timber, radiating glazing-bars. The façade is flanked by massive strip pilasters and topped by a cornice and blocking-course. The northern façade has a large, segmental-headed window with original glazing-bars. There are features of the court house such as the doorcases and the treatment of the windows which are similar to the court house in Castlecomer.		R	A, Int
CW531	10400319	Tullow Monastery National School, The Course, Tullow	Tullowphelim	A five-bay, single-storey school dated 1910 and built of coursed-rubble granite. It has a U plan with an open veranda in the centre, a half-timbered gable over the entrance and flanking wings which are gabled and have tripartite windows with granite mullions. The school is very well detailed with natural slates on the roof, iron cresting in the centre, heavy barge-boarding, a ventilator on the ridge and a unique form of window design which is executed in beech.		R	A, S
CW532	10400323	Slaney House, Barracks Street, Tullow	Tullowphelim	Built as a rectory in about 1815 the house is detached and gable-ended with a pitched roof of natural slates and end stacks. The façade is of five bays and two storeys with its original lime rendering, which remains unpainted, and a simple, square-headed, granite doorcase, now enclosed in a glazed porch. The windows on the first floor retain their original sashes with six panes in each sash. The ground floor windows were altered in the late 19 th century with a single, wide window replacing the two windows on each side of the front door. There is a single-bay, two-storey wing recessed on the left-hand side and a service wing at the rear.		R	A, Int
CW533	10400303	Church Of Ireland School, Dublin Road, Tullow	Tullowphelim	A very handsome, U-plan school building of circa 1840 built of coursed blocks of rough-cut granite, of five bays and two storeys with large, wide windows on the ground floor and low, wide windows on the first floor, all with granite drip labels. The doorcase has a simple, granite dressing and an elliptical-headed fanlight that is much wider than the door (the impression is that originally the door was much wider). The roof is lowpitched, covered with natural slates, has two granite stacks and wide eaves with paired brackets. There are further granite walled additions at the rear. The windows have had uPVC glazing-bars inserted and there have been modern extensions to the school in recent years.		R	A
CW534	10400306	St Columba's Church of Ireland Church, Tullow	Tullowphelim	The church dates from circa 1831 and has a four-bay, single-cell nave of coursed-rubble granite, a halfhexagon apse, buttresses and pointed windows with drip labels. The square-plan tower has an octagonal belfry supported by exceptionally tall pinnacles with flying buttresses and crowned by crenellations and pinnacles. The interior has an interesting open-truss, cast-iron roof structure and several wall monuments including the important Neville monument of 1745. The church was designed by Thomas Cobden and the design of the tower echoes that of the Catholic church in Hacketstown. The church is surrounded by		R	A,

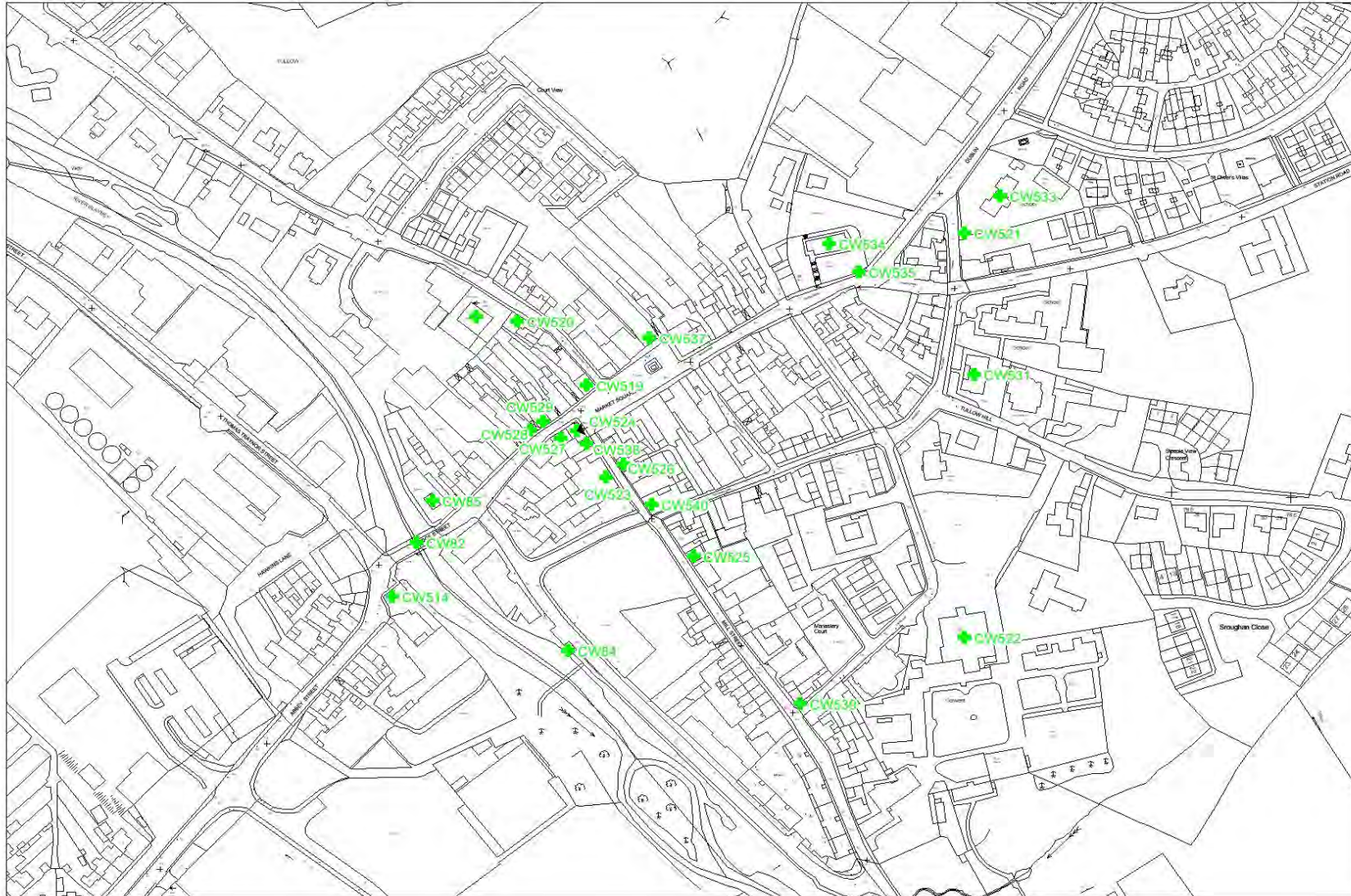
				a graveyard and a retaining wall with railings on top. This wall is an exceptionally fine length of stonework. The entrance is through a granite arch and paved path with side walls.			
CW535	10400305	Letter Box, Dublin Road, Tullow	Tullowphelim	Wall-mounted cast-iron letter box with a VR insignia.		R	S, U, R
CW536		Holy Well, Barrack Street, Tullow	Tullowphelim	A small enclosure which consists of two stiles in a low wall beside the road, a walled path down to a lower level and a hooded niche, with a pointed arch, which contains the well. On the hood are a cross and the words 'Our Queen and Our Mother'. The walls and the niche are whitewashed with blue trimming.		R	S
CW537		The Diner, Market Square, Tullow	Tullowphelim	This is a two-bay, three-storey, gable-ended, late-18 th century house with painted rendering, slated roof with eaves, end stacks and a fine, round-headed, architraved doorcase with a scroll keystone and timber, radial fanlight. The windows have modern glazing-bars and there is a modern shopfront. This protection relates to the façade only.		R	A
CW538		Ripley's, The Square, Tullow	Tullowphelim	A three-bay, three-storey house with a high-pitched roof, which maintains the same line as the FBD building, painted and rendered walls and late-18 th century, round-headed, architraved doorcase with a leaded fanlight. The roof has asbestos slates though a rendered chimney-stack and the windows have uPVC glazing-bars.		R	A
CW539		Letter Box, New Chapel Lane, Tullow	Tullowphelim	Wall-mounted, cast-iron Victorian letter box with the insignia VR. The letter box is in the wall of a house on the north side of New Chapel Lane.		R	Tc
CW540		P. J. Duffy, Mill Street Tullow	Tullowphelim	P.J.Duffy has a three-bay, three-storey, late-19 th century house facing Mill Street with a five-bay, three-storey façade facing a lane. It is built of large blocks of coursed-rubble granite (ribbon pointed) with brick dressings to the windows, a painted and rendered ground floor with two shop fronts both with slender piers, large plate-glass windows and slender brackets. The entrance to the shop faces Mill Street and has a two-leaf door. The windows have sash windows and the roof has natural slates and brick stacks.		R	A

Rating: R = Regional
L = Local

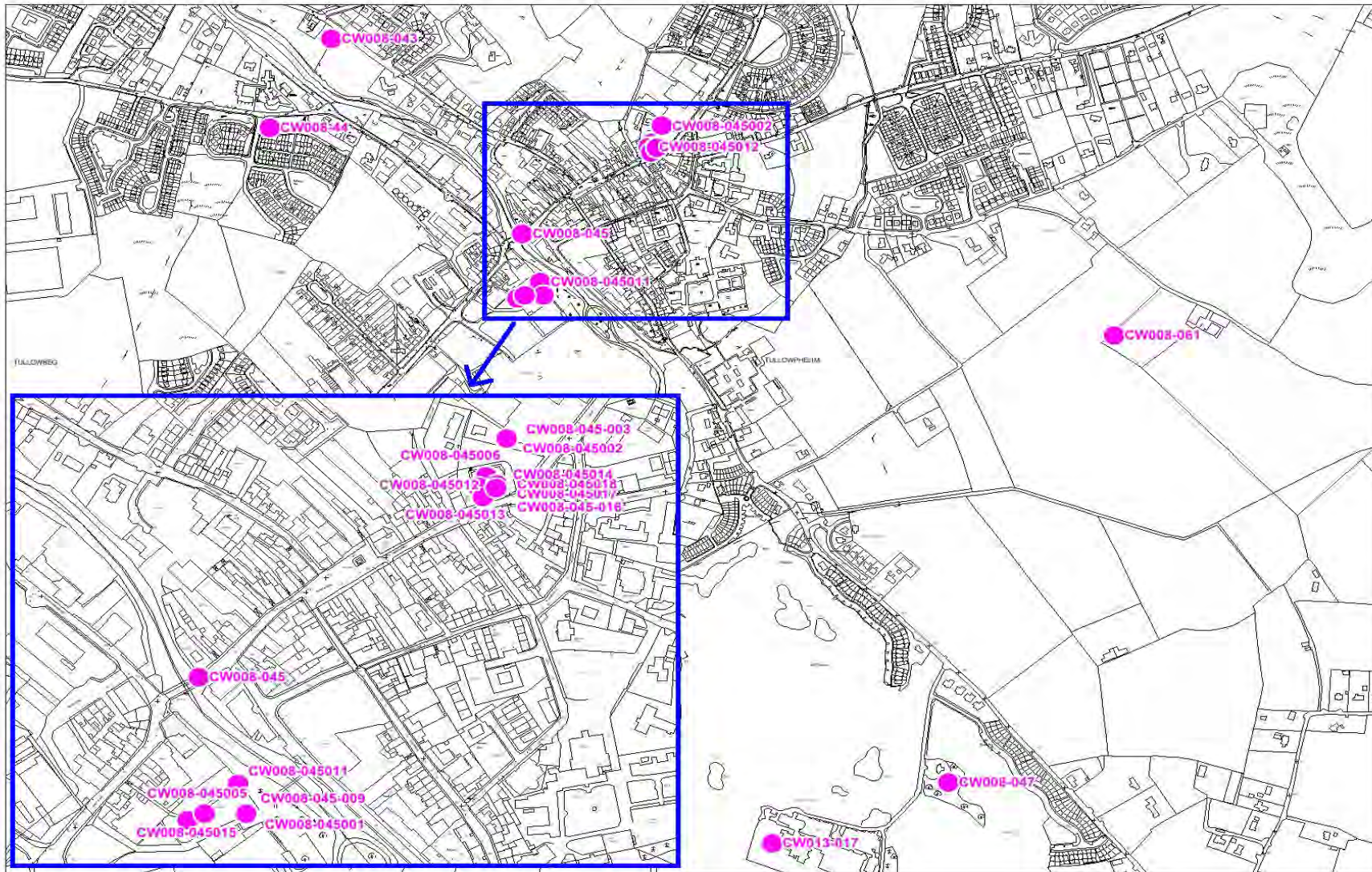
Importance: A = Architectural Art = Artistic I = Industrial Tr = Transport R = Rarity U = Unique
S = Social E = Engineering H = Historical Tc = Technical Sc = Scientific



Map 10: Protected Structures in Tullow LAP Area



Map 11 : Protected Structures in Tullow Town Centre Area



Map 12 : Recorded Sites and Monuments in Tullow LAP area

CHAPTER 11 TOURISM

11.1 Introduction

Tourism makes an important contribution to the economy, with income derived from tourist activity being distributed across a wide range of economic sectors as well as being a catalyst for a considerable amount of commercial activity in the town.

Tullow's main tourist attraction is Mount Wolseley Hotel, Spa and Golf Resort on the eastern perimeter of the plan area. However the town has a lot to offer in terms of its picturesque location beside the River Slaney. Tullow also reflects an enduring historical culture with many items of antiquity including the Rathgall Stone Fort, Cloch a Phoill, an ancient holed stone just outside Tullow, a prehistoric burial place (Bawnoge) and Haroldstown Dolmen. Each a testament to this areas ancient past.

In the centre of the town is a statue of Fr. John Murphy, a Wexford priest involved in the 1798 Rising, who was executed in Tullow's market square in July 1798.



There are many beautiful gardens in and around Tullow, including Altamont Gardens, a romantic garden, which is being continuously restored and added to. The nearby Rathwood Home, Gift and Garden World comprises an extensive garden centre with gift centre, a maze of Ireland and an extensive forest walk.

These characteristics and amenities act as valuable recreational and tourism assets for the town and greatly enhance its overall appeal.

The Tullow Show is also a great attraction each year, attracting local, national and international visitors each year.

Also the National Ploughing Championship has been held outside of Tullow in recent years, with the competition expected to return again in the coming years.

11.2 Challenges

Tullow has been competing with larger towns such as nearby Kilkenny and Carlow for tourism development and as a result tourism numbers and facilities are lacking in the town. In order for the town to aid tourism growth, Tullow's role within the county and south east region needs to be enhanced by supporting the growth of the town and tourism facilities in order to achieve the necessary critical mass to compete for future tourism and economic growth.

Whilst Tullow suffered in the economic downturn, it has now seen a slow turn around, with more units in the town centre being occupied than in recent years with the major industries and businesses pulling through this tough period.

Promoting tourist attractions throughout the town and its environs is a challenge. Opportunities should be sought to work in collaboration with Carlow Tourism and Fáilte Ireland, to provide ways of marketing the town, whether it be strategically located tourist information boards, the use of granite flagstones to identify areas of interest dotted throughout the town or a tourist centre.

11.3 Strategic Approach

In responding to the challenges facing Tullow, this LAP will pursue the following approach:

- Improve the general attractiveness of Tullow for visitors and investors as a key part of increasing competitiveness and creating a vibrant, interesting and welcoming town for people to visit.
- Realise the potential of tourist attractions within the surrounding region and harnessing the potential of Tullow's built and natural heritage.
- Strengthen and consolidate the town core area to create a mixed-use, lively and vibrant town centre.
- Look at means to create a vibrant riverside environment in the town centre.
- Collaborate with both local groups and agencies in the town, along with Carlow Tourism to develop and promote the town to its full potential as a tourist destination.

11.4 Sustainable Tourism

The Council recognises the importance of sustainable tourism, as unmanaged tourism has potential to erode the quality of the tourism product and the environmental quality of the area.

Sustainable tourism must develop at a pace and scale which ensures that the towns' tourism assets are not diminished in the long term. The principal aims to achieve a sustainable tourism sector in Tullow are;

- To maximise the potential of tourism as a 'pillar of economic growth', which will contribute to balanced economic development and the tourism industry.
- To protect the town's tourism assets and capitalise on the distinct tourism opportunities within the town and environs.

- To maintain the attractions that the town has to offer including natural, built and cultural heritage and scenic walkways along the River Slaney.
- To promote the development of premier tourist products and a vibrant town centre. Additional attractions and facilities will be promoted in order to encourage tourists to extend their stay and generate tourism generated expenditure in the town.
- To promote and support rapidly growing eco-tourism in the town and its hinterlands.
- To promote and improve tourism infrastructure in the town and its environs including tourist accommodation, amenities, access, signposting, car and bicycle facilities.

11.5 Natural Amenities

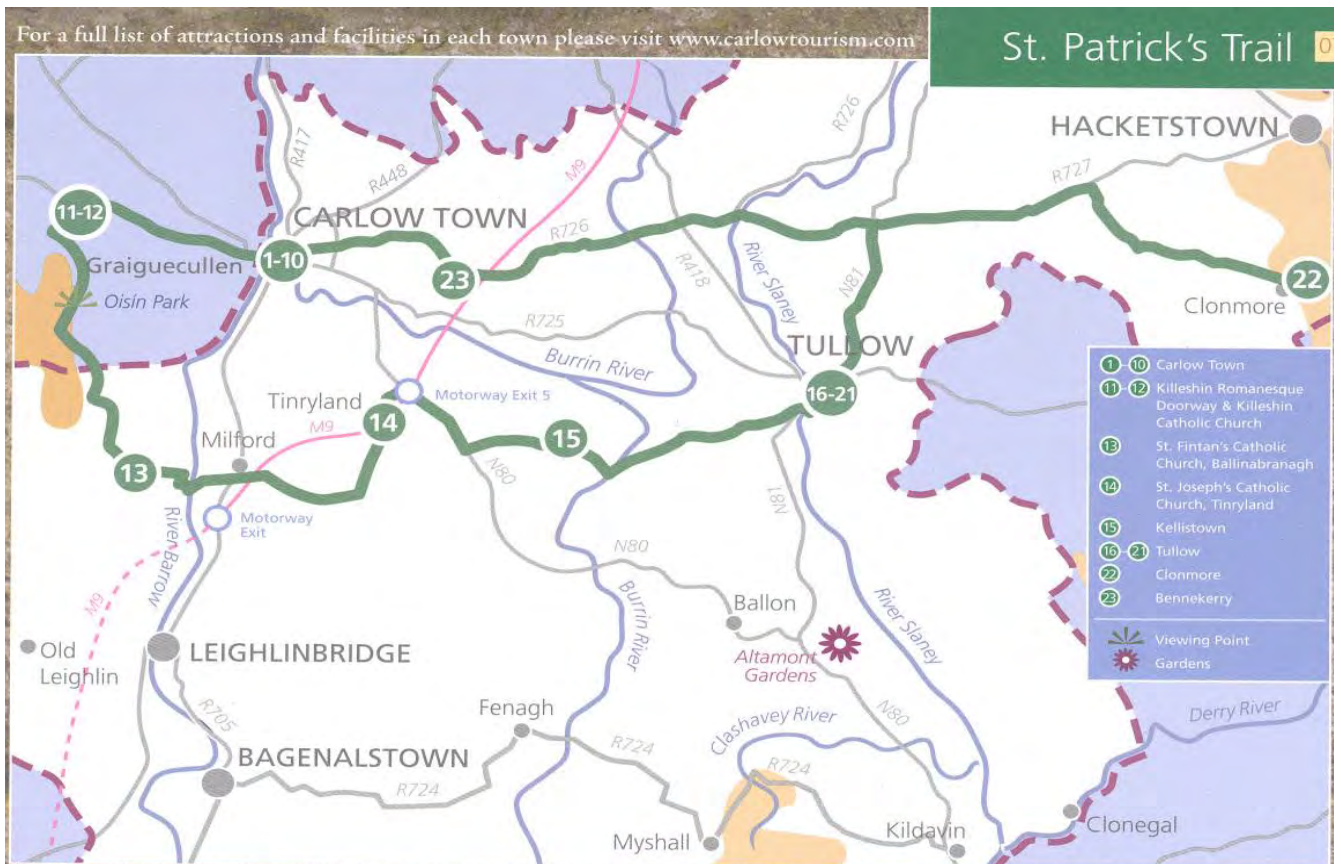
The River Slaney constitutes the most important natural amenity in the town and is one of the most significant natural amenities acting as a major tourism resource.

The River Slaney has a wealth of attractions for the visitor along the banks, such as fishing, canoeing, bird watching etc. Walking and cycling facilities however are minimal and subject to all environmental considerations this needs to be addressed, so as to make the riverside more appealing to both locals and visitors alike.

11.6 Cultural Tourism

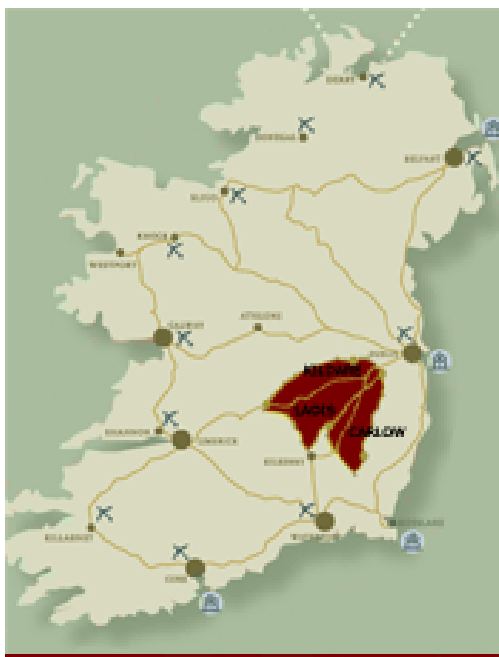
In terms of Cultural tourism, Tullow has a multitude of sites for the visitor. These would include the court house, the Museum, the Abbey remnants and associated graveyard and the town's churches.

St. Patrick's Trail Named after St. Patrick, who is reputed to have baptised the King of Leinster in north Carlow, takes in Tullow. The town has a rich ecclesiastical tradition and along with Carlow town, was in the forefront of the nineteenth-century revival of Catholic places of worship and education.



Map 13: St. Patrick's Trail

The Gorden Bennett Rally also takes in Tullow along its route every summer, with the cars on display in Rathwood for an afternoon also.



Map 14 : Area covered by Gorden Bennett Rally

11.6.1 Indigenous Food, Drink and Crafts

Food Tourism is increasingly recognised as an important part of the cultural tourism market with tourists seeking authentic and unique experiences. Food tourism presents opportunities for the town in the future as a location for high quality indigenous food.

With the current growth in farmers and country markets, organic food production and healthy lifestyles, Tullow has the potential to develop food tourism as a niche tourist product through the participation in local food trails or the development of a Good Food Circle / Trail.

Coolattin Cheddar, The Chocolate Garden of Ireland, Butlers Organics Ltd are all in the hinterland of Tullow and all feature in the Carlow Food Trail.

Tullow and its surrounding hinterland has an abundance of original, traditional, hand-made crafts including woodturning, pottery, ceramics, ironworks and textiles, that have obvious appeal to the visitor. However, Tullow lacks a central venue for visitors to view and purchase local craft from both the town and its

hinterland. Pop up type shops to display arts and crafts would also be worthy of consideration in the town centre.

11.7 Recreational Amenities

The River Slaney is a huge recreational amenity running through Tullow and this is an underutilised amenity, with no designated walking trails alongside the river. Linking walking routes to other nearby attractions such as Altamont, also adjoining the River Slaney, would provide a scenic route and attract more walking holidays to the area. However the river is constantly used for fishing and there is a kayaking club present in the town.

Mount Wolseley offers visitors golfing and a health and leisure centre, but this is the sole leisure centre available in the town. A health and leisure centre elsewhere in the town would have huge benefits, considering the size of the town and its hinterland.

Tullow Tennis Club is another recreational amenity in the town, which is hoping to expand its facilities in the coming years, to offer more indoor facilities such as a gym and indoor multifunctional courts.

The GAA field on the Ballymurphy Road has several pitches and has developed a walking route around the pitch, which offers a safe, well lit environment for those wishing to walk or run.

The town hall in Tullow, Captain Murphy Memorial Hall would benefit hugely if it expanded its use to offer more recreational facilities, such as cinema nights, expanding its range of recreational classes open to both locals and tourists.

11.8 Tourism Policies and Objectives

It is the policy of the Council:

- TP 1:** To seek to promote the status of Tullow as a popular place to live and visit, by striving to preserve the attributes and assets of the town that make it unique and by endeavouring to enrich the inhabitant/visitor experience by contributing positively towards enhancing the overall amenity, ambience and aesthetic of the town.
- TP 2:** To promote and foster a growing sense of innovation and entrepreneurship in the tourism sector.

TP 3: To encourage and support increased co-ordination, cohesion and linkages between agencies such as Failte Ireland, Carlow Tourism, Waterways Ireland, the Southern Regional Assembly and Transport Infrastructure Ireland.

TP 4: To protect the natural resources upon which tourism is based through relevant policy in relation to resource protection, such as landscape character assessment, water quality and biodiversity.

TP 5: To encourage, support, facilitate and promote the development and expansion of eco-tourism, geo and green tourism, industrial tourism sites and similar developments in the town, subject to no negative impacts on the environment.

TP 6: To capitalise on potential tourist income by seeking to;

- Improve the public realm creating a café culture supporting craft and artisan / deli style retailing in the town core and along the riverbank area.

- Promote accommodation choices in the town.

- Promote and capitalise on the town's position on the River Slaney and its environs for long distance walking routes.

TP7 To seek to manage any increase in visitor numbers to avoid significant effects including loss of habitat and disturbance, any projects are a suitable distance from the water's edge and legislation relating to habitats, species, connectivity and designated sites is complied with.

It is an objective of the Council:

TO 1: To provide where feasible, and support the provision of tourism infrastructure and services, subject to the requirements of the Habitats Directive, including walking, cycling and water based infrastructure and short-term guest accommodation facilities throughout the settlement in appropriate locations.

TO 2: To encourage and assist the sustainable development of the tourism potential of Tullow in a manner that respects, builds on, protects and enhances the cultural, built and natural heritage of the town and the local amenities within the plan area.

TO 3: To work with bodies such as Transport Infrastructure Ireland, Failte Ireland and Carlow Tourism to improve signage both to

the town itself from all approach routes, and throughout the town, so that all areas of interest are clearly indicated and accessible.

- TO 4:** To support the provision and augmentation, of sporting, kayaking / canoeing and angling facilities, pony trekking routes, adventure centres and associated ancillary uses in appropriate locations, subject to the requirements of the Habitats Directive.
- TO 5:** To encourage the proportionate development of individual and multiple holiday home development schemes within existing adequately serviced sites/lands in the town.
- TO 6:** To create a synergy between Tullow and the surrounding tourist attractions.

CHAPTER 12 LANDUSE ZONING OBJECTIVES

12 IMPLEMENTATION

12.1 Land Use Zoning Objectives

A key method of implementing this LAP is through the identification of land use zonings and objectives for specific sites in Tullow. These are shown on Map 15 attached, with terms and indicative land uses set out below. The purpose of land use zoning is to indicate to property owners, and to the general public, the types of development that Carlow County Council considers most appropriate in each zone. It also promotes redevelopment and renewal, which allows the developer to plan investment with some certainty. In the control of development, zoning seeks to limit competing and incompatible uses in order to promote greater sustainability and environmental quality. With due consideration to the extent and types of land use zoning objectives, the following factors have been taken into consideration:

- a) The present development area and recent trends in development;
- b) The amount of committed and uncommitted land within the existing development area;
- c) The accessibility, availability and location of land for development;
- d) The location and adequacy of existing social infrastructure (schools, community facilities, etc.);
- e) The character of the town with regard to the scale and pattern of development;
- f) The need to promote planning and sustainable development in accordance with national, regional and local policies and Government Guidelines;
- g) Physical features and amenities of the town;
- h) The present and future situation regarding the provision of essential physical infrastructure – especially water, wastewater and roads;
- i) The tourism potential of the town and the hinterland area and the need to facilitate the provision of an appropriate tourist offer.
- j) The following specific planning and land use objectives refer to land zonings as identified on Map 15 and Tables below:

Ref	Use	Zoning Objective
A	Town Centre Activities	<p>To provide for the development and improvement of appropriate town centre uses including retail, residential, commercial, office and civic use.</p> <p>The purpose of this zone is to protect and enhance the special character of Tullow town centre and to provide for and improve retailing, residential, commercial, office, cultural and other uses appropriate to the town centre. It is an objective of the Council to encourage the use of buildings and backlands and especially the full use of upper floors. It is also an objective of the Council that ground floors where appropriate will provide active frontages. Generally two and in exceptional circumstances three storey buildings will be preferred. Warehousing and other light industrial uses will generally not be encouraged within the town centre.</p> <p>Flood Risk Requirements</p> <p>The town centre lands contain significant areas that are within the defended Flood Zone A and Flood Zone B. Minor applications for re-development and or/renovation should apply the principles outlined within Section 5.5.1 and 5.6. The focus is on managing the potential residual flood risks to the development and maintaining safe access and egress.</p> <p>The potential for largescale re-development is limited to two opportunity sites. Opportunity Site 1 (OS1) is the Mill Street Car Park opposite the Council buildings. Opportunity Site 2 (OS2) is located on both sides of the Thomas Traynor Road, near its junction with the N81. Both sites are partially within Flood Zone A/B and their re-development requires a greater level of assessment and consideration.</p> <p>As/when significant new development is proposed within OS1 or OS2, it should be accompanied by a site scale detailed management plan and FRA, which would build upon the outputs of the SE CFRAM, but should also include an examination of hazard, velocity and time of inundation, and should propose suitable management and mitigation measures, along with an emergency plan in the event of defence failure. It is particularly important that the capability of blue-light services to manage the additional risks be addressed.</p> <p>OS1 is subject to a gradual increase in gradient in a north easterly direction towards Mill Street, potential inundation depths graduate from 1m or less to zero as the site moves up and out of the floodplain. It is recommended that FFLs of any highly vulnerable use is kept above the design flood level plus freeboard of at least 300mm and that emergency access is retained to Flood Zone C at the Mill Street side of the development.</p> <p>OS2 is split either side of the Thomas Traynor Road. Lands on the river side (north) of the road are low lying and given the potential flood depths (>2m) on the site in a breach condition it is unlikely that FFLs in excess of breach levels will be feasible. As such these lands should only be considered for less vulnerable land uses. Lands to the south of the Thomas Traynor Road are at a higher elevation and include areas of Flood Zone C. Potential flood depths grade from 1.5m to zero as the site moves up and out of the defended floodplain. The lands are suitable for highly or less vulnerable use and consideration can also be given to ensuring FFLs are above potential breach levels. Any FRA for this site must investigate the issue of the standard of protection at the downstream western bridge parapet, as discussed in Section 4.4. It will be necessary to liaise with Carlow County Council to ensure that the protection is functioning as designed.</p> <p>Refer to Section 5.5.1 and 5.6 for further guidance for the opportunity sites and the requirements for further assessment and FFLs.</p> <p>Given the restricted function of the surface water drainage during high river levels the consideration of surface water drainage should be given appropriate consideration at design stage. This is most relevant to the opportunity sites and guidance is provided within Section 5.7.</p> <p>For any redevelopment of existing residential lands located to the north west of the town centre an appropriately detailed FRA will be required, in line with the considerations stipulated within Section 5.</p>
B	Existing Residential / Infill	<p>To protect and improve existing residential amenity; to provide for appropriate infill residential development; to provide for new and improved ancillary services.</p> <p>This zoning principally covers existing residential areas. The zoning provides for infill development within these existing residential areas. The primary aims of this zoning objective are to preserve and improve residential amenity and to provide for</p>

		<p>further infill residential development at a density that is considered suitable to the area and to the needs of the population. Such areas, particularly where bordering the commercial centre, will be protected from the pressure of development of higher order uses such as retail and offices.</p> <p>Flood Risk Requirements</p> <ul style="list-style-type: none"> • Future applications for re-development on any residential sites on or adjacent to Flood Zone A/B will require an FRA at development management stage - in accordance with the requirements stated under Section 5 of this SFRA. • The two minor watercourses flowing into the Slaney are the Mount Wolseley and Tullowphelim Streams. The watercourses have been modelled under the CFRAM and do not indicate any significant risk to adjacent lands. Existing residential zoning adjacent to the Mount Wolseley and Tullowphelim Streams shall maintain a green corridor adjacent to the channel to facilitate maintenance/wayleave and maintain open space. The width of this margin can be discussed and agreed with Carlow County Council. A suitably detailed FRA shall be provided for any development adjacent to the streams or near to a culvert crossing. The FRA can manage site design at development management stage but the residual risk of culvert blockage will need to be specifically investigated in all cases and it must be determined the site design can manage the potential residual risk. Refer to Section 5 of the SFRA.
C1	<p>New Residential – Phase 1</p>	<p>To provide for new residential development and other services incidental to residential development.</p> <p>While housing is the primary use in this zone, recreation, education, crèche / playschool, clinic/surgery uses, sheltered housing and small corner shops may also be considered, subject to the preservation of neighbouring residential amenity. Permission may also be granted for home based economic activity within this zone, subject to the preservation of residential amenity and traffic considerations.</p> <p>It is an objective of the Council to facilitate significant residential development on a spatially sequential basis with preference afforded to more central sites (1, 2, 3, & 6) in the early years of the plan with the development of more remote greenfield sites on a medium term basis. In this regard:</p> <ul style="list-style-type: none"> - <i>Further residential permissions on remote greenfield sites no's 4 and 5 given their outer suburban location will be facilitated only where it can be demonstrated that the development is appropriate on a sequential basis, would comply with the provisions of the Core Strategy and the proper planning and sustainable development of the area.</i> - <i>Residential and appropriate community and ancillary uses on Site no. 6 shall be facilitated on a phased basis where it can be demonstrated that the development would comply with the provisions of the core strategy and the proper planning and sustainable development of the area.</i> <p>Site no1 shall be accessed via the road servicing the employment lands (and not Graigowen). A link shall be provided for a new road through the development to connect to the land zoned open space and amenity.</p> <p>Flood Risk Requirements</p> <ul style="list-style-type: none"> • The Mount Wolseley Stream adjoins residential zoned lands. The watercourse has been modelled under the CFRAM and does not indicate any significant risk to adjacent lands. Existing residential zoning adjacent to the Mount Wolseley Stream shall maintain a green corridor adjacent to the channel to facilitate maintenance/wayleave and maintain open space. The width of this margin can be discussed and agreed with Carlow County Council. A suitably detailed FRA shall be provided for any development adjacent to the streams or near to a culvert crossing. The FRA can manage site design at development management stage but the residual risk of culvert blockage will need to be specifically investigated in

		all cases and it must be determined the site design can manage the potential residual risk. Refer to Section 5 of the SFRA.
C2	New Residential – Phase 2	<p>To provide lands for future residential development and other services incidental to residential development in line with future national and regional targets over the next plan period or pending review of same.</p> <p>Phase 2 lands will not in any way infer a prior commitment on the part of the Council regarding future zoning under any future Local Area Plan. Such a decision will be considered within the framework of national and regional population targets applicable at that time and the proper planning and sustainable development of the area.</p> <p>Flood Risk Requirements</p> <ul style="list-style-type: none"> The Mount Wolseley Stream adjoins residential zoned lands. The watercourse has been modelled under the CFRAM and does not indicate any significant risk to adjacent lands. Existing zoning adjacent to the Mount Wolseley Stream shall maintain a green corridor adjacent to the channel to facilitate maintenance/wayleave and maintain open space. The width of this margin can be discussed and agreed with Carlow County Council. A suitably detailed FRA shall be provided for any development adjacent to the streams or near to a culvert crossing. The FRA can manage site design at development management stage but the residual risk of culvert blockage will need to be specifically investigated in all cases and it must be determined the site design can manage the potential residual risk. Refer to Section 5 of the SFRA.
E	Community Services & Educational	<p>To provide for community, educational facilities and institutional Uses.</p> <p>This zoning objective provides for civic, religious, community and educational facilities including health care, child care, fire station, courthouse, schools, churches, meeting halls and other community facilities, ancillary neighbourhood uses and services.</p> <p>Flood Risk Requirements</p> <ul style="list-style-type: none"> The Tullowphelim Stream adjoins community services and educational zoned lands. The watercourse has been modelled under the CFRAM and does not indicate any significant risk to adjacent lands. Existing zoning adjacent to the Tullowphelim Streams shall maintain a green corridor adjacent to the channel to facilitate maintenance/wayleave and maintain open space. The width of this margin can be discussed and agreed with Carlow County Council. A suitably detailed FRA shall be provided for any development adjacent to the streams or near to a culvert crossing. The FRA can manage site design at development management stage but the residual risk of culvert blockage will need to be specifically investigated in all cases and it must be determined the site design can manage the potential residual risk. Refer to Section 5 of the SFRA. Any redevelopment within the institutional lands (nursing home) will require detailed FRA to ensure appropriate FFLs/design and any potential interaction with the under capacity agricultural culvert, again this must be in accordance with Section 5 of the SFRA.
F	Amenity & Open Space	<p>To protect and provide for recreation, open space and amenity provision.</p> <p>The areas included in this zoning objective cover both private and public open space and are dispersed throughout the town. The aims of this land use-zoning objective include; to protect, improve and provide for recreation, open space and amenity provision; to protect, improve and maintain public open space; to preserve private open space and to provide recreational and community facilities. The Council will not normally permit development that would result in a loss of open space within the town except where compensatory open space is provided to service the community affected in an appropriate location. Existing agricultural uses in open space areas will continue to be permitted, and reasonable development proposals in relation to this use will be considered on their merits.</p>

H	Industry & Warehousing	<p>To provide for industrial Development and associated Office Use.</p> <p>This zoning provides for industrial development and warehousing uses. Other uses, ancillary or similar to industry will be considered on the merits of each planning application and may be acceptable</p>
Q	Enterprise & Employment	<p>To facilitate an appropriate mix of employment uses within a high-quality landscaped development including office-based industry, enterprise and incubator units, business, science and technology.</p> <p>The following definition of uses are provided:</p> <ul style="list-style-type: none"> • Office Based Industry: Where the activity is concerned primarily with producing an end-product (e.g. software development, research and development) or provides telephone or web based services (e.g. telemarketing). • Enterprise and Incubator units: Small and mixed sized workspace units suitable for small businesses and start-up companies. Light industrial will be considered in the context of the overall campus development. • Business, Science & Technology units: High technology, research and development facilities, corporate/industrial offices, and support service facilities. • Support Facilities: Without compromising policy of resisting inappropriately located retail and leisure development, provision is made for small scale, 'walk to' facilities (i.e. restaurant, sandwich shop and specialist services like crèches), which are integrated with employment units and are of a nature and scale to serve the needs of employees within this employment area. <p>Other uses, ancillary or similar to enterprise and employment will be considered on the merits of each planning application and may be acceptable</p> <p>All development on these lands must incorporate the following:</p> <ul style="list-style-type: none"> • Sustainable design through use of innovative smart green technologies. • Sustainable transportation with pedestrian and cycle linkages to the town centre. • Not detract from the existing natural landscape. <p>**Enterprise and Employment lands will be encouraged to develop in a phased manner, with those lands closer to the town centre being developed first.</p>
T	Integrated Tourism and Leisure	<p>To facilitate the provision of an integrated tourism and leisure Development.</p> <p>The purpose of this zoning is to seek the delivery of an integrated tourism and leisure development while ensuring the sustainability and growth of the Mount Wolseley Resort. Appropriate uses in this area include tourism accommodation, hotel, golf, equestrian and leisure developments associated with the River Slaney. Other uses which complement the overall zoning will be considered on their merits.</p>
I	Agricultural	<p>To retain and protect agricultural uses.</p> <p>The purpose of this zoning is to ensure the retention of agricultural uses and protect them from urban sprawl and ribbon development. Uses which are directly associated with agriculture or which would not interfere with this use are open for consideration. This includes limited housing for members of landowners' families or persons who can demonstrate a genuine need to live in the agriculture zone, tourism related projects such as tourist caravan parks or campsites and amenity uses such as playing fields, or parks.</p>
I*	Agriculture Related Industry	<p>To facilitate agriculture related industrial uses.</p> <p>The purpose of this zoning is to provide for the retention and expansion of established agricultural related industrial uses. Uses which are directly associated with agriculture or which would not interfere with this use are open for consideration.</p>
J	Utilities	<p>To facilitate the provision of infrastructure and utilities.</p>

		This zoning objective provides for the development of water and wastewater facilities and other such uses and facilities.
--	--	---

Table 12: Specific Land Use Zoning Objectives

12.2 Zoning Matrix

The Zoning Matrix (see Table 13) illustrates a range of land uses together with an indication of their broad acceptability in each of the land use zones. Uses other than the primary use for which an area is zoned may be permitted provided they are not in conflict with the primary use-zoning objective. The land use-zoning matrix is intended to provide guidance to landowners and developers and is not intended to supplant the normal planning process. An indication that a proposal would be 'permitted in principle' from the matrix should not be taken to imply a granting of permission, or indeed that a planning application may necessarily be successful.

12.2.1 Application of Zoning Policy

It is an objective of the Council to carry out its development control function in accordance with the Matrix Table for each zone. However, it should not be assumed that if a proposed development complies with the Matrix Table, it would necessarily be accepted. The matrix relates to land use only. Other factors including density, building height, design standards, traffic generation, environmental factors and so on, are also relevant in establishing whether or not a development proposal would be acceptable in a particular location and conforms to the proper planning and sustainable development of the town.

12.2.2 Definition of Terms

- **Permitted in Principle**

The Council will seek to ensure the development of lands and properties in accordance with the Zoning Objectives set out in this section of the plan. Land uses designated under each zoning objective, as 'Permitted in Principle' are generally acceptable, subject to compliance with the provisions of this Local Area Plan and the policies and objectives of the Carlow County Development Plan 2015- 2021.

- **Open for Consideration**

Land uses shown as 'Open for Consideration' are uses that are not considered acceptable in principle in all parts of the relevant use zone. However, such uses may be acceptable in circumstances where the Council is satisfied that the proposed use would not conflict with the general objectives for the zone and the permitted or existing uses as well as being in the interests of the proper planning and sustainable development of the area.

- **Not Permitted**

Land uses which are indicated as 'Not Permitted' in the Land Use Zoning Matrix (Table 13) will not be permitted.

- **Other Uses**

Proposed land uses not listed in the matrices will be considered on the merits of the individual planning application, with reference to the most appropriate use of a similar nature indicated in the table and in relation to the general policies and zoning objectives for the area in question of the Plan.

- **Non-Conforming Uses**

Existing established uses that are inconsistent with the primary zoning objective, where legally established by continuous use for the same purpose prior to 1st October 1964 or by a planning permission, will not be subject to legal proceedings under the Act in respect of their continued use. Where extensions or improvements of premises accommodating these uses are proposed each shall be considered on its merits in accordance with the proper planning and sustainable development of the area.

- **Transitional Areas**

While the zoning objectives indicate the different uses permitted in each zone it is important to avoid abrupt transitions in scale and use at the boundary of adjoining land use zones. In these areas it is necessary to avoid developments that would be detrimental to amenity. In zones abutting residential areas, particular attention will be paid to the uses, scale, density and appearance of development proposals and to landscaping, creation of a buffer zone and screening proposals in order to protect the amenities of residential properties. Development abutting amenity

and open space will generally facilitate the passive supervision of that space, where possible by fronting onto it.

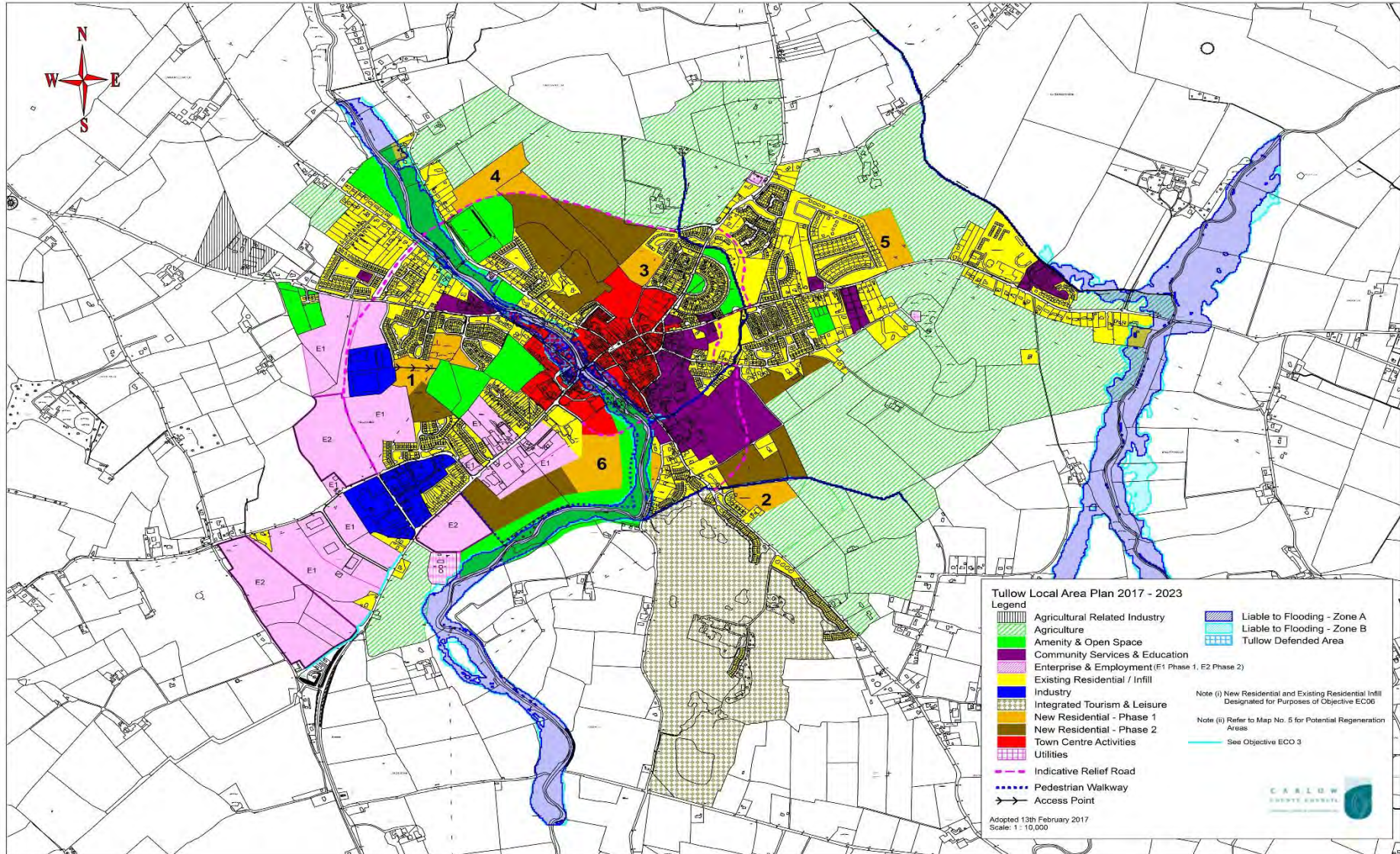
Land use	Town Centre Activities A	Existing Residential / Infill B	New Residential Phase 1 C1	New Residential Phase 2 C2	Community Services and Education E	Amenity & Open Space F	Industry and Warehousing H	Enterprise and Employment Q	Integrated Tourism and Leisure T	Agriculture I	Agriculture Related Industry	Utilities J
Dwelling	Y	Y	Y	O*	N	N	N	N	O	O	N	N
Guest house/ hotel/hostel	Y	O	O	O	N	N	N	N	Y	N	N	N
Restaurant	Y	O	O	O	N	N	N	O	Y	N	N	N
Pub	Y	N	N	N	N	N	N	O	O	N	N	N
Shop (convenience)	Y	O	O	O	N	N	N	O	N	N	N	N
Shop (comparison)	Y	N	N	N	N	N	N	N	O	N	N	N
Retail warehouse	N	N	N	N	N	N	N	N	N	N	N	N
School	Y	O	O	O	Y	O	N	O	N	N	N	N
Medical and Related Consultant	Y	O	O	O	Y	N	N	Y	N	N	N	N
Health Centre	Y	O	O	O	Y	N	N	Y	N	N	N	N
Nursing Home	Y	O	O	O	Y	N	N	N	N	N	N	N
Community hall & sports halls	Y	O	O	O	Y	O	N	O	O	O	N	N
Recreational buildings	Y	O	O	O	Y	O	N	O	Y	O	N	N
Cultural uses, library	Y	O	O	O	Y	O	N	O	Y	N	N	N
Offices	Y	N	N	N	N	N	Y	Y	O	N	O (Ancillary to Agric Related Ind on site)	N
Live/work Unit	Y	O	O	O	N	N	N	N	N	N	N	N
Garages, panel beating and car repairs	O	N	N	N	N	N	Y	O	N	N	N	Y
Petrol station	O	N	N	N	N	N	O	Y	N	O	N	Y
Motor sales	O	N	N	N	N	N	O	Y	N	N	N	Y
Car parks	Y	N	N	N	O	O	Y	Y	O	N	N	Y
Heavy commercial vehicle parks	N	N	N	N	N	N	O	O	N	N	N	Y
Cinema, dancehall, disco	Y	N	N	N	O	N	N	O	O	N	N	N

Repository, store, depot	O	N	N	N	N	N	O	O	N	N	O (Ancillary to Agric Related Ind on site)	O
Industry	N	N	N	N	N	N	Y	O	N	N	N	O
Industry (light)	O	N	N	N	N	N	Y	O	O	N	O (Ancillary to Agric Related Ind on site)	O
Workshops	O	N	N	N	N	N	Y	O	O	O	N	Y
Playing fields	O	O	O	O	Y	Y	N	O	Y	Y	N	N
Place of worship	Y	O	O	O	Y	N	N	O	O	N	N	N
Park/playground	Y	O	Y	Y	Y	Y	N	O	Y	Y	N	N
Tourist related facilities	Y	O	O	O	N	O	N	O	Y	O	N	N
Cattleshed/slatted unit	N	N	N	N	N	N	N	N	N	Y	Y	N
Broiler house	N	N	N	N	N	N	N	N	N	Y	Y	N
Stable yard	N	N	N	N	N	N	N	N	Y	Y	Y	N
Hot food take-away	O	N	N	N	N	N	N	Y	O	N	N	N
Utility Structures	Y	O	O	O	Y	O	O	O	O	Y	N	Y
Funeral Homes	Y	N	N	N	Y	N	N	O	N	N	N	N
Creche/playschool	Y	O	Y	Y	Y	O	N	O	Y	O	N	N
Adult Education /literacy/ basic education/youth reach facility	Y	O	O	O	Y	O	N	Y	Y	O	N	N
Neighbourhood Centre	Y	Y	N	N	N	N	N	N	N	N	N	N
Thermal Treatment Plant	N	N	N	N	N	N	N	N	N	N	N	N

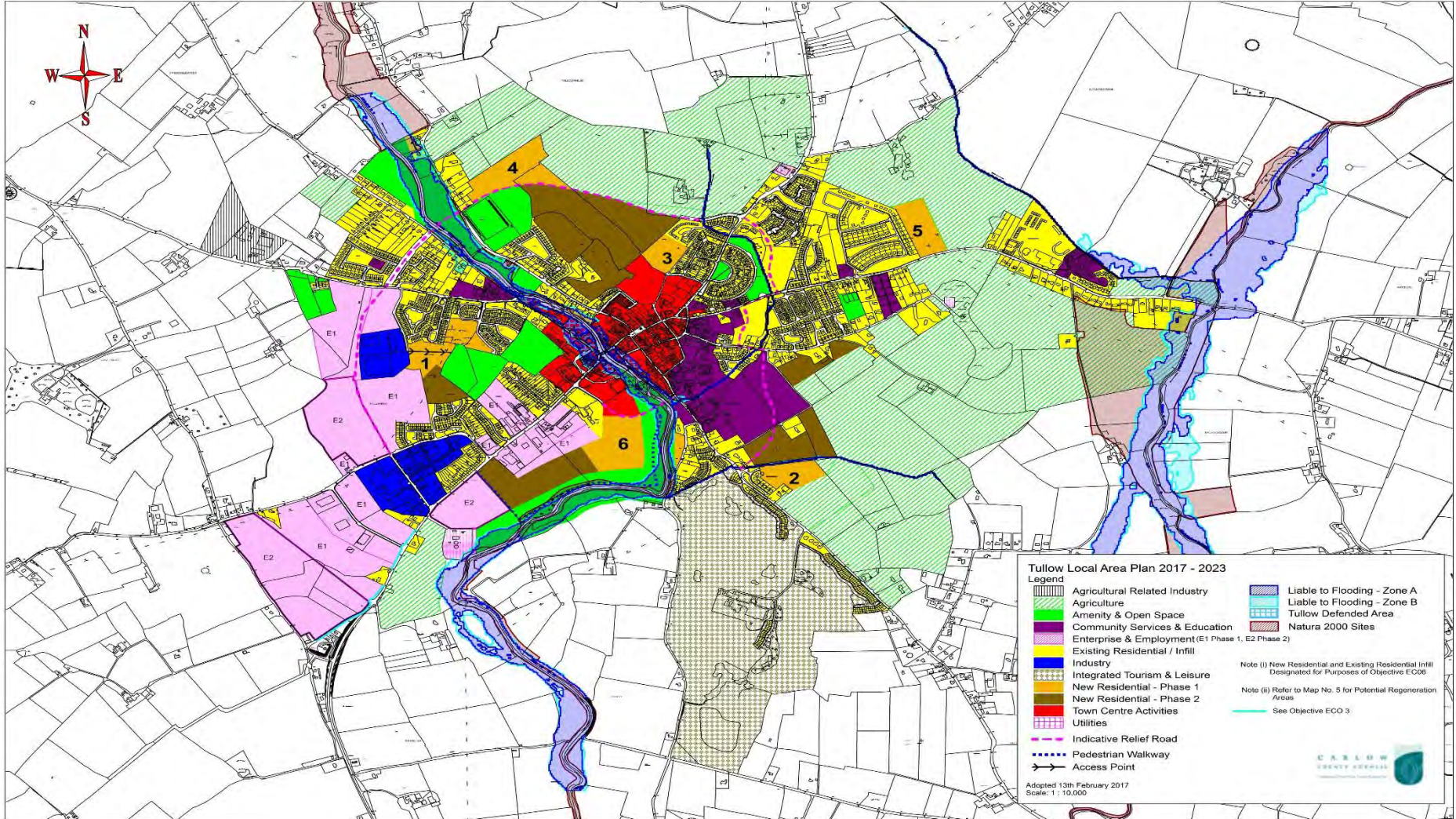
Y = permitted in principle
O = open for consideration
N = not permitted

*Residential zoning to be considered beyond period of this LAP in accordance with Core Strategy then pertaining. Residential Schemes will not be permitted. A single residential dwelling maybe considered on its merits in accordance with the core strategy and the proper planning and sustainable development of the area.

Table 13: Land Use Zoning Matrix. To be read in conjunction with Map 15



Map 15: Tullow Land Use Zoning Map



Map 16 : Land Use Zoning Map showing SAC boundary



Tullow Draft Local Area Plan 2017-2023



APPENDICES

Appendix 1

Strategic Environmental Assessment & Non-Technical Summary

SEA STATEMENT

FOR THE

TULLOW LOCAL AREA PLAN 2017-2023 STRATEGIC ENVIRONMENTAL ASSESSMENT

for: Carlow County Council

Athy Road
Carlow
County Carlow



by: CAAS Ltd.

2nd Floor, The Courtyard
25 Great Strand Street
Dublin 1



MARCH 2017

Table of Contents

Section 1	Introduction	1
1.1	Terms of Reference	1
1.2	SEA Definition	1
1.3	Legislative Context.....	1
1.4	Content of the SEA Statement	1
1.5	Implications for the Local Area Plan and the Planning Authority	2
Section 2	How Environmental Considerations were integrated into the Plan.....	3
2.1	Introduction	3
2.2	Consultations	3
2.3	Communication of environmental sensitivities.....	3
2.4	Suggestions of Plan provisions to mitigate effects.....	4
Section 3	Environmental Report and Submissions & Observations.....	15
3.1	Introduction	15
3.2	SEA Scoping Submissions	15
3.3	Submissions on the Environmental Report	16
3.4	Environmental Report	16
Section 4	Alternatives and the Plan	17
4.1	Introduction	17
4.2	Description of Alternatives.....	17
4.3	Evaluation of Alternatives	21
4.4	Reasons for choosing the Plan in light of the other alternatives dealt with	23
Section 5	Monitoring Measures.....	25
5.1	Introduction	25
5.2	Indicators and Targets	25
5.3	Sources	25
5.4	Reporting.....	25
5.5	Thresholds	25

Section 1 Introduction

1.1 Terms of Reference

This is the SEA Statement for the Tullow Local Areas Plan 2017-2023 Strategic Environmental Assessment (SEA).

1.2 SEA Definition

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic and social considerations.

1.3 Legislative Context

Directive 2001/42/EC of the European Parliament and of the Council, of 27 June 2001, on the assessment of the effects of certain plans and programmes on the environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use planning.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21 July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (SEA) (Amendment) Regulations 2011 (SI No. 201 of 2011).

Article 7 of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) as amended requires that Strategic Environmental Assessment is undertaken for the preparation of certain Development Plans.

Where SEA is undertaken, the Regulations require that a Statement available to the public and the competent environmental authorities after the making of a Plan. This Statement is referred to as an SEA Statement¹.

1.4 Content of the SEA Statement

The SEA Statement is required to include information summarising:

- a) how environmental considerations have been integrated into the Plan;
- b) how the following have been taken into account during the preparation of the Plan:
 - the environmental report,
 - submissions and observations made to the planning authority on the Plan and Environmental Report, and
 - any transboundary consultations [this is not relevant to this SEA]
- c) the reasons for choosing the Plan in the light of the other reasonable alternatives dealt with; and
- d) the measures decided upon to monitor the significant environmental effects of implementation of the Plan.

¹ Department of Environment, Heritage and Local Government (2004) Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities, Dublin: Government of Ireland.

1.5 Implications for the Local Area Plan and the Planning Authority

Having considered the review and preparation of the Tullow Local Area Plan under Article 8 (14A) of the Planning and Development (SEA) Regulations (as amended), Carlow County Council, based on available information on both the expected content of the draft Plan and the existing environment, determined that the Plan would be likely, if unmitigated, to have significant effects on the environment².

Furthermore, a Stage 2 Appropriate Assessment (AA) under the Habitats Directive is being undertaken on the LAP. The SEA Directive requires that SEA is undertaken where Stage 2 AA is being undertaken on plans, programmes or variations to these.

It therefore was determined SEA was required to be undertaken on the Plan.

The findings of the SEA are expressed in the Environmental Report. This report has been altered to take account of both: recommendations contained in submissions; and changes that may be made to the Plan on foot of submissions. Elected members of Carlow County Council have taken into account the findings of this report and other related SEA output during their consideration of the Plan and before its adoption.

² It was identified as mitigation needed to be integrated into the LAP in order to ensure the protection of the Slaney River Valley candidate Special Area of Conservation (Site Code 000781). This cSAC is designated for a number of species, including freshwater pearl mussel, which are highly protected and sensitive. A submission was made by the Department of Arts, Heritage and the Gaeltacht as part of the Plan preparation process that highlights the need to consider the protection of ecological sensitivities - including cSACs and protected species. Other issues for the Plan include those relating to wastewater treatment capacity and performance, water quality and flood risk.

Section 2 How Environmental Considerations were integrated into the Plan

2.1 Introduction

Environmental considerations were integrated into the Plan through:

- Consultations with environmental authorities;
- Communication of environmental sensitivities through the SEA and associated AA and Strategic Flood Risk Assessment (SFRA) processes; and
- Suggestions of Plan provisions to mitigate effects.
- Strategic work undertaken by the Council to ensure contribution towards environmental protection and sustainable development.

2.2 Consultations

As environmental authorities identified under the Planning and Development (SEA) Regulations, as amended, the following authorities were sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council: Environmental Protection Agency, Department of Communications, Energy and Natural Resources, Department of the Environment, Community and Local Government, Department of Arts, Heritage and the Gaeltacht, Department of Agriculture, Fisheries and Food and adjoining planning authorities whose areas are contiguous to the administrative area of Carlow County Council.

Further detail on submissions made on foot of the SEA scoping notice is provided under Section 3.2.

Furthermore, submissions were made on the Plan and SEA Environmental Report while they were on public display and these resulted in updates being made to the SEA documents (see Section 3.3).

2.3 Communication of environmental sensitivities

2.3.1 Overview

Environmental considerations were integrated into the Plan before it was placed on public display. Environmental sensitivities were mapped in order to identify which areas of the Plan area would be most sensitive to development and would suffer the most adverse effects if growth was to be accommodated in those areas unmitigated.

The sensitivities were communicated to the Plan-making team on a regular basis from the outset of the Plan preparation process. Identifying areas with the most limited carrying capacity within the Plan area helped future growth to be diverted away from these areas.

Sensitivities included the following:

- CORINE Land Cover Data;
- Special Protected Areas, Special Areas of Conservation, Natural Heritage Areas and proposed Natural Heritage Areas;
- Soil Type;
- Water Framework Directive (WFD) Status of Surface Waters;
- River Water Quality post 2004;
- WFD Status of Groundwater;
- Aquifer Vulnerability;
- Archaeological Heritage - Entries to the Record of Monuments and Places;
- Architectural Heritage - Entries to the Record of Protected Structures and National Inventory of Architectural Heritage; and
- Landscape Sensitivity.

A number of these sensitivities are mapped on Figure 2.1, Figure 2.2 and Figure 2.3.

In order to identify where most sensitivities within the town occur, a number of the environmental sensitivities listed above were weighted and mapped overlapping each other

provides an overlay of environmental sensitivities for the town.

The most sensitive areas within Tullow are located along the watercourses through the Plan area (on account of the sensitivity of the River Slaney, fluvial flood risk and Natura 2000 site designations). Sensitivity ratings vary along the watercourse from medium to extreme.

Other sensitive areas are also identified within the town (these largely relate to cultural heritage designations) however, these are of a comparatively lower rating in comparison to the sensitivities along the river.

It is emphasised that the occurrence of environmental sensitivities does not preclude development; rather it flags at a strategic level that the mitigation measures - which have been integrated into the Plan - will need to be complied with in order to ensure that the implementation of the Plan contributes towards environmental protection.

2.3.2 Appropriate Assessment

A Stage 2 Appropriate Assessment (AA) has been undertaken alongside the preparation of the Plan. The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The AA concluded that the Plan will not affect the integrity of the Natura 2000 network³.

The preparation of the Plan, SEA and AA has taken place concurrently and the findings of the AA have informed both the Plan and the SEA. All recommendations made by the AA were integrated into the Plan.

2.3.3 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Plan.

The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG, 2009).

The preparation of the Plan, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed both the Plan and the SEA.

The SFRA has facilitated the integration of flood risk management considerations into the Plan.

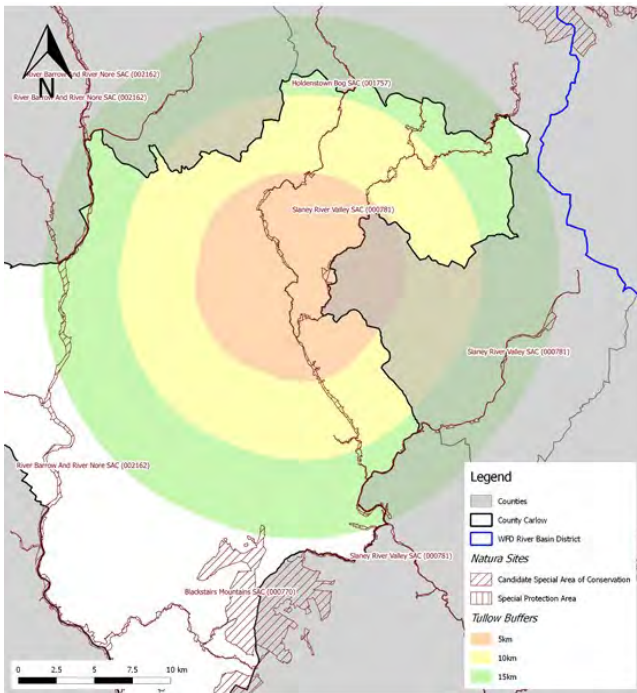
2.4 Suggestions of Plan provisions to mitigate effects

The SEA, AA and SFRA processes suggested various measures for integration into the Plan as provisions (policies and objectives) or parts of provisions in order to mitigate the effects of implementing the Plan and to contribute towards environmental protection and sustainable development.

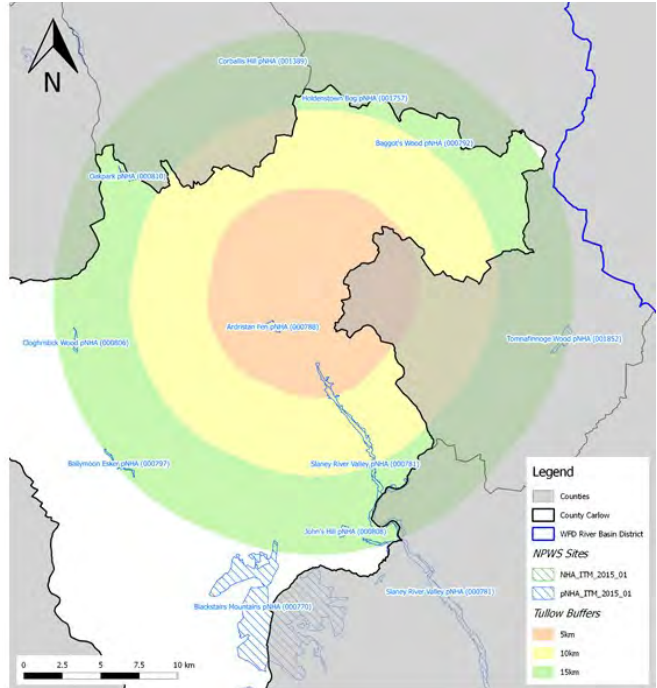
Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan.

Table 2.1 details key mitigation measure(s) which have been integrated into the Plan under various environmental headings. The integration of these measures into the Plan occurred over a number of iterations and was informed by various communications through the SEA, AA and SFRA processes.

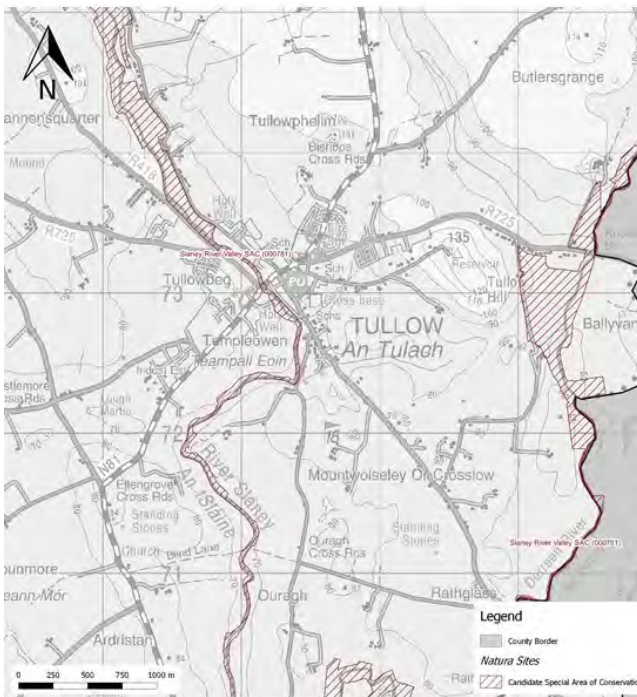
³ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
(a) no alternative solution available;
(b) imperative reasons of overriding public interest for the plan to proceed; and
(c) adequate compensatory measures in place.



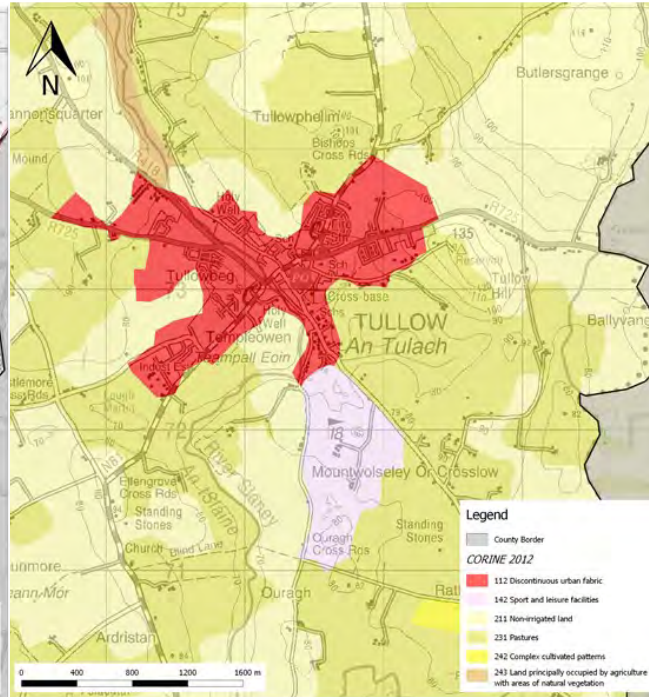
SPAs and cSACs in the vicinity of the Plan Area



NHAs and pNHAs in the vicinity of the Plan Area

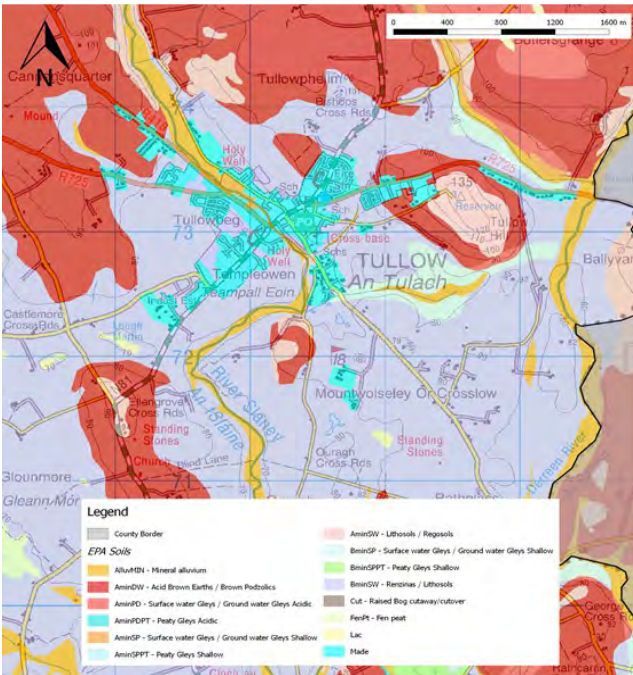


River Slaney Valley cSAC

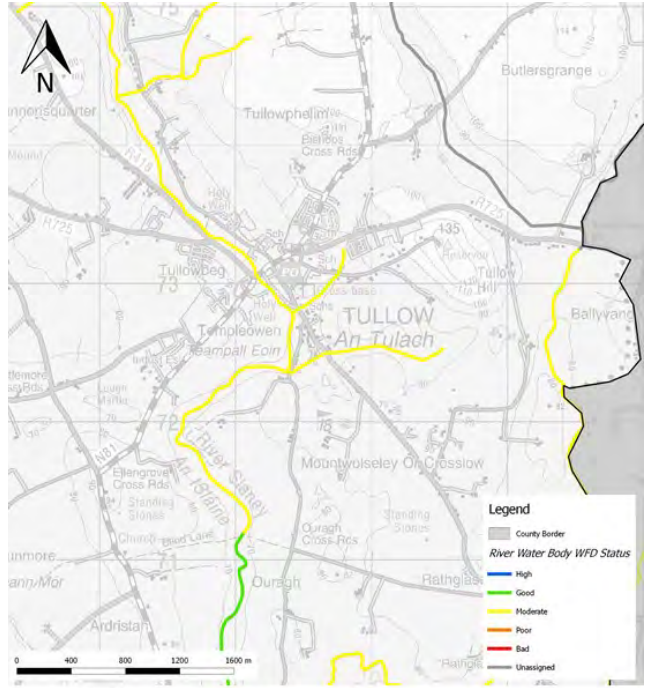


CORINE Land Cover Data (2012)

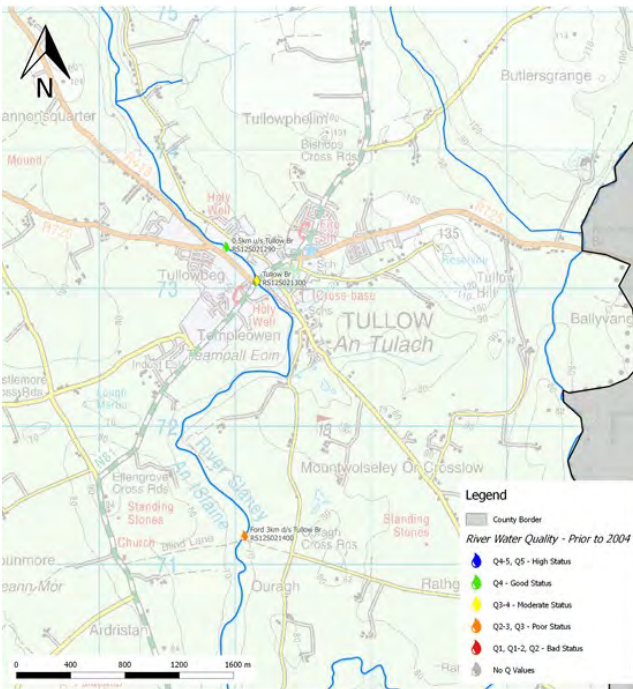
Figure 2.1 Selection of Environmental Sensitivities (1 of 3)



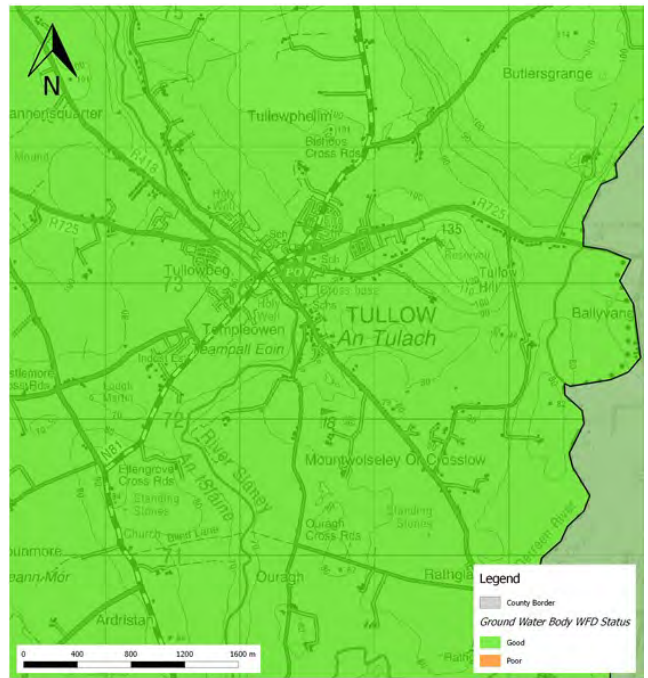
Soil Type



WFD Surface Water Status

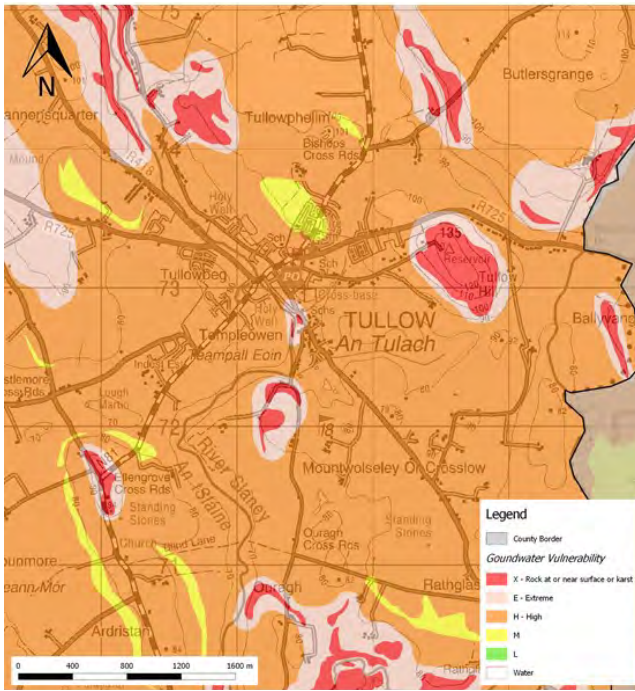


Q-Values at Points on Rivers post 2004

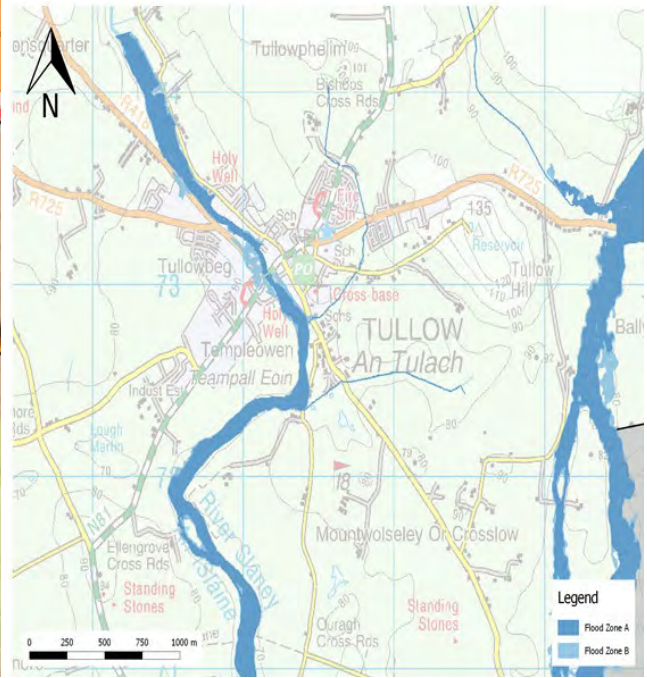


WFD Status of Groundwater

Figure 2.3 Selection of Environmental Sensitivities (2 of 3)



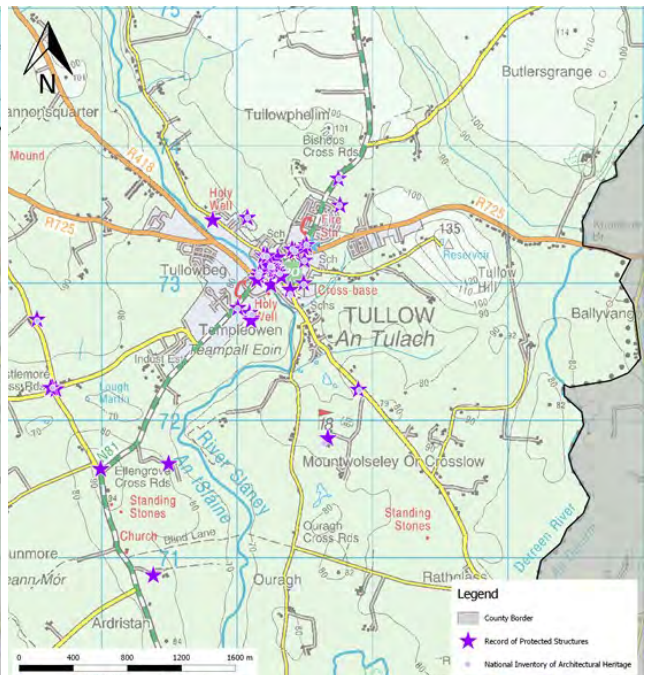
Aquifer Vulnerability



Flood Zones



Archaeological Heritage



Architectural Heritage

Figure 2.4 Selection of Environmental Sensitivities (3 of 3)

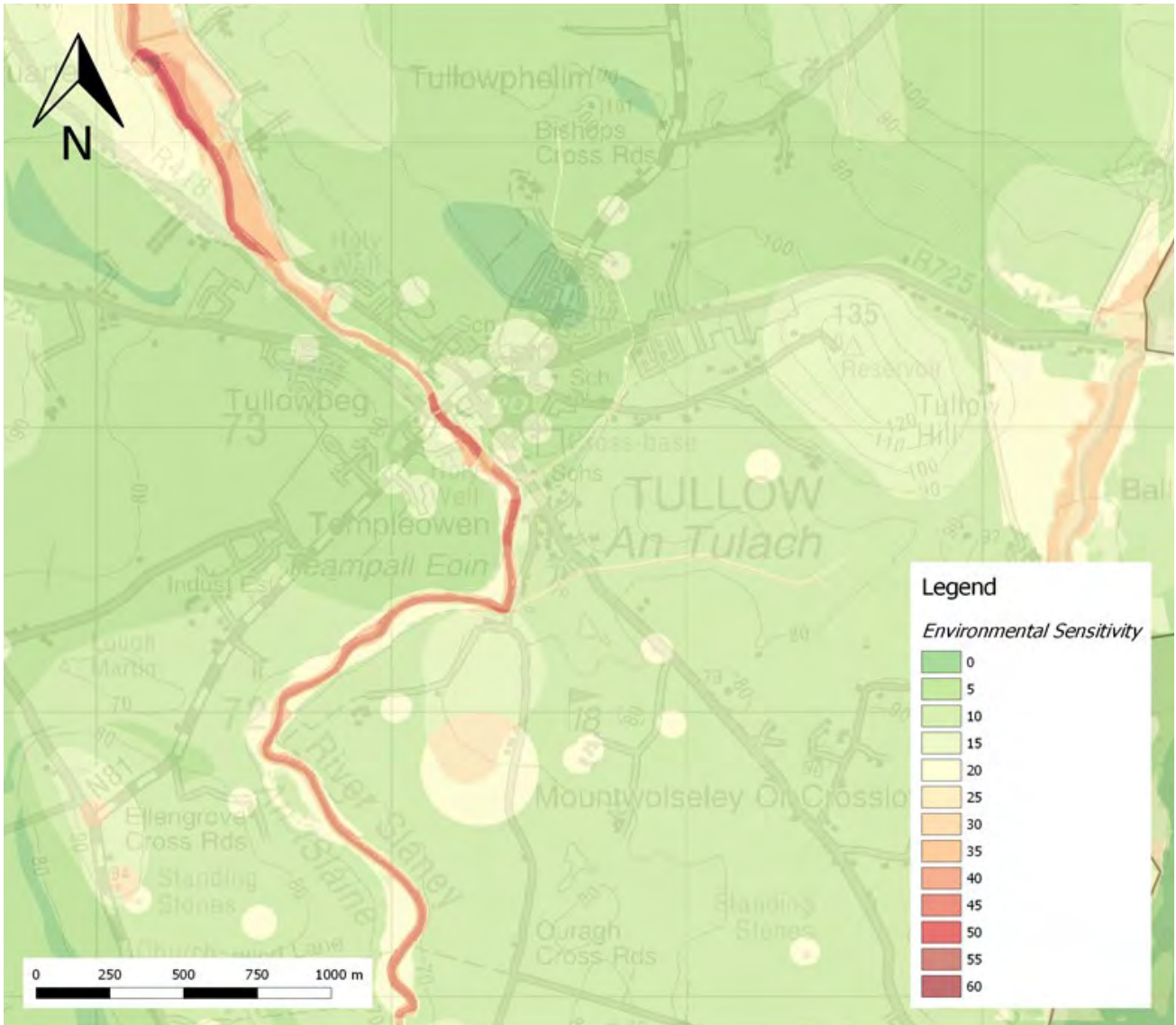


Figure 2.5 Overlay of Environmental Sensitivities

Table 2.1 Integration of Environmental Considerations

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
All	Various below	<p>Regulatory framework for environmental protection and management</p> <p>Cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management. The Council will contribute towards compliance with EU Directives - including the Habitats Directive (92/43/EEC, as amended), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (85/337/EEC, as amended) and the Strategic Environmental Assessment Directive (2001/42/EC) – and relevant transposing Regulations.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR8.
All	Various below	<p>Information to be considered at lower levels of decision making and environmental assessment</p> <p>Lower levels of decision making and environmental assessment should consider the sensitivities identified in Section 4 of the SEA Environmental Report that accompanies the Plan, including the following:</p> <ul style="list-style-type: none"> • Candidate Special Areas of Conservation and Special Protection Areas; • Features of the landscape that provide linkages/connectivity to designated sites (e.g. watercourses or areas of semi-natural habitats); • Proposed Natural Heritage Areas; • Entries to the Record of Monuments and Places; • Entries to the Record of Protected Structures 	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policies: HR7, HR 8, HR15, HR2 and HR3.
Biodiversity and flora and fauna	Loss of biodiversity with regard to designated biodiversity and flora and fauna, ecological connectivity and non-designated biodiversity and flora and fauna	<p>Protection of Biodiversity including Natura 2000 Network</p> <p>Contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including proposed Natural Heritage Areas); and Flora Protection Order sites.</p> <p>Contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents:</p> <ul style="list-style-type: none"> • EU Directives, including the Habitats Directive (92/43/EEC, as amended)^[1], the Birds Directive (2009/147/EC)^[2], the Environmental Liability Directive (2004/35/EC)^[3], the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC). • National legislation, including the Wildlife Act 1976^[4], the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 2008^[5]. • National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010. • Catchment and water resource management Plans, including the relevant River Basin Management Plan. • Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland's 2nd National Biodiversity Plan (including any superseding version of same). • Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans). 	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policies HR7 and HR8.

^[1] Including Annex I habitats, Annex II species and their habitats and Annex IV species and their breeding sites and resting places (wherever they occur).

^[2] Including Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).

^[3] Including protected species and natural habitats.

^[4] Including species of flora and fauna and their key habitats.

^[5] Including protected species and natural habitats.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
		<ul style="list-style-type: none"> Ireland's Environment 2014 (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges. 	
		<p>Appropriate Assessment</p> <p>All projects and plans arising from this plan⁴ (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:</p> <ol style="list-style-type: none"> The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000. 	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR9.
		<p>Protection of Natura 2000 Sites</p> <p>No projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this plan (either individually or in combination with other plans or projects⁶).</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through Policy HR10.
		<p>Biodiversity and Ecological Networks</p> <p>Contribute towards the protection and enhancement of biodiversity and ecological connectivity, including trees, hedgerows, rivers, streams, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR15.
		<p>Non-Designated Sites</p> <p>Contribute towards the protection of non-designated habitats and species, as appropriate.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HP 20.
		<p>Non-native invasive species</p> <p>Support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control the spread of non-native invasive species on land and water.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR21.

⁴ Such projects include but are not limited to those relating to: agriculture; amenity and recreation; contaminated sites; electricity transmission; flood alleviation and prevention; forestry; mineral extraction; renewable energy projects; roads; telecommunications; tourism; wastewater and discharges; and water supply and abstraction.

⁶ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- no alternative solution available,
- imperative reasons of overriding public interest for the project to proceed; and
- Adequate compensatory measures in place.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
		<p>Protection of Riparian Zone and Waterbodies and Watercourses Planning authorities shall demonstrate that waterbodies and watercourses are protected from inappropriate development, including rivers, streams, associated undeveloped riparian strips and natural floodplains. This will include protection buffers in riverine as appropriate.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR12 and also objective FLO4 (Chapter 9).
		<p>Constrained Land Use Zoning HR 10B: To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.</p> <p>Visitors To seek to manage any increase in visitor numbers to avoid significant effects including loss of habitat and disturbance, any projects are a suitable distance from the water's edge and legislation relating to habitats, species, connectivity and designated sites is complied with.</p> <p>Rewording of the following objectives from an earlier draft of the Plan</p> <p>Public Spaces and Public Realm PR 2: To prioritise the improvement of, and access to, subject to the requirements of the Habitats Directive, the waterfront area and the retail core for the enjoyment of both visitors and residents alike.</p> <p>Water Supply and Quality WSO 8: To ensure that all proposals for the development of an upgrade to the water supply system will be screened for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and where significant potential impacts to the integrity of the Natura 2000 network are identified, a Natura Impact Statement will be prepared.</p> <p>Policies in relation to Green Infrastructure HR 17: To explore the feasibility, subject to the requirements of the Habitats Directive, of developing a linear park, along the river Slaney, linking to areas of open space and amenity. Where lands are in private ownership it shall be policy, in any development proposal, to secure public access along the waterway.</p> <p>Policies and Objectives in relation to Tourism TO 1: To provide where feasible, and support the provision of tourism infrastructure and services, subject to the requirements of the Habitats Directive, including, walking, cycling and water based infrastructure and short-term guest accommodation facilities throughout the settlement in appropriate locations. TO 4: To support the provision and augmentation, of sporting, kayaking / canoeing and angling facilities, pony trekking routes, adventure centres and associated ancillary uses in appropriate locations subject to the requirements of the Habitats Directive.</p>	<p>Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR10B</p> <p>Incorporated into Plan (Chapter 11 – Tourism) through policy TP7</p> <p>Reworded as detailed.</p>
Population and human health	Potential interactions if effects upon environmental vectors such as water are not mitigated	<p>Also see measures under environmental vectors soil, water and air below.</p> <p>Human Health Assess proposals for development in terms of, inter alia, potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, the Council shall ensure the introduction of mitigation measures in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level.</p> <p>Radon Ensure the implementation of the specific guidance on radon prevention measures for new homes as contained within the existing Building Regulations (including any updated/superseding regulations that may be published within the lifetime of this Plan).</p>	<p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective PO1.</p> <p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective PO2.</p>

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
Soil	Adverse impacts on the hydrogeological and ecological function of the soil resource	<p>Also see measures under water below.</p> <p>Soil Protection and Contamination Ensure that adequate soil protection measures are undertaken where appropriate. Adequate and appropriate investigations shall be carried out into the nature of any soil and groundwater contamination and the risks associated with site development work which is proposed.</p>	Incorporated into the Plan (Chapter 9 – Utilities Infrastructure, Climate change and Environmental management) through policy P5.
Water	Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology	<p>Also see measures under soil above and material assets below.</p> <p>Water Framework Directive and associated legislation Contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.</p> <p>River Basin Management Plan Support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the plan, as well as relevant recommendations contained in the Water Quality in Ireland 2010 – 2012 (EPA, 2015, and any updated/superseding document). Proposals for development would not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 which provides guidance on exemptions to the environmental objectives of the Water Framework Directive.</p>	<p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WSP1.</p> <p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WSP2.</p>
	Increase in flood risk	As proposed by the SFRA	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policies FL1, FL2, FL4 and objective FLO2.
Air and Climatic Factors	Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases)	Overall development approach for the Plan, consolidating the town and providing for growth within and adjacent to the town centre to health	Also see measures under human
		<p>CAFE Directive Promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) (or any updated/superseding documents).</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy P1.
		<p>National Climate Change Adaptation Framework Recognise European and national objectives for climate adaptation and work with the EPA, the Southern Regional Assembly and neighbouring planning authorities in implementing future Guidance for climate change proofing of landuse plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012).</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy CCP1.
		<p>Green Infrastructure Encourage and facilitate, in consultation with relevant stakeholders, the development of green infrastructure that recognises the synergies that can be achieved with regard to the following:</p> <ul style="list-style-type: none"> • Provision of open space amenities 	Incorporated into Plan (Chapters 9 and 10) through policy HR14 (chapter 10) and objective CCO1 (chapter 9).

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
		<ul style="list-style-type: none"> • Sustainable management of water • Protection and management of biodiversity • Protection of cultural heritage • Protection of protected landscape sensitivities. 	
Material Assets	The need to provide adequate and appropriate water services (it is the function of Irish Water to provide for such needs)	<p>Irish Water Collaborate with and support, as relevant and appropriate, Irish Water in its new role as the lead authority for water services.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policies WSP3, WW1 and objectives WSO1 and WWO1.
		<p>Sufficient Capacity Development will only be permitted in instances where there is sufficient capacity in the public water and wastewater infrastructure.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WSP6.
		<p>Focus on Urban Waste Water Discharges in Ireland In conjunction with Irish Water, implement relevant recommendations set out in the EPA (2015) publication Urban Waste Water Treatment in 2014 (and any subsequent update).</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) partly through policy WW2.
		<p>Urban Waste Water Treatment Regulations Collaborate with Irish Water in contributing towards compliance with the relevant provisions of the Urban Waste Water Treatment Regulations 2001 and 2004 and the Waste Water Discharge (Authorisation) Regulations 2007</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WW1.
		<p>Drinking Water Regulations Collaborate with Irish Water in contributing towards compliance with the European Communities (Drinking Water) Regulations (No. 2) 2007 and compliance of water supplies comply with the 48 parameters identified in these Regulations.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective WSO1.
		<p>The Provision and Quality of Drinking Water in Ireland The Council, in conjunction with Irish Water, shall have regard to the EPA (2015) publication The Provision and Quality of Drinking Water in Ireland - A Report for the Year 2014 (and any subsequent update) in the establishment and maintenance of water sources in the County.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective WSO4.
		<p>EPA's Remedial Action List The Council, in conjunction with Irish Water, shall undertake recommendations made by the EPA arising from any failure to meet drinking water standards and any enlistment on the EPA's Remedial Action List.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective WSO5.
Increases in waste levels	<p>Construction Waste Construction wastes arising will be managed and disposed of in a way that ensures the provisions of the Waste Management Acts and new Waste Management Plan. Construction Waste Management Plans will be implemented where relevant to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, July 2006.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WMP5.	

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
		<p>Waste Creation Support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible.</p> <p>Waste Disposal Safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.</p>	<p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WMP1.</p> <p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WMP2.</p>
Cultural Heritage	Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation	<p>Archaeological Heritage Contribute, as appropriate, towards the protection and sympathetic enhancement of archaeological heritage, in particular by implementing the relevant provisions of the Planning and Development Act 2000 (as amended) and the National Monuments Act, 1930 (as amended).</p> <p>Protection of Archaeological Sites Contribute, as appropriate, towards the protection of archaeological sites and monuments and their settings, archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments. Contribute, as appropriate, towards the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places.</p> <p>Consultation Consult with the National Monuments Service of the Department of Arts Heritage and the Gaeltacht in relation to proposed developments adjoining archaeological sites.</p> <p>Architectural Heritage Contribute towards the protection of architectural heritage by complying, as appropriate, with the legislative provisions of the Planning and Development Act 2000 (as amended) in relation to architectural heritage and the policy guidance contained in the Architectural Heritage Protection Guidelines 2011 (and any updated/superseding document).</p>	<p>Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR1.</p> <p>Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR2.</p> <p>Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR5.</p> <p>Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR3.</p>
Landscape	Occurrence of adverse visual impacts	<p>Landscape Designations Contribute towards the protection of county and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.</p>	Incorporated into Plan (Chapter 6 – Town Centre, Landscape and Public Realm) through policy L1.

Section 3 Environmental Report and Submissions & Observations

3.1 Introduction

This section details how both the Environmental Report and submissions and observations made to the planning authority on the Environmental Report and SEA process have been taken into account during the preparation of the Plan.

3.2 SEA Scoping Submissions

As environmental authorities identified under the Planning and Development (SEA) Regulations, as amended, the following authorities were sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council: Environmental Protection Agency, Department of Communications, Energy and Natural Resources, Department of Agriculture, Fisheries and Food, Department of the Environment, Community and Local Government, Department of Arts, Heritage and the Gaeltacht, Department of Agriculture, Fisheries and Food and adjoining planning authorities whose areas are contiguous to the administrative area of Carlow County Council.

Submissions were made by Environmental Protection Agency and the Department of Arts, Heritage and the Gaeltacht. These submissions influenced the scope of the assessments and were taken into account during the undertaking of the SEA, SFRA and AA.

The submission from the Department of Arts, Heritage and the Gaeltacht covered topics including the following:

- Legislation
- Designated sites
- Protected species
- Article 10 of Habitats Directive
- Hedgerows, bats and other protected species
- Rivers and wetlands
- Water
- Roads
- Alien invasive species

- Amenity developments
- Green Infrastructure
- SEA
- Integrated assessment
- Legislation
- Baseline data
- SEOs
- wetland habitats
- Indicators, targets and monitoring
- Appropriate Assessment Guidance
- Conservation objectives
- Integrated assessment
- Cumulative and ex-situ impacts

The submission from the Environmental Protection Agency covered topics including the following:

- SEA process guidance,
- Integration of environmental considerations in land use planning guidance, and
- List of available environmental spatial data sets
- SEA GIS Search and Reporting Tool for local authority plan-makers that may be useful in the preparation of the SEA Draft and Plan.
- Drinking Water Supply
- Waste Water Treatment
- Water Framework Directive (WFD)
- Protection and Management of Bathing Waters
- Water Framework Directive and Biodiversity
- Protection of Groundwater Resources
- Flood Prevention and Management
- Biodiversity
- Appropriate Assessment
- Air, Noise and Climatic Factors
- Waste Management
- Radon
- Energy Conservation/Renewable Energy
- Landscape
- Geology / Geomorphology
- Transportation
- Infrastructure Planning
- Environmental Impact Assessment (EIA)

Both of these submissions influenced the scope of the SEA and were taken into account throughout the process.

3.3 Submissions on the Environmental Report

Furthermore, submissions were made on the Draft Plan and SEA Environmental Report while they were on public display. One of these submissions, from the Environmental Protection Agency resulted in the following update being made to the SEA Environmental Report Non-Technical Summary:

- To include additional information on the Strategic Flood Risk Assessment in the Non-Technical Summary.

3.4 Environmental Report

The Draft Plan and accompanying documents (including SEA Environmental Report and AA Natura Impact Report) were placed on public display, having integrated all recommendations arising from the SEA and AA processes.

Responses to submissions made on the Environmental Report during the period of public display were integrated into a Chief Executive's Report and considered by Carlow County Council.

Carlow County Council have taken into account the findings of all relevant SEA output during their consideration of the Local Area Plan and before the Plan was adopted.

On adoption of the Plan, the original Environmental Report which had been placed on public display alongside the Draft Local Area Plan was updated to become a final Environmental Report which is consistent with the adopted Plan, taking into account recommendations included in the submissions as well as changes that were made to the original Draft Plan that was placed on public display.

Section 4 Alternatives and the Plan

4.1 Introduction

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment.

The description of the environmental baseline (both maps and text) and Strategic Environmental Objectives (SEOs) are used in the evaluation of alternative development strategies.

4.2 Description of Alternatives

Carlow County Council in preparing the Local Area Plan 2017-2023 developed three Development Strategy Options for Tullow. These are detailed on Table 4.1 below and mapped on Figure 4.1, Figure 4.2 and Figure 4.3.

Table 4.1 Description of Alternative Development Strategies

	Alternative Development Strategy 1	Alternative Development Strategy 2	Alternative Development Strategy 3
Summary	Development Scenario 1: A general continuation in accordance with the development objectives of the 2010 – 2016 Plan	Development Scenario 2: Directs new development to vacant and infill sites in the town only.	Development Scenario 3: To consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner.

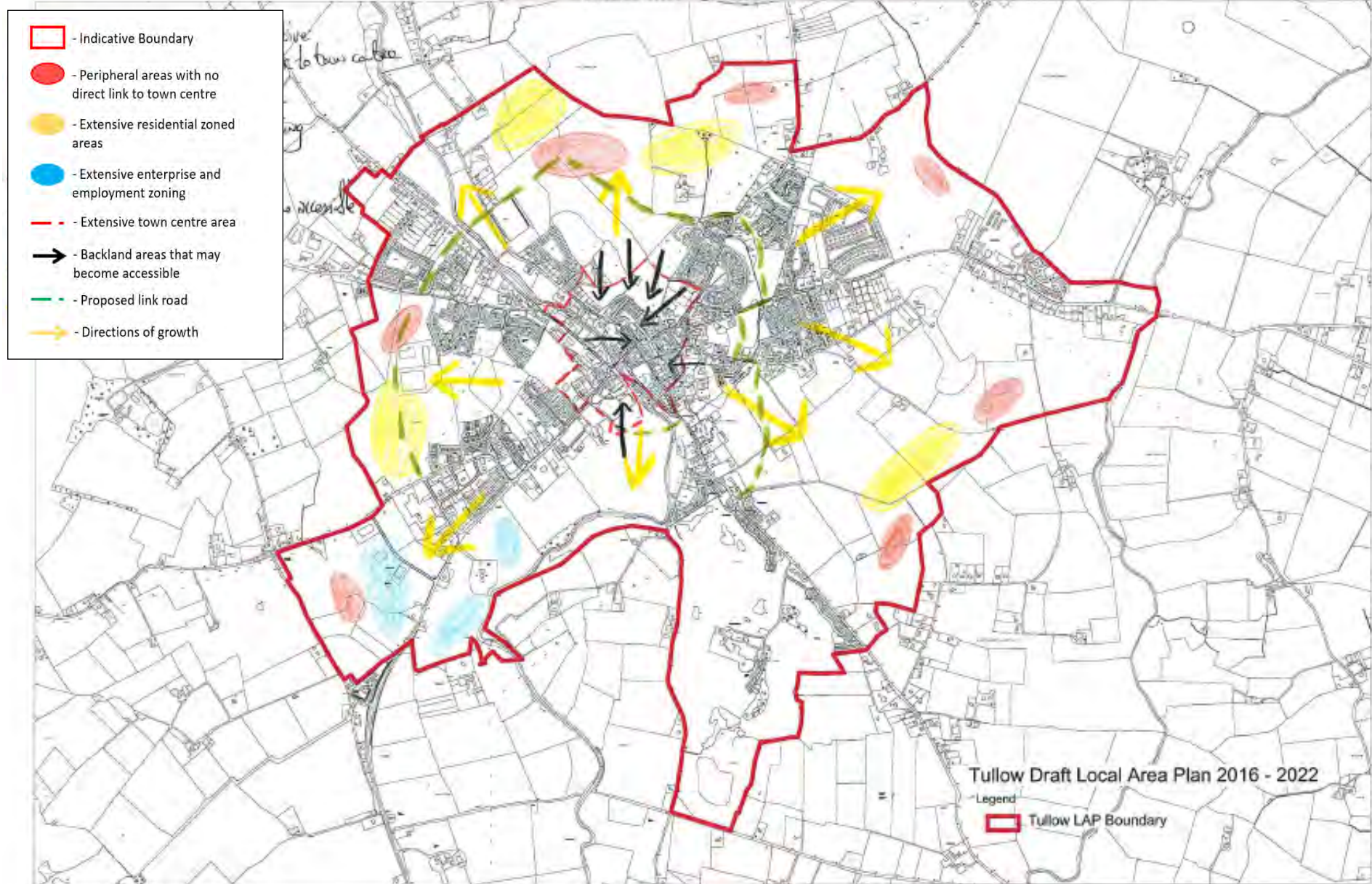


Figure 4.1 Alternative Development Strategy 1

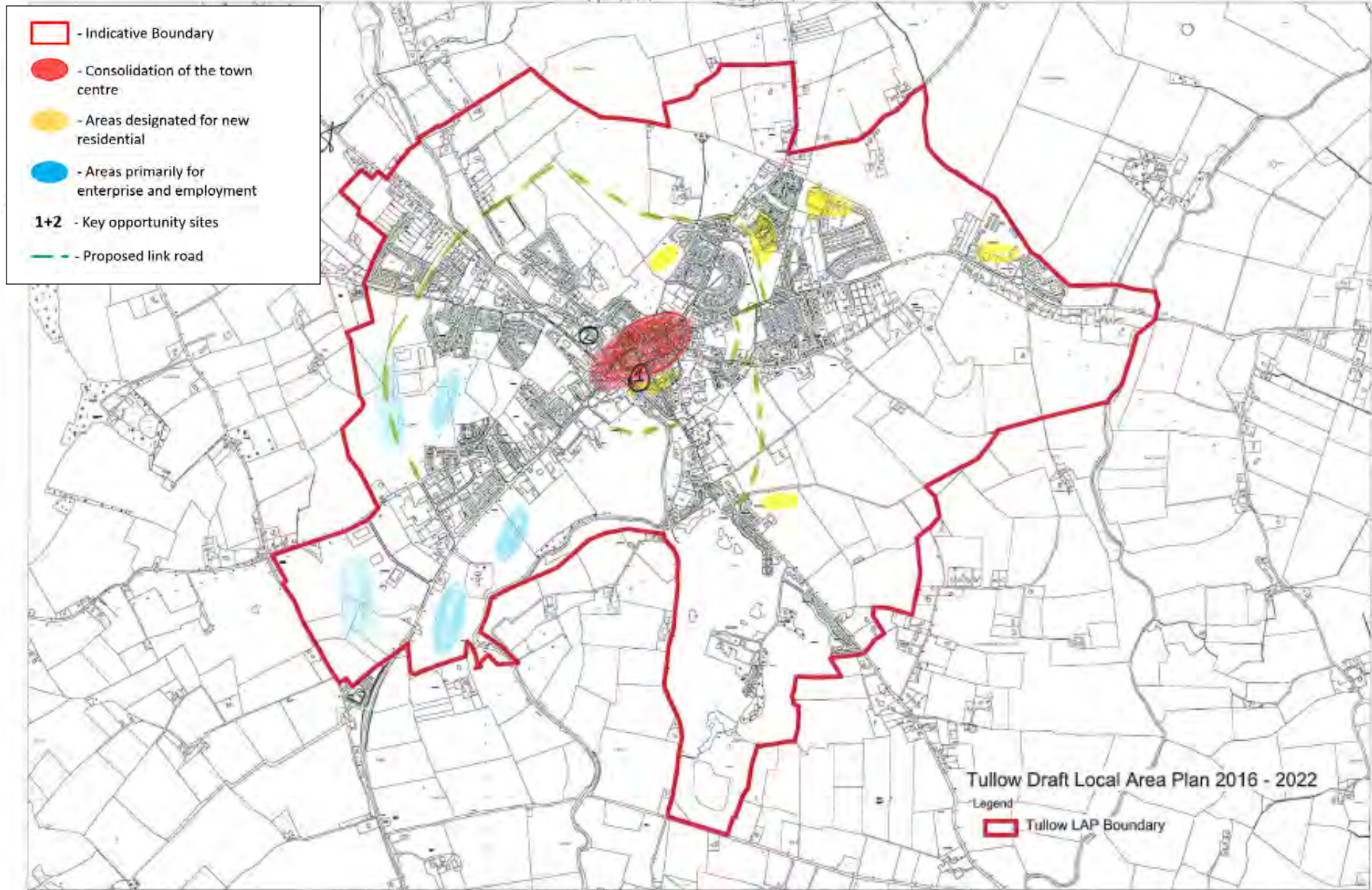


Figure 4.2 Alternative Development Strategy 2

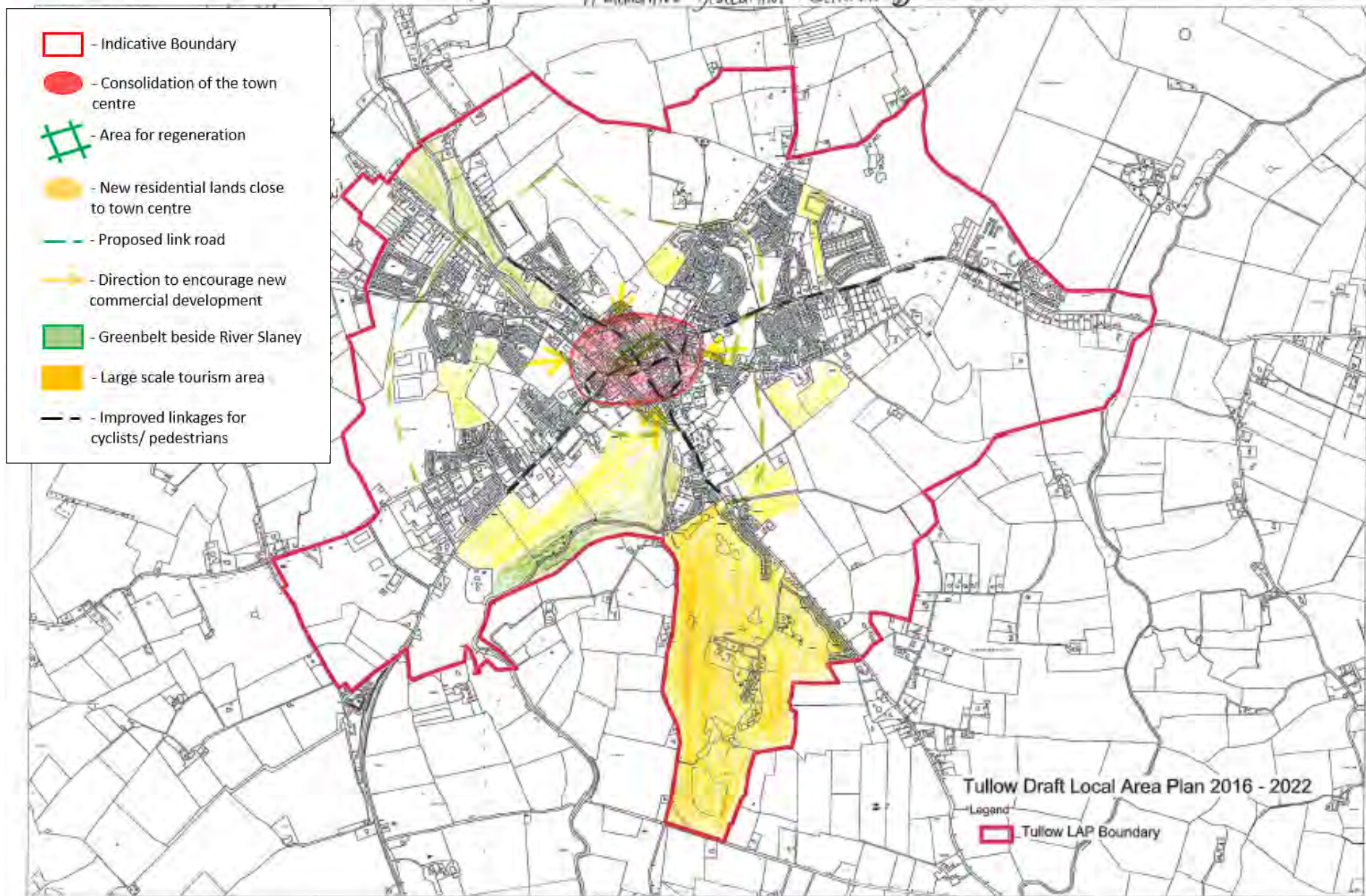


Figure 4.3 Alternative Development Strategy 3

4.3 Evaluation of Alternatives

A number of potentially significant adverse environmental effects that are common to all alternatives and are described on the Table below.

Environmental Component	Likely Significant Effect, if unmitigated
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Loss of biodiversity with regard to designated biodiversity and flora and fauna (including Natura 2000 Sites, proposed Natural Heritage Areas and Annexed habitats and species), ecological connectivity and stepping stones and non-designated biodiversity and flora and fauna (see baseline Section 4.2)
Population and Human Health	<ul style="list-style-type: none"> o Spatially concentrated deterioration in human health
Soil (especially soil on greenfield lands)	<ul style="list-style-type: none"> o Adverse impacts on the hydrogeological and ecological function of the soil resource
Water (including the River Barrow and its tributaries and underlying groundwater)	<ul style="list-style-type: none"> o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology o Increase in flood risk
Material Assets (it is the function of Irish Water to provide for water services needs)	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate waste water treatment o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean o Increases in waste levels
Air and Climatic Factors	<ul style="list-style-type: none"> o Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases)
Cultural Heritage	<ul style="list-style-type: none"> o Effects on entries to the Record of Monuments and Places and other archaeological heritage o Effects on entries to the Records of Protected Structures and other architectural heritage
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse visual impacts

Table 4.2 Potentially Significant Adverse Environmental Effects common to all alternatives

Alternative Development Strategy 1 would contribute towards efforts to improve sustainable mobility (and associated effects on energy, air, noise and human health) by improving existing pedestrian access and the development of a proposed relief road, however: such a contribution would be outweighed by the overall direction of the Strategy which prefers an expansion of peripheral areas for residential, mixed use, industrial and commercial uses, some of which have no direct link to the town centre.

The extent of development provided for would have to be served by infrastructure and could affect flood risk.

By providing significant expansion of suburbs of the town and peripheral areas, this alternative would be likely to result in the greatest number and extent of residual adverse effects across the widest area. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters. This Scenario would provide for various uses on greenfield lands in the peripheries of the plan area, adversely impacting upon the consolidation of the town and sustainable mobility. The visual appearance of peripheral greenfield areas within the LAP area would be most likely to change under this scenario.

Alternative Development Strategy 2 directs new development to vacant and infill sites in the town only. By consolidating the existing town centre and improving connectivity, this alternative would contribute towards efforts to both improve sustainable mobility (and associated effects on energy, air, noise and human health), protect cultural heritage and improve the residential fabric within the town centre.

However, by restricting new development to high density to vacant and infill sites, this alternative would be likely to result in an increase of applications for development outside the LAP area thereby weakening the town centre. It would be a challenge to serve peripheral areas with the necessary infrastructure.

The increase in applications for development within the periphery to the LAP area would provide for the greatest number and extent of residual adverse effects beyond the LAP area as a result of greenfield development. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters and changes to the visual appearance of lands.

By encouraging an extent of development within the town centre, this alternative would somewhat contribute towards the protection and management of the environment elsewhere, however the higher densities of development would have the potential to adversely impact upon the character of the town including cultural heritage and its context.

This alternative provides a significant amount of lands zoned primarily for Enterprise and Employment uses in the west and south west of the Plan area. The extent of lands zoned would be in significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.

Alternative Development Strategy 3 consolidates and strengthens the town centre and provides for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner. Consolidation of the town centre, phasing of residential development, improvement of pedestrian links and public spaces are all provided for.

By providing for development in this manner, this alternative would maximise sustainable mobility (and associated effects on energy, air, noise and human health) and protect cultural heritage within the town centre. Overall, new development would be best served by existing and planned infrastructure under this scenario. By limiting development within the Plan area and on the periphery of the development envelope, this alternative would benefit the protection of various environmental components (e.g. ecology, water, visual sensitivities etc.) beyond the LAP area that could otherwise be threatened.

Potential conflicts with all environmental components (detailed under Table 7.3) would still have to be mitigated to ensure that significant adverse residual environmental effects do not occur.

This scenario provides for a greenbelt along the River Slaney that would contribute towards the protection of the status of the river including associated biodiversity, however, provisions of the plan to maximise the potential of the River Slaney through the creation of a number of uses could potentially have adverse effects on the biodiversity for which the site is designated for

Table 4.3 provides a comparative evaluation of the environmental effects of alternative development strategies against Strategic Environmental Objectives. This is supported by the narrative above and by effects that are common to all alternatives detailed on Table 4.2.

Table 4.3 Comparative Evaluation of Alternative Development Strategies

Alternative Development Strategy	<u>Likely to Improve</u> status of SEOs <u>to a greater degree</u>	<u>Likely to Improve</u> status of SEOs <u>to a lesser degree</u>	<u>Least Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to greater degree.</u> significant adverse effects less likely	<u>More Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to an intermediate degree.</u> significant adverse effects more likely	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	<u>No significant interaction</u> with status of SEOs
Alternative Development Strategy 1		✓		✓		
Alternative Development Strategy 2		✓		✓		
Alternative Development Strategy 3	✓		✓			

4.4 Reasons for choosing the Plan in light of the other alternatives dealt with

The Plan has been developed by the Planning Team and adopted by the Council having regard to both:

1. The environmental effects which were identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects that also were considered by the Council.

Potential adverse effects will be mitigated by various provisions that have been integrated into the Plan (please refer to those referenced in Section 5).

The Alternative Development Strategy that was selected and developed for the Draft Plan was Strategy 3 - *to consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased manner*. However, the emerging Plan was amended to include a significant extent of lands zoned for Enterprise and Employment uses in the west and south west of the Plan area. The extent of these lands zoned is significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts. The alternative development strategy that has been placed on public display and adopted therefore is a mixture between Alternative Strategies 2 and 3.

The Land Use Zoning map from the Plan that evolved from and which is consistent with Alternative Strategies 2 and 3 is shown on Figure 4.4 overleaf. Also shown on this map is the constrained land use zoning objective (Policy HR 10B) for the River Slaney cSAC. This Policy has been integrated into the Plan as there are a number of overlaps between the area that is designated as cSAC and existing land use zoning objectives. Policy HR 10B requires applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13 – as shown on Figure 4.4 overleaf) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives

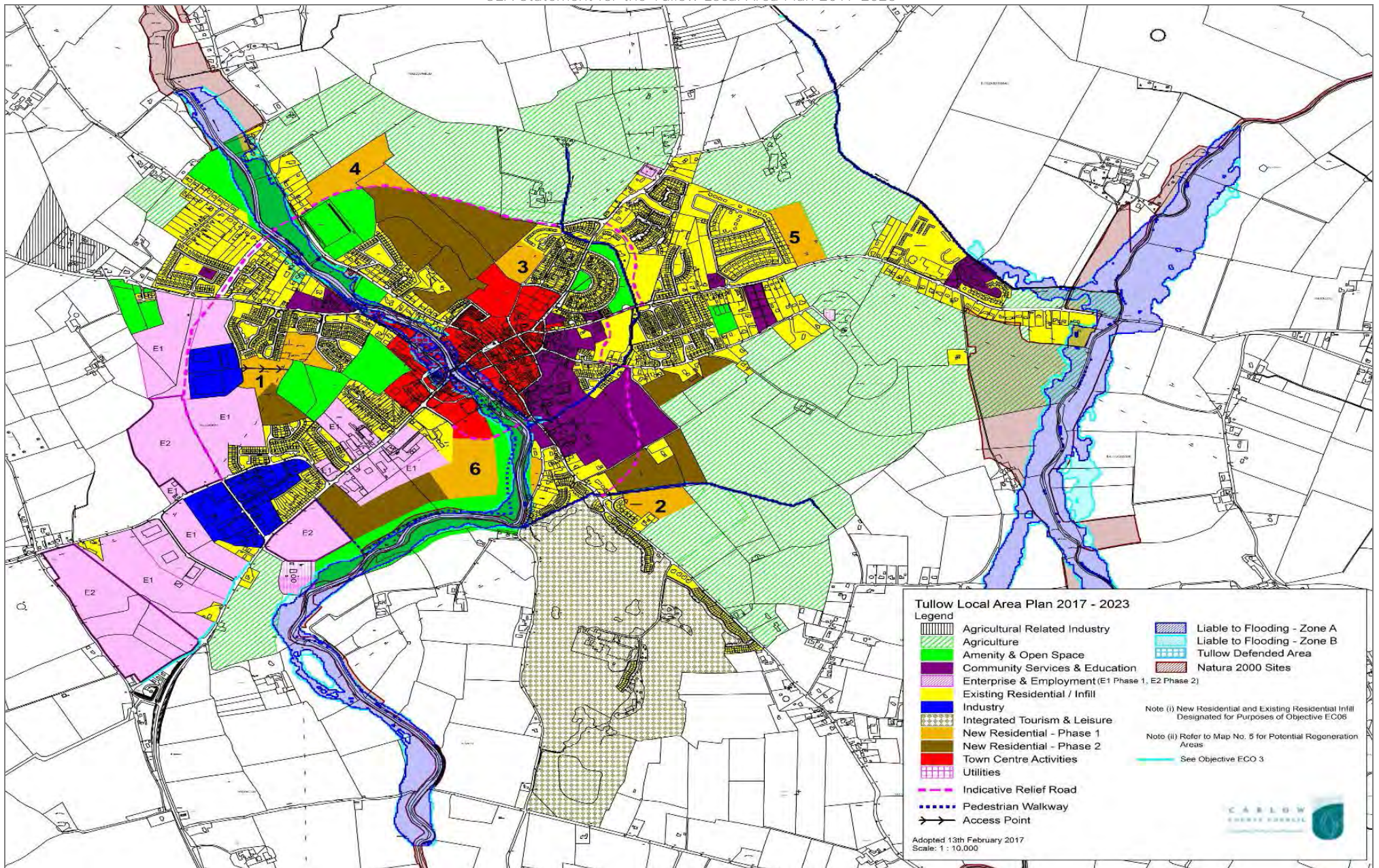


Figure 4.4 The Plan Land Use Zoning Map

Section 5 Monitoring Measures

5.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures that will be used in order to monitor the likely significant effects of implementing the Plan. Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

5.2 Indicators and Targets

Monitoring is based around indicators that allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives that are detailed in the SEA Environmental Report and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) that were identified with regard to the relevant strategic actions.

Table 5.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Plan, if unmitigated.

The Monitoring Programme may be updated to deal with specific environmental issues - including unforeseen effects - as they arise. Such issues may be identified by the Council or identified to the Council by other agencies.

5.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

Internal monitoring of the environmental effects of grants of permission in the Council will provide monitoring of various indicators and targets on a grant of permission by grant

of permission⁵ basis. Where significant adverse effects - including positive, negative, cumulative and indirect - have the potential to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

5.4 Reporting

A stand-alone Monitoring Report on the significant environmental effects of implementing the Plan will be prepared in advance of the beginning of the review of the Plan. This report should address the indicators set out below. The Council is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action.

5.5 Thresholds

Thresholds at which corrective action will be considered include:

- The occurrence of flood events;
- Court cases taken by the Department of Arts, Heritage and the Gaeltacht regarding impacts upon archaeological heritage including entries to the RMP;
- Complaints received from statutory consultees regarding avoidable environmental impacts resulting from development which is granted permission under the Plan;
- Boil notices on drinking water; and
- Fish kills.

⁵ The likely significant effects of development proposals on environmental sensitivities are further determined during the development management process. By documenting this determination (e.g. whether a proposed development will impact upon a Protected Structure or whether a proposed development can be adequately served with water services) while granting permissions, or at a later date, the requirement to monitor the effects of implementing the Plan can be achieved.

Table 5.1 Selected Indicators, Targets and Monitoring Source

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan ⁶	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). Consultations with the NPWS (at monitoring evaluation - see Section 5.4).
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). CORINE mapping resurvey (every c. 5 years).
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Consultations with the NPWS (at monitoring evaluation - see Section 5.4).
	B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan	<ul style="list-style-type: none"> Consultations with EPA and Health Service Executive (at monitoring evaluation - see Section 5.4).
Soil	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).
Water	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' ⁷	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland.
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwater's to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with The Planning System and Flood Risk Management Guidelines for Planning Authorities	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).

⁶ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
 (b) imperative reasons of overriding public interest for the plan to proceed; and
 (c) adequate compensatory measures in place.

⁷ Good status as defined by the WFD equates to approximately Q4 in the current national scheme of biological classification of rivers as set out by the EPA.

SEA Statement for the Tullow Local Area Plan 2017-2023

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	<ul style="list-style-type: none"> EPA The Provision and Quality of Drinking Water in Ireland reports (multi-annual). EPA Remedial Action List (every quarter).
	M3i: Total collected and brought household waste	M3i: Minimise increases in and, where possible, reduce household waste generation	<ul style="list-style-type: none"> EPA National Waste Reports EPA Ireland's Environment Reports
	M3ii: Packaging recovered (t) by self-complying packagers	M3ii: Maximise increases in packaging recovered (t) by self-complying packagers	<ul style="list-style-type: none"> EPA Ireland's Environment Reports
Air and Climatic Factors	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means	<ul style="list-style-type: none"> CSO Population Data (every c. 5 years).
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - and the context these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - and the context of these entries within the surrounding landscape where relevant – protected from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 5.4).
	CH2: Percentage of entries to the Record of Protected Structures and their context protected from adverse effects resulting from development which is granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and their context from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 5.4).
Landscape	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape resulting from development which is granted permission under the Plan	L1: No developments permitted which result in avoidable impacts on the landscape resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).

SEA ENVIRONMENTAL REPORT

FOR THE

TULLOW LOCAL AREA PLAN 2017-2023

for: Carlow County Council

Athy Road
Carlow
County Carlow



by: CAAS Ltd.

2nd Floor, The Courtyard
25 Great Strand Street
Dublin 1



MARCH 2017

Table of Contents

List of Abbreviations	vi
Glossary.....	vii
Section 1 SEA Introduction and Background.....	1
1.1 Introduction and Terms of Reference.....	1
1.2 SEA Definition.....	1
1.3 SEA Directive and its transposition into Irish Law.....	1
1.4 Implications for the Local Area Plan and the Planning Authority	2
Section 2 The Local Area Plan.....	3
2.1 Plan Format	3
2.2 Statutory Context	3
2.3 Vision for Tullow.....	3
2.4 Strategic Objectives for Tullow.....	3
2.5 Relationship with other relevant Plans and Programmes	3
Section 3 SEA Methodology	5
3.1 Introduction to the Iterative Approach.....	5
3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment	6
3.3 Strategic Flood Risk Assessment	6
3.4 Requirement for SEA.....	6
3.5 Scoping	6
3.6 Environmental Baseline Data	7
3.7 Alternatives	7
3.8 The SEA Environmental Report	7
3.9 The SEA Statement.....	8
3.10 Difficulties Encountered.....	8
Section 4 Environmental Baseline	10
4.1 Introduction.....	10
4.2 Biodiversity and Flora and Fauna.....	11
4.3 Population and Human Health	17
4.4 Soil	17
4.5 Water	19
4.6 Air and Climatic Factors	29
4.7 Material Assets	31
4.8 Cultural Heritage	32
4.9 Landscape	37
4.10 Overlay of Environmental Sensitivities.....	41
Section 5 Strategic Environmental Objectives	43
Section 6 Alternative Development Strategies.....	46
Section 7 Evaluation of Alternatives.....	51
7.1 Methodology	51

7.2	Cumulative Effects	53
7.3	Potentially Significant Adverse Effects	55
7.4	Comparative Evaluation of all Alternative Development Strategies	56
7.5	The Selected Alternative Development Strategy for the Plan	59
Section 8	Evaluation of Plan Provisions	61
8.1	Overall Findings	61
8.2	Methodology	61
8.3	Appropriate Assessment and Strategic Flood Risk Assessment	62
8.4	Potential Adverse Effects and their Determination	63
8.5	Interrelationship between Environmental Components	64
8.6	Cumulative Effects	66
8.7	Residual Adverse Effects	66
8.8	Detailed Evaluation	67
Section 9	Mitigation Measures	94
9.1	Introduction	94
9.2	Integration of Environmental Considerations	94
Section 10	Monitoring Measures	101
10.1	Introduction	101
10.2	Indicators and Targets	101
10.3	Sources	101
10.4	Reporting	101
10.5	Thresholds	101
Appendix I Relationship with Legislation and Other Plans and Programmes....		104
Appendix II Non-Technical Summary		Separately bound

List of Figures

Figure 3.1 Tullow Local Area Plan and SEA, AA and SFRA Stages	5
Figure 4.1 cSACs and SPAs in the vicinity of the Plan area	13
Figure 4.2 River Slaney Valley cSAC	14
Figure 4.3 NHAs and pNHAs in the vicinity of the Plan area	15
Figure 4.4 CORINE Land Cover Data 2012	16
Figure 4.5 Soil Type	18
Figure 4.6 WFD Surface Water Status	23
Figure 4.7 Q-Values at Points on Rivers post 2004	24
Figure 4.8 WFD Status of Groundwater	25
Figure 4.9 Aquifer Vulnerability	26
Figure 4.10 Entries to the RPAs	27
Figure 4.11 Flood Zones	28
Figure 4.12 Archaeological Heritage - Entries to the Record of Monuments and Places and Zones of Notification	35
Figure 4.13 Architectural Heritage - Entries to the RPS and NIAH	36
Figure 4.14 Landscape Character Areas	39
Figure 4.15 Landscape Sensitivity	40
Figure 4.16 Overlay of Environmental Sensitivities	42
Figure 6.1 Alternative Development Strategy 1	48
Figure 6.2 Alternative Development Strategy 2	49
Figure 6.3 Alternative Development Strategy 3	50
Figure 7.1 Land Use Zoning Map from the Plan	60

List of Tables

Table 3.1 Checklist of Information included in this Environmental Report	9
Table 4.1 Natura 2000 sites within 15km of the Plan area.....	11
Table 4.2 pNHAs within 15km of the Plan area	11
Table 4.3 Overall Vulnerability Classes	41
Table 5.1 Strategic Environmental Objectives, Indicators and Targets.....	44
Table 6.1 Description of Alternative Development Strategies.....	47
Table 7.1 Strategic Environmental Objectives	52
Table 7.2 Criteria for appraising the effect on SEOs	52
Table 7.3 Potentially Significant Adverse Environmental Effects common to all alternatives.....	55
Table 7.4 Comparative Evaluation of Alternative Development Strategies.....	58
Table 8.1 Criteria for appraising the effect of Plan provisions on SEOs	62
Table 8.2 Strategic Environmental Objectives	62
Table 8.3 Potential Adverse Effects.....	63
Table 8.4 Presence of Interrelationships between Environmental Components.....	65
Table 8.5 Residual Adverse Effects	66
Table 9.1 Integration of Environmental Considerations.....	95
Table 10.1 Selected Indicators, Targets and Monitoring Sources	102

List of Abbreviations

AA	Appropriate Assessment
CSO	Central Statistics Office
DAHG	Department of Arts, Heritage and the Gaeltacht
DCENR	Department of Communications, Energy and Natural Resources
DEHLG	Department of the Environment, Heritage and Local Government
DECLG	Department of the Environment, Community and Local Government
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
GSI	Geological Survey of Ireland
NHA	Natural Heritage Area
NIAH	National Inventory of Architectural Heritage
RBD	River Basin District
RMP	Record of Monuments and Places
RPS	Record of Protected Structures
RPGs	Regional Planning Guidelines
SAC	Special Area of Conservation
SEA	Strategic Environmental Assessment
SEO	Strategic Environmental Objective
SI No.	Statutory Instrument Number
SPA	Special Protection Area
WFD	Water Framework Directive

Glossary

Appropriate Assessment

The obligation to undertake Appropriate Assessment derives from Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC. AA is a focused and detailed impact assessment of the implications of a strategic action or project, alone and in combination with other strategic actions and projects, on the integrity of a Natura 2000 site in view of its conservation objectives.

Biodiversity and Flora and Fauna

Biodiversity is the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems' (United Nations Convention on Biological Diversity 1992).

Flora is all of the plants found in a given area.

Fauna is all of the animals found in a given area.

Biotic Index Values (Q Values)

The Biotic Index Values, or Q values, are assigned to rivers in accordance with biological monitoring of surface waters - low Q ratings, as low as Q1, are indicative of low biodiversity and polluted waters, and high Q ratings, as high as Q5, are indicative of high biodiversity and unpolluted waters. Good status as defined by the Water Framework Directive equates to approximately Q4 in the national scheme of biological classification of rivers as set out by the Environmental Protection Agency.

Environmental Problems

Annex I of Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the assessment of the effects of certain Plans and programmes on the environment (the Strategic Environmental Assessment Directive) requires that information is provided on 'any existing environmental problems which are relevant to the plan or programme', thus, helping to ensure that the proposed strategic action does not make existing environmental problems worse.

Environmental problems arise where there is a conflict between current environmental conditions and ideal targets. If environmental problems are identified at the outset they can help focus attention on important issues and geographical areas where environmental effects of the plan or programme may be likely.

Environmental Vectors

Environmental vectors are environmental components, such as air, water or soil, through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings.

Mitigate

To make or become less severe or harsh.

Mitigation Measures

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation involves ameliorating significant negative effects. Where there are significant negative effects, consideration should be given in the first instance to preventing such effects or, where this is not possible, to lessening or offsetting those effects. Mitigation measures can be roughly divided into those that: avoid effects; reduce the magnitude or extent, probability and/or severity of effects; repair effects after they have occurred; and compensate for effects, balancing out negative impacts with other positive ones.

Protected Structure

Protected Structure is the term used in the Planning and Development Act 2000 as amended to define a structure included by a planning authority in its Record of Protected Structures. Such a structure shall not be altered or demolished in whole or part without obtaining planning permission or confirmation from the planning authority that the part of the structure to be altered is not protected.

Recorded Monument

A monument included in the list and marked on the map that comprises the Record of Monuments and Places that is set out County by County under Section 12 of the National Monuments (Amendment) Act, 1994 by the Archaeological Survey of Ireland. The definition includes Zones of Archaeological Potential in towns and all other monuments of archaeological interest, which have so far been identified. Any works at or in relation to a recorded monument requires two months' notice to the former Department of the Environment, Heritage and Local Government (now Department of Arts, Heritage and the Gaeltacht) under section 12 of the National Monuments (Amendment) Act, 1994.

Scoping

Scoping is the process of determining what issues are to be addressed, and setting out a methodology in which to address them in a structured manner appropriate to the plan or programme. Scoping is carried out in consultation with appropriate environmental authorities.

Strategic Actions

Strategic actions include: Policies/Strategies, which may be considered as inspiration and guidance for action and which set the framework for Plans and programmes; Plans, sets of co-ordinated and timed objectives for the implementation of the policy; and Programmes, sets of projects in a particular area.

Strategic Environmental Assessment (SEA)

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme before a decision is made to adopt it.

Strategic Environmental Objective (SEO)

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies which generally govern environmental protection objectives established at international, Community or Member State level and are used as standards against which the provisions of the Plan and the alternatives can be evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

Section 1 SEA Introduction and Background

1.1 Introduction and Terms of Reference

This is the Strategic Environmental Assessment (SEA) Environmental Report for the Tullow Local Area Plan 2016-2022. It has been undertaken by CAAS Ltd. on behalf of Carlow County Council.

The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan. The SEA is carried out in order to comply with the provisions of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) as amended. This report should be read in conjunction with the Local Area Plan.

1.2 SEA Definition

Environmental assessment is a procedure that ensures that the environmental implications of decisions are taken into account before such decisions are made. Environmental Impact Assessment, or EIA, is generally used for describing the process of environmental assessment for individual projects, while Strategic Environmental Assessment, or SEA, is the term that has been given to the environmental assessment of plans and programmes, which help determine the nature and location of individual projects taking place. SEA is a systematic process of predicting and evaluating the likely significant environmental effects of implementing a proposed plan or programme in order to ensure that these effects are adequately addressed at the earliest appropriate stages of decision-making in tandem with economic, social and other considerations.

1.3 SEA Directive and its transposition into Irish Law

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the

Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use planning.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21st July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 (SI No. 201 of 2011).

1.4 Implications for the Local Area Plan and the Planning Authority

Having considered the review and preparation of the Tullow Local Area Plan under Article 8 (14A) of the Planning and Development (SEA) Regulations (as amended), Carlow County Council, based on available information on both the expected content of the draft Plan and the existing environment, determined that the Plan would be likely, if unmitigated, to have significant effects on the environment¹.

Furthermore, a Stage 2 Appropriate Assessment (AA) under the Habitats Directive was undertaken on the LAP. The SEA Directive requires that SEA is undertaken where Stage 2 AA is being undertaken on plans, programmes or variations to these.

It therefore was determined SEA was required to be undertaken on the Plan.

The findings of the SEA are expressed in the Environmental Report. An earlier version of this report has been updated to take account of both: recommendations contained in submissions; and changes that were made to the Draft Plan on foot of submissions. Elected Members of Carlow County Council have taken into account the findings of this report and other related SEA output during their consideration of the Draft Plan and before its adoption.

An SEA Statement summarising how environmental considerations have been integrated into the Plan will be prepared at the end of the process.

¹ It was identified as mitigation needed to be integrated into the LAP in order to ensure the protection of the Slaney River Valley Candidate Special Area of Conservation (Site Code 000781). This cSAC is designated for a number of species, including freshwater pearl mussel, which are highly protected and sensitive. A submission was made by

the Department of Arts, Heritage and the Gaeltacht as part of the Plan preparation process that highlights the need to consider the protection of ecological sensitivities - including cSACs and protected species. Other issues for the Plan include those relating to wastewater treatment capacity and performance, water quality and flood risk.

Section 2 The Local Area Plan

2.1 Plan Format

The Local Area Plan (LAP) for Tullow consists of a Written Statement and a land use-zoning map. It comprises of 12 Chapters:

- Chapters 1-3 outlines the context of the LAP review the historical development of Tullow, the existing profile of the town together with the vision and strategic objectives for the future development of the area.
- Chapters 4-11 address key development objectives including economic development, housing, infrastructure, community facilities, natural and built heritage, tourism, town centre and public realm principles.
- Chapter 12 addresses land use zoning objectives.

2.2 Statutory Context

The LAP has been prepared in accordance with Sections 18 to 20 of the Planning and Development Act 2000, as amended. The Plan replaces the Tullow LAP 2010-2016.

LAPs are required to be consistent with the policies and objectives of the County Development Plan and its Core Strategy, as well as the Regional Planning Guidelines that apply to the area of the Plan.

The LAP should be read in conjunction with the Carlow County Development Plan 2015-2021, which sets out the overarching development strategy for the County.

Whereby any provisions of the LAP conflict with the provisions of the County Development Plan, the provisions of the LAP shall cease to have effect.

2.3 Vision for Tullow

Carlow County Council's Vision for the town is as follows:

To provide a focused approach to planning for the future growth of Tullow in a coherent and spatial fashion which seeks to deliver high levels of employment and balances future sustainable development with the conservation and enhancement of the town's natural and built environment.

2.4 Strategic Objectives for Tullow

The main Strategic Objectives for the town are as follows:

1. To create vibrant integrated communities in a more consolidated urban form.
2. To create a thriving town which contributes to the natural and built heritage amenities of the town and provides a vibrant and vital mixed-use environment.
3. To facilitate the creation of a sustainable vibrant economy which maximises the unique attributes of the town.

The Council is committed to delivering this vision of the town through working in partnership with the local community and local organisations, and through promoting the policies and objectives contained in the LAP, and future LAPs.

2.5 Relationship with other relevant Plans and Programmes

2.5.1 Introduction

The Plan sits within a hierarchy of strategic actions such as plans and programmes and is subject to a number of high-level environmental protection policies and objectives with which it must comply (including those detailed below and in Appendix I, Section 4, Section 5 and Section 9 of this report).

The Plan may, in turn, guide lower level strategic actions. In this regard, Appendix I includes statutory provisions, plans, policies and strategies that set the context within which

the Plan is framed and which have influenced the strategies and objectives of the Plan.

2.5.2 Regional Planning Guidelines for the South-East Region 2010-2022

Ireland was divided into eight regional forward planning regions, Dublin, Midlands, Mid-East, Mid-West, South East, South West, West and Border, each with its own regional planning authority composed of Elected Members selected by the constituent local government councils. Regional planning authorities were required, under the Planning and Development (Regional Planning Guidelines) Regulations 2003 (SI No. 175 of 2003), to draw up Regional Planning Guidelines (RPGs), long term strategic planning frameworks, for their relevant region. Since 2015, three new regional assemblies (the Northern and Western, Southern and Eastern and Midland Regional Assemblies) undertake the work previously undertaken by the Regional Authorities, including the implementation of the Regional Planning Guidelines. Carlow County Council was part of the South-East Regional Authority and is now part of the Southern Regional Assembly.

County Carlow, including Tullow, is subject to the Regional Planning Guidelines for the South Eastern Region 2010-2022 that provide a framework for the long-term strategic development of the South-Eastern Region. The Guidelines do this through setting out goals, policies and objectives in relation to population targets, housing, infrastructure, economic development, environment, amenities, social infrastructure and community development, ensuring the successful implementation of the NSS at regional, county and local level.

The RPGs have allocated a population target of 63,536 for County Carlow by 2022. This represents a population increase of 4,085 from the 2016 population target of 59,451. Applying an average allocation per annum, this amounts to a population of 680 per annum between 2016-2022. The allocation for Tullow to 2022 is therefore calculated as 4.3 % of the population target (29 pop / average household size (2.7) = 11 units with 75% over zoning = 19 additional units). Adding this to the 2021 housing target (112) gives a revised target of 131 housing units for Tullow for the period 2016-2022.

2.5.3 Carlow County Development Plan 2015-2021

The Carlow County Development Plan 2015-2021 sets out the strategic planning and sustainable development of County Carlow over its lifetime and is consistent with the Regional Planning Guidelines.

2.5.4 River Basin Management Plans

Local Authorities, including Carlow County Council, have prepared the South East River Basin Management Plan that is implemented in order to help protect and improve waters in the town and wider River Basin District. The Plan and associated Programme of Measures includes provisions to help ensure that water bodies in the districts meet the objectives of the Water Framework Directive.

2.5.5 Catchment Flood Risk Assessment and Management Studies

Catchment Flood Risk Assessment and Management (CFRAM) Studies are being undertaken for the South Eastern River Basin District by the Office of Public Works.

The study is focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. The final output from the study will be a CFRAM Plan (this is currently being finalised). The Plan will define the current and future flood risk in the River Basin District and set out how this risk can be managed.

Section 3 SEA Methodology

3.1 Introduction to the Iterative Approach

This section details how the SEA has been undertaken alongside the preparation of the Plan. Figure 3.1 lays out the main stages in the Plan/SEA preparation process.

The Plan and associated SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) documents were prepared in an iterative manner whereby multiple revisions of each document were prepared, each informing subsequent iterations of the others.

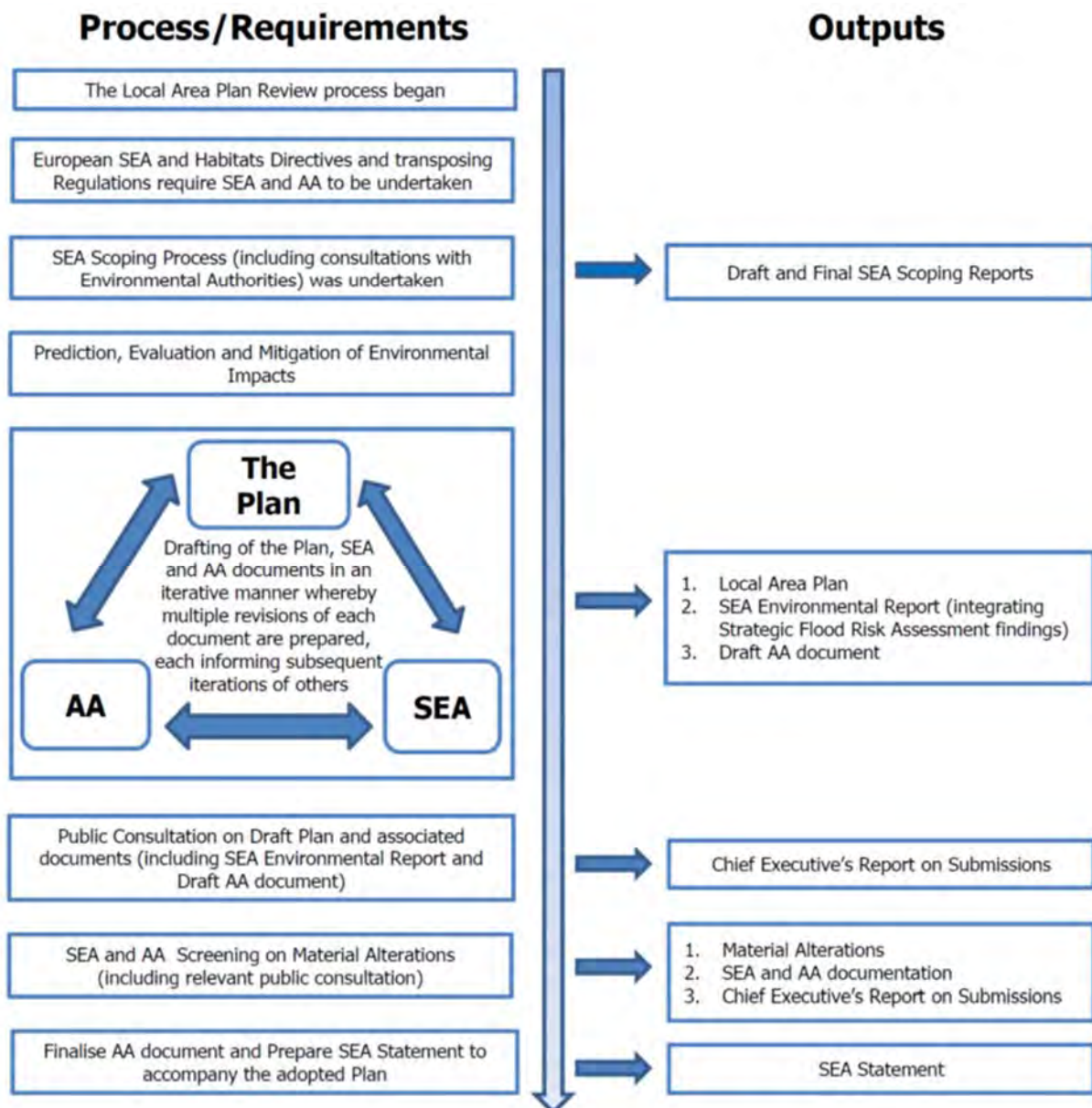


Figure 3.1 Tullow Local Area Plan and SEA, AA and SFRA Stages

3.2 Appropriate Assessment and Integrated Biodiversity Impact Assessment

3.2.1 Appropriate Assessment

A Stage 2 Appropriate Assessment (AA) has been undertaken alongside the preparation of the Plan.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC).

The AA concluded that the Plan will not affect the integrity of the Natura 2000 network².

The preparation of the Plan, SEA and AA has taken place concurrently and the findings of the AA have informed both the Plan and the SEA. All recommendations made by the AA were integrated into the Plan.

3.3 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Plan.

The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

The preparation of the Plan, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed both the Plan and the SEA.

The SFRA has facilitated the integration of flood risk management considerations into the Plan.

3.4 Requirement for SEA

Having considered the review and preparation of the Tullow Local Area Plan under Article 8 (14A) of the Planning and Development (SEA) Regulations (as amended), Carlow County Council, based on available information on both the expected content of the draft Plan and the existing environment, determined that the Plan would be likely, if unmitigated, to have significant effects on the environment³.

Furthermore, a Stage 2 Appropriate Assessment (AA) under the Habitats Directive is being undertaken on the LAP. The SEA Directive requires that SEA is undertaken where Stage 2 AA is being undertaken on plans, programmes or variations to these.

It therefore was determined SEA was required to be undertaken on the Plan.

3.5 Scoping

3.5.1 Introduction

In consultation with the environmental authorities, the scope of environmental issues to be dealt with by the SEA together with the level of detail to which they are addressed was broadly decided upon taking into account the collection of environmental baseline data and input from environmental authorities. Scoping allowed the SEA to become focused upon key issues relevant to the environmental components that are specified under the SEA Directive⁴.

As the Plan is not likely to have significant effects on the environment in another Member State transboundary consultations as provided

² Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
- (b) imperative reasons of overriding public interest for the plan to proceed; and
- (c) adequate compensatory measures in place.

³ It was identified as mitigation needed to be integrated into the LAP in order to ensure the protection of the Slaney River Valley candidate Special Area of Conservation (Site Code 000781). This cSAC is designated for a number of species, including freshwater pearl mussel, which are highly protected and sensitive. A submission was made by

the Department of Arts, Heritage and the Gaeltacht as part of the Plan preparation process that highlights the need to consider the protection of ecological sensitivities - including cSACs and protected species. Other issues for the Plan include those relating to wastewater treatment capacity and performance, water quality and flood risk.

⁴ These components comprise biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

for by Article 7 of the SEA Directive were not undertaken.

3.5.2 Scoping Notices

All relevant environmental authorities⁵ identified under the SEA Regulations as amended, were sent SEA scoping notices by the Council indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council. Environmental authorities were informed that submissions, or parts of submissions, made on the AA or SFRA would also be taken into account.

3.5.3 Scoping Responses

Submissions were made by the Environmental Protection Agency and the Department of Arts, Heritage and the Gaeltacht. These submissions influenced the scope of the assessments and have been taken into account during the undertaking of the SEA, SFRA and AA.

3.6 Environmental Baseline Data

The SEA process is informed by the environmental baseline (i.e. the current state of the environment) to facilitate the identification and evaluation of the likely significant environmental effects of implementing the provisions of the Plan and the alternatives and the subsequent monitoring of the effects of implementing the provisions of the Plan.

3.7 Alternatives

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on

the environment. In accordance with this requirement, alternatives are considered in Section 6 and Section 7.

3.8 The SEA Environmental Report

In this Environmental Report, an earlier version of which was placed on public display alongside the Draft Plan, the likely environmental effects of the Plan and the alternatives are predicted and their significance evaluated.

The Environmental Report provides the Council, stakeholders and the public with a clear understanding of the likely environmental consequences of implementing the Plan.

Mitigation measures to prevent or reduce significant adverse effects posed by the Plan are identified in Section 9 - these have been integrated into the Plan.

The Environmental Report has been updated in order to take account of recommendations contained in submissions and in order to take account of changes that are made to the original, Plan that is being placed on public display.

The Environmental Report is required to contain the information specified in Schedule 2 of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) as amended (see Table 3.1).

⁵ The following authorities were notified: Environmental Protection Agency; Department of Communications, Energy and Natural Resources; Department of Agriculture, Fisheries and Food; Department of the Environment, Community and Local Government; Department of Arts, Heritage and the Gaeltacht; and adjoining planning authorities whose areas are contiguous to the administrative area of Carlow County Council.

3.9 The SEA Statement

On the making of the Plan by the Council, an SEA Statement is prepared which includes information on:

- How environmental considerations have been integrated into the Plan, highlighting the main changes to the Plan which resulted from the SEA process;
- How the SEA Environmental Report and consultations have been taken into account, summarising the key issues raised in consultations and in the Environmental Report indicating what action was taken in response;
- The reasons for choosing the Plan in the light of the other alternatives, identifying the other alternatives considered, commenting on their potential effects and explaining why the Plan as adopted was selected; and
- The measures decided upon to monitor the significant environmental effects of implementing of the Plan.

3.10 Difficulties Encountered

The lack of a centralised data source that could make all environmental baseline data for the County both readily available and in a consistent format posed a challenge to the SEA process. This difficulty is one which has been encountered while undertaking SEAs at local authorities across the country and was overcome by investing time in the collection of data from various sources and through the use of Geographical Information Systems.

Table 3.1 Checklist of Information included in this Environmental Report

Information Required to be included in the Environmental Report	Corresponding Section of this Report
(A) Outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes	Sections 2, 5 and 7
(B) Description of relevant aspects of the current state of the environment and the evolution of that environment without implementation of the plan or programme	Section 4
(C) Description of the environmental characteristics of areas likely to be significantly affected	Sections 4, 6 and 7
(D) Identification of any existing environmental problems which are relevant to the plan or programme, particularly those relating to European protected sites	Section 4
(E) List environmental protection objectives, established at international, EU or national level, which are relevant to the plan or programme and describe how those objectives and any environmental considerations have been taken into account when preparing the Plan	Sections 5, 6, 7 and 8
(F) Describe the likely significant effects on the environment	Sections 6 and 7
(G) Describe any measures envisaged to prevent, reduce and as fully as possible offset any significant adverse environmental effects of implementing the plan or programme	Section 8
(H) Give an outline of the reasons for selecting the alternatives considered, and a description of how the assessment was undertaken (including any difficulties)	Sections 3, 6 and 7
(I) A description of proposed monitoring measures	Section 9
(J) A non-technical summary of the above information	Non-Technical Summary (Appendix II)
(K) Interrelationships between each environmental topic	Addressed as it arises within each Section

Section 4 Environmental Baseline

4.1 Introduction

The SEA Directive requires that the information on the baseline environment is focused upon the relevant aspects of the environmental characteristics of areas likely to be significantly affected and the likely evolution of the current environment in the absence of the Plan. Being consistent with the strategic provisions of the Plan, this section provides a strategic description of aspects of environmental components that have the greatest potential to be affected by implementation of the Plan, if unmitigated.

Article 5 of the SEA Directive states that the report shall include the information that may *reasonably* be required taking into account:

- Current knowledge and methods of assessment;
- The contents and level of detail in the plan or programme and its stage in the decision-making process; and
- The extent to which certain matters are more appropriately assessed at different levels in that process in order to avoid duplication of the assessment.

What this means in practice is, inter alia, that SEA involves collating currently available, relevant environmental data; it does not require major new research. Where data deficiencies or gaps exist, this should be acknowledged in the report.

With respect to the likely evolution of the environment in the absence of the Plan, the Tullow Local Area Plan 2010-2016 contains provisions that contribute towards environmental protection and sustainable development within Tullow.

If the 2010-2016 Plan was to have expired and not be replaced by the 2017-2023 Plan, this would have resulted in a deterioration of the town's planning and environmental protection framework. Although higher-level environmental protection objectives – such as those of the new 2015-2021 County Development Plan and various EU Directives and transposing Irish Regulations – would still apply, the deterioration of this framework would mean that new development would be

less coordinated and controlled. Such development would have the potential to result in an increase in the occurrence of adverse effects on all environmental components, especially those arising cumulatively. Cumulative effects occur as a result of the addition of many small impacts to create one larger, more significant, impact.

Such adverse effects could include:

- Loss of biodiversity with regard to Natura 2000 Sites and Annexed habitats and species;
- Loss of biodiversity with regard to ecological connectivity and stepping stones;
- Loss of biodiversity with regard to designated sites including Wildlife Sites and species listed on Schedule 5 of the Wildlife Act 1976;
- Spatially concentrated deterioration in human health;
- Adverse impacts on the hydrogeological and ecological function of the soil resource;
- Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology;
- Increase in the risk of flooding;
- Failure to provide adequate and appropriate waste water treatment;
- Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean;
- Increases in waste levels;
- Failure to contribute towards sustainable transport and associated impacts;
- Effects on entries to the Record of Monuments and Places and other archaeological heritage;
- Effects on entries to the Records of Protected Structures and other architectural heritage; and
- Occurrence of adverse visual impacts.

4.2 Biodiversity and Flora and Fauna

4.2.1 Natura 2000

Candidate Special Areas of Conservation (cSACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the (former) Department of the Environment, Heritage and Local Government due to their conservation value for habitats and species of importance in the European Union.

Special Protection Areas (SPAs) have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) due to their conservation value for birds of importance in the European Union. SPAs, along with SACs, comprise Ireland's Natura 2000 network – part of an EU-wide network of protected areas established under the Habitats Directive.

There is one Natura 2000 site occurring inside the Plan boundary, which is the River Slaney Valley cSAC. This site has been designated due to the presence of a number of habitats and species including Floating River Vegetation, Old Oak Woodlands, Alluvial Forests, Freshwater Pearl Mussel, Sea Lamprey, Brook Lamprey, River Lamprey, Atlantic Salmon and Otter.

cSACs within 5, 10 and 15km buffers of the Plan area are shown on Figure 4.1. The River Slaney Valley cSAC transects the Plan area and is shown on Figure 4.2. These are also listed on Table 4.1. There are currently no SPAs within 15km of the Plan area.

Table 4.1 Natura 2000 sites within 15km of the Plan area

Natura 2000 Sites		
Designation	Code	Site Name
	0770	Blackstairs Mountains SAC
	0781	Slaney River Valley SAC
	1757	Holdenstown Bog SAC
	2162	River Barrow and River Nore SAC

Additional information on Natura 2000 sites is provided in the Stage 2 Appropriate Assessment Natura Impact Report that accompanies the Plan.

4.2.2 Proposed Natural Heritage Area

Natural Heritage Areas (NHAs) are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. Proposed NHAs (pNHA) were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated.

There are no NHAs or pNHAs occurring inside the Plan boundary. pNHAs within 15km of the Plan area are listed on Table 4.2 and mapped on Figure 4.3. There are no NHAs located within the 15km buffer zone of the plan area.

Table 4.2 pNHAs within 15km of the Plan area

Proposed Natural Heritage Areas		
Designation	Code	Site Name
pNHA	770	Blackstairs Mountains
	781	River Slaney Valley
	788	Ardristen Fen
	792	Baggot's Wood
	797	Ballymoon Esker
	806	Cloghrick Wood
	808	John's Hill
	810	Oakpark
	1389	Corballis Hill
	1757	Holdenstown Bog
	1852	Tomnafinnoge Wood

4.2.3 CORINE Land Cover Mapping

CORINE land cover mapping⁶ for Tullow and surrounding environs for the year 2012 is shown on Figure 4.4. Discontinuous Urban Fabric (indicative of the built area of the town) covers most of the Plan area with other areas within and surrounding the Plan area covered by Sport and Leisure facilities (this is Mount Wolseley), Non-Irrigated lands and Pasture, and indicative agricultural uses.

4.2.4 Ecological Networks and Connectivity

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping stones for wildlife species moving within their normal range. They are important for the migration, dispersal and genetic exchange of species of flora and fauna particularly for mammals, especially for bats and small birds and facilitate linkages both between and within designated ecological sites, the non-designated surrounding countryside and the town.

Important ecological networks comprise a variety of features including the Slaney River that flows through the Plan area, various agricultural lands, stands of trees and hedgerows.

4.2.5 Registers of Protected Areas

In response to the requirements of the Water Framework Directive, a number of water bodies, or parts of water bodies, which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife, have been listed on Registers of Protected Areas (RPAs).

⁶ CORINE Land Cover (CLC) is a map of the European environmental landscape based on interpretation of satellite images. Land cover is the observed physical cover, as seen from the ground or through remote sensing, including for example natural or planted vegetation, water and human constructions which cover the earth's surface. Because of the scale of the CORINE data and the method by which it was

Entries to RPAs for wildlife within or adjacent to the town all relate to cSAC designations and associated species, including salmon.

Further information on entries to the RPA by virtue of their value to people is provided in Section 4.5.

4.2.6 Other Protected Species/Habitats

In addition to certain species and habitats already mentioned above, other species are protected under law wherever they occur, such as:

- 'Protected Species and natural habitats' as defined in the Environmental Liability Directive (2004/35/EC) and European Communities (Environmental Liability) Regulations 2008 including annexed habitats and species listed under Annexes I, II and IV of the EU Habitats Directive and Annex I of the EU Birds Directive;
- Species/Habitats legally protected under the Flora Protection Order in the Wildlife (Amendment) Act 2000;
- Other species of flora and fauna and their key habitats which are protected under the Wildlife Acts 1976-2000 including all native mammals; and
- Stepping stones and ecological corridors including nature conservation sites (other than Natura 2000 sites), habitats and species locations covered by Article 10 of the Habitats Directive.

4.2.7 Existing Problems

Previous developments such as residential, commercial and transportation have resulted in loss of biodiversity and flora and fauna however, legislative objectives governing biodiversity and fauna were not identified as being currently conflicted with.

collected there are likely to be a number of inaccuracies at the local level. It is noted, however, that the land cover shown on the maps is generally accurate at the County level. The European Environment Agency, in conjunction with the European Space Agency, the European Commission and member countries is currently updating the CORINE land cover database.

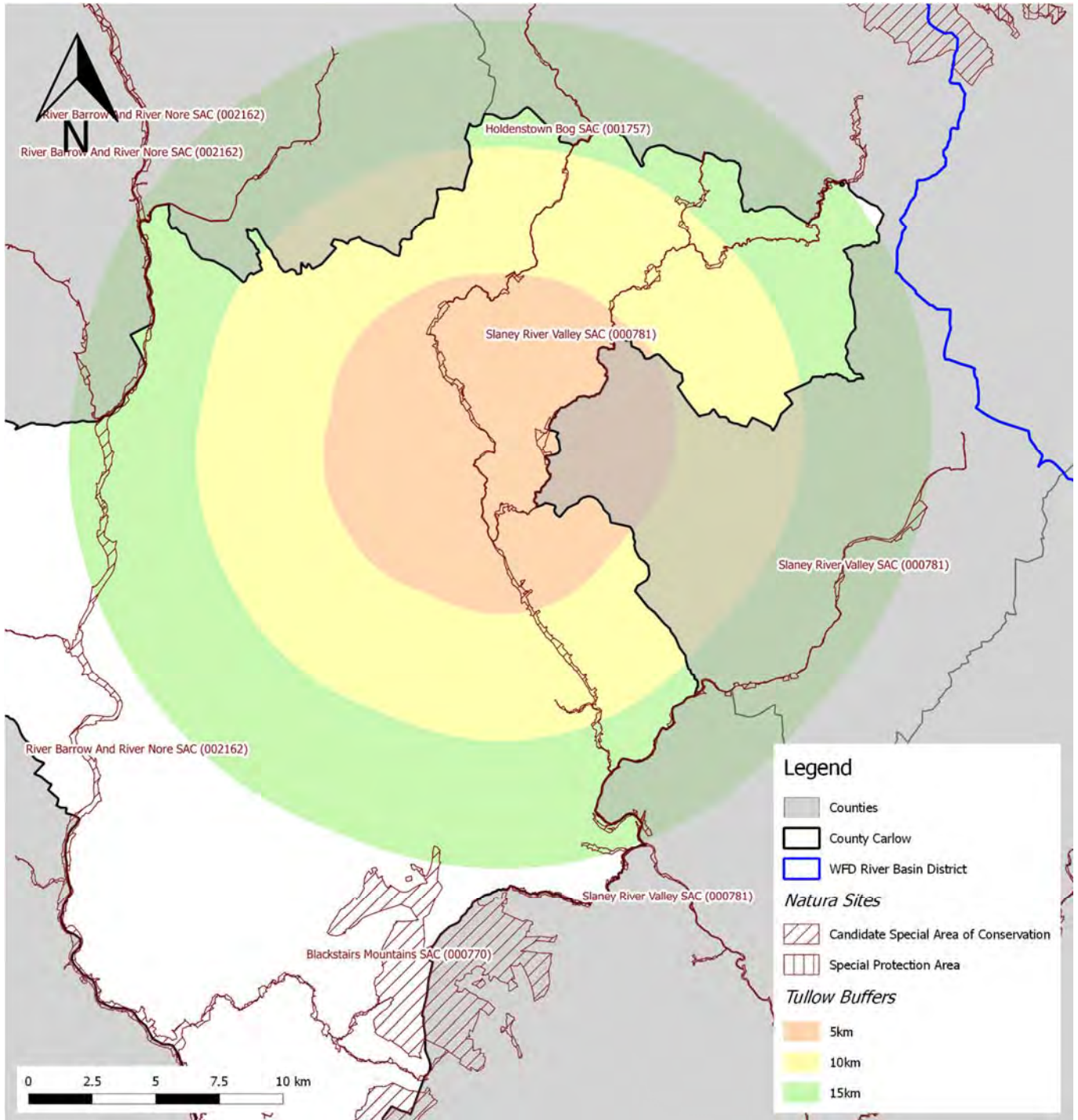


Figure 4.1 cSACs and SPAs in the vicinity of the Plan area

Source: NPWS (datasets downloaded February 2016)

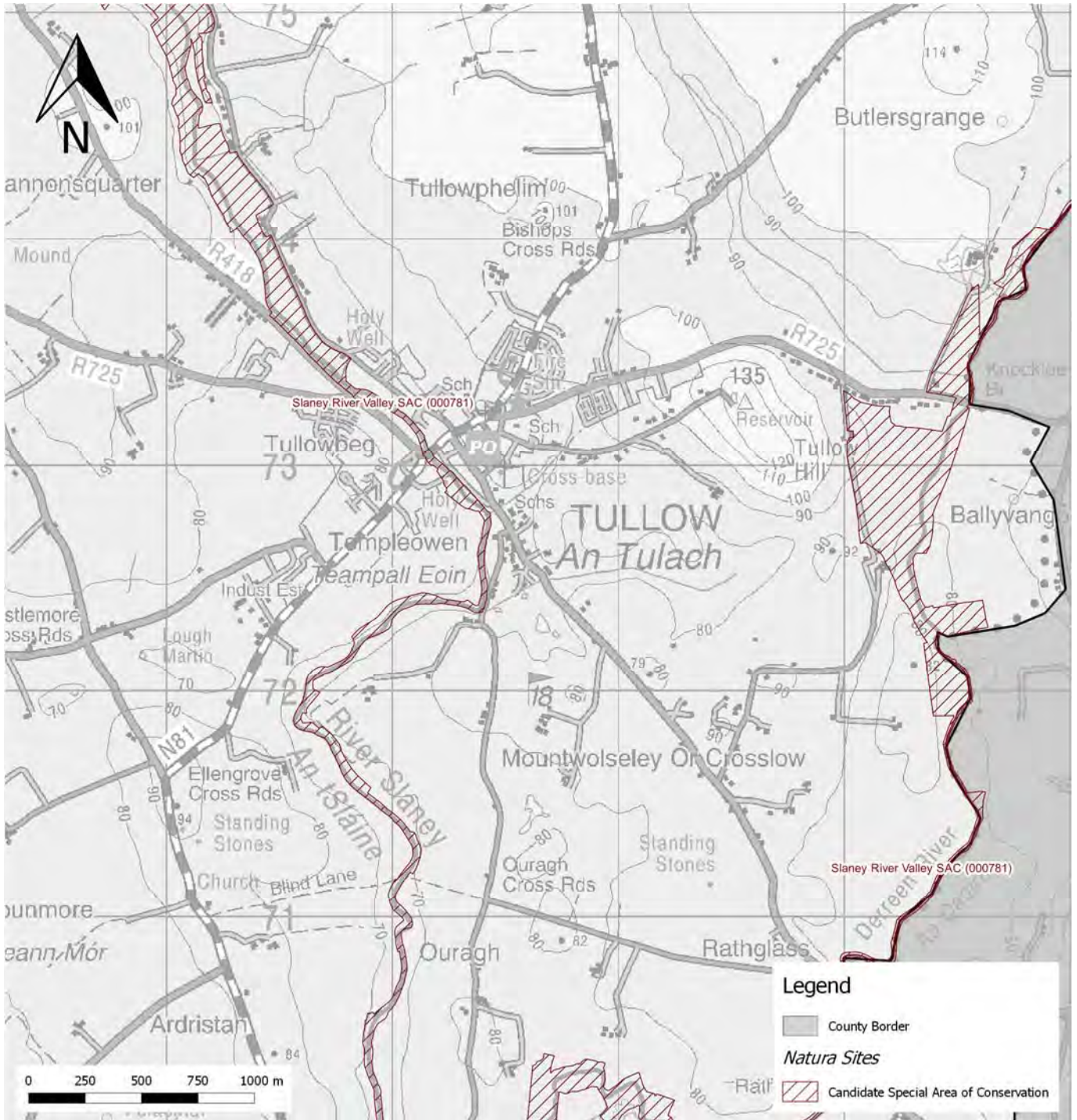


Figure 4.2 River Slaney Valley cSAC

Source: NPWS (datasets downloaded February 2016)

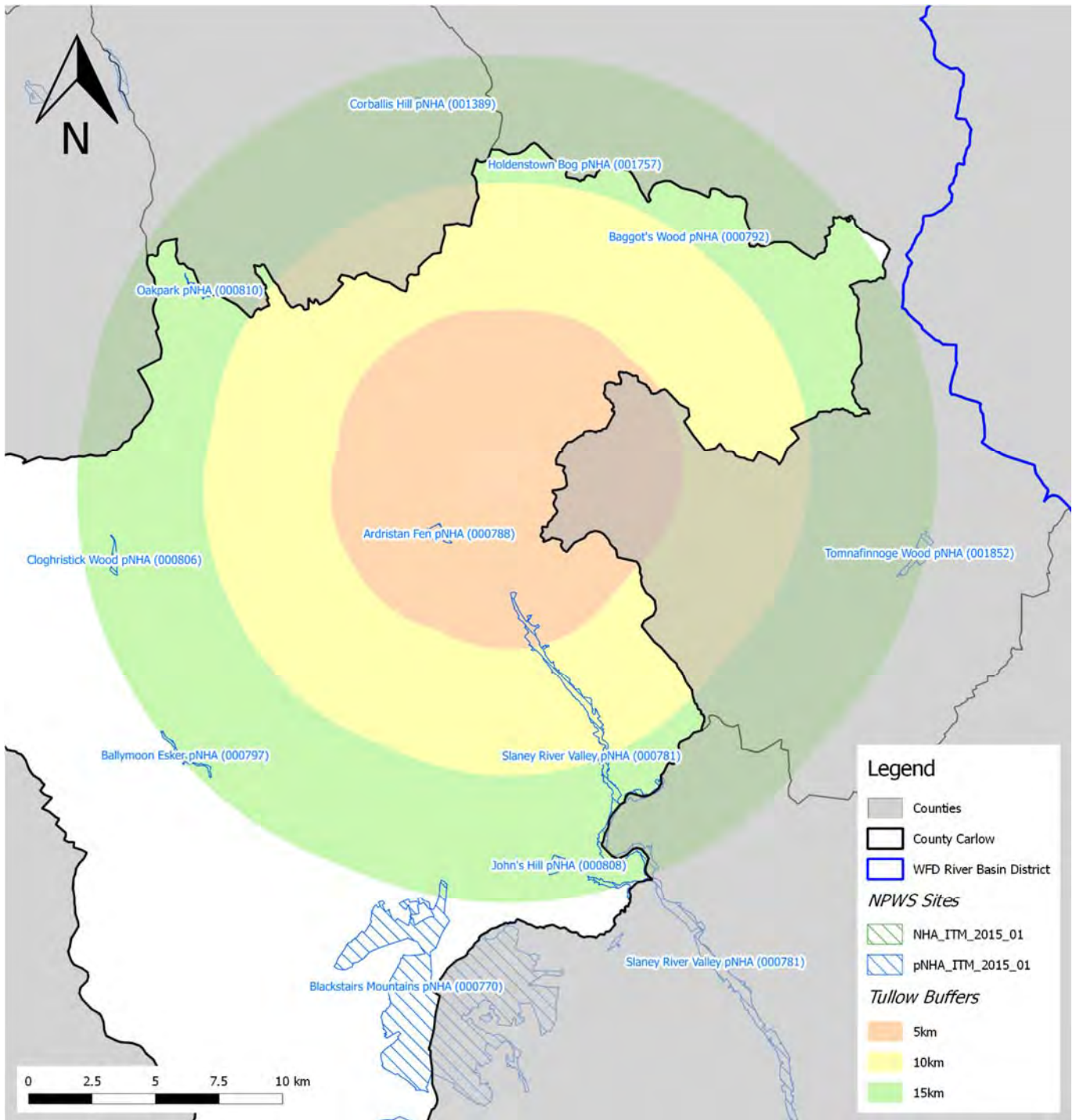


Figure 4.3 NHAs and pNHAs in the vicinity of the Plan area

Source: NPWS (datasets downloaded February 2016)

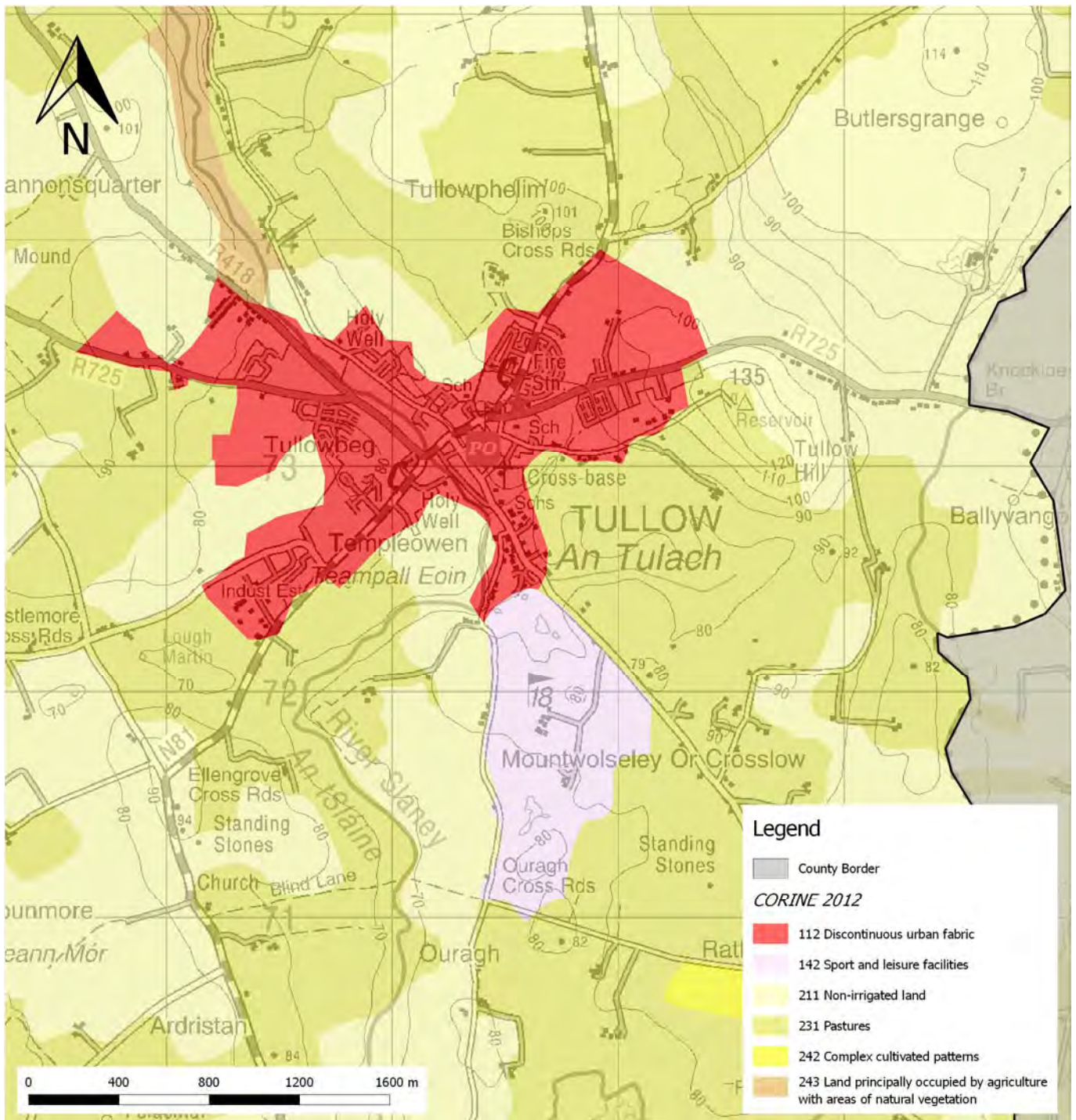


Figure 4.4 CORINE Land Cover Data 2012

Source: EPA (2015)

4.3 Population and Human Health

4.3.1 Population

The population of Tullow was recorded by the Central Statistics Office as being 3,972 in 2011.

4.3.2 Human Health

Human health has the potential to be impacted upon by environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to the description of: the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the Plan.

4.3.3 Existing Problems

The Strategic Flood Risk Assessment (SFRA) undertaken alongside the preparation of the Plan has identified lands that are at elevated levels of flood risk within the Plan area. The SFRA has facilitated the integration of flood risk management considerations into the Plan.

Other issues relating to drinking water and wastewater treatment are discussed in detail in Section 4.7 to include the Tullow Waste Water Treatment Plant and the Tullow Water Supply Scheme.

4.4 Soil

4.4.1 Introduction

Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as

a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

To date, there is no Directive that is specific to the protection of soil resources. However, there is currently an EU Thematic Strategy on the protection of soil that includes a proposal for a Soil Framework Directive that proposes common principles for protecting soils across the EU.

4.4.2 Soil Types

Soil types, as classified by the EPA, are mapped on Figure 4.5. The primary underlying soil below the town of Tullow is identifiable as Made soil type (coral blue colour). The surrounding areas largely consist of Renzinas / Lithosols soils (purple colour) along with Mineral alluvium soils located along the River Slaney. Areas of Lithosols / Regosols (Pink colour) and Acid Brown Earths / Brown Podzolics soils (red colour) are also distinguishable to the north, east and west of the town.

4.4.3 County Geological Sites

The Geological Survey of Ireland (GSI) completed an audit of County Geological Sites in County Carlow in 2004. This audit identified six Geological Heritage Sites. Three of the County Geological Sites identified (Aclare, Ballymoon Esker and Morrissey's Quarry) are located within 15km of the Plan area.

4.4.4 Existing Problems

Legislative objectives governing soil were not identified as being conflicted with.

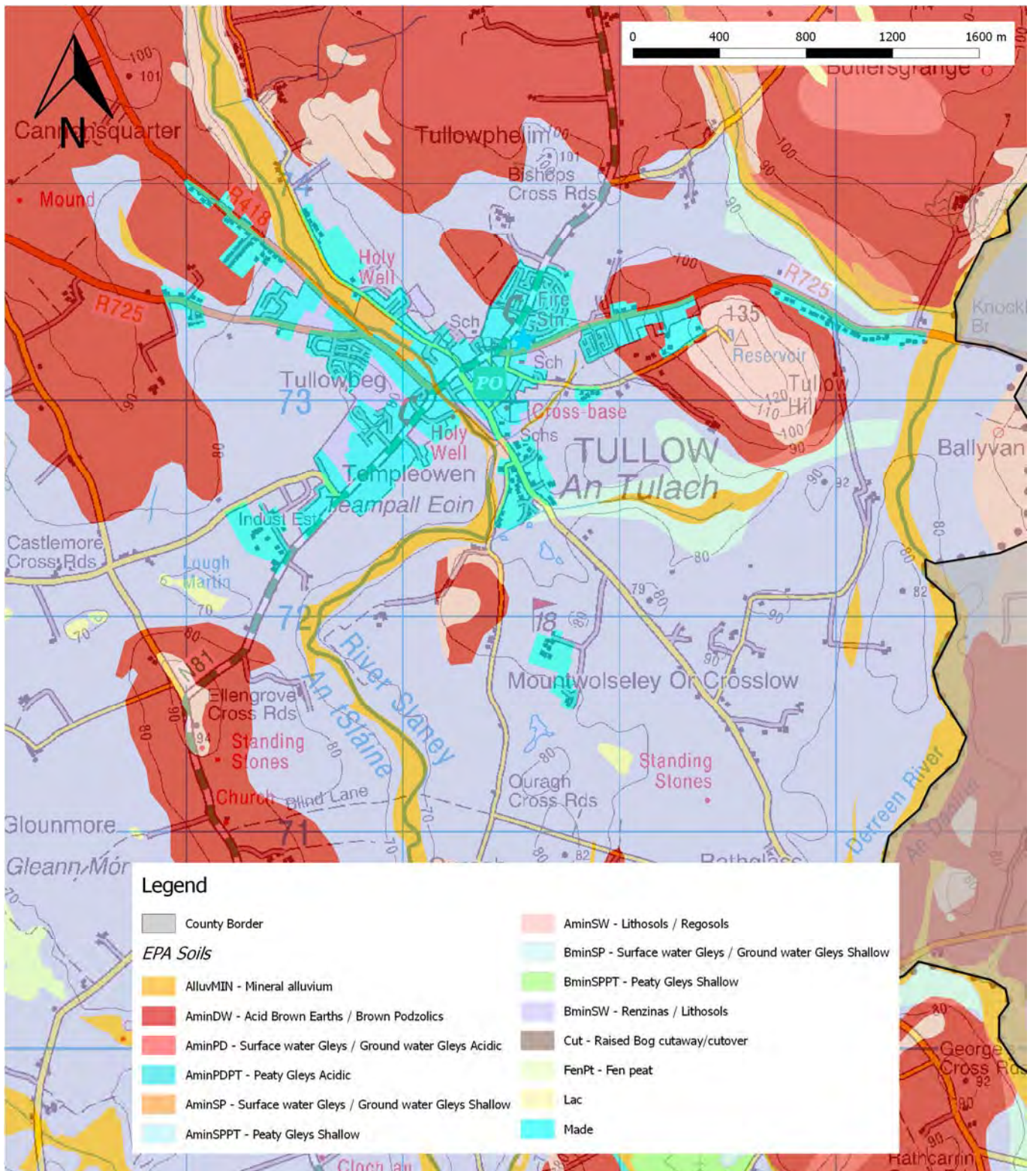


Figure 4.5 Soil Type

Source: Teagasc, GSI, Forest Service & EPA (2006) *Soils and Subsoils Class*

4.5 Water

4.5.1 Potential Pressures on Water Quality

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following:

- Sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants;
- Discharges arising from diffuse or dispersed activities on land;
- Abstractions from waters; and
- Structural alterations to water bodies.

A point source pressure has a recognisable and specific location at which pollution may originate. Examples of significant point source pressures include direct discharges from wastewater treatment plants, licensed discharges from industrial activities, landfills, contaminated lands (e.g. disused gas works) and mines.

A diffuse source pressure unlike a point source is not restricted to an individual point or location. The source of a diffuse pressure can be quite extensive. Significant examples of diffuse pressures include runoff from forestry and agricultural lands.

Excessive abstractions from surface waters and groundwater for drinking and industrial purposes can create pressures on the ability of a water body to maintain both chemical and ecological status.

Structural alterations such as river straightening; construction of embankments, weirs, dams, port facilities and dredging can create conditions such that a water body is no longer able to support the natural ecology which would have existed prior to such modifications. These pressures are also referred to as morphological pressures.

4.5.2 The Water Framework Directive

4.5.2.1 Introduction and Requirements

Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving "good status". All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies that are currently unpolluted and improve polluted water bodies to good status.

Article 4 of the WFD sets out various exemptions for deterioration in status caused as a result of certain physical modifications to water bodies. This is provided: all practicable mitigation measures are taken; there are reasons of overriding public interest or the benefits to human health, safety or sustainable development outweigh the benefits in achieving the WFD objective; there are no better alternatives; and the reasons for the physical modification are explained in the relevant river basin management plan.

4.5.2.2 River Basin Districts and Water Bodies

For the purpose of implementing the WFD, Ireland has been divided into eight River Basin Districts (RBDs) or areas of land that are drained by a large river or number of rivers and the adjacent estuarine/coastal areas. The management of water resources is on these river basin districts. Tullow falls within the South Eastern RBD.

Within each river basin district - for the purpose of assessment, reporting and management - water has been divided into groundwater, rivers, lakes, estuarine waters and coastal waters that are in turn divided into specific, clearly defined water bodies.

4.5.2.3 River Basin Management Plans

Local Authorities, including Carlow County Council, have prepared the South East River Basin Management Plan that is implemented in order to help protect and improve the status of waters. The Management Plan provides specific policies for individual river basins in order to implement the requirements of the WFD.

4.5.3 Surface Water

4.5.3.1 WFD Surface Water Status

The WFD defines 'surface water status' as the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status. Thus, to achieve 'good surface water status' both the ecological status and the chemical status of a surface water body need to be at least 'good'.

Ecological status is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of "good ecological status" when they meet Directive requirements.

Chemical Status is a pass/fail assignment with a failure defined by a face-value exceedance of an Environmental Quality Standards (EQS) for one or more Priority Action Substances (PAS) listed in Annex X of the Water Framework Directive (WFD). The EQS values for individual PAS substances are set at European level. Good surface water chemical status means that concentrations of pollutants in the water body do not exceed the environmental limit values specified in the Directive.

Figure 4.6 maps the status of the River Slaney and its tributaries as currently available from the EPA⁷. Stretches of water bodies upstream and running through the town are currently identified by the EPA as having a Moderate status while Good status is attributed to stretches of water bodies downstream, to the south of Ford Tullow Br.

4.5.3.2 Biological Quality of Rivers

Biological river water quality within the vicinity of the town is monitored by the EPA at a number of locations. The most recent data from the EPA (see Figure 4.7) points on the River Slaney identify the river as being of Q2 – Q3 (poor status) downstream of the town (Station name: Ford), Q3 – Q4 (moderate status) at Tullow Bridge within the town and Q4 (good status) upstream of the Tullow Bridge within the plan area.

4.5.4 Ground Water

4.5.4.1 Introduction

Groundwater is stored in the void spaces in underground layers of rock, or aquifers. These aquifers are permeable, allowing both the infiltration of water from the soils above them and the yielding of water to surface and coastal waters. Groundwater is the part of the subsurface water that is in the saturated zone - the zone below the water table, the uppermost level of saturation in an aquifer at which the pressure is atmospheric, in which all pores and fissures are full of water.

4.5.4.2 WFD Groundwater Status

For groundwater bodies, the approach to classification is different from that for surface water. For each body of groundwater, both the chemical status and the quantitative must be determined. Both have to be classed as either good or poor. The WFD sets out a series of criteria that must be met for a body to be classed as good chemical and quantitative status.

The status of the groundwater underlying the Tullow area is identified as being of good status (see Figure 4.8).

4.5.4.3 Aquifer Productivity, Vulnerability and Protection

The Geological Survey of Ireland (GSI) rates aquifers according to both their productivity and vulnerability to pollution.

Much of the Plan area is underlain by two overlapping aquifers – A locally important aquifer and a Bedrock Aquifer. A gravel aquifer (Burren Basin) occurs to the west and south-west of the Plan area, while as another bedrock aquifer lies to the east.

Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. Figure 4.9 maps aquifer vulnerability for the Plan and surrounding area – much of the area is identified as being of high vulnerability with pockets of extreme vulnerability or 'rock at or near surface or Karst' in the surrounding environs of the town. Medium vulnerability exists in small patches to the north, south and east of the town.

⁷ Dataset downloaded February 2016

4.5.5 Register of Protected Areas

In response to the requirements of the Water Framework Directive, a number of water bodies, or parts of water bodies, which must have extra controls on their quality by virtue of how their waters are used by people and by wildlife, have been listed on Registers of Protected Areas (RPAs).

Entries to RPAs (as shown on Figure 4.10) relating to the use of waters by people and biodiversity within or adjacent to the town include:

- The groundwater underlying both the town and surrounding environs (this is listed on the RPA for Drinking Water from Groundwater Sources).
- Groundwater in the wider area is part of catchments that contain entries to the RPA for Nutrient Sensitive Areas and Salmonid Rivers to the west of the town is listed for groundwater in a nutrient sensitive area.
- The River Slaney is listed on the RPA for Salmonid Rivers.
- A section of the River Slaney located the south of the town is listed on the RPA for drinking water rivers.

4.5.6 Flooding

4.5.6.1 Introduction

Flooding is an environmental phenomenon that, as well as having causing economic and social impacts, could in certain circumstances pose a risk to human health.

European Directive 2007/60/EC on the assessment and management of flood risks requires Member States to carry out a preliminary assessment by 2011 in order to identify the river basins and associated coastal areas at risk of flooding. For such zones, flood risk maps are currently being finalised. Flood risk management plans focused on prevention, protection and preparedness are scheduled to be available may be finalised in 2016. The Office of Public Works has prepared Preliminary Flood Risk Assessment (PFRA) maps that identify areas where the risks associated with flooding might be significant. These areas, Areas for Further Assessment (AFAs), are where more detailed assessment is required to more accurately assess the extent and degree

of flood risk. Flood hazard and flood risk maps for AFAs were made available in 2015 and Flood Risk Management Plans are being finalised. Tullow is indicated as an AFA.

4.5.6.2 DEHLG Flood Risk Management Guidelines

In 2009 the DEHLG published The Planning System and Flood Risk Management Guidelines for Planning Authorities. These are aimed at ensuring a more consistent, rigorous and systematic approach which will fully incorporate flood risk assessment and management into the planning system. Planning authorities are required to undertake flood risk identification, assessment and management processes as appropriate when preparing land use plans and in the consideration of applications for planning permission.

4.5.6.3 Strategic Flood Risk Assessment

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Plan.

The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

The main source of historic and potential flood risk to development in Tullow is the River Slaney with the river Derreen presenting a low risk. The River Slaney has been subject to a Flood Relief Scheme (FRS). In addition to the River Slaney and Derreen there are three smaller tributaries that drain into the aforementioned rivers. The tributaries do not cause significant impacts and present a low risk. Areas at risk of flooding adjacent to these watercourses are mapped on Figure 4.11.

The SFRA includes a review of flood risk to the following key sites within the town, along with recommendations for the development of these sites:

- Residential Lands Adjacent to Slaney
- Town Centre
- Lands to the south of the Town Centre
- Lands adjacent to Mount Wolseley and Tullowphelim Streams
- Lands to east of Tullow

The SFRA also includes reference general management measures in relation to flood risk management.

The preparation of the Plan, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed both the Plan and the SEA. The SFRA has facilitated the integration of flood risk management considerations into the Plan.

4.5.7 Existing Problems

The SFRA has identified lands that are at elevated levels of flood risk within the Plan area and has facilitated the integration of flood risk management considerations into the Plan.

The moderate surface water status of the River Slaney upstream and throughout the town is distinguished as an issue due to the objective of the Water Framework Directive to achieve 'good surface water status' for all surface water catchments within the EU.

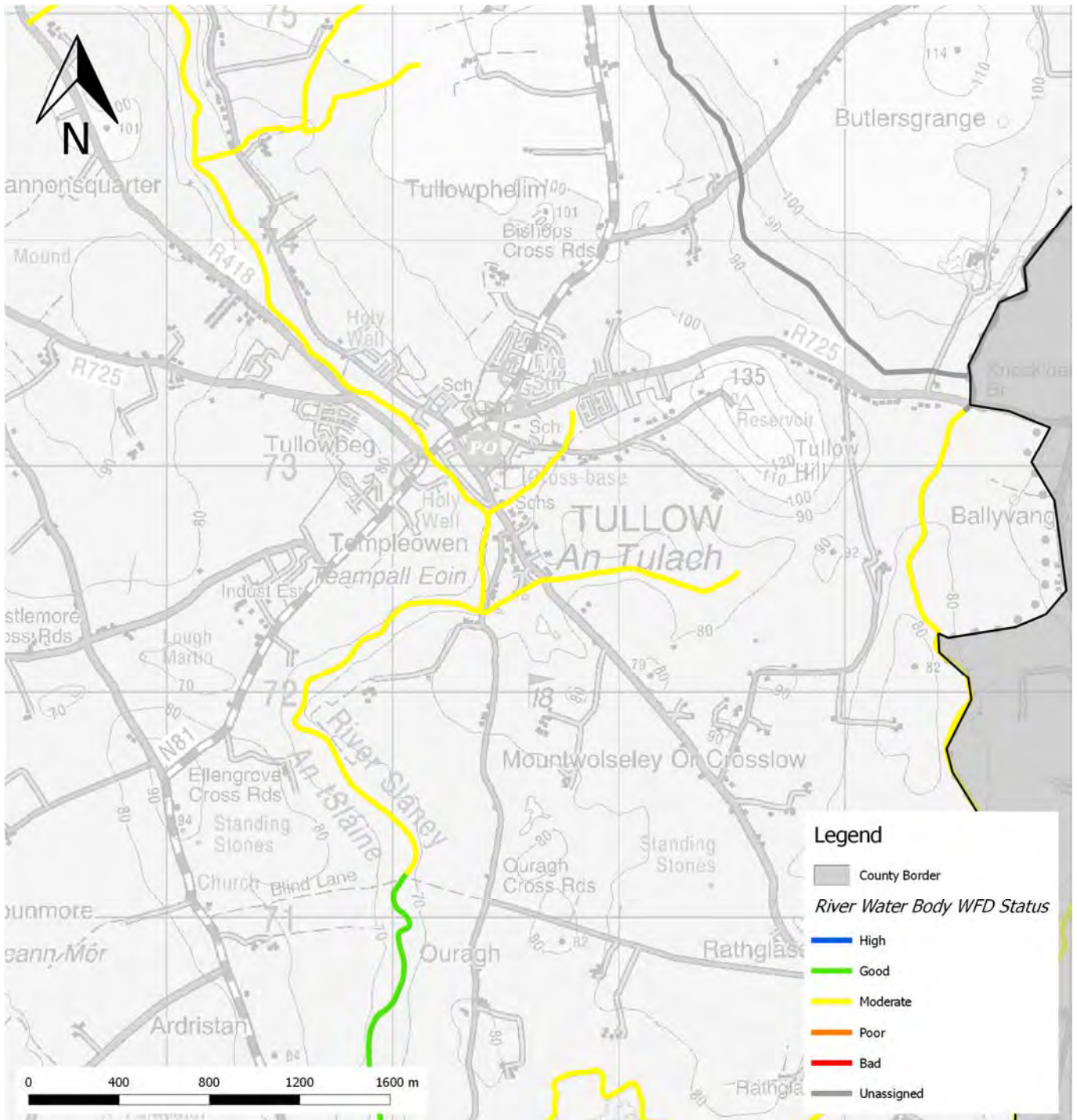


Figure 4.6 WFD Surface Water Status
 Source: EPA (2011; datasets downloaded February, 2014)

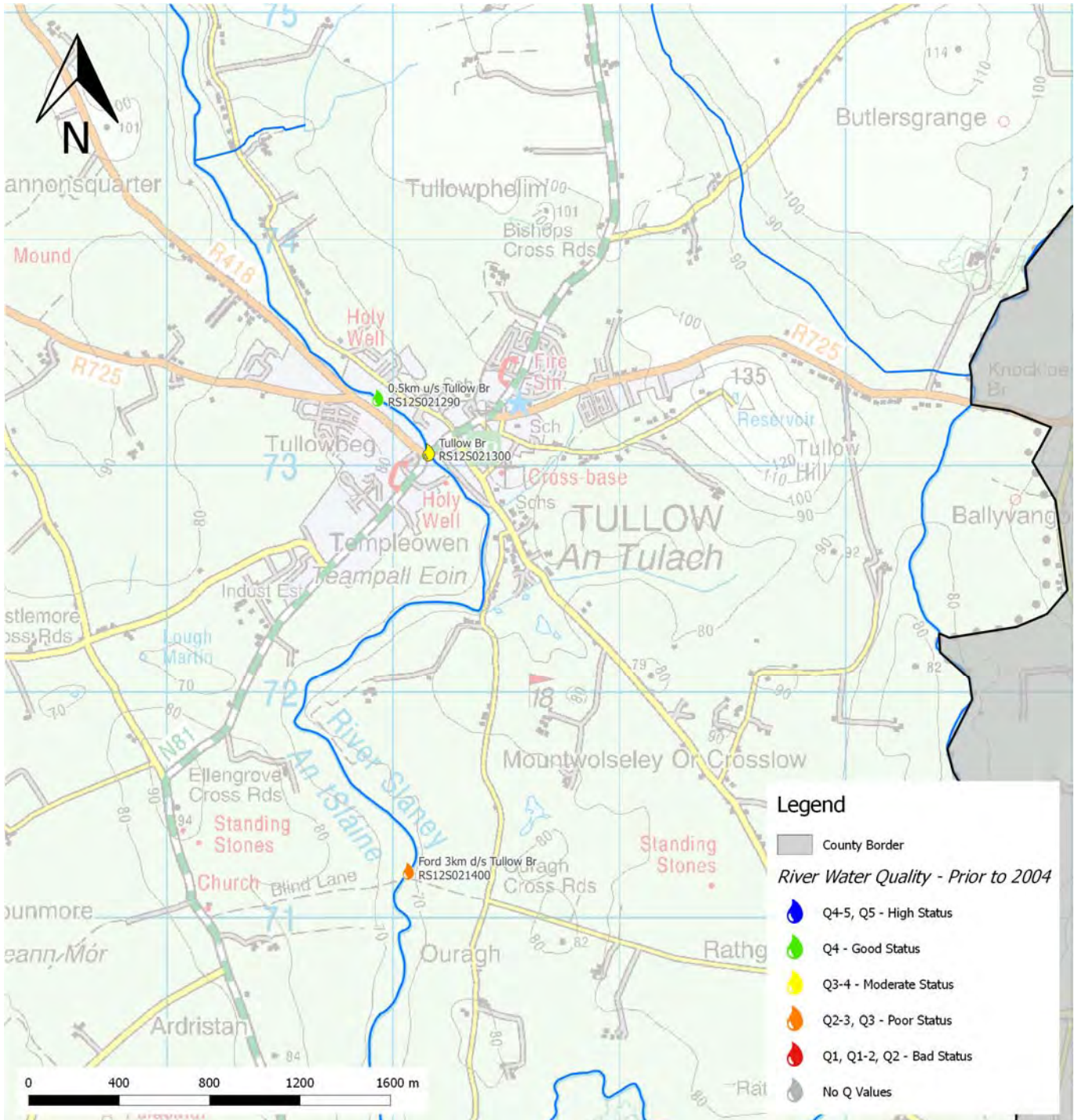


Figure 4.7 Q-Values at Points on Rivers post 2004

Source: EPA (Various)

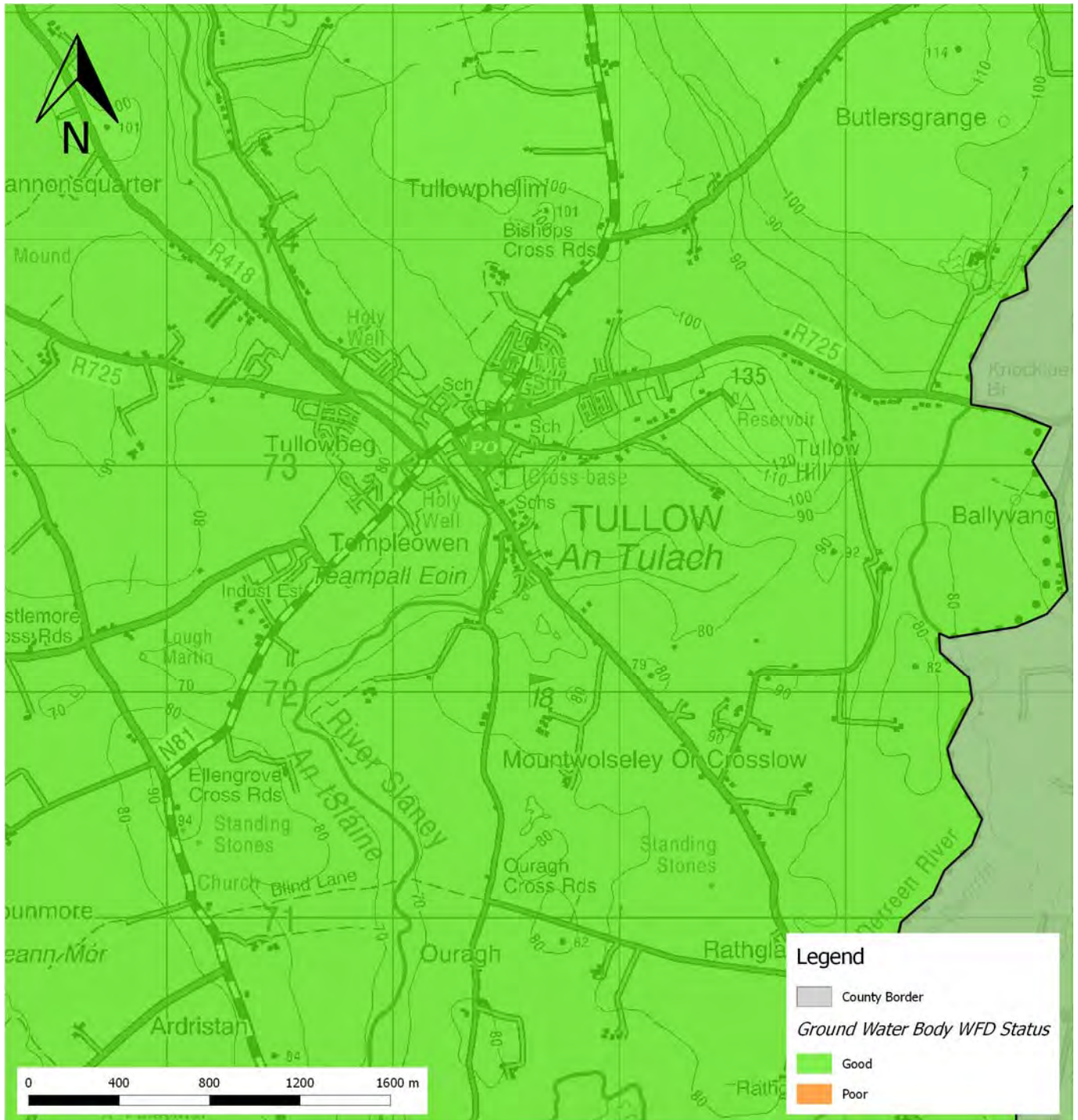


Figure 4.8 WFD Status of Groundwater

Source: EPA (2011; datasets downloaded March 2015)

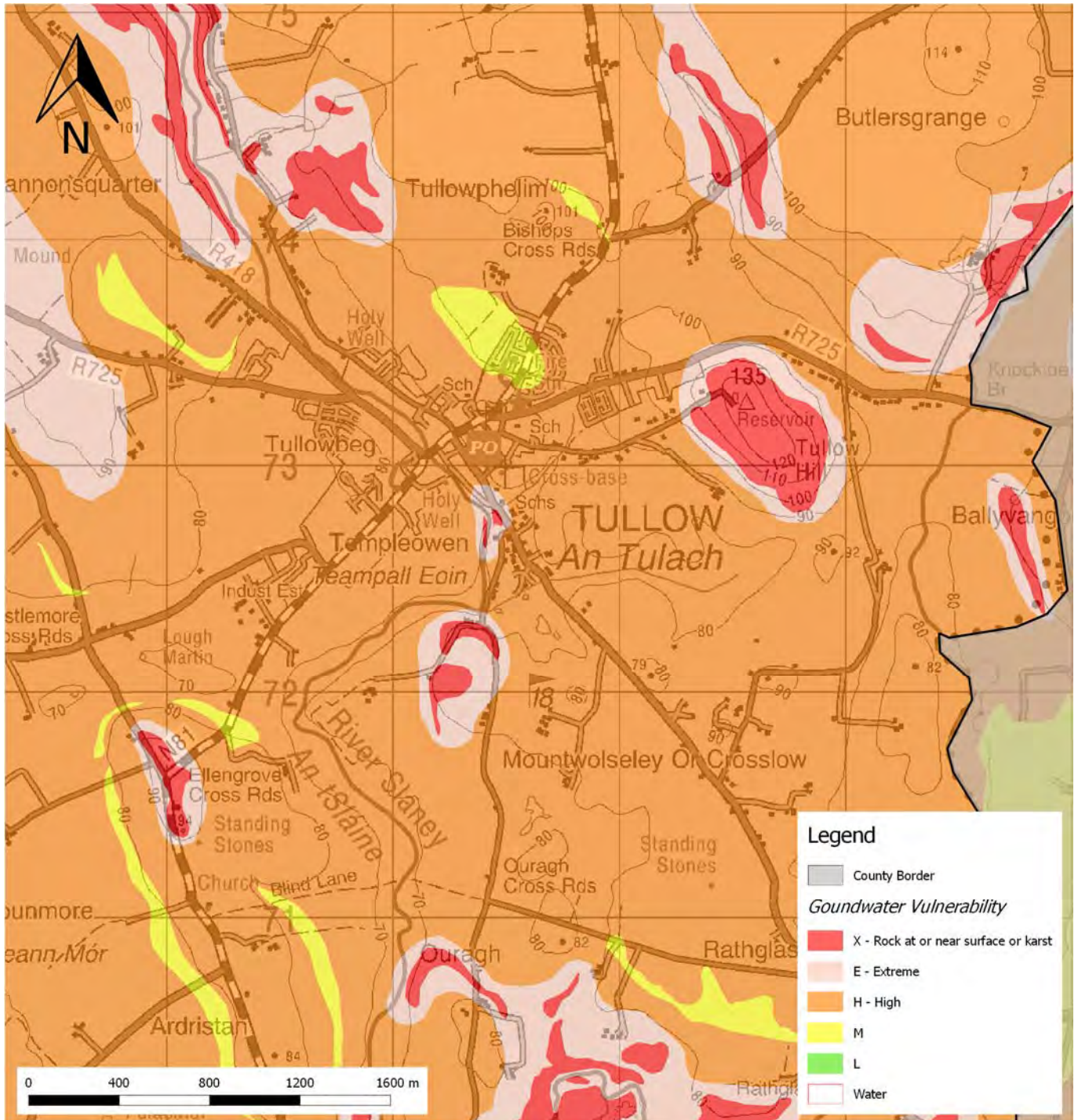


Figure 4.9 Aquifer Vulnerability

Source: GSI (2006)

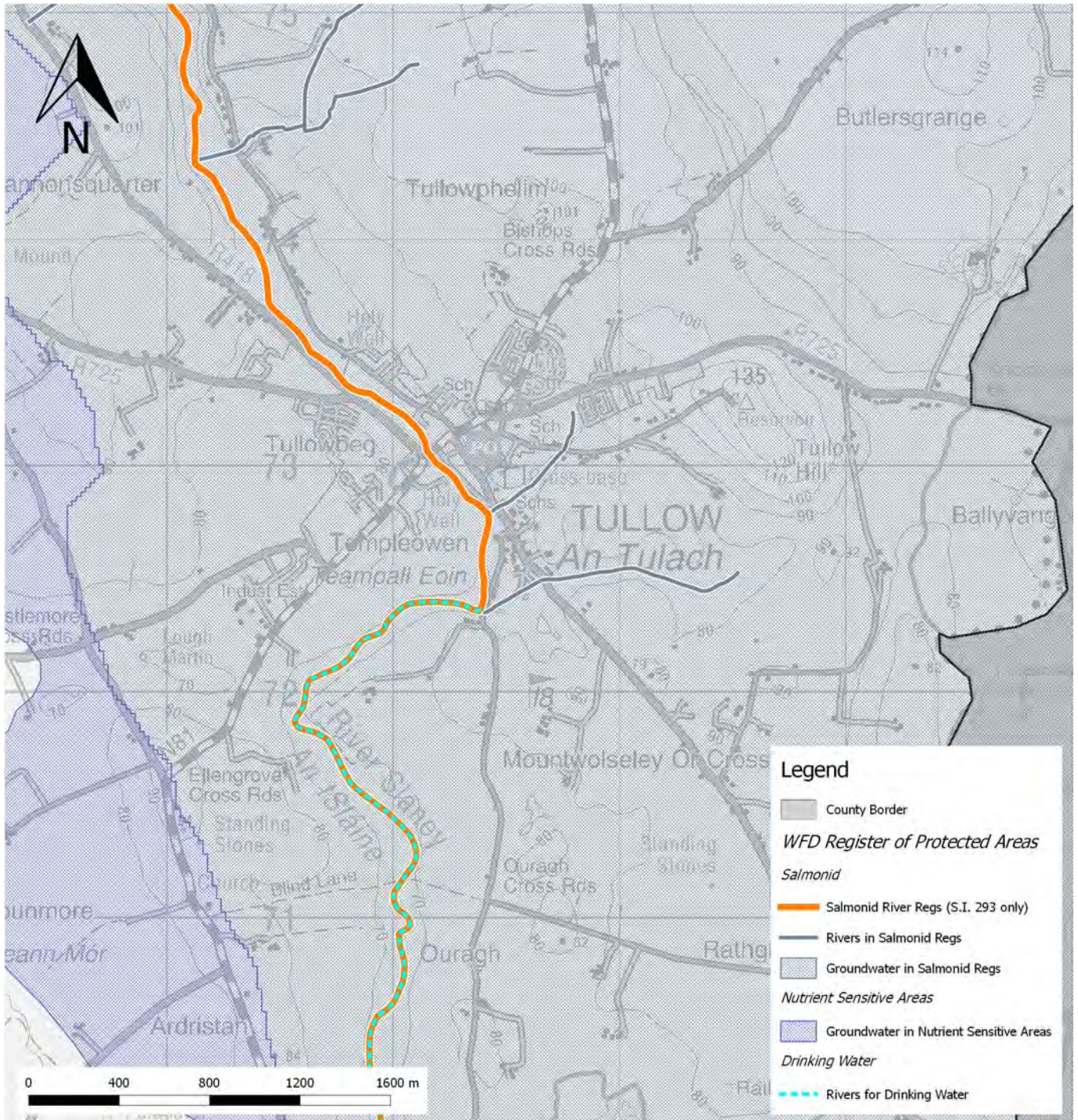


Figure 4.10 Entries to the RPAs
(EPA 2016)

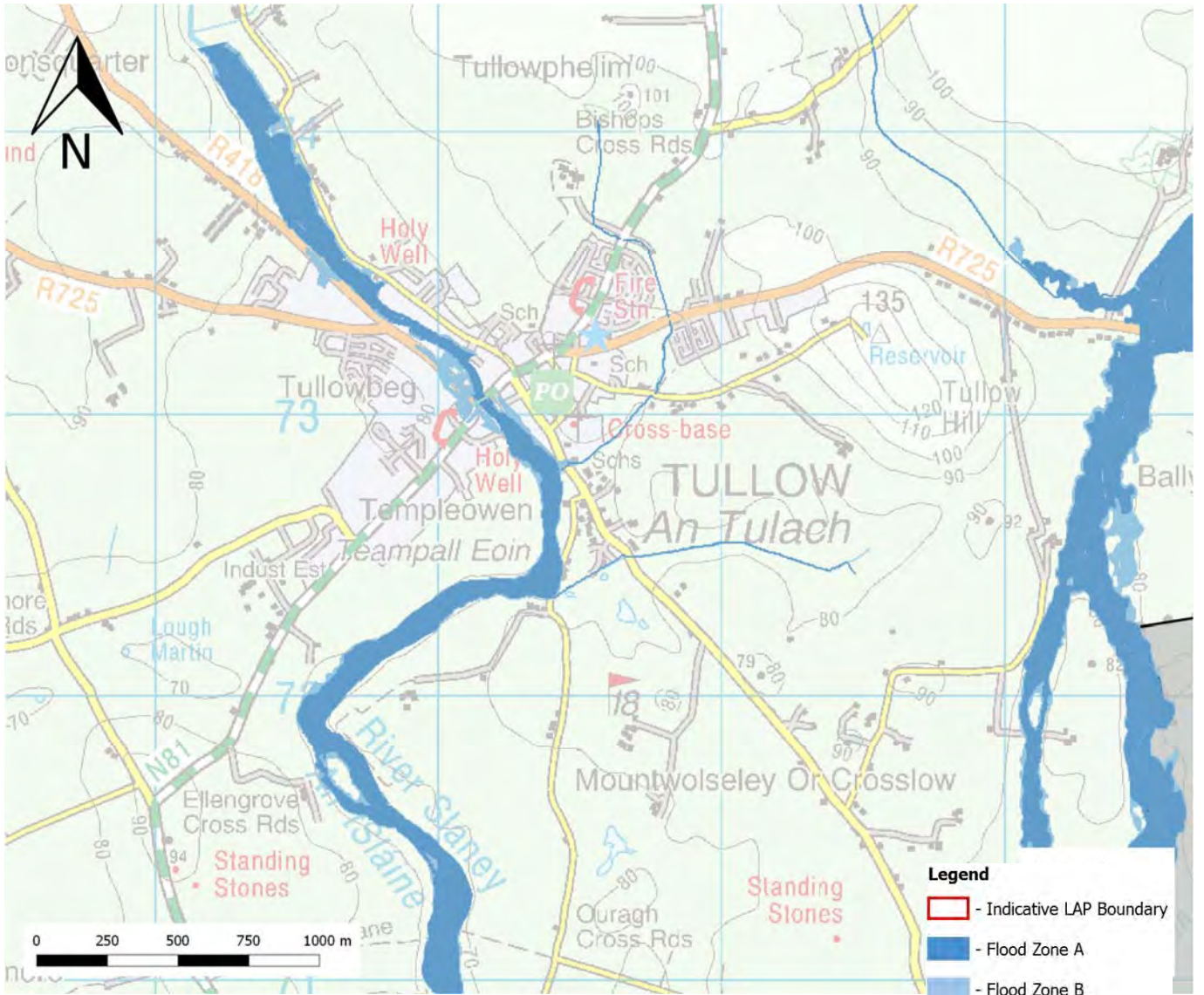


Figure 4.11 Flood Zones

Source: SFRA for the Tullow Local Area Plan (2016)

4.6 Air and Climatic Factors

4.6.1 Ambient Air Quality

4.6.1.1 Introduction and Legislation

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

The principles to this European approach are set out under the Air Quality Framework Directive 1996 as transposed into Irish law under the Environmental Protection Agency Act 1992 (Ambient Air Quality Assessment and Management) Regulations 1999 (SI No. 33 of 1999).

Four daughter Directives lay down limits or thresholds for specific pollutants. The first two of these directives cover: sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter and lead; and, carbon monoxide and benzene. Two more daughter directives deal with: ozone; and polyaromatic hydrocarbons, arsenic, nickel, cadmium and mercury in ambient air.

4.6.1.2 Air Zones

In order to comply with the directives mentioned above, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002). The main areas defined in each zone are:

- Zone A: Dublin Conurbation.
- Zone B: Cork Conurbation.
- Zone C: 21 Other cities and large towns including Galway, Limerick, Waterford, Clonmel, Kilkenny, Sligo, Drogheda, Wexford, Athlone, Ennis, Bray, Naas, Carlow, Tralee and Dundalk.
- Zone D: Rural Ireland, i.e. the remainder of the State - small towns and rural areas

of the country - excluding Zones A, B and C.

The Tullow Plan area is located within Zone where air quality is currently identified as being "good". The EPA's (EPA, 2015) Air Quality in Ireland 2014 identifies that air quality in Ireland continues to be good, with no exceedances for the pollutants measured.

4.6.2 Noise

Noise is unwanted sound. The Environmental Noise Regulations (SI No. 140 of 2006) transpose into Irish law the EU Directive 2002/49/EC relating to the assessment and management of environmental noise, which is commonly referred to as the Environmental Noise Directive or END. The END defines a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. The END does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities. Limit values are left to each member state. At this point in time, Ireland does not have any statutory limit values.

4.6.3 Climatic Factors

The key issue involving the assessment of the effects of implementing the plan on climatic factors relates to greenhouse gas emissions arising from transport. Climatic factors also interact with flooding (see Section 4.5).

In 2009, Ireland's greenhouse gas emissions decreased across all sectors due to the effects of the economic downturn with a decline in total emissions of 7.9 per cent. In 2010, Ireland's emissions fell by a further 0.7 per cent.

Ireland's emissions profile has changed considerably since 1990, with the contribution from transport more than doubling and the share from agriculture reducing since 1998. Travel is a source of:

1. Noise;
2. Air emissions; and
3. Energy use (41.7% of Total Final Energy Consumption in Ireland in 2014)

was taken up by transport, the largest take up of any sector)⁸.

Land-use planning contributes to what number and what extent of journeys occur. By addressing journey time through land use planning and providing more sustainable modes and levels of mobility, noise and other emissions to air and energy use can be minimised. Furthermore, by concentrating populations, greenfield development - and its associated impacts - can be minimised and the cost of service provision can be reduced.

Between 2008 and 2011, Ireland's greenhouse gas emissions decreased across all sectors due to the effects of the economic downturn with emissions falling by 15.2% between 2008 and 2011. However, 2012 saw emissions rise by 1.2% when compared with 2011⁹.

Between 1990 and 2013, the Transport sector shows the greatest overall increase of all sectors, at 115.5%. Emissions increased by 2.1% in 2013, the first increase in Transport emissions since 2007. However, Transport emissions have decreased by 23.1% below peak levels in 2007 primarily due to the economic downturn, improving vehicle standards due to the changes in vehicle registration tax and the increase use in biofuels. The increase up to 2007 can be attributed to general economic prosperity, increasing population with a high reliance on private car travel as well as rapidly increasing road freight transport.¹⁰

The EPA 2015 publication *Ireland's Greenhouse Gas Emission Projections 2014-2035*, identifies that:

- Under the 'worst case' scenario, Ireland is projected to cumulatively exceed its obligations by four Mtonnes of CO₂e over the period 2013-2020.
- Under the 'best case' scenario, Ireland is projected to cumulatively meet its compliance obligations over the 2013-2020 period and meet its 2020 target. This takes into account the overachievement of the annual limits in the period 2013- 2017 that is banked and used in the years 2018-2020. The report identifies that achieving the outlook under the 'best case' scenario

will require focus and effort which includes meeting renewable targets for transport and heat as well as energy efficiency targets.

- Transport emissions are projected to show strong growth over the period to 2020 with a 13%-19% increase on current levels depending on the level of policy implementation. Relative to 2005, transport emissions are projected to remain the same or, at best, decrease by 4% by 2020.

Maximising sustainable mobility will help Ireland meet its emission target for greenhouse gases under the 2020 EU Effort Sharing target that commits Ireland to reducing emissions from those sectors that are not covered by the Emissions Trading Scheme (e.g. transport, agriculture, residential) to 20% below 2005 levels.

Land-use planning contributes to the number and the extent of which journeys occur. By addressing journey time through land use planning and providing more sustainable modes and levels of mobility (as is provided for by the Plan), noise and other emissions to air and energy use can be minimised. Furthermore, by concentrating populations, greenfield development - and its associated impacts - can be minimised and the cost of service provision can be reduced.

Provisions in relation to green infrastructure have also been integrated into the Plan. Green Infrastructure has the potential to achieve objectives and synergies with regard to the following:

- Provision of open space amenities;
- Sustainable management of water;
- Protection and management of biodiversity;
- Protection of cultural heritage; and
- Protection of protected landscape sensitivities.

4.6.4 Existing Problems

Legislative objectives governing air and climatic factors in Carlow were not identified as being conflicted with.

⁸ Sustainable Energy Ireland (2014) Energy in Ireland 1990 – 2014

⁹ EPA (2014) Ireland's Greenhouse Gas Emissions in 2012

¹⁰ EPA (2014) Ireland's Provisional Greenhouse Gas Emissions in 2013

4.7 Material Assets

4.7.1 Water Services

4.7.1.1 Irish Water

Since January 2014 the delivery, integration and implementation of strategic water and wastewater projects and infrastructural improvements are now the responsibility of the newly established State body 'Irish Water'.

Carlow County Council no longer has a direct role in this area; however, the Local Authority will work with Irish Water to ensure that the Local Area Plan and any water services investment plan will align with both the National Spatial Strategy and the Regional Planning Guidelines and that the provision of water/waste water services will not be a limiting factor in terms of forecasted growth.

The function and role of Irish Water includes:

- Abstracting and treating water;
- Delivering water and waste water services to homes and businesses;
- Installing water meters and billing domestic and business customers;
- Raising finance to fund improvements and repairs in the water system; and
- Maintaining and operating the water system.

The upgrading of the infrastructure will contribute towards compliance with the Water Framework Directive, EU Urban Waste Water Treatment Directive and Drinking Water Regulations and will help to protect human health and maintain the quality of coastal waters.

The responsibility for the provision of these services now lies with Irish Water, supported by Carlow County Council, as appropriate.

4.7.1.2 Waste Water Performance

The EPA's most recent report on waste water treatment performance 'Urban Waste Water Treatment in 2015', EPA 2016, identifies that the Tullow Waste Water Treatment Plant (WWTP) failed the water quality standards set down under requirements of the Urban Waste Water Treatment Directive.

4.7.1.3 Waste Water Capacity and Demand

The development of the town's wastewater drainage system is essential to facilitate growth. The current Tullow waste water treatment plant, located on the Bunclody Road, was originally designed with a treatment capacity of 4,000 population equivalent (PE). Recent upgrades to the plant including new intake works, new aeration system and tertiary treatment have allowed for an increase in the organic treatment capacity of the plant. The current loading on the plant is determined at 6,104 PE equivalent. Irish Water have acknowledged that the existing plant is overloaded and have committed to including this plant in Irish Waters Emerging Investment Plan for inclusion in the next Capital Investment Plan. Preliminary works have commenced regarding the design phase of the upgrade works to both the treatment plant and the network.

4.7.1.4 Drinking Water Performance

Drinking water must be clean and wholesome. That means it must meet the relevant water quality standards and must not contain any other substance or micro-organism in concentrations or numbers that constitute a potential danger to human health.

Compliance with the drinking water requirements is determined by comparing the results of analyses submitted by water suppliers to the standard for 48 parameters specified in the European Communities (Drinking Water) Regulations (No. 2), 2007. To ensure that these standards are met, each water supply must be monitored on a regular basis.

Under Section 58 of the Environmental Protection Agency Act 1992 the EPA is required to collect and verify monitoring results for all water supplies in Ireland covered by the European Communities (Drinking Water) Regulations, 2000. The EPA publishes their results in annual reports that are supported by Remedial Action Lists (RALs). The RAL identifies water supplies that do not comply with the Regulations mentioned above.

Both the Tullow Water Supply Scheme and the North Regional Water Supply Scheme (both supplying Tullow) are not listed on the EPA's most recent (Q4 2016) Remedial Action List (a list of public water supplies where remedial action is required to ensure compliance with drinking water standards).

4.7.1.5 Capacity and Demand

The Tullow town network is interconnected to the North Regional Water Supply Scheme that is the surface water source at Rathvilly Water Treatment Plant. This plant is operating below its capacity and has adequate reserve to cater for predicted future growth in Tullow over the lifetime of this plan.

The town also has its own water treatment plant that has a capacity of 1,200 cubic metres of water per day. It has a surface water abstraction from the River Slaney and is located on the Ballymurphy Road. This plant is currently operating at capacity.

The current water supply between both schemes is considered to have adequate (headroom) capacity available and would cater for any future development growth during the lifetime of this plan. Water supplied to the town is tested regularly and is consistently of the highest quality.

4.7.2 Waste Management

In March 2011, the EC (Waste Directive) Regulations 2011 came into force. As well as including new re-use and recycling targets, these Regulations included a requirement to evaluate existing waste management plans by 31 December 2012 and make a recommendation to revise or replace the existing plans. An evaluation of the South East Plan was carried out and it was recommended that the Plan be replaced with a new plan. In 2015 a new plan was published; the Southern Region Waste Management Plan 2015 – 2021 with an objective to set out a framework for the prevention and management of waste on a regional scale.

With regard to domestic waste collection, the refuse collection service in County Carlow is privatised. A number of domestic waste collection companies collect waste in the Tullow area. Collectors provide a segregated collection service, using waste collection permits issued by Carlow County Council. Waste collected in Tullow is disposed of mainly at the council's central landfill and civic amenity site at Powerstown, located approximately 15km to the south west of Tullow.

The Council has provided bring banks for the collection of glass, aluminium cans and textiles at a site on the Thomas Traynor Road. There are also some bring centres for textiles at

various locations throughout the town, such as Flynn's Garage to the north of the town and Supervalu carpark in the centre of town. The closest Civic Amenity Centre is located in Powerstown, which provides for a wide range of household recycling materials. The Council will continue to encourage recycling and the minimisation of waste through its environmental education programme and the Green-Schools programme.

4.7.3 Transport

Tullow is strategically located on the N81 Wexford to Dublin route. The M9 is also located 8 km to the west of Tullow and is accessed via the N81 and the N80. Tullow is also served by the R725 regional road linking Gorey to Carlow. Private car is the main means of accessibility in Tullow. A considerable amount of through traffic passes the town centre daily. The traditional layout of the town with narrow streets and the bridge over the River Slaney contribute to these traffic issues. Bus Eireann route 132 provides a limited service between Dublin and Tullow, operating approximately three times a day each way Monday to Saturday and twice on Sunday. Private bus operators also provide a service between Hacketstown and Carlow Town serving Tullow approximately twice a day in each direction. There is no train service to Tullow, the nearest service being provided by Carlow town.

4.7.4 Existing Problems

The EPA's most recent report on waste water treatment performance 'Urban Waste Water Treatment in 2015', EPA 2016, identifies that the Tullow Waste Water Treatment Plant (WWTP) failed the water quality standards set down under requirements of the Urban Waste Water Treatment Directive.

4.8 Cultural Heritage

4.8.1 Introduction

Heritage, by definition, means inherited properties, inherited characteristics and anything transmitted by past ages and ancestors. It covers everything, from objects and buildings to the environment. Cultural heritage includes physical buildings, structures and objects, complete or in part, which have been left on the landscape by previous and indeed current generations.

4.8.2 Archaeological Heritage

4.8.2.1 Introduction

Archaeology is the study of past societies through the material remains left by those societies and the evidence of their environment. Archaeological heritage consists of such material remains (whether in the form of sites and monuments or artefacts in the sense of moveable objects) and environmental evidence. As archaeological heritage can be used to gain knowledge and understanding of the past, it is of great cultural and scientific importance.

Archaeological sites and monuments vary greatly in form and date; examples include earthworks of different types and periods, (e.g. early historic ringforts and prehistoric burial mounds), megalithic tombs from the Prehistoric period, medieval buildings, urban archaeological deposits and underwater features.

Archaeological sites may have no visible surface features; the surface features of an archaeological site may have decayed completely or been deliberately removed but archaeological deposits and features may survive beneath the surface.

4.8.2.2 Record of Monuments and Places

Tullow's archaeological heritage is protected under the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts. The Record of Monuments and Places (RMP) is an inventory, established under Section 12 of the National Monuments (Amendment) Act 1994, of sites and areas of archaeological significance, numbered and mapped. The RMP includes all known monuments and sites of archaeological importance dating to before 1700 AD, and some sites that date from after 1700 AD.

There are 20 designated areas of archaeological potential within Tullow's zoning boundary recorded on the OPW's Sites and Monuments Record. Figure 4.12 shows the spatial

distribution of entries to the RMP in the Tullow area.

4.8.3 Architectural Heritage

4.8.3.1 Introduction

The term architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act 1999 as meaning all: structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of structures and buildings; and, sites which are of technical, historical, archaeological, artistic, cultural, scientific, social, or technical interest.

4.8.3.2 Record of Protected Structures

The Record of Protected Structures (RPS) included in the Plan is legislated for under Section 12 and Section 51 of the Planning and Development Act 2000 as amended.

Protected Structures are defined in the Planning and Development Act 2000 as amended as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view.

In relation to a protected structure or proposed protected structure, the following are encompassed:

- (i) the interior of the structure;
- (ii) the land lying within the curtilage¹¹ of the structure;
- (iii) any other structures lying within that curtilage and their interiors; and,
- (iv) all fixtures and features which form part of the interior or exterior of any structure or structures referred to in subparagraph (i) or (iii).

Current entries to the RPS in Tullow are mapped on Figure 4.13. Examples include Tullow Monastery National School, St. Columba's National School, the Bridge House, the Coachhouse on the Dublin Road, the Courthouse and the Museum.

buildings now in separate ownership, e.g. the lodge of a former country house, or the garden features located in land subsequently sold off. Such lands are described as being attendant grounds, and the protection extends to them just as if they were still within the curtilage of the Protected Structure.

¹¹ Curtilage is normally taken to be the parcel of ground immediately associated with the Protected Structure, or in use for the purposes of the structure. Protection extends to the buildings and land lying within the curtilage. While the curtilage sometimes coincides with the present property boundary, it can originally have included lands, features or even

Tullow is one of five settlements in Carlow originating from Anglo Norman Times and along with Leighlinbridge and Carlow Town it has survived as a population centre since that time. The town declined in size during the later Middle Ages, but with the revival of English influence in Ireland during the sixteenth and seventeenth centuries, the town took on a new prosperity and much of its present layout particularly around Market Square originated from that time.

In addition to mapping entries to the RPS, Figure 4.13 maps entries to the National Inventory of Architectural Heritage (NIAH) (these provide the basis for the recommendations of the Minister for Arts, Heritage and the Gaeltacht for the inclusion of particular structures into the RPS).

4.8.4 Existing Problems

The context of archaeological and architectural heritage has changed over time within the Plan area however no existing conflicts with legislative objectives governing archaeological and architectural heritage have been identified.

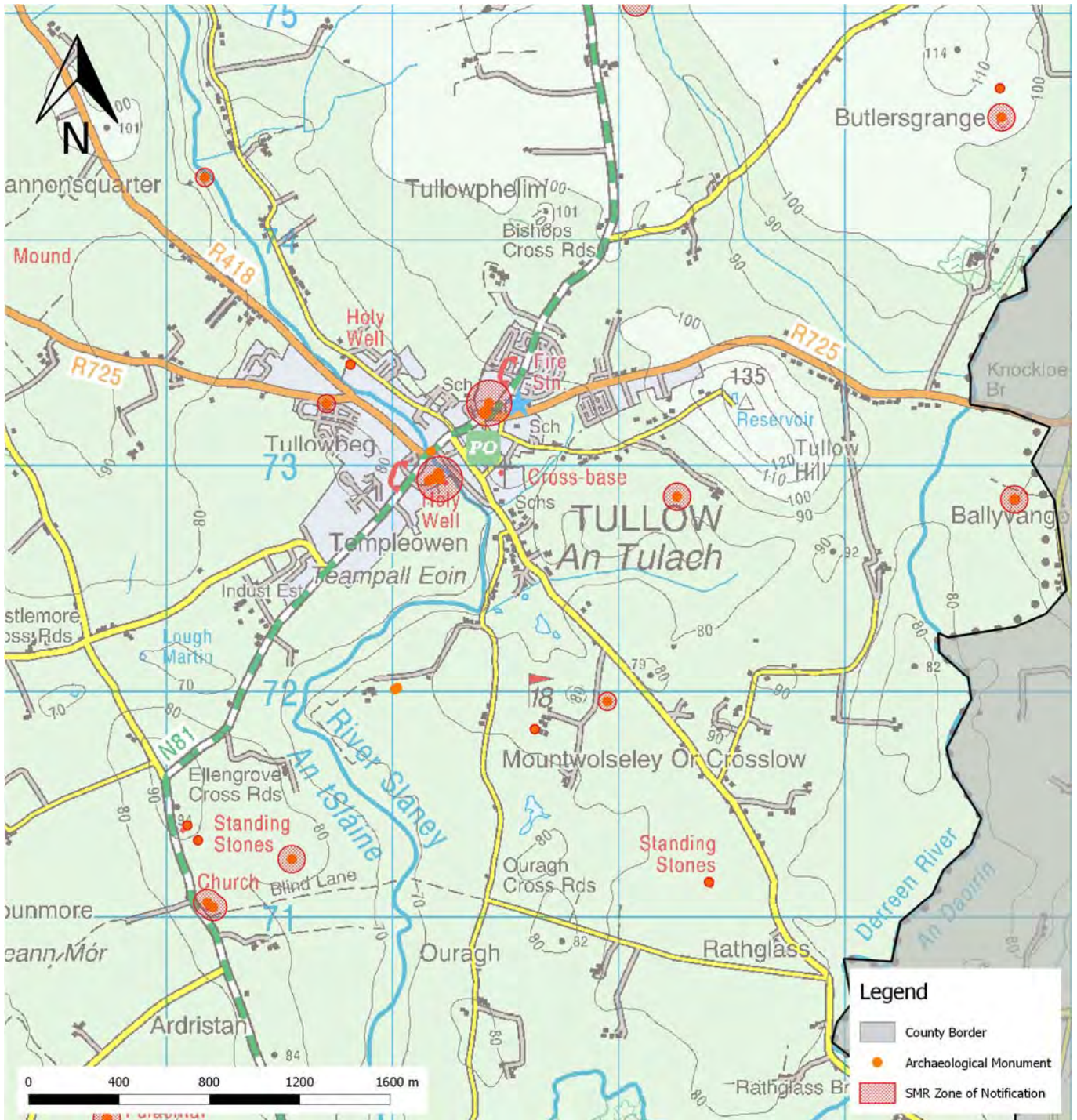


Figure 4.12 Archaeological Heritage - Entries to the Record of Monuments and Places and Zones of Notification

Source: Carlow County Council (2016)

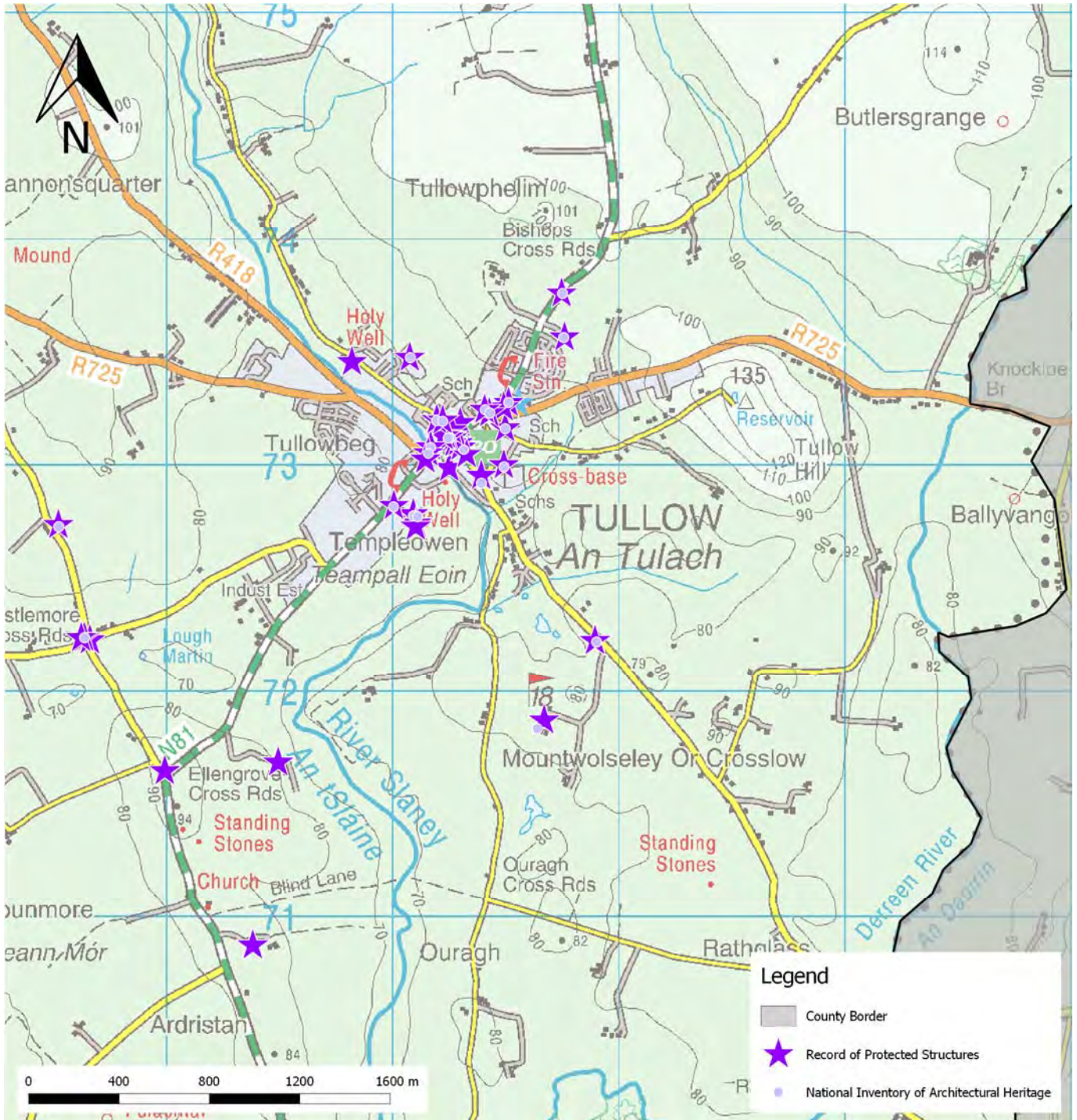


Figure 4.13 Architectural Heritage - Entries to the RPS and NIAH

Source: Carlow County Council (2016)

4.9 Landscape

4.9.1 Introduction

Landscapes are areas that are perceived by people and are made up of a number of layers: landform, which results from geological and geomorphological history; landcover, which includes vegetation, water, human settlements, and; human values that are a result of historical, cultural, religious and other understandings and interactions with landform and landcover.

4.9.2 Legislation

The importance of landscape and visual amenity and the role of its protection are recognised in the Planning and Development Act 2000 as amended, which requires that Plans include objectives for the preservation of the landscape, views and the amenities of places and features of natural beauty.

4.9.3 Landscape Character Assessment

4.9.3.1 Overview

A Landscape Character Assessment (LCA) is a study of a given landscape to determine its 'character'. Landscape character is the combination of physical, as well as, perceived aspects of the landscape.

The Carlow LCA was produced as part of the Carlow County Development Plan 2015-2021. The LCA divides the County into Landscape Character Areas i.e. unique, geographically specific areas of a particular landscape type.

The aim of the County Carlow LCA is to provide a tool for decision making regarding development control and to influence landscape policy at local level. In considering landscape character in the area, the Council acknowledges the importance of taking into account adjoining landscape character, landscape features and designations, including those in adjoining counties.

There are five Principal Landscape Character Areas. Tullow falls within three character areas, which are as follows:

- Central Lowlands Landscape Character Area;
- Blackstairs and Mount Leinster Uplands Landscape Character Area; and
- River Slaney – East Rolling Farmland Landscape Character Area.

Components of the landscape within and adjacent to Tullow which contribute towards landscape character include the River Slaney, hedgerows and lines of trees.

4.9.3.2 Key Characteristics of the Central Lowlands Character Area¹²

The central plain landscape character area occupies a substantial portion of the County. The landscape is primarily rural, with medium to quite large fields defined by well-maintained and generally low hedges and occasional to frequent hedgerow trees. Since the 1950s, field enlargement has been taken place to accommodate larger farm machinery, and has involved the removal of hedges and trees. The boundary of the area is based on soil types and topography. Its historically determined land uses derive from the high fertility of the soil and the gentle topography. The topography is underlain by limestone in the western portion of the area (flanking the Barrow River), and by granite in the east. A dense network of local roads traverses the area in addition to the N80 and the N9. There are also isolated gravel and quarry workings in the area. 60% of the County's population lives in the northern portion of the Character Area. The County's major settlements are also located in the Character Area. They include Carlow town, Tullow, Muine Bheag and Leighlinbridge. The majority of the County's designated habitats are also in the Character Area including the Barrow/ Nore River Valleys, the Slaney River Valley, Ardristan Fen, Oak Wood, and Borris Estate.

4.9.3.3 Key Characteristics of the Blackstairs and Mount Leinster Uplands Character Area

The Mount Leinster/ Blackstairs Landscape Character Area is situated on the eastern side of the County along the border with County Wexford. It is dominated by the uplands of the Blackstairs Mountains and Mount Leinster, which extend as a distinct ridgeline for c. 25km northwards from the border with Wexford. Mount Leinster is largely located in Wexford. The western slopes are however in County

¹² Source: Carlow Landscape Character Assessment

Carlow. The majority of this area is underlain by granite, but Ordovician Metasediments of schist and sandstone occur between Clonegal and Myshall. This area is dominated by the Blackstairs Mountains and their lower slopes, which comprise till and scree deposits. The higher slopes of the Blackstairs are essentially unproductive lands with a thin covering of soil and blanket bog, and heather type vegetation cover. The lower slopes at c. 80m to 200m OD are in rough grazing merging into arable lands and grasslands. The fields are small and bounded by a mixture of hedges and stone walls with occasional trees. There are a number of small and intact villages in the area including Glynn, Ballymurphy and Miseal (Myshall). There are no major settlements. In terms of designated sites, the Blackstairs, John's Hill and the River Slaney are designated habitats within the area. Some of the key issues to the area is development pressure for one-off dwellings, impacts from plantation forestry and infrastructural developments.

4.9.3.4 Key Characteristics of the River Slaney – East Rolling Farmland Character Area

The Slaney - East Rolling Farmland Character Area is located in the northeast corner of the County to the east of the River Slaney Valley. The bedrock in this area is wholly comprised of granite, which is overlain with thick tills and localised pockets of sands and gravels in the river valleys, as well as some peat and alluvial deposits. The landscape is characterised by rounded granite dome-shaped hills, and interspersed rolling topography. Soils in the area include well drained, acidic, brown earth soils, and pockets of poorly drained gleys. The change in elevation and soil type is reflected in a change in natural vegetation with the appearance of gorse in clumps and along field boundaries. Fields are smaller and more compact than those in the central plain. Lands are generally undulating. There are a number of distinctive hills in the area, notably Eagle Hill and Constable Hill to the south of Hacketstown, which confer a distinct identity on that part of the County. There are a number of large forestry plantations to the south of Clonmore on the border with County Wicklow. Landcover is agricultural (primarily grassland), merging into rough grazing at higher elevations. Hacketstown is the main centre serving the Character Area. Clonmore is a village in the south of the area. Designated Habitats within the area include; Baggot's Wood, the Derreen River and the River Slaney Valley. Examples of

key issues to the area include the over management of roadside hedges and housing development pressures.

4.9.4 Landscape Sensitivity

Landscape sensitivity mapping was prepared for the Carlow LCA by according sensitivity rating to the existing adopted Principal Landscape Character Areas. These boundaries were based on extensive LCA fieldwork augmented by ensuring conformity with a number of 'mappable' and natural factors such as landcover, soils, geology and slope. A large portion of the built area in Tullow is identified as having the least sensitivity rating, a rating of '1'. However, areas to the south and east of the Plan area have been attributed with a higher rating, a rating of '4', while as land to the north-west of the town has the highest sensitivity rating of '5'. Other lands to the north and west of the town are attributed with a sensitivity rating of '2'. Landscape sensitivity is mapped on Figure 4.15.

4.9.5 Views and Prospects

It is the policy of the Council to protect scenic views and routes within the County. The Plan area itself does not contain protected scenic views or routes. However, there is a protected viewpoint to the south of the Plan area, which provides a view of typical rolling farmland near Mount Wolseley.

4.9.6 Existing Environmental Problems

Developments have resulted in changes to the visual appearance of the landscape within the Plan area however legislative objectives governing landscape and visual appearance were not identified as being conflicted with.

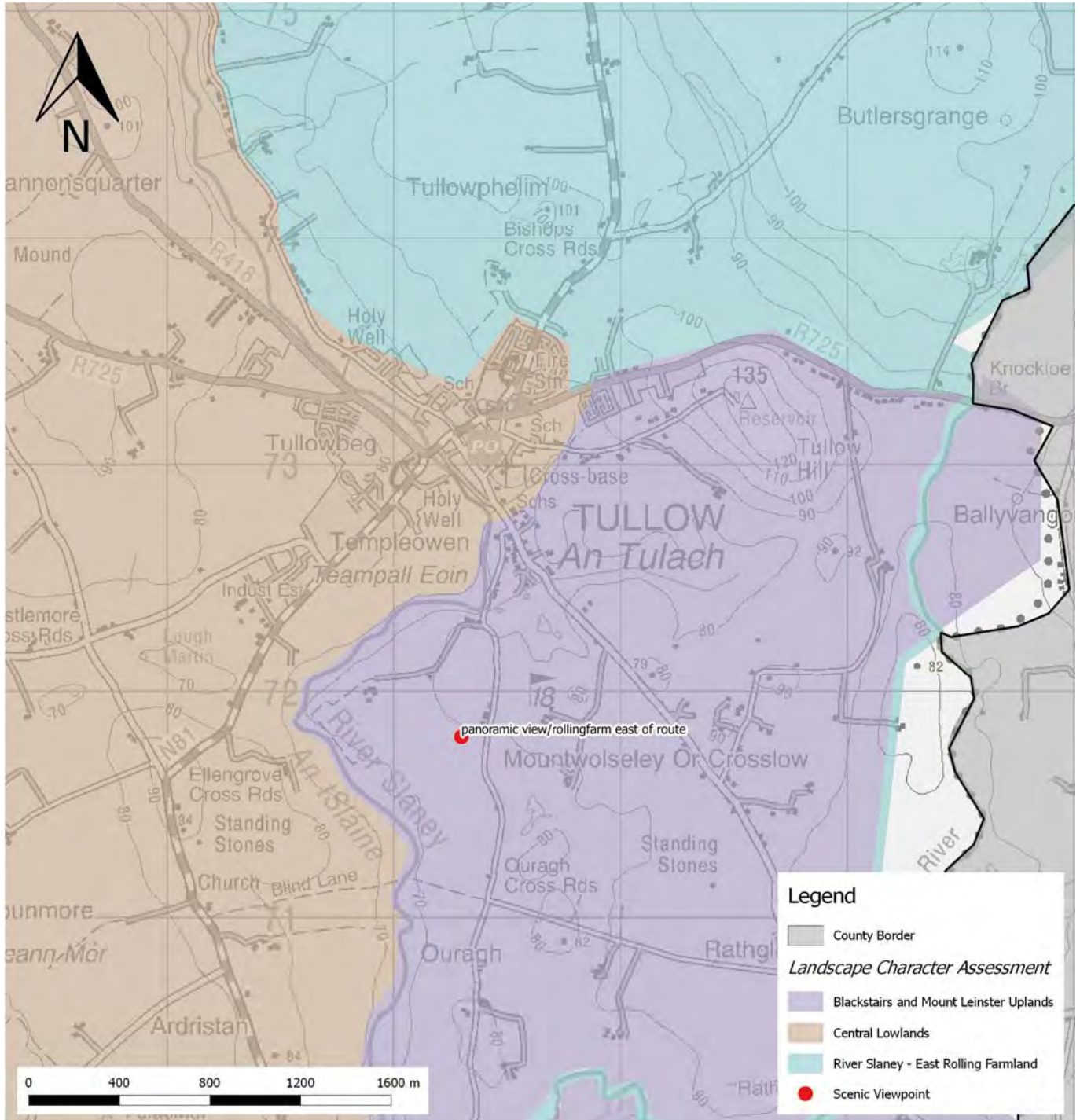


Figure 4.14 Landscape Character Areas

Source: Carlow County Council (2015)

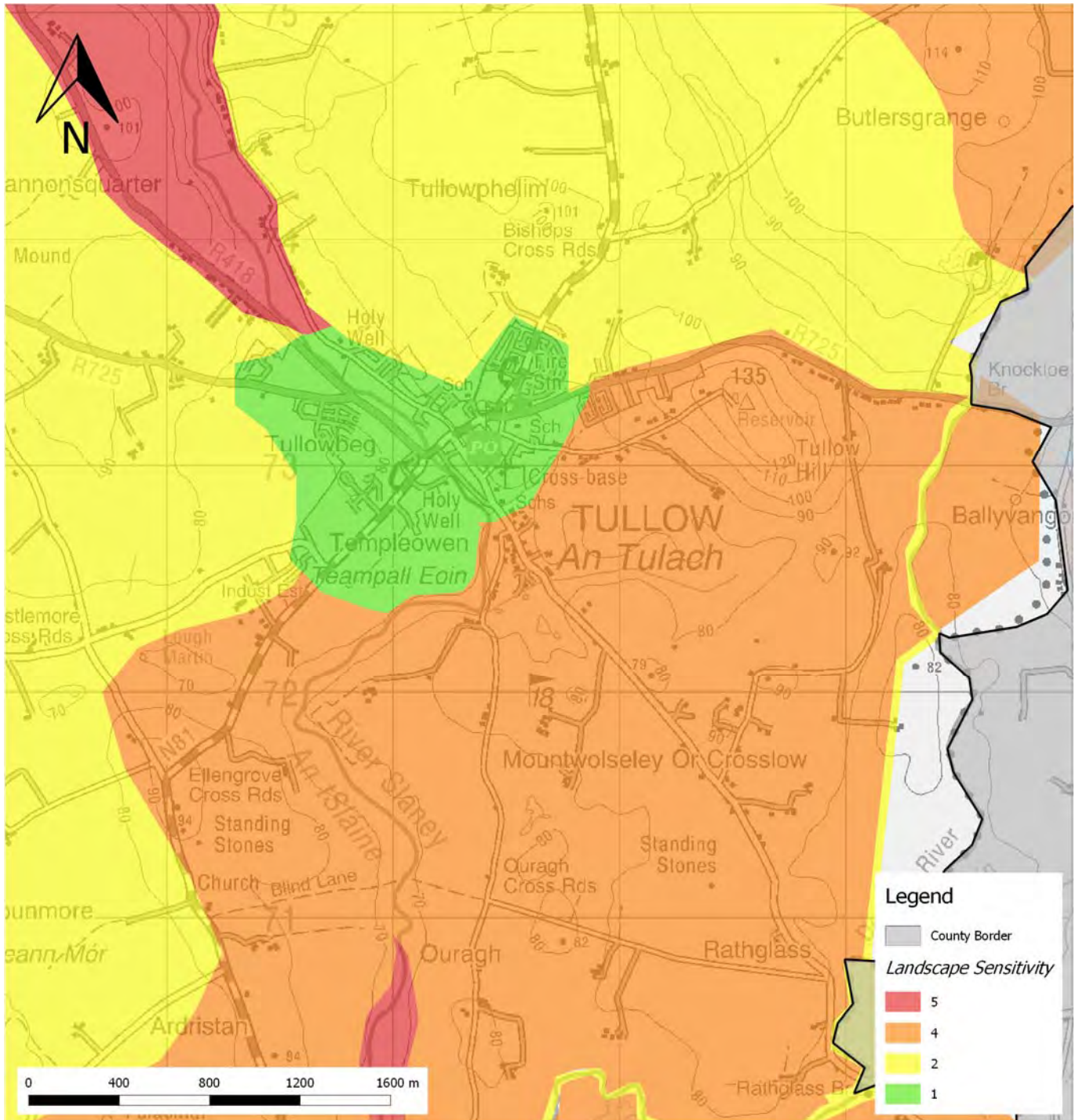


Figure 4.15 Landscape Sensitivity

Source: Carlow County Council (2015)

4.10 Overlay of Environmental Sensitivities

4.10.1 Introduction and Methodology

In order to identify where most sensitivities within Tullow occur, a number of the environmental sensitivities described above were weighted and mapped overlapping each other. Figure 4.16 provides an overlay of environmental sensitivities for the town.

It is emphasised that the occurrence of environmental sensitivities does not preclude development; rather it flags at a strategic level that the mitigation measures - which have already been integrated into the Plan - will need to be complied with in order to ensure that the implementation of the Plan contributes towards environmental protection.

Environmental sensitivities are indicated by colours which range from acute vulnerability (brown), extreme vulnerability (red) to high vulnerability (dark orange) to elevated vulnerability (light orange) to moderate vulnerability (yellow) to low vulnerability (green). Only low, moderate and elevated levels of vulnerability occur within and adjacent to the Plan area. Where the mapping shows a concentration of environmental sensitivities there is an increased likelihood that development will conflict with these sensitivities and cause environmental deterioration.

A weighting system applied through Geographical Information System (GIS) software was used in order to calculate the vulnerability of all areas in the town. Environmental considerations are given equal weight as follows, with a slight differentiation is made in certain layers:

- Ecological designations (candidate Special Areas of Conservation - 10 points - and proposed Natural Heritage Areas - 5 points);
- Cultural heritage (Entries to the Record of Protected Structures and entries to the Record Monuments and Places - 10 points);
- Landscape character areas of very high (10 points) and high value (5 points);

- Scenic routes and views (10 points);
- Sensitive landcover categories (Inland marshes and water bodies - 10 points);
- Surface and groundwaters with bad and poor (10 points) and moderate, good and high (5 points) status;
- Aquifers which are highly (5 points) or extremely (10 points) vulnerable to pollution; and

Indicative flood zones A (10 points) and B (5 points) from the Strategic Flood Risk Assessment.

The scores for each area are added together in order to determine overall vulnerability as shown on Table 4.3.

Score	Vulnerability Class
5-15	Low
20-25	Moderate
30-35	Elevated
40-45	High
50-60	Extreme
>60	Acute

Table 4.3 Overall Vulnerability Classes

4.10.2 Conclusions

The most sensitive areas within Tullow are located along the watercourses through the Plan area (on account of the sensitivity of the River Slaney, fluvial flood risk and Natura 2000 site designations). Sensitivity ratings vary along the watercourse from medium to extreme.

Other sensitive areas are also identified within the town (these largely relate to cultural heritage designations), however, these are of a comparatively lower rating in comparison to the sensitivities along the river.

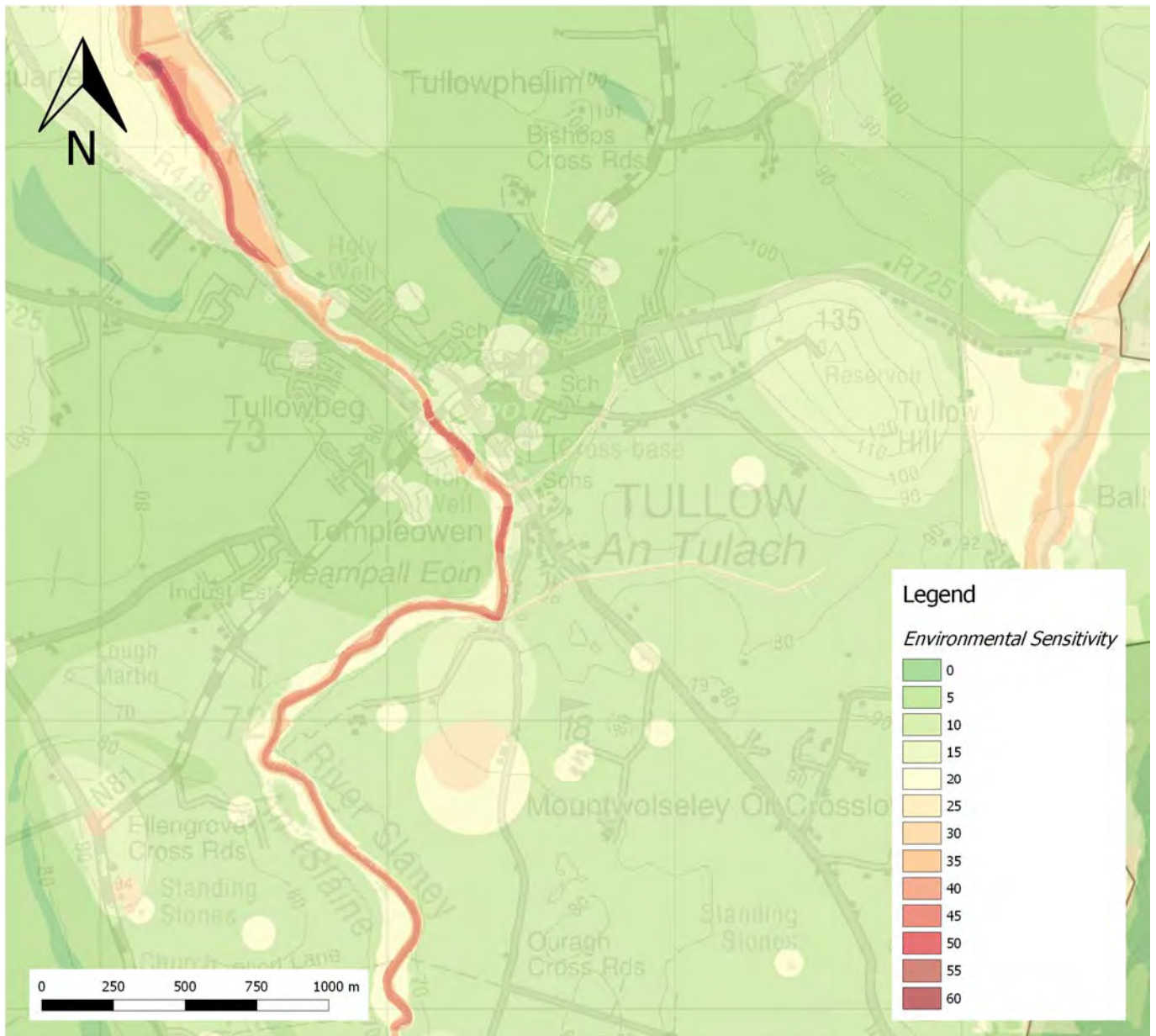


Figure 4.16 Overlay of Environmental Sensitivities

Source: CAAS (2016)

Section 5 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures developed from policies that generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives which have been transposed into Irish law and which are required to be implemented.

The SEOs are set out under a range of topics and are used as standards against which the provisions of the Plan and the alternatives are evaluated in order to help identify which provisions would be likely to result in significant environmental effects and where such effects would be likely to occur, if - in the case of adverse effects - unmitigated.

The SEOs are linked to indicators that can facilitate monitoring the environmental effects of the Plan as well identifying targets which the Plan can help work towards.

All SEOs, indicators and targets are provided on Table 5.1 overleaf. Further detail on legislation, plans and programmes are provided under Section 2 (and associated Appendix I "Relationship with Legislation and Other Plans and Programmes") and Section 4.

Table 5.1 Strategic Environmental Objectives, Indicators and Targets

Environmental Component	Strategic Environmental Objectives	Selected Indicator(s)	Selected Target(s)
Biodiversity, Flora and Fauna	B1: To ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species ¹³	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan ¹⁴
	B2: To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan
	B3: To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ¹⁵ and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976
Population and Human Health	PHH1: To protect human health from exposure to incompatible landuses	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan
Soil	S1: To avoid damage to the hydrogeological and ecological function of the soil resource	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity
Water	W1: To maintain and improve, where possible, the quality and status of surface waters	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' ¹⁶

¹³ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

¹⁴ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
- (b) imperative reasons of overriding public interest for the plan to proceed; and
- (c) adequate compensatory measures in place.

¹⁵ The Planning and Development Act 2000 as amended defines a 'wildlife site' as including Natural Heritage Areas (NHAs) and proposed NHAs.

¹⁶ Good status as defined by the WFD equates to approximately Q4 in the current national scheme of biological classification of rivers as set out by the EPA.

Environmental Component	Strategic Environmental Objectives	Selected Indicator(s)	Selected Target(s)
	W2: To prevent pollution and contamination of ground water	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
	W3: To comply as appropriate with the provisions of the Flood Risk Management Guidelines for Planning Authorities	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with The Planning System and Flood Risk Management Guidelines for Planning Authorities
Material Assets	M1: To serve new development with adequate and appropriate waste water treatment	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan
	M2: To serve new development with adequate drinking water that is both wholesome and clean	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan
	M3: To reduce waste volumes, minimise waste to landfill and increase recycling and reuse	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers
Air and Climatic Factors	C1: To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means
Cultural Heritage	CH1: To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context	CH1: Percentage of entries to the Record of Monuments and Places - and the context these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - and the context of these entries within the surrounding landscape where relevant – protected from adverse effects resulting from development which is granted permission under the Plan
	CH2: To protect architectural heritage including entries to the Record of Protected Structures and their context	CH2: Percentage of entries to the Record of Protected Structures and their context protected from adverse effects resulting from development which is granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and their context from adverse effects resulting from development which is granted permission under the Plan
Landscape	L1: To avoid significant adverse impacts on the landscape	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape resulting from development which is granted permission under the Plan	L1: No developments permitted which result in avoidable impacts on the landscape resulting from development which is granted permission under the Plan

Section 6 Alternative Development Strategies

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment.

The description of the environmental baseline (both maps and text) and Strategic Environmental Objectives (SEOs) are used in the evaluation of alternatives.

Carlow County Council in preparing the Local Area Plan 2016-2022 developed three alternative development strategies for Tullow as follows:

- Development Scenario 1: A general continuation in accordance with the development objectives of the current 2010 – 2016 Plan;
- Development Scenario 2: To provide high density residential, retail and employment development on vacant key opportunity sites and limited consolidation of the town centre, and;
- Development Scenario 3: To consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased manner.

These alternatives are detailed on Table 6.1 below and mapped on Figure 6.1, Figure 6.2 and Figure 6.3.

Table 6.1 Description of Alternative Development Strategies

	Alternative Development Strategy 1	Alternative Development Strategy 2	Alternative Development Strategy 3
Summary	Development Scenario 1: A general continuation in accordance with the development objectives of the 2010 – 2016 Plan	Development Scenario 2: Directs new development to vacant and infill sites in the town only.	Development Scenario 3: To consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner.
Features	<ul style="list-style-type: none"> Peripheral areas of lands zoned for residential / enterprise and employment development on the outskirts of the town, with no direct link to the town centre. Seek investment to improve existing pedestrian provision within the town and also to the town centre from peripheral areas where pedestrian access is limited. Extensive area of land zoned residential to the north, west, south east and north west of the town environs. Extensive area of land zoned enterprise and employment to the south western outskirts of the town. An expansive town centre area which dilutes the importance of the centre of the town around Market Square and Bridge Street. Accessibility to the backlands of Tullow town centre. Proposed link road in order to reduce traffic congestion in the town centre along Market Square and Bridge Street. 	<ul style="list-style-type: none"> Consolidation of the existing town centre by encouraging the development of vacant or underutilised sites such as the vacant car park opposite the Civic offices on the New Link Road, in a sensitive and appropriate manner. New residential development restricted to existing vacant properties within the town, individual infill sites and unfinished residential housing estates i.e. where dwellings are partially completed. Lands in the west and south west of the Plan area, in particular out the Bunclody Road, zoned primarily for Enterprise and Employment uses. 	<ul style="list-style-type: none"> Consolidation of mixed uses in Town Centre zoning encouraging the development of underutilised sites in a sensitive and appropriate manner. Emphasis on regeneration of Market Square and Bridge Street in the town centre. Residential development is phased outward from the town centre with opportunities for new residential development provided closer to the town centre. No new areas of residential or commercial on the periphery of the development envelope. Encourage new retail / commercial development within the town centre. Seek improvement of pedestrian links to enhance the character and accessibility within the town by greater linkages throughout. Maximising the potential of the River Slaney, through the creation of a mix of uses, high quality public realm and public spaces. Adequate lands zoned for Industrial and Enterprise and Employment.

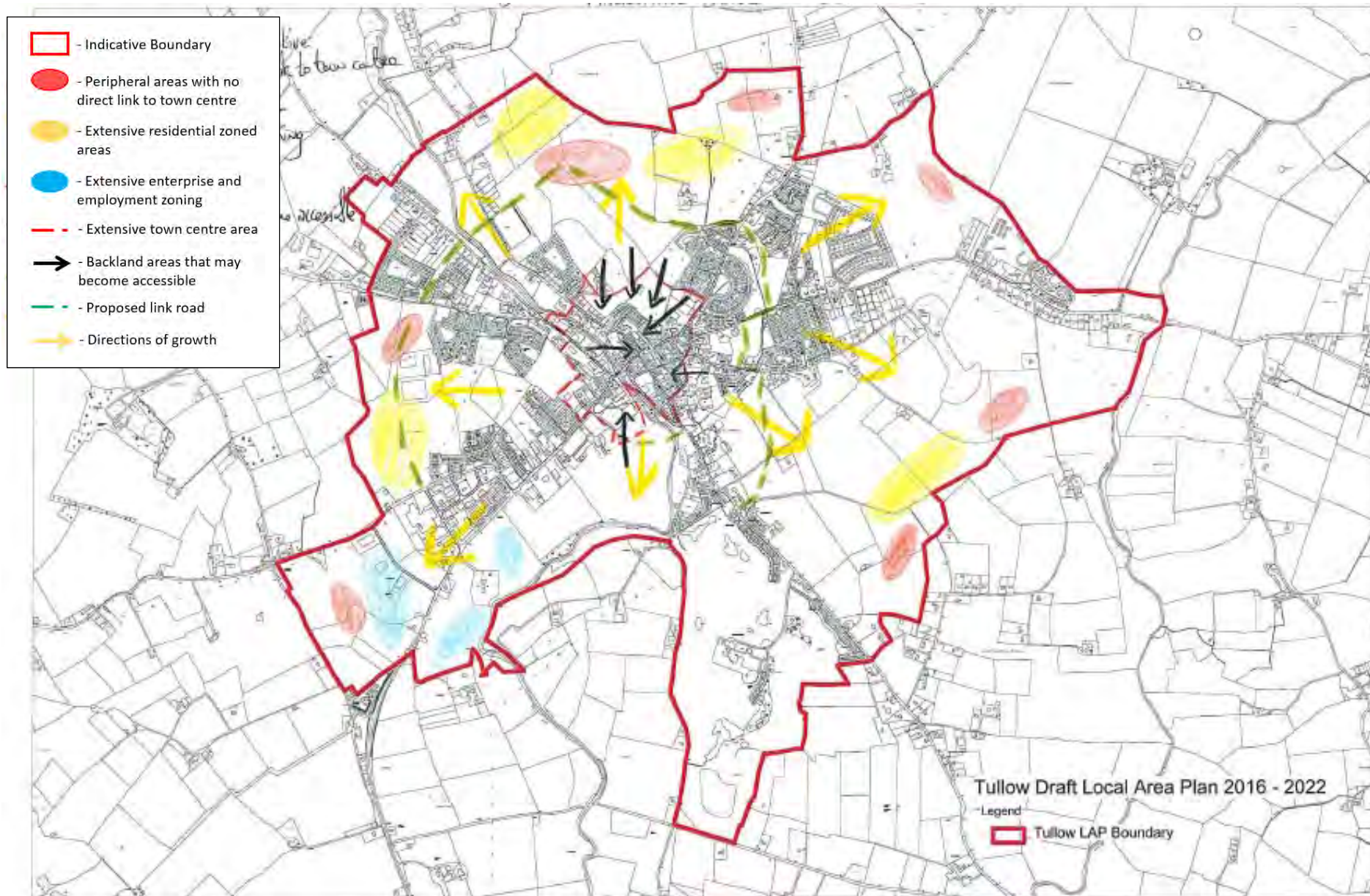


Figure 6.1 Alternative Development Strategy 1

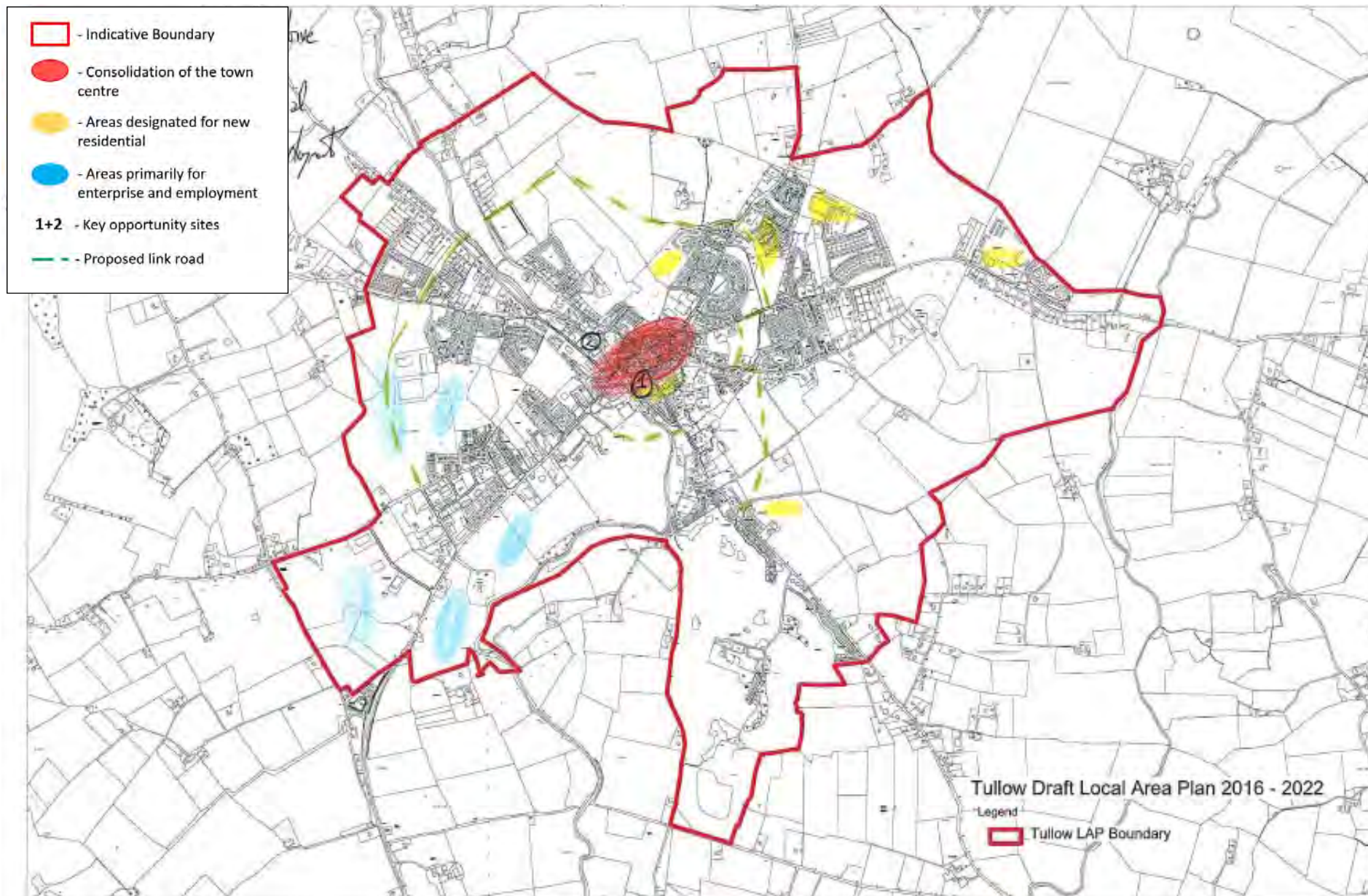


Figure 6.2 Alternative Development Strategy 2

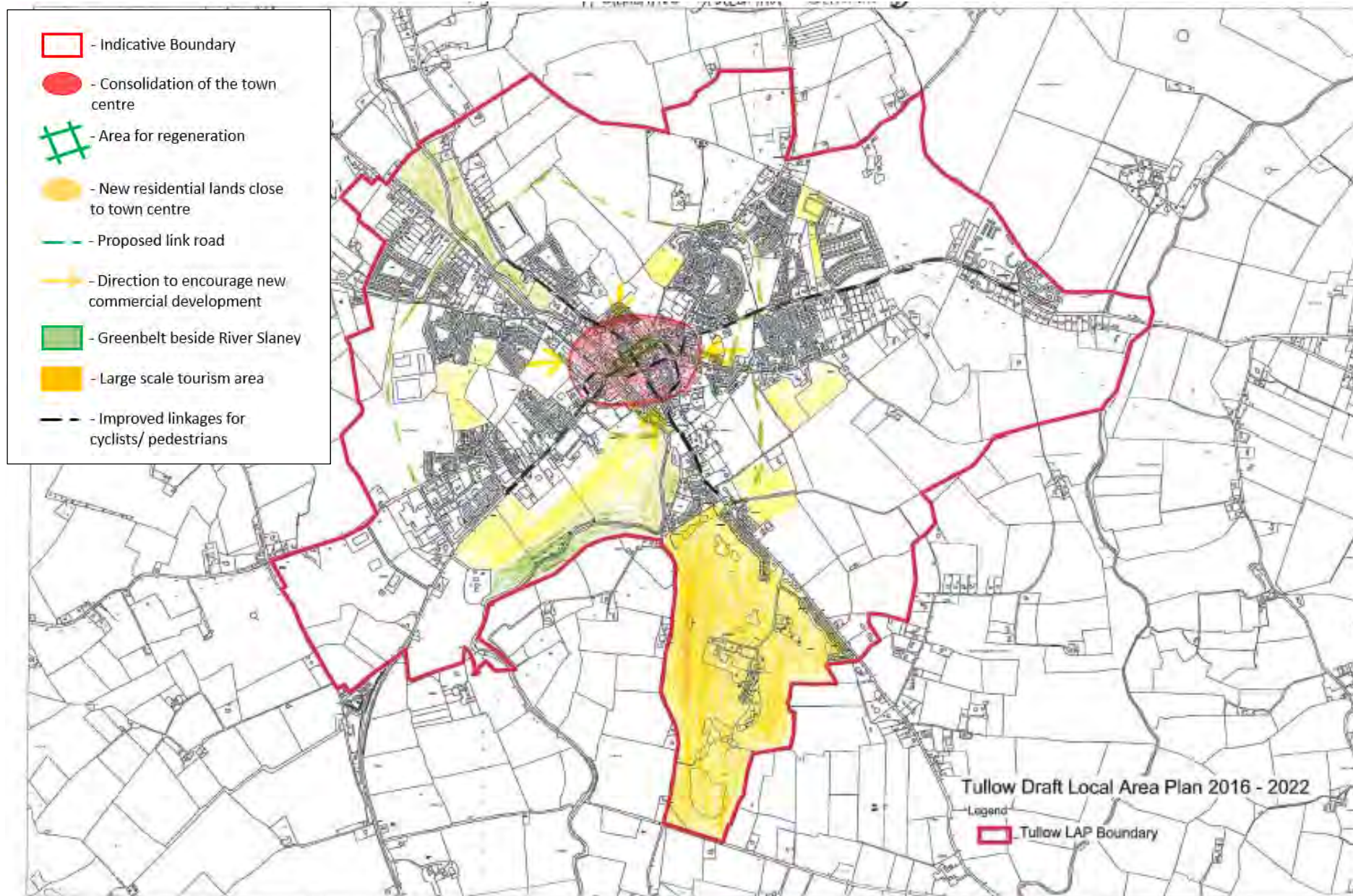


Figure 6.3 Alternative Development Strategy 3

Section 7 Evaluation of Alternatives

7.1 Methodology

The description of the environmental baseline together with the maps provided in Section 4 of this report (including the Environmental Sensitivity Overlay Mapping) is used in the evaluation.

Strategic Environmental Objectives (SEOs) identified in Section 5 and reproduced overleaf are also used.

The provisions of the alternatives are evaluated using compatibility criteria (see Table 7.2 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the alternatives are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'to ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species'¹⁷.

The interactions identified are reflective of likely significant environmental effects¹⁸;

1. Interactions that would be likely to improve the status of a particular SEO would be likely to result in a significant positive effect on the environmental component to which the SEO relates. The extent of positive effects which would be likely to occur varies and there are two 'likely to improve columns' (see Table 7.2)
2. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated are divided into two groups:
 - Interactions that would conflict the least with the status of SEOs – these would be likely to be mitigated to a greater degree and significant adverse effects would be less likely;

- Interactions that would conflict the most with status of SEOs - these would be likely to be mitigated to a lesser degree and significant adverse effects would be more likely.

¹⁷ 'Annexed habitats and species' refers to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

¹⁸ These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

Table 7.1 Strategic Environmental Objectives²⁰

SEO Code	SEO
B1	To ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species ¹⁹
B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones - are of significant importance for wild fauna and flora and/or essential for the migration, dispersal and genetic exchange of wild species
B3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
PHH1	To protect populations and human health from exposure to incompatible landuses
S1	To avoid damage to the hydrogeological and ecological function of the soil resource
W1	To maintain and improve, where possible, the quality and status of surface waters
W2	To prevent pollution and contamination of ground water
W3	To comply as appropriate with the provisions of the Flood Risk Management Guidelines
M1	To serve new development with adequate and appropriate waste water treatment
M2	To serve new development with adequate drinking water that is both wholesome and clean
M3	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
C1	To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport
CH1	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
CH2	To protect architectural heritage including entries to the Record of Protected Structures and their context
L1	To avoid significant adverse impacts on the landscape

Table 7.2 Criteria for appraising the effect on SEOs

Likely to Improve status of SEOs to a greater degree	Likely to Improve status of SEOs to a lesser degree	Least Potential Conflict with status of SEOs - likely to be mitigated to greater degree. significant adverse effects less likely	More Potential Conflict with status of SEOs - likely to be mitigated to an intermediate degree. significant adverse effects more likely	Probable Conflict with status of SEOs- unlikely to be mitigated	No significant interaction with status of SEOs
--	---	--	---	--	---

¹⁹ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

²⁰ See Section 5 for a description of Strategic Environmental Objectives.

7.2 Cumulative Effects

Cumulative effects are one of the types of effects that have been considered in the assessment of the alternatives. Cumulative effects can be described as the addition of many small impacts to create one larger, more significant, impact.

There are two types of potential cumulative effects that have been considered, namely:

- Potential intra-Plan cumulative effects - these arise from the interactions between different types of potential environmental effects resulting from a Plan, programme etc. Where there are elevated levels of environmental sensitivities, future development could result in environmental conflicts and lead to a deterioration in environmental integrity. The interrelationships between environmental components that help determine these potential effects are identified on Table 8.4 in Section 8 e.g. interrelationships between: human health and water quality; human health and air quality; human health and flood risk; and ecology and water quality.
- Potential inter-Plan cumulative effects - these arise when the effects of the implementation of one plan occur in combination with those of other plans, programmes, developments, etc.

Effects that may arise as a result of implementing the Plan have been mitigated to the extent that the only residual adverse effects likely to occur as a result of implementation of the Plan are those that are identified under Section 8.7.

With regard to potential *inter-Plan* cumulative environmental effects, these occur as a result of the combination of: potential environmental effects that are identified by the assessment; and the effects arising from other legislation, plans, programmes or developments arising.

In considering the relationship with legislation and other plans and programmes it is important to note that the Plan will be implemented within areas that have existing plans and programmes (see Appendix I, Section 4, Section 5 and Section 9 of this report) for a range of sectors at a range of levels (e.g. National, River Basin District, Regional, County and Local) that are already subject to more specific higher and lower tier SEA and AA.

The assessment of the likely *inter-Plan* cumulative environmental effects requires knowledge of the likely effects of all plans/developments under consideration. The assessment is limited in this instance as there has been limited assessment of the likely types of developments provided for by other policies, plans and programmes that could occur in combination with the implementation of the Plan. Where they exist, the SEA recognises the existence of other environmental assessments with a view to avoid duplication of assessment, in compliance with the SEA Directive.

The SEA undertaken for the Plan has taken account of the Council's obligation to comply with all environmental legislation and align with and cumulatively contribute towards – in combination with other users and bodies and their plans etc. – the achievement of the objectives of the regulatory framework for environmental protection and management.

Cumulative effects that have been considered include those resulting from the Plan and:

- Other land use Plans (e.g. the Carlow and Wicklow County Development Plans);
- Water services, transport and energy infrastructure plans (e.g. Irish Water's Water Services Strategic Plan and associated Capital Investment Plan 2014-2016, Grid25 and associated Implementation Programme) and the emerging County Carlow 2021 Local Economic & Community Plan 2016-2021; and
- Environmental protection and management plans (e.g. South East River Basin Management Plans and flood risk management plans).

Such potential cumulative effects include the following (note that these will be mitigated by provisions that have been integrated into the Plan):

- Contributions towards reductions in travel related greenhouse gas and other emissions to air (in combination with plans and programmes from all sectors, including transport and land use planning) as a result of consolidating development and facilitating sustainable mobility/a shift from motorised transport modes to more sustainable and non-motorised transport modes.
- Contributions towards travel related greenhouse gas and other emissions to air (in combination with plans and programmes from all sectors, including transport and land use planning) as a result of facilitating development that must be accompanied by road capacity.
- Facilitation of new development that is accompanied by appropriate levels of water services thereby contributing towards environmental protection.
- Need for and use of water and wastewater treatment capacity arising from new developments and associated potential adverse effects.
- Potential cumulative effects upon surface and ground water status as a result of development including housing and employment – loadings and abstractions;
- Potential cumulative effects (habitat damage, enhancing ecological connectivity, contributing towards sustainable mobility) arising from linear developments, such as those relating to Green Infrastructure;
- Potential cumulative effects on flood risk by, for example, development of greenfield lands;
- Potential cumulative visual impact of development at the interface between the LAP boundary and the surrounding area of the County which is subject to the provisions of the County Development Plan; and
- In combination with plans and programmes from all sectors potential adverse effects on all environmental components arising from all development in greenfield and brownfield areas (e.g. infrastructural, residential, economic, agricultural etc.). The type of these effects are consistent with those described on Table 7.3. These plans and programmes from other sectors undergo SEA and comply with environmental legislation while projects are subject to EIA and AA, as relevant.

7.3 Potentially Significant Adverse Effects

A number of potentially significant adverse environmental effects that are common to all alternatives and are described on the Table below.

For the chosen alternative, these effects are mitigated by measures that have been integrated into the Plan.

Table 7.3 Potentially Significant Adverse Environmental Effects common to all alternatives

Environmental Component	Likely Significant Effect, if unmitigated
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Loss of biodiversity with regard to designated biodiversity and flora and fauna (including Natura 2000 Sites, proposed Natural Heritage Areas and Annexed habitats and species), ecological connectivity and stepping stones and non-designated biodiversity and flora and fauna (see baseline Section 4.2)
Population and Human Health	<ul style="list-style-type: none"> o Spatially concentrated deterioration in human health (see baseline Section 4.3)
Soil (especially soil on greenfield lands)	<ul style="list-style-type: none"> o Adverse impacts on the hydrogeological and ecological function of the soil resource (see baseline Section 4.4)
Water (including the River Slaney and its tributaries and underlying groundwater)	<ul style="list-style-type: none"> o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology (see baseline Sections 4.5) o Increase in flood risk (see baseline Section 4.5.6)
Material Assets (it is the function of Irish Water to provide for water services needs)	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate waste water treatment (see baseline Section 4.7.1) o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (see baseline Section 4.7.1) o Increases in waste levels (see baseline Section 4.7.2)
Air and Climatic Factors	<ul style="list-style-type: none"> o Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases) (see baseline Section 4.6)
Cultural Heritage	<ul style="list-style-type: none"> o Effects on entries to the Record of Monuments and Places and other archaeological heritage (see baseline Section 4.8.2) o Effects on entries to the Records of Protected Structures and other architectural heritage (see baseline Section 4.8.3)
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse visual impacts (see baseline Section 4.9)

7.4 Comparative Evaluation of all Alternative Development Strategies

Alternative Development Strategy 1 would contribute towards efforts to improve sustainable mobility²¹ (and associated effects on energy, air, noise and human health) by improving existing pedestrian access and the development of a proposed relief road, however: such a contribution would be outweighed by the overall direction of the Strategy which prefers an expansion of peripheral areas for residential, mixed use, industrial and commercial uses, some of which have no direct link to the town centre.

The extent of development provided for would have to be served by infrastructure²² and could affect flood risk²³.

By providing significant expansion of suburbs of the town and peripheral areas, this alternative would be likely to result in the greatest number and extent of residual adverse effects across the widest area. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters²⁴. This Scenario would provide for various uses on greenfield lands in the peripheries of the plan area, adversely impacting upon the consolidation of the town and sustainable mobility. The visual appearance of peripheral greenfield areas within the LAP area would be most likely to change under this scenario²⁵.

Alternative Development Strategy 2 directs new development to vacant and infill sites in the town only. By consolidating the existing town centre and improving connectivity, this alternative would contribute towards efforts to both improve sustainable mobility²⁶ (and associated effects on energy, air, noise and human health), protect cultural heritage²⁷ and improve the residential fabric within the town centre.

However, by restricting new development to high density to vacant and infill sites, this alternative would be likely to result in an increase of applications for development outside the LAP area thereby weakening the town centre. It would be a challenge to serve peripheral areas with the necessary infrastructure²⁸.

The increase in applications for development within the periphery to the LAP area would provide for the greatest number and extent of residual adverse effects beyond the LAP area as a result of greenfield development. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters²⁹ and changes to the visual appearance of lands³⁰.

By encouraging an extent of development within the town centre, this alternative would somewhat contribute towards the protection and management of the environment elsewhere³¹, however the higher densities of development would have the potential to adversely impact upon the character of the town including cultural heritage and its context³².

This alternative provides a significant amount of lands zoned primarily for Enterprise and Employment uses in the west and south west of the Plan area. The extent of lands zoned would be in significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of

²¹ SEOs C1 PHH1

²² SEOs M1 M2 M3

²³ SEOs W3 PHH1

²⁴ SEOs B1 B2 B3 S1 PHH1 W1 W2 W3

²⁵ SEOs CH1 CH2 L1

²⁶ SEOs C1 PHH1

²⁷ SEOs CH1 CH2 L1

²⁸ SEOs M1 M2 M3

²⁹ SEOs B1 B2 B3 S1 PHH1 W1 W2 W3

³⁰ SEO L1

³¹ SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1

³² SEOs CH1 CH2 L1

environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.

Alternative Development Strategy 3 consolidates and strengthens the town centre and provides for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner. Consolidation of the town centre, phasing of residential development, improvement of pedestrian links and public spaces are all provided for.

By providing for development in this manner, this alternative would maximise sustainable mobility³³ (and associated effects on energy, air, noise and human health) and protect cultural heritage³⁴ within the town centre. Overall, new development would be best served by existing and planned infrastructure under this scenario³⁵. By limiting development within the Plan area and on the periphery of the development envelope, this alternative would benefit the protection of various environmental components (e.g. ecology, water, visual sensitivities etc.) beyond the LAP area that could otherwise be threatened³⁶.

Potential conflicts with all environmental components³⁷ (detailed under Table 7.3) would still have to be mitigated to ensure that significant adverse residual environmental effects do not occur.

This scenario provides for a greenbelt along the River Slaney that would contribute towards the protection of the status of the river including associated biodiversity³⁸, however, provisions of the plan to maximise the potential of the River Slaney through the creation of a number of uses could potentially have adverse effects on the biodiversity for which the site is designated for³⁹.

Table 7.4 below provides a comparative evaluation of the environmental effects of alternative development strategies against Strategic Environmental Objectives. This is supported by the narrative above and by effects that are common to all alternatives detailed on Table 7.3.

³³ SEOs C1 PHH1

³⁴ SEOs CH1 CH2 L1

³⁵ SEOs M1 M2 M3

³⁶ SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1

³⁷ B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1

³⁸ SEOs B1 B2 B3

³⁹ SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1

Table 7.4 Comparative Evaluation of Alternative Development Strategies

Alternative Development Strategy	<u>Likely to Improve</u> status of SEOs <u>to a greater degree</u>	<u>Likely to Improve</u> status of SEOs <u>to a lesser degree</u>	<u>Least Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to greater degree.</u> significant adverse effects less likely	<u>More Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to an intermediate degree.</u> significant adverse effects more likely	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	<u>No significant interaction</u> with status of SEOs
Alternative Development Strategy 1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		
Alternative Development Strategy 2		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		
Alternative Development Strategy 3	B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1			

7.5 The Selected Alternative Development Strategy for the Plan

7.5.1 Overview

The Plan has been developed by the Planning Team and adopted by the Council having regard to both:

1. The environmental effects which were identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects that also were considered by the Council.

Potential adverse effects will be mitigated by various provisions that have been integrated into the Plan (see Section 9).

7.5.2 Selected Alternative Development Strategy

The Alternative Development Strategy that was selected and developed for the Draft Plan was Strategy 3 - *to consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased manner.*

However, the emerging Draft Plan was amended to include a significant extent of lands zoned for Enterprise and Employment uses in the west and south west of the Plan area.

The extent of these lands zoned is significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.

The alternative development strategy that has been placed on public display and adopted therefore is a mixture between Alternative Strategies 2 and 3.

7.5.3 Land Use Zoning Map including Constrained Land Use Zoning

The Land Use Zoning map from the Plan that evolved from and which is consistent with is a mixture between Alternative Strategies 2 and 3 is shown on Figure 7.1 overleaf.

Also shown on this map is the constrained land use zoning objective (Policy HR 10B) for the River Slaney cSAC. This Policy has been integrated into the Plan as there are a number of overlaps between the area that is designated as cSAC and existing land use zoning objectives. Policy HR 10B requires applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13 – as shown on Figure 7.1 overleaf) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.

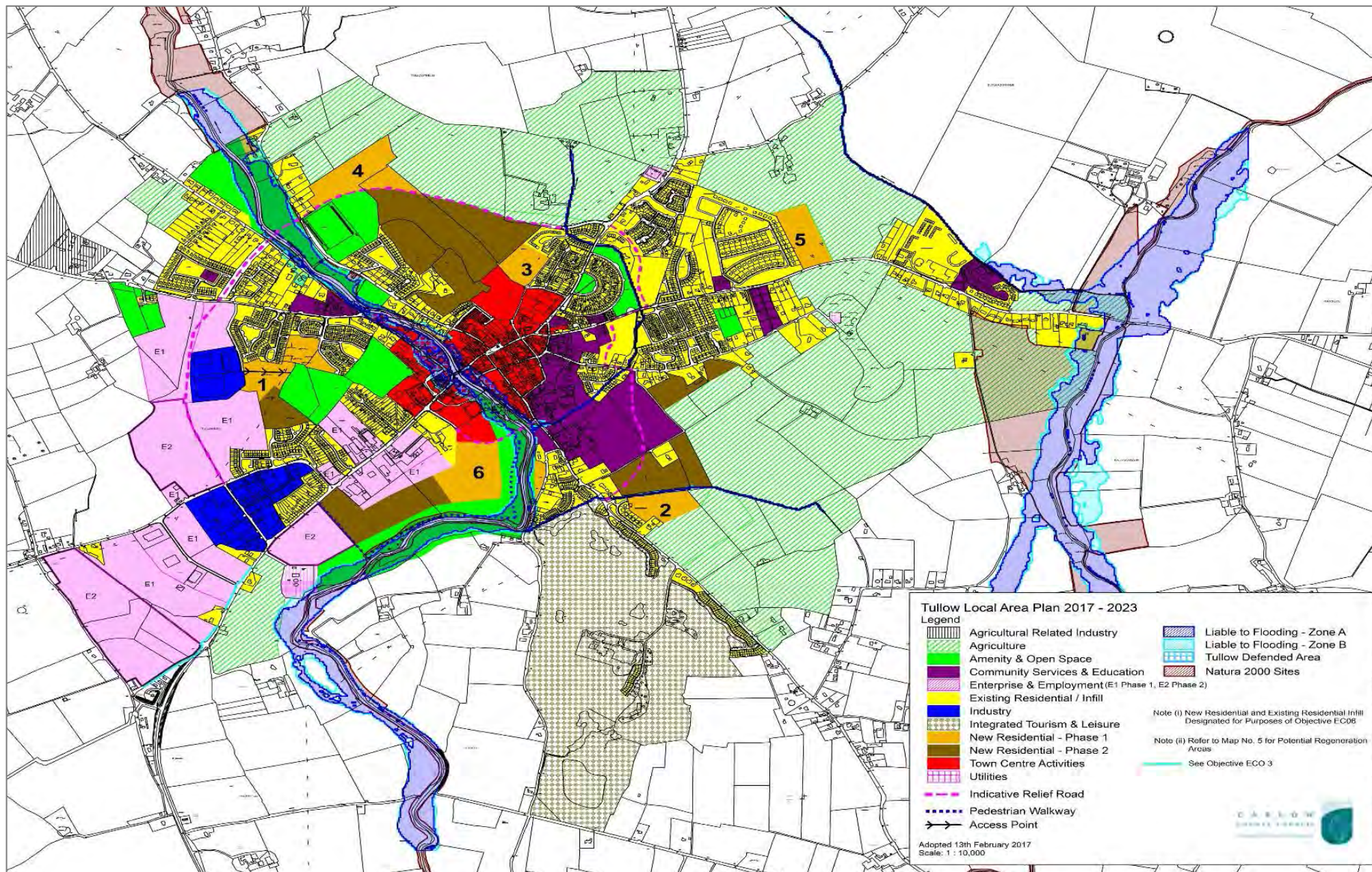


Figure 7.1 Land Use Zoning Map from the Plan

CAAS for Carlow County Council

Section 8 Evaluation of Plan Provisions

8.1 Overall Findings

The overall findings are that:

- The Plan includes a significant extent of lands zoned for Enterprise and Employment uses in the west and south west of the Plan area. The extent of these lands zoned is significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.
- The Council have integrated all recommendations arising from the SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes into the Plan, facilitating compliance of the Plan with various European and National legislation and Guidelines relating to the environment and sustainable development.
- Plan provisions would be likely to result in significant positive effects upon the protection and management of the environment (including all environmental components; biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape).
- Some Plan provisions would have the potential to result in significant negative environmental effects (these will be described in the reports) however these effects will be mitigated by the mitigation measures that have been integrated into the Plan (see Section 9).

8.2 Methodology

This section evaluates the provisions of the Plan. The description of the environmental baseline together with the maps provided in Section 4 of this report (including the Environmental Sensitivity Overlay Mapping) is used for this purpose. Strategic Environmental Objectives (SEOs) identified in Section 5 and reproduced overleaf are also used.

The provisions of the Plan are evaluated using compatibility criteria (see Table 8.1 below) in order to determine how they would be likely to affect the status of the SEOs. The SEOs and the provisions of the Plan are arrayed against each other to identify which interactions - if any - would cause effects on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for the SEO likely to be affected - in this instance 'to ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species'⁴⁰.

The interactions identified are reflective of likely significant environmental effects⁴¹:

1. Interactions that would be likely to improve the status of a particular SEO would be likely to result in a significant positive effect on the environmental component to which the SEO relates.
2. Interactions that would probably conflict with the status of an SEO and would be unlikely to be mitigated would be likely to result in a significant negative effect on the environmental component to which the SEO relates.

⁴⁰ 'Annexed habitats and species' refers to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

⁴¹ These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.

3. Interactions that would potentially conflict with the status of an SEO and would be likely to be mitigated would be likely to result in potential significant negative effects however these effects would be likely to be mitigated by measures which have been integrated into the Plan.

The degree of significance of effects occurring cannot be fully determined at this level of decision making due to the lack of exact detail available with regard to the type or scale of development that will be permitted under the Plan.

Mitigation measures to prevent or reduce significant adverse effects posed by the Plan are identified in Section 9 - these have been integrated into the Plan.

Table 8.1 Criteria for appraising the effect of Plan provisions on SEOs

Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
---	---	---	--

Table 8.2 Strategic Environmental Objectives⁴²

SEO Code	SEO
B1	To ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species ⁴³
B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones - are of significant importance for wild fauna and flora and/or essential for the migration, dispersal and genetic exchange of wild species
B3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
PHH1	To protect populations and human health from exposure to incompatible landuses
S1	To avoid damage to the hydrogeological and ecological function of the soil resource
W1	To maintain and improve, where possible, the quality and status of surface waters
W2	To prevent pollution and contamination of ground water
W3	To comply as appropriate with the provisions of the Flood Risk Management Guidelines
M1	To serve new development with adequate and appropriate waste water treatment
M2	To serve new development with adequate drinking water that is both wholesome and clean
M3	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
C1	To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport
CH1	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
CH2	To protect architectural heritage including entries to the Record of Protected Structures and their context
L1	To avoid significant adverse impacts on the landscape

8.3 Appropriate Assessment and Strategic Flood Risk Assessment

A Stage 2 Appropriate Assessment (AA) and a Strategic Flood Risk Assessment (SFRA) have both been undertaken alongside the preparation of the Plan.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

⁴² See Section 5 for a description of Strategic Environmental Objectives.

⁴³ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

The AA concluded that the Plan will not affect the integrity of the Natura 2000 network⁴⁴ and the SFRA has facilitated the integration of flood risk management considerations into the Plan.

The preparation of the Plan, SEA, AA and SFRA has taken place concurrently and the findings of the AA and SFRA have informed both the Plan and the SEA. All recommendations made by the AA and SEA were integrated into the Plan.

8.4 Potential Adverse Effects and their Determination

Environmental impacts which occur, if any, will be determined by the nature and extent of multiple or individual projects and site-specific environmental factors.

Avoidance of conflict with SEOs and the environment is dependent upon compliance with the mitigation measures which have emerged through the SEA, AA and SFRA processes and which have been integrated into the Plan. The potentially significant adverse environmental effects arising from implementation of the Plan are detailed on Table 8.3 below.

Environmental Component	Likely Significant Effect, if unmitigated
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Loss of biodiversity with regard to designated biodiversity and flora and fauna (including Natura 2000 Sites, proposed Natural Heritage Areas and Annexed habitats and species), ecological connectivity and stepping stones and non-designated biodiversity and flora and fauna (see baseline Section 4.2)
Population and Human Health	<ul style="list-style-type: none"> o Spatially concentrated deterioration in human health (see baseline Section 4.3)
Soil (especially soil on greenfield lands)	<ul style="list-style-type: none"> o Adverse impacts on the hydrogeological and ecological function of the soil resource (see baseline Section 4.4)
Water (including the River Slaney and its tributaries and underlying groundwater)	<ul style="list-style-type: none"> o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology (see baseline Sections 4.5) o Increase in flood risk (see baseline Section 4.5.6)
Material Assets (it is the function of Irish Water to provide for water services needs)	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate waste water treatment (see baseline Section 4.7.1) o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (see baseline Section 4.7.1) o Increases in waste levels (see baseline Section 4.7.2)
Air and Climatic Factors	<ul style="list-style-type: none"> o Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases) (see baseline Section 4.6)
Cultural Heritage	<ul style="list-style-type: none"> o Effects on entries to the Record of Monuments and Places and other archaeological heritage (see baseline Section 4.8.2) o Effects on entries to the Records of Protected Structures and other architectural heritage (see baseline Section 4.8.3)
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse visual impacts (see baseline Section 4.9)

Table 8.3 Potential Adverse Effects

⁴⁴ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
- (b) imperative reasons of overriding public interest for the plan to proceed; and
- (c) adequate compensatory measures in place.

8.5 Interrelationship between Environmental Components

The SEA Directive requires the Environmental Report to include information on the likely significant effects on the environment, including on issues such as biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.

Likely significant effects on environmental components that are identified include those that are interrelated; implementation of the Plan will not affect the interrelationships between these components. The presence of significant interrelationships between environmental components is identified on Table 8.4.

Table 8.4 Presence of Interrelationships between Environmental Components

Component	Biodiversity, flora and fauna	Population and human health	Soil	Water	Air and Climatic factors	Material assets	Cultural heritage	Landscape
Biodiversity, flora and fauna		No	Yes	Yes	Yes	Yes	No	Yes
Population and human health			Yes	Yes	Yes	Yes	No	No
Soil				Yes	No	Yes	No	No
Water					No	Yes	No	No
Air and Climatic factors						Yes	No	No
Material assets							Yes	Yes
Cultural heritage								Yes
Landscape								

8.6 Cumulative Effects

Please refer to Section 7.2 for specific consideration of cumulative effects – these are taken into account throughout the evaluation.

8.7 Residual Adverse Effects

Section 9 outlines the measures that have mitigated and will mitigate the potential negative effects that are detailed above. Residual adverse effects likely to occur - considering the extent of detail provided by the Plan and assuming that all mitigation measures are complied with by development - are identified for each of the environmental components on Table 8.5 below.

Table 8.5 Residual Adverse Effects

Environmental Component	Residual Adverse Effects
Biodiversity and Flora and Fauna	Loss of an extent of non-protected habitats arising from the replacement of semi-natural land covers with artificial surfaces
Population and Human Health	Flood related risks remain due to uncertainty with regard to extreme weather events
Soil	Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces
Water	Flood related risks remain due to uncertainty with regard to extreme weather events
Air and Climatic Factors	The Plan includes a significant extent of lands zoned for Enterprise and Employment uses in the west and south west of the Plan area. The extent of these lands zoned is significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility.
Material Assets	Residual wastes to be disposed of
Architectural Heritage	Potential alteration to the context and setting of architectural heritage (Protected Structures) however these will occur in compliance with legislation
Archaeological Heritage	Potential alteration to the context and setting of archaeological heritage (Recorded Monuments) however this will occur in compliance with legislation Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Plan
Landscape Designations	The landscapes within and surrounding the town will change overtime as a result of natural changes in vegetation cover combined with new developments. The Plan contributes towards the protection of landscape designations.

8.8 Detailed Evaluation

8.8.1 Chapter 3 Vision and Development Strategy & Chapter 12 Land Use Zoning and Matrix

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Vision				
To provide a focused approach to planning for the future growth of Tullow in a coherent and spatial fashion which seeks to deliver high levels of employment and balances future sustainable development with the conservation and enhancement of the town's natural and built environment.	B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1	
Strategic Objectives				
The following are the Strategic Objectives for Tullow: 1. To create vibrant integrated communities in a more consolidated urban form. 2. To create a thriving town which contributes to the natural and built heritage amenities of the town and provides a vibrant and vital mixed-use environment. 3. To facilitate the creation of a sustainable vibrant economy which maximises the unique attributes of the town.	B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1	
Land Use Zoning and Matrix				
Land Use Zoning Objectives, Matrix & Map as detailed in Chapter 12 of the Plan	B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1	
Commentary:				
<i>The Plan's high-level Vision, Strategic Objectives and Land Use Zoning are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7. The Plan consolidates and strengthens the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased manner. Consolidation of the town centre, phasing of residential development, improvement of pedestrian links and public spaces are all provided for.</i>				

8.8.2 Chapter 4 Economic Development

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs - likely to be mitigated	No Likely interaction with status of SEOs
Economic Policies				
<p>EC 1: To accelerate the sustainable development of Tullow through sustainable employment creation, in a structured and cohesive way, recognising its importance as a key driver of economic growth for south Carlow.</p> <p>EC 2: To facilitate development agencies such as IDA Ireland, in partnership with Carlow County Council, to promote development of foreign-owned and indigenous sector higher value-added, knowledge based industrial and internationally traded activities.</p> <p>EC 3: To foster and support industry and enterprise in Tullow, including indigenous businesses.</p> <p>EC 4: To ensure the availability of lands for employment uses, allied to defined development needs and to develop same in conjunction with the relevant Development Agencies.</p> <p>EC 5: To promote innovative economic sectors and encourage clustering which positively exploits synergies between interconnected companies.</p> <p>EC 6: To facilitate and encourage the development of the alternative energy sector and to recognise its potential in the creation of Enterprise and opportunities.</p> <p>EC 7: To support and facilitate the development of start up enterprise units for local indigenous enterprises in Tullow.</p> <p>EC 8: To facilitate innovative work practices such as 'live-work' units where they do not negatively impact on residential amenity.</p> <p>EC 9: To improve access to major areas of employment through sustainable transport modes.</p> <p>EC 10: To support childcare facilities in appropriate locations thereby promoting labour market participation among parents and supporting parents in accessing employment, training and education.</p> <p>EC 11: To actively encourage the redevelopment of brownfield sites and re-use of disused buildings for enterprise and employment creation, subject to meeting Development Management Criteria as presented in the County Development Plan.</p> <p>EC 12: To encourage and facilitate at appropriate designated locations, small indigenous industries in recognition of their increasing importance in providing local employment and helping to stimulate economic activity.</p> <p>EC 13: To promote, protect, improve, encourage and facilitate the development of tourism in Tullow as an important contributor to job creation in the town.</p> <p>EC 14: To operate an order of priority for release of land identified Enterprise and Employment in compliance with the following requirements:</p> <ol style="list-style-type: none"> 1) The lands identified with an E1 and E2 Enterprise and Employment land use zoning objective are available for development within the lifetime of this Local Area Plan. 2) The lands identified E2* Enterprise and Employment land use zoning objective but qualified as 'Phase 2' will be available for development when Phase 1 lands have been substantially developed or committed for development within the lifetime of this Local Area Plan. 3) Should a significant development be proposed which could not be accommodated only within the lands identified as Phase 1, lands within Phase 2 maybe considered in this regard. 4) Development proposals for employment lands will be subject to consultation with the planning authority prior to the submission of any planning application on the said lands. 	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	
Economic Objectives				
<p>ECO 1: To promote and facilitate the development of light industry, manufacturing, warehousing and logistics on lands zoned industry and warehousing. Developments must achieve a high standard of layout and design including landscaping and screening and the delivery of a high quality working environment which is attractive to both customers and employees.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>ECO 2: To facilitate and promote the growth of the Industrial Estate on the south western side of the town, with a mix of employment uses within a high-quality landscaped development including office-based industry, enterprise and incubator units, business, science and technology.</p> <p>ECO 3: To provide access to lands located within the 50-60kph speed limit and zoned enterprise and employment to the south west of the town and adjoining the N81 shall be provided at the two existing authorised access points unless it can be clearly demonstrated that the relocation or provision of an alternative proposed access point is in accordance with national policy and has been subject to a road safety audit in accordance with the requirements of Transport Infrastructure Ireland. The proliferation of further access points with access to the N81 shall generally be avoided in the interests of road safety and compliance with national policy.</p>				
<p>Commentary:</p> <p><i>These provisions provide a planning framework for economic development in Tullow. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i></p> <p><i>The provision of all necessary infrastructure in advance of sustainable development would facilitate both of the following appropriate levels of environmental protection and management especially with respect to the provision of water services (and associated positive effects on the status of waters, ecology and human health - SEOs M1 M2 W1 W2 B1 B2 B3 PHH1) and the provision of transport infrastructure integrated with land use planning – and associated interactions with sustainable mobility, emissions and energy usage (SEOs C1 PHH1).</i></p> <p><i>Development that contributes towards the consolidation of the town (including the redevelopment of brownfield sites and re-use of disused buildings) would:</i></p> <ul style="list-style-type: none"> • <i>Help to maximise the uptake in smarter, more sustainable modes of transport and minimise transport related emissions (including indirect benefits with regard to the protection of human health SEOs C1 PHH1);</i> • <i>Contribute towards the protection of many environmental components outside of the town that would otherwise occur as a result of urban generated development. Such components include biodiversity and flora and fauna, soil, water (including interactions with population and human health), landscape designations and cultural heritage (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1); and</i> • <i>Make most use of existing water services and drainage infrastructure, subject to capacity being provided (including indirect benefits with regard to the protection of water, biodiversity and flora and fauna, soil and human health) (SEOs M1 M2 W1 W2 W3 B1 B2 B3 S1 PHH1).</i> <p><i>The construction and operation economic developments has the potential to result in adverse effects upon all environmental components however these effects have been mitigated by provisions which have been integrated into the Plan, including those which are identified in Section 9 of this report. The potential adverse effects (if unmitigated) include the following:</i></p> <ul style="list-style-type: none"> • <i>Loss of biodiversity with regard to Natura 2000 Sites and Annexed habitats and species (SEO B1)</i> • <i>Loss of biodiversity with regard to ecological connectivity and stepping stones (SEO B2)</i> • <i>Loss of biodiversity with regard to designated sites including Wildlife Sites and listed species (SEO B3)</i> • <i>Spatially concentrated deterioration in human health (SEO PHH1)</i> • <i>Damage to the hydrogeological and ecological function of the soil resource (SEO S1)</i> • <i>Adverse impacts upon the status and quality of water bodies (SEOs W1 W2)</i> • <i>Increase in the risk of flooding (SEO W3)</i> • <i>Failure to provide adequate and appropriate waste water treatment (SEO M1; water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts)</i> • <i>Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (SEO M2; water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts)</i> • <i>Increases in waste levels (SEO M3)</i> • <i>Failure to contribute towards sustainable transport and associated impacts (SEO C1; transport infrastructure investment is needed to ensure the mitigation of potential conflicts)</i> • <i>Effects on entries to the Record of Monuments and Places and other archaeological heritage (SEO CH1)</i> • <i>Effects on entries to the Records of Protected Structures and other architectural heritage (SEO CH2)</i> • <i>Occurrence of adverse visual impacts (SEO L1)</i> 				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Policies in relation to Retail				
<p>EC 15: To protect and strengthen the retail primacy of Tullow within the County and more specifically within Eastern Carlow.</p> <p>EC 16: To encourage the development of the retail and service role of Tullow as a self-sustaining centre in accordance with the policies contained in the Carlow County Development Plan 2015-2021 and the Retail Planning Guidelines 2012.</p> <p>EC 17: To protect the retail function of the Core Shopping Area.</p> <p>EC 18: To sustain the vitality and viability of the main shopping area and to encourage measures to improve its attractiveness.</p> <p>EC 19: To adhere to the provisions of the Sequential Approach in the consideration of retail applications located outside of Core Retail Area.</p> <p>EC 20: To promote and facilitate the development of local markets devoted to the sale of local agricultural and craft produce and support their role as visitor attractions.</p> <p>EC 21: To ensure that best quality of design is achieved for all proposed retail developments and that design respects and enhances the specific characteristics of the town.</p> <p>EC 22: To pursue all avenues of funding to secure resources for the continued enhancement, renewal and regeneration of the public realm of the Town Centre.</p> <p>EC 23: To discourage non retail and excessive lower grade retail uses, such as, take-away's and betting offices in the core retail area and other principal streets in the town centre, in the interests of maintaining and sustaining the retail attraction of the town centre.</p> <p>EC 24: To improve the public realm and support boutique style retailing in the town centre.</p> <p>EC 25: To secure the continued consolidation of Tullow Town Centre through progressing the regeneration of backland and brown field areas in the town centre.</p> <p>EC 26: To encourage and facilitate the delivery of tourism related retail developments and initiatives in and around the Town Centre.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	
Objectives in relation to Retail				
<p>ECO 4: To maintain the role of Tullow's town core area as the primary retail centre for convenience and local comparison shopping through continuing to develop the retail environment, the quality of the public realm, the range of retail uses and to facilitate complementary uses to retail.</p> <p>ECO 5: To actively promote from a planning perspective, the range of specialist shops within the town core, which will contribute to the character of the town and attractiveness of the area as a destination for shopping.</p> <p>ECO 6: To seek to secure funding to implement environmental improvements for the town core area such as improving facilities for pedestrians, provision of a high quality streetscape, improved connectivity with adjoining residential areas and tourist attractions.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	
Commentary:				
<p><i>These retail development provisions from the Plan set out the overall strategy for the future development of retailing in the town and provide a focus on consolidation and regeneration of backland and brownfield areas in the town.</i></p> <p><i>By providing for the development of retail (which would encompass new built development and the construction and operation of infrastructure to service this development), these provisions would potentially conflict with the full range of environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1). Potential adverse effects would be mitigated by measures that have been integrated into the Plan (see Section 9). The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7. This scenario would contribute towards the protection of many environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1).</i></p> <p><i>Retail provisions will contribute towards maximising sustainable mobility and associated interactions with emissions to air, energy usage and human health (SEO C1 PHH1).</i></p>				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Policies and Objectives in relation to Town Centre Opportunity Sites				
<p>EC 27: To promote the redevelopment and generation of strategic sites and vacant areas within and adjacent to the town centre to achieve a consolidated town with an intensity of development from the core to the edge.</p> <p>EC 28: To promote quality in architecture and urban design.</p> <p>EC 29: To encourage and facilitate the reuse and regeneration of vacant/ derelict land / buildings. The Council will use its powers, where appropriate, to consider such sites for inclusion in the Register of Derelict Sites.</p> <p>ECO 7: To provide for the development of vacant sites in designated areas (zoned residential / infill land and / or identified as potential regeneration lands) and to encourage and facilitate the appropriate development and renewal of sites and areas in need of regeneration in order to prevent:</p> <ul style="list-style-type: none"> o Adverse effects on existing amenities in such areas, in particular as a result of the ruinous or neglected condition of any land o Urban blight or decay o Anti-social behaviour, or o A shortage of habitable houses or of land for residential use or a mixture of residential and other uses. 	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>These provisions in relation to Town Centre Opportunity Sites are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7. The Plan consolidates and strengthens the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased manner. Consolidation of the town centre, phasing of residential development, improvement of pedestrian links and public spaces are all provided for.</i></p>				
Policies in relation to Rural and Agricultural Development				
<p>EC 30: To promote an environmentally sustainable agricultural / horticultural sector, which contributes to a dynamic and successful rural economy.</p> <p>EC 31: To promote the diversification of the rural economy and the development of rural indigenous industry while safeguarding the environment and role of the rural area as a strategic asset.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>Rural and agricultural development cumulatively contributes towards the selected alternative scenario for the Plan. Rural and agricultural development is essential to the sustenance of rural populations and associated existing sustainable rural management practices that can often sustain biodiversity (SEOs B1 B2 B3). The development of agriculture has the potential to adversely affect various environmental components including biodiversity and flora and fauna (SEOs B1 B2 B3), water and human health (SEOs W1 W2 PHH1), the provision of appropriate water and waste services (SEOs M1 M2 M3), cultural heritage (SEOs CH1 CH2), the landscape (SEO L1) and sustainable mobility patterns (SEO C1). Both of these provisions integrate reference to the environment: "environmentally sustainable" and "safeguarding the environment".</i></p>				

8.8.3 Chapter 5 Housing and Sustainable Neighbourhoods

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs - likely to be mitigated	No Likely interaction with status of SEOs
Policies and Objectives in relation to Housing				
<p>HP 1: To monitor the scale, rate and location of newly permitted development to ensure compliance with the core strategy with regard to population targets in order to achieve the delivery of strategic plan led and coordinated balanced development within the town.</p> <p>HP 2: To operate an order of priority for the release of residential lands to comply with the Core Strategy of the Carlow County Development Plan 2015-2021 as follows:</p> <p>(i) The lands identified as "New Residential – Phase 1" land use zoning objective maybe appropriate subject to compliance with the core strategy targets for residential development within the lifetime of this plan.</p> <p>(ii) The lands identified as "New Residential – Phase 2" land use zoning objective are not available for residential development within the lifetime of this LAP unless the Plan is reviewed / amended in accordance with planning legislation.</p> <p>HP 3: To facilitate where appropriate residential development on appropriate infill / regeneration and town centre sites in accordance with the principles of proper planning and sustainable development.</p> <p>HP 4: To have regard to the DoECLG Guidelines on 'Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities (2007); 'Delivering Homes Sustaining Communities – Statement on Housing Policy' (2007), 'Sustainable Urban Housing: Design Standards for New Apartments' (2007) and Sustainable Residential Development in Urban Areas' and the accompanying Urban Design Manual: Best Practice Guide (2009).</p> <p>HP 5: To require that all new residential developments comply with the Housing Strategy and Development Management Standards of the Carlow County Development Plan 2015-2021 or as may be amended.</p> <p>HP 6: To encourage and foster the creation of attractive mixed-use sustainable neighbourhoods which contain a variety of housing types and tenures with supporting community facilities, public realm and residential amenities.</p> <p>HP 7: To promote the development of underutilised infill town centre sites and to facilitate high quality development which respects the design of surrounding development and the character of the area.</p> <p>HP 8: To require larger schemes to be developed in a phased manner ensuring that necessary community infrastructure is delivered in tandem with residential development.</p> <p>HP 9: To encourage strong frontages along main thoroughfares creating definite building lines and continuity of the structure of the town centre.</p> <p>HP 10: To ensure that new housing development close to existing houses reflect the character and scale of the existing houses unless there are exceptional design reasons for doing otherwise.</p> <p>HP 11: To require applications for residential development where appropriate to demonstrate the provision of an appropriate mix of dwelling types having regard to the following:</p> <ul style="list-style-type: none"> • The nature of the existing housing stock and existing social mix in the area; • The desirability of providing mixed communities; • The provision of a range of housing types and tenures; • The need to provide a choice of housing, suitable for all age groups and persons at different stages of the life cycle. <p>HP 12: To promote more sustainable development through energy end use efficiency, increasing the use of renewable energy, and improved energy performance of all new development.</p> <p>HP 13: To ensure that all housing is designed in a way that is adaptable and flexible to the changing needs of the homeowner having regard to the Lifetime Homes Guidance contained in Section 5.2 of the Department of Environment, Community and Local Government 'Quality Housing for Sustainable Communities – Best Practice Guidelines for Delivering Homes Sustaining Communities' (2007).</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>HP 14: To require compliance with Carlow County Council's policy on the taking-in charge of residential developments.</p> <p>HP 15: To have regard to the DoECLG's 'Stakeholders Code of Practice, between the Representative Bodies Dealing with Unfinished Housing Developments (2011).</p> <p>HP 16: To restrict apartment developments generally to town centre locations or suitably located sites adjoining public transport connections. Apartments will not be permitted where there is an over concentration of this type of development. Higher density schemes will only be considered where they exhibit a high architectural design standard creating an attractive and sustainable living environment.</p> <p>HP 17: To seek the provision of high quality apartments where permitted within sustainable neighbourhoods by achieving appropriate floor area sizes and levels of amenity within each apartment development; and ensuring that suitable social infrastructure and other support facilities are available in the neighbourhood.</p> <p>HP 18: To discourage the demolition of habitable housing unless streetscape, environmental and amenity considerations are satisfied.</p> <p>HP 19: To resist the loss of residential use on upper floors and actively support proposals that retain or bring upper floors above ground floor premises into residential use.</p> <p>HP 20: To secure the implementation of the Carlow Housing Strategy 2011-2017 or any amendment or review thereto during the lifetime of this plan.</p> <p>HP 21: To promote the provision of appropriate accommodation for people with special needs including people with disabilities, students, travellers, the homeless and the elderly in conjunction with voluntary bodies and the private sector in accordance with the Carlow County Development Plan 2011-2017 (or as may be amended).</p> <p>HP 22: To support urban regeneration in order to enhance social cohesion and the potential for positive change.</p> <p>HP 23: To promote sustainable neighbourhoods which cater for the needs of persons of all stages in their lifecycle i.e. children, people of working age, elderly, people with disabilities.</p> <p>HP 24: To promote multi use of community facilities and outdoor shared spaces which are accessible to all. Such developments should be in accordance with the principles of universal design.</p> <p>HPO 1: To facilitate significant residential development on a spatially sequential basis with preference afforded to more central sites (1, 2,3, & 6) in the early years of the plan with the development of more remote greenfield sites on a medium term basis. In this regard: Further residential permissions on remote greenfield sites no's 4 and 5 given their outer suburban location will be facilitated only where it can be demonstrated that the development is appropriate on a sequential basis, would comply with the provisions of the Core Strategy and the proper planning and sustainable development of the area.</p> <p>Residential and appropriate community and ancillary uses on Site no. 6 shall be facilitated on a phased basis where it can be demonstrated that the development would comply with the provisions of the core strategy and the proper planning and sustainable development of the area.</p>				
<p>Commentary:</p> <p><i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7. The Plan consolidates and strengthens the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased manner. Consolidation of the town centre, phasing of residential development, improvement of pedestrian links and public spaces are all provided for.</i></p>				

8.8.4 Chapter 6 Town Centre, Landscape and Public Realm

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs - likely to be mitigated	No Likely interaction with status of SEOs
Policies in relation to Character Areas				
<p>CA 1: To protect the traditional urban structure of streets and lanes in the town by maintaining historic building lines and minimising road and junction widening and, where appropriate, restoring historic building lines.</p> <p>CA 2: To protect the historic urban fabric of fine plots and subdivisions by avoiding extensive consolidation of the plots and to promote narrow, deep plots in redevelopment proposals fronting the main streets.</p> <p>CA 3: To protect the integrity and character of important building groups in the town by ensuring that new development and redevelopment is compatible in terms of appearance and scale.</p> <p>CA 4: To protect features and sites of historical interest and their context setting in any development, through appropriate statutory and policy protection.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	
Commentary:				
<i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7. These provisions contribute towards consolidation of the Plan area in a way that is sympathetic to the cultural heritage of the town.</i>				
Land Uses				
<p>Policies</p> <p>LU 1: To seek to attract a residential population and commercial activity in the town centre through high quality design with a continuous street frontage with a variety of buildings, well maintained and attractive facades and active ground floors providing a pleasant and distinctive place.</p> <p>LU 2: To prioritise the use and enjoyment of the town streets and spaces by pedestrians and cyclists in accordance with the Design Manual for Urban Roads and Streets (2013), so that the impact of the private car and HGV traffic is moderated and a more reasonable balance is achieved between the interests of pedestrians, cyclists and drivers, including a more consistent approach to car parking in the town centre including increased provision of off-street car parking.</p> <p>LU 3: To promote the mixed use nature of the town and to preserve its role as the centre of business and commerce in Tullow.</p> <p>LU 4: To secure a broad base of employment and enterprise in the town through small, medium and large scale commercial development.</p> <p>LU 5: To require the inclusion of opportunities for mixed uses in new development in the town centre.</p> <p>LU 6: To reinforce tourism, related facilities and services and to actively market Tullow.</p> <p>LU 7: To retain and improve the existing housing stock in the town centre and focus on opportunities for a range of household types in the town.</p> <p>LU 8: To investigate the feasibility of developing of water-related activities, subject to the requirements of the Habitats Directive.</p> <p>LU 9: To encourage town centre services, tourism and living along the river front.</p> <p>LU 10: To promote the development of quality shopfronts and in particular traditional shopfronts which contribute to the distinctive character of the town and to facilitate the improvement of vacant shops and premises in the town centre</p> <p>LU 11: To support improved pedestrian connections throughout the town and to investigate the feasibility of providing a pedestrian bridge(s) linking:</p> <p>(i) the Carlow Road to the Ballymurphy Road (amenity facilities) and</p> <p>(ii) the Ouragh Road to the proposed amenity lands to the west bank of the Slaney River.</p> <p>Any such proposals shall be subject to Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and shall be subject to a Flood Risk Assessment and OPW consent under Section 50 of the Arterial Drainage Act.</p> <p>Objectives</p> <p>LUO 1: To extend the existing pedestrian network and facilities and look at the possibility of cycling facilities.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1</p>	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
LUO 2: To provide small scale leisure / recreation facilities in the town centre, such as for example, a tennis court, basketball court, skate park. LUO 3: To require the integration of off-street car parking facilities in the redevelopment of large sites.				
<p>Commentary: <i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. In addition, these land use policies and objectives contribute towards sustainable development and the protection and management of the environment, for example:</i></p> <ul style="list-style-type: none"> • <i>“high quality design” (policy LU 1)</i> • <i>“prioritise the use and enjoyment of the town street and spaces by pedestrians and cyclists” (policy LU 2)</i> • <i>“subject to the requirements of the Habitats Directive” (policy LU 8)</i> • <i>“Any such proposals shall be subject to Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and shall be subject to a Flood Risk Assessment and OPW consent under Section 50 of the Arterial Drainage Act” (policy LU 10)</i> • <i>“extend the existing pedestrian network and facilities and look at the possibility of cycling facilities” (objective LUO 1)</i> <p><i>The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i></p>				
Policies in relation to Landscape				
L1: To contribute towards the protection of county and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.	CH1 CH2 L1			B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3
<p>Commentary: <i>This policy focuses on the protection and management of visual impacts and would benefit the protection of the landscape (L1) and archaeological and architectural heritage (CH1 CH2).</i></p>				
Streets and Movement				
<p>Policies SM 1: To ensure that any new development is well connected to the rest of the town and is within a comfortable walking distance. SM 2: To seek to reduce clutter in the town centre and to make the town centre a pedestrian-friendly place by improving safety and comfort and improving pedestrian facilities such as street furniture, footpaths and crossings. SM 3: To improve the network of walking routes in and through the town centre and between notable features and attractions. SM 4: To utilise existing features such as the River Slaney as the focus and basis for developing walking routes connecting the town to its wider county context, subject to the requirements of the Habitats Directive. SM 5: To reduce unnecessary vehicular traffic from the town centre.</p> <p>Objectives SMO 1: To designate off street car parking areas at key sites. SMO 2: To upgrade and resurface Market Square and possibly eliminate some car parking spaces outside the Bank of Ireland and increase pedestrian access to allow for temporary events such as fairs, farmers markets etc.</p>	B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1	
<p>Commentary: <i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. In addition, these provisions will contribute towards sustainable mobility and the protection and management of the environment, for example:</i></p> <ul style="list-style-type: none"> • <i>“development is well connected to the rest of the town and is within a comfortable walking distance” (Policy SM 1)</i> • <i>“pedestrian-friendly... improving pedestrian facilities” (Policy SM 2)</i> • <i>“improve the network of walking routes” (Policy SM 3)</i> • <i>“subject to the requirements of the Habitats Directive” (Policy SM 4)</i> • <i>The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i> 				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Public Spaces and Public Realm				
Policies PR 1: To promote diversity, structure and continuity in the public realm through the creation, maintenance and restoration of urban spaces such as streets and squares and to provide a pleasant sense of place and enclosure. PR 2: To prioritise the improvement of, and access to, subject to the requirements of the Habitats Directive, the waterfront area and the retail core for the enjoyment of both visitors and residents alike. Objectives PRO 1: To upgrade footpath and roadway surfaces where appropriate and seek removal of overhead wires. PRO 2: To enrich the local streetscape character through the provision of appropriate street paving, furniture and planting of street trees at appropriate locations.	B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 C1 M1 M2 M3 CH1 CH2 L1	
Commentary: <i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i>				

8.8.5 Chapter 7 Transportation and Movement

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Transport				
Policies TP 1: To continue to promote a modal shift from private car use towards increased use of more sustainable modes of transport such as cycling, walking and public transport and to implement the initiatives contained in Government's "Smarter Travel, A Sustainable Transport Future 2009-2020". TP 2: To improve the pedestrian environment and promote the development of a network of pedestrian routes which link residential areas with recreational, educational, employment and tourist destinations to create a pedestrian environment that is safe and accessible by all. TP 3: To support co-ordination by transport providers to promote linked up transport services enabling complete coverage of Tullow through the creation of an integrated transport hub and improvement of bus/ rail linkages to the town of Tullow. This will be developed by providing bus stops beyond Market Square, cycle parking stands at various locations in the town and by providing good pedestrian facilities throughout Tullow.. TP 4: To support the Government's Electric Transport Programme 2008 – 2020 by facilitating the roll-out of battery charging infrastructure for electric vehicles at various locations throughout Tullow. The provision of such infrastructure shall comply with the requirements and specifications of Trans Policy 14 and Energy Policy 12 as contained in the Carlow County Development Plan 2015-2021. Objectives TO 1: To provide appropriate facilities for pedestrians and for people with special mobility needs in line with the aims of the European Charter of Pedestrian Rights and the principles of Universal Design as defined in the Disability Act 2005. TO 2: To promote and facilitate the provision of secure parking areas for bicycles in Tullow town centre and at key tourist attractions throughout the town.	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>Commentary:</p> <p><i>The provisions of the Plan relating to transport will primarily contribute towards maximising sustainable mobility and associated interactions with emissions to air, energy usage and human health (SEOs C1 PHH1).</i></p> <p><i>Directly (from the construction and operation of transport infrastructure) and indirectly (from facilitating non-transport development) these provisions have the potential to result in significant adverse effects (including in-combination effects across County borders) upon most environmental components including ecology (SEOs B1 B2 B3), soil function (SEO S1), the status of water bodies (SEOs W1 W2), flood risk (SEO W3 PHH1), cultural heritage (SEOs CH1 CH2), the landscape (SEO L1) and emissions and energy usage (SEOs C1 PHH1).</i></p> <p><i>The provisions of the Plan relating to transport would also contribute towards and support the preferred alternative scenario (see details and evaluation at Section 7). Therefore, the effects arising from implementation of the preferred alternative scenario – both beneficial and potentially adverse - are contributed towards by these provisions. Potential adverse effects would be mitigated by the measures that have been integrated into the Plan (see Section 9) and any additional requirements arising through lower tier assessments or granting of permission.</i></p>				
Transport Infrastructure				
<p>Policies</p> <p>TP 5: To ensure that the road and street network of Tullow is safe and convenient, that it has adequate capacity to accommodate motorised traffic and non-motorised movements, that it has a high environmental quality with appropriate adjacent development and built form, particularly in the case of urban streets and streetscapes, and that adequate parking facilities are provided to serve the needs of the town.</p> <p>In this regard, the principles, approaches and standards as set out in relevant national policy shall inform future transport infrastructure and urban development. This shall include the Spatial Planning and National Roads Guidelines 2012, the Sustainable Residential Development in Urban Areas Guidelines for Planning Authorities 2009 and accompanying Urban Design Manual 2009, the Traffic Management Guidelines 2003, the Traffic and Transport Assessment Guidelines 2007, the Design Manual for Urban Roads and Streets (2013), the NRA Design Manual for Roads and Bridges (as appropriate to the regional road network outside areas subject to a reduced urban speed limit) and any updates or forthcoming guidelines in relation to street design and walking / cycling facilities.</p> <p>TP 6: To promote road and traffic safety measures in conjunction with relevant Government Departments and other agencies through the provision of appropriate signage, minimising or removing existing traffic hazards and preventing the creation of additional or new traffic hazards.</p> <p>Objectives</p> <p>TO 3: To investigate the feasibility of providing the Tullow Relief Road to facilitate by-passable traffic using the N81 or the R725, R726 or R418.</p> <p>TO 4: To continue to upgrade the condition of road and footpath surfaces in conjunction with the Council's annual roads programme.</p> <p>TO 5: To monitor and upgrade, where necessary, the standard of public lighting throughout the town.</p> <p>TO 6: To investigate and seek the improvement of pedestrian facilities throughout the town.</p> <p>TO 7: To improve deficiencies in pavement surface, quality and general alignment and to protect future road lines where required.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M2 M3 C1 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>See commentary under "Transport" above.</i></p>				
Public Transport				
<p>Policies</p> <p>TP 7: To co-operate with public transport service providers to ensure that adequate public transport services are provided to the town.</p> <p>TP 8: To support the provision of public transport services by reserving land in suitable locations for public transport infrastructure and ancillary facilities such as park-and- ride.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Objectives TO 8: To investigate the feasibility of providing a bus shelter either or both to the north of the town and to the south of the town.				
Commentary: <i>See commentary under "Transport" above.</i>				
Traffic Management and Parking				
Policies TP 9: To monitor traffic movements in the town and to provide passive traffic calming measures at appropriate locations as the need arises. TP 10: To ensure that new entrances are located in such a manner as to provide effective visibility for both users of the entrance and users of the public roads and footpaths throughout the town and its environs, so that opportunities for conflicting traffic movements are avoided, in the interests of public safety. Objectives TO 9: To examine levels of usage and demand for car parking in Tullow Town Centre and where additional car parking and / or relocation of car parking away from the main street is warranted the Council will examine the feasibility of providing alternative / additional off street car parking within and in close proximity to the town centre and to seek the provision of same following identification of suitable sites. TO 10: To provide accessible car parking spaces at appropriate locations throughout the town.	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	
Commentary: <i>See commentary under " Transport" above.</i>				

8.8.6 Chapter 8 Community, Social and Recreational Development

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Community Facilities				
Policies CF 1: To support and nurture intergenerational and cross cultural relationships through the development of community initiatives such as community gardens / allotments. CF 2: To promote the development of sustainable communities on the basis of a high quality of life where people can live, work and enjoy access to a wide range of community, health and educational facilities suitable for all ages, needs and abilities. CF 3: To encourage high standards in the design and finishes of community facilities. CF 4: To optimise existing and proposed physical resources / infrastructure by supporting multi-functional building / facility use and provision. CF 5: To encourage the siting of community facilities in suitable locations, close to existing facilities / services and public transport routes. CF 6: To recognise the importance of community participation in the improvement of existing community and recreational facilities, and encourage increased involvement of local groups, both independently and in association with	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>the relevant statutory bodies, in the future provision of such facilities. Carlow PPN structures are a vital source in terms of progressing community participation.</p> <p>CF 7: To consider the accommodation of small-scale community enterprise developments within existing and proposed community facilities, subject to appropriate design, layout and servicing.</p> <p>Objectives</p> <p>CFO 1: To endeavour to ensure that all community, social and recreational facilities are inclusive and accessible to all.</p> <p>CFO 2: To assist as far as possible in the provision of community facilities by reserving suitably located land and / or by the use of the development management process to ensure provision is made for such facilities as the Council considers appropriate.</p> <p>CFO 3: To continue to support and facilitate voluntary organisations in the town and environs.</p> <p>CFO 4: To advance social inclusion and community development by developing the co-ordinated delivery of services and facilities in Tullow.</p>				
<p>Commentary:</p> <p><i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i></p>				
<p>Educational Facilities</p>				
<p>Policies</p> <p>EU 1: To facilitate and co-operate in the provision of schools, crèches and other education and childcare facilities.</p> <p>EU 2: To facilitate the provision of continuing educational facilities which provide for lifelong learning for all, including the elderly.</p> <p>Objective</p> <p>EUO 1: To actively assist and liaise with the Department of Education and Skills in the provision of new and additional school places as may be required.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i></p>				
<p>Sports, Recreation and Play</p>				
<p>Policies</p> <p>SP 1: To maintain and enhance existing recreational facilities.</p> <p>SP 2: To continue to co-operate with community and sports bodies in the development of recreational areas in the town.</p> <p>SP 3: To prohibit the loss of existing public and private recreational open space unless alternative recreational facilities are provided at a suitable location.</p> <p>SP 4: To seek the provision of children's play facilities in new residential developments where deemed appropriate.</p> <p>SP 5: To seek that all sports halls and pitches/ community halls and centres are multi-functional.</p> <p>Objectives</p> <p>SPO 1: To endeavour to provide play spaces throughout the town.</p> <p>SPO 2: To encourage and facilitate the provision of adult amenities in parks such as table tennis, outdoor gyms, basketball courts, bowling greens and associated facilities etc.</p> <p>SPO 3: To involve children and young people in greening initiatives and biodiversity projects, having regard to their need to interact with and be educated by nature.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i></p>				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Policies in relation to Recreational Potential of the River Slaney				
<p>RC 1: To facilitate where practicable the provision of cycle-ways / walkways along the River Slaney in co-operation with landowners, Waterways Ireland and government departments. Any proposed cycling or walking routes along the River will be subject to Appropriate Assessment in accordance with the Habitats Directive.</p> <p>RC 2: To support the conservation of local angling waters and investigate the feasibility of developing these waters and associated infrastructure required to advance the sport in the town, subject to the requirements of the Habitats Directive.</p> <p>RC 3: To continue to co-operate with community and sports bodies in the development of the River Slaney for recreational uses. Projects shall have regard to the requirement for Appropriate Assessment in accordance with the Habitats Directive.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. In addition, these provisions will contribute towards the protection of Natura 2000 sites:</i></p> <ul style="list-style-type: none"> • <i>"Any proposed cycling or walking routes along the River and Canal will be such subject to Appropriate Assessment in accordance with the Habitats Directive." (Policy RC 1)</i> • <i>", subject to the requirements of the Habitats Directive." (Policy RC 2)</i> • <i>"Projects shall have regard to the requirement for Appropriate Assessment in accordance with the Habitats Directive." (Policy RC 3)</i> <p><i>The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i></p>				

8.8.7 Chapter 9 Utilities Infrastructure, Climate Change and Environmental Management

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Water Supply and Quality				
<p>Policies</p> <p>WSP 1: To contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.</p> <p>WSP 2: To support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the plan, as well as relevant recommendations contained in the Water Quality in Ireland 2010 – 2012 (EPA, 2015, and any updated/superseding document). Proposals for development would not have an</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 which provides guidance on exemptions to the environmental objectives of the Water Framework Directive.</p> <p>WSP 3: To facilitate Irish Water in providing water, sufficient in quantity and quality to serve the needs of the existing and future population of Tullow and to promote the sustainable management of the town's water supply.</p> <p>WSP 4: To maximise the potential for beneficial re-use of water through rainwater harvesting systems and to reduce leakage to the minimum possible level in the water supply system through operational leak detection measures.</p> <p>WSP 5: To ensure that in the case of all new developments where public mains are available or likely to be available, the development will be required to connect into them subject to an agreement with Irish Water.</p> <p>WSP 6: To ensure that development will not be permitted in instances where there is insufficient capacity in the public water infrastructure.</p> <p>WSP 7: To ensure that development proposals comply with the standards and requirements of Irish Water in relation to water to facilitate proposed developments and to encourage all developers requiring a connection to the public water supply to contact Irish Water prior to submitting a planning application.</p> <p>WSP 8: To protect surface water and ground water resources and their associated habitats and species including fisheries and in particular Annex II listed species.</p> <p>Objectives</p> <p>WSO 1: To collaborate with Irish Water in contributing towards compliance with the European Communities (Drinking Water) Regulations (No.2) 2007 and ensure, that the water supply serving Tullow complies with the 48 parameters identified in these regulations.</p> <p>WSO 2: To facilitate the implementation of water conservation projects, which reduce consumption and leakage in existing water distribution systems, in co-operation with Irish Water.</p> <p>WSO 3: To require the adoption of water saving measures in new development proposals. Such measures may include:</p> <ul style="list-style-type: none"> • Water butts to collect rainwater • Low flush and dual flush toilets • Low water use appliances • Rainwater harvesting. <p>WSO 4: To have regard to the EPA publication 'The Provision and Quality of Drinking Water in Ireland – A Report for the year 2014' (and any subsequent update) in the maintenance of Tullow's water source in conjunction with Irish Water.</p> <p>WSO 5: To seek the implementation of recommendations made by the EPA arising from any failure to meet drinking water standards and any enlistment on the EPA's Remedial Action List in conjunction with Irish Water.</p> <p>WSO 6: To protect and safeguard the integrity of water supply facilities, installations and pipes.</p> <p>WSO 7: To facilitate the identification and securing of service corridors for any future new water supply for Tullow.</p> <p>WSO 8: To ensure that all proposals for the development of an upgrade to the water supply system will be screened for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and where potential impacts to the integrity of the Natura 2000 network are identified, a Natura Impact Statement will be prepared.</p> <p>WSO 9: To implement the Water Services Investment Programme 2016 - 2021 and all subsequent Water Services Investment Programmes.</p>				
<p>Commentary:</p> <p><i>These provisions cover drinking water, water quality, drainage infrastructure and waste water infrastructure and would benefit: the protection of the environment including water resources (SEOs W1 W2), soil (SEO S1), human health (SEO PHH1) and ecology (SEOs B1 B2 B3); the provision of infrastructure (SEOs M1 M2 M3); and improvements in flood risk management (SEO W3).</i></p> <p><i>In addition to facilitating the orderly development of the town as part of the preferred alternative scenario for the Plan (see Section 7), the provision of waste water treatment (SEO M1) and safe drinking water (SEO M2) would contribute towards the protection of human health (SEO PHH1), ecology (SEO B1 B2 B3), status of waters (SEO W1 W2), soil (SEO S1). There would be potential for significant</i></p>				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p><i>adverse environmental effects (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1) upon various environmental components to arise during both construction – if required – and operation. For drinking water, abstraction of water could conflict with the status of water bodies and aquatic ecology, for example. For wastewater, outflow could conflict with various components including the status of water bodies, aquatic ecology and human health, for example. Such effects could be mitigated by measures including those that have been integrated into the Plan and any additional requirements arising through lower tier assessments.</i></p> <p><i>Implementation of the River Basin Management Plans and their associated Programmes of Measures (including those relating to various types of infrastructure and management initiatives) have the potential to result in significant adverse environmental effects during construction and operation on most environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M2 M3 CH1 CH2 L1). These types of infrastructure are often constructed in ecologically and visually sensitive areas adjacent to the banks of rivers and streams. Potential adverse effects would be mitigated both by measures which have been integrated into the Plan (see Section 9) and by measures arising from lower tier assessments</i></p>				
Waste Water				
<p>Policies</p> <p>WW 1: To collaborate with Irish Water to ensure that public wastewater collection and treatment infrastructure fully complies with the requirements of the Urban Waste Water Treatment Regulations 2001 and 2004, the Waste Water Discharge Regulations 2007 and the EC Surface Water Regulations 2009.</p> <p>WW 2: To promote, as appropriate, specific provisions for the implementation of the relevant recommendations set out in the recent Urban Waste Water Treatment in 2014 Report (EPA, 2015), in conjunction with Irish Water.</p> <p>WW 3: Not to permit the development of zoned land unless sufficient waste water treatment capacity is available to conform to the objectives of the South East River Basin Management Plan.</p> <p>WW 4: To ensure the changeover from septic tanks to mains connections in all cases where this is feasible, and that all new developments utilise and connect to the existing wastewater infrastructure. The provision of individual septic tanks and treatment plants within the Plan boundary will be strongly discouraged to minimise the risk of groundwater pollution. Where such facilities are permitted, full compliance with the 2009 EPA Code of Practice - Code of Practice Wastewater treatment and Disposal Systems serving single houses (p.e. ≤ 10), is required.</p> <p>WW 5: To facilitate Irish Water in providing additional and improved wastewater treatment capacity by the upgrading of the Tullow Treatment Plant and to facilitate the provision and safeguarding of infrastructure corridors required to facilitate the sustainable development of the town.</p> <p>Objectives</p> <p>WWO 1: To co-operate with Irish Water in the provision of an improved sewerage network and sewage treatment capacity for Tullow.</p> <p>WWO 2: To investigate the possible extension of the public sewerage system to any un-serviced areas within the Local Area Plan Boundary, in co-operation with Irish Water.</p> <p>WWO 3: To ensure that any proposals for the development and /or upgrade of the Tullow waste water treatment plant and waste water network will be subject to Appropriate Assessment in accordance with Article 6(3) and 6(4) of the EU Habitats Directive.</p> <p>WWO 4: To ensure that all new developments shall be provided with separate foul and surface water networks. In redevelopments, combined systems shall be separated where feasible.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>In addition to facilitating the orderly development of the town as part of the preferred alternative scenario for the Plan (see Section 7), the appropriate treatment of waste water (SEO M1) would contribute towards the protection of various environmental components including:</i></p> <ul style="list-style-type: none"> ○ <i>Human health (SEO PHH1);</i> ○ <i>Biodiversity, flora and fauna (SEO B1 B2 B3);</i> ○ <i>The status of waters (SEO W1 W2); and</i> ○ <i>Soil (SEO S1).</i> <p><i>There would be potential for significant adverse environmental effects (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1) upon various environmental components to arise during both construction and operation (outflow could conflict with various components including the status of water bodies, aquatic ecology and human health for example). Such effects could be mitigated by measures including those which have been integrated into the Plan.</i></p>				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Flooding and SUDs				
<p>Policies</p> <p>FL 1: To support, in co-operation with the OPW, the implementation of the EU Flood Risk Directive (2007/60/EC), the Flood Risk Regulations (SI No. 122 of 2010) and the DoEHLG/OPW publication The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009 and Departmental Circular PL2/2014 (or any updated/superseding legislation or policy guidance). Carlow County Council will also take account of the OPW Catchment Flood Risk Management Plans (CFRAMS) as appropriate, the Preliminary Flood Risk Assessment (PFRA) and the Strategic Flood Risk Assessment for County Carlow 2015 – 2021.</p> <p>FL 2: To have regard to the findings and recommendations of the current Strategic Flood Risk Assessment carried out for the Tullow Local Area Plan area.</p> <p>FL 3: To implement the use of the sequential approach and application of the Justification Tests for Development Management and Development Plans, during the period of this plan, as set out in the Flood Risk Management Guidelines as follows: 1) Avoid development that will be at risk of flooding or that will increase the flooding risk elsewhere, where possible; 2) Substitute less vulnerable uses, where avoidance is not possible; and 3) Justify, mitigate and manage the risk, where avoidance and substitution are not possible. Development should only be permitted in areas at risk of flooding when there are no alternative, reasonable sites available in areas at lower risk that also meet the objectives of proper planning and sustainable development.</p> <p>FL 4: To ensure that all developments have regard to the surface water management conditions contained within the SFRA and appropriate section of the Local Area Plan / County Development Plan.</p> <p>SW 1: To require the use of Sustainable Urban Drainage Systems in all new developments where appropriate. The following measures will apply:</p> <ul style="list-style-type: none"> - The infiltration into the ground through the development of porous paving, swales and detention basins. - The holding of water in storage areas through the construction of green roofs, rainwater harvesting, detention basins, ponds and wetlands. - The slowdown of the movement of water. <p>Objectives</p> <p>FLO 1: To ensure the implementation of the DoEHLG/OPW publication The Planning System and Flood Risk Management Guidelines for Planning Authorities 2009 (including its accompanying Technical Appendices) and including the Department of the Environment, Community and Local Government's Circular PL 2/2014 (or any updated/superseding document) in relation to flood risk management within the plan area.</p> <p>FLO 2: To undertake a review of the SFRA following any subsequent alteration of flood mapping produced as part of the CFRAM.</p> <p>FLO 3: To ensure that Flood Risk Assessments are carried out for any development proposal, in accordance with the "Planning System and Flood Risk Management – Guidelines for Planning Authorities (DoECLG/OPW 2009). This assessment shall be appropriate to the scale and nature of risk to the potential development.</p> <p>FLO 4: To protect water bodies and watercourses within the plan area from inappropriate development, including the river, canal, streams, associated undeveloped riparian strips, wetlands and natural floodplains. A 10 metre strip on either side of such channel will be retained, where required, to facilitate access thereto. In addition, promote the sustainable management and uses of water bodies and avoid culverting or realignment of these features.</p> <p>SWO 1: To improve and extend where technically feasible and economically viable the surface water disposal infrastructure to serve all zoned land, in order to facilitate development.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>Appropriate management of both storm and surface water and flood risk (SEO W3) would contribute towards the protection of various environmental components including:</i></p> <ul style="list-style-type: none"> • Human health (SEO PHH1); • Biodiversity, flora and fauna and cultural heritage (SEOs B1 B2 B3 CH1 CH2); and • Existing infrastructure and services (SEOs M1 M2 M3) with resultant protection of the status of waters, soils, human health and ecology during flood events (SEOs W1 W2 S1 PHH1 B1 B2 B3). 				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<i>Flood risk management infrastructure and the implementation of the CFRAM Study recommendations may have the potential to result in significant adverse environmental effects during construction and operation on most environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M2 M3 CH1 CH2 L1). Potential adverse effects would be mitigated both by measures which have been integrated into the Plan (see Section 9) and by measures arising from lower tier assessments.</i>				
Policies and Objectives in relation to Climate Change				
<p>Policies</p> <p>CCP 1: To recognise European and national objectives for climate adaptation and work with the EPA, the Southern Regional Assembly and neighbouring planning authorities in implementing future Guidance for climate change proofing of landuse plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012).</p> <p>CCP 2: To support EU and national legislation and strategies on climate change in its decision making, in order to contribute to a reduction and avoidance of human induced climate change and to assist in achieving the national targets set out under the Kyoto Protocol (as updated).</p> <p>CCP 3: To support the National Climate Change Adaptation Framework 2012 (including any superseding document), the actions contained therein and any future local adaptation plan that relates to the plan area.</p> <p>Objectives</p> <p>CCO 1: To promote the integration of green infrastructure/networks (e.g. interconnected networks of green spaces /ecosystems) and other physical features on land into new development proposals in order to mitigate and adapt to climate change.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	
Commentary:				
<i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i>				
<i>The development of green infrastructure would facilitate: contributions towards increases in sustainable mobility and reductions in greenhouse gas emissions (SEO C1); increases in flood risk management (SEO W3) and protection of human health (SEO PHH1); protection and management biodiversity and water quality (SEOs B1 B2 B3 W1 W2); and protection cultural heritage and landscape sensitivities (SEOs CH1 CH2 L1).</i>				
<i>The development of green infrastructure potentially conflicts with most environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M2 M3 CH1 CH2 L1). This type of infrastructure is often constructed in ecologically and visually sensitive areas adjacent to the banks of rivers and streams. Potential adverse effects (including in-combination effects across County borders) would be mitigated by measures that have been integrated into other provisions within the Plan (see Section 9) and any additional requirements arising through lower tier assessments or granting of permission.</i>				
Waste Management				
<p>Policies</p> <p>WMP 1: To support the minimisation of waste creation and to promote and encourage education and awareness on all issues associated with waste prevention, minimisation, reuse, recycling and recovery, at household, industry and community level.</p> <p>WMP 2: To safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.</p> <p>WMP 3: To seek to ensure that Tullow is served by adequate recycling facilities in the form of kerbside collection, civic site and bring bank-recycling facilities and to adequately maintain existing recycling facilities.</p> <p>WMP 4: To support the implementation of the Southern Waste Management Plan 2015-2021, Carlow County Council's Litter Management Plan 2014 - 2017, the National Waste Prevention Programme, the EPA's National Hazardous Waste Management Plan 2014-2020 and any superseding versions of these plans over the lifetime of this Local Area Plan.</p> <p>WMP 5: To seek to manage and dispose of construction waste in a way that ensures the provisions of the Waste Management Acts and new Southern Waste Management Plan 2015-2021. Construction Waste Management Plans will be implemented where relevant to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, July 2006.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>Objectives</p> <p>WMO 1: To eliminate all unauthorised fly tipping and to regulate and control the disposal of all builders spoil and rubble.</p> <p>WMO 2: To assess the feasibility of additional recycling, including composting facilities in the town or environs at a location(s) that will not adversely affect residential amenity or environmental quality.</p> <p>WMO 3: To promote and facilitate communities to become involved in environmental awareness activities and community-based recycling initiatives or environmental management initiatives that will lead to local sustainable waste management practices.</p>				
<p>Commentary:</p> <p><i>These provisions provide for waste management. The implementation of these provisions, including the construction and operation of waste management infrastructure, would facilitate the reduction of waste levels (SEO M3) at the same time as presenting potential conflicts with various environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M2 CH1 CH2 L1). These conflicts would be mitigated by, inter alia, measures which have been integrated into the Plan and the Regional Waste Management Plan – compliance with these measures would contribute towards the protection of human health (PHH1) and various environmental components including air, soil, water, and ecology (SEOs B1 B2 B3 C1 W1 W2 S1)</i></p> <p><i>The provision of waste management facilities (SEO M3) in certain locations could reduce transport related emissions (SEOs C1 PHH1).</i></p> <p><i>The provisions would contribute towards and support the preferred alternative scenario (see details and evaluation at Section 7). Therefore, the effects arising from implementation of the preferred alternative scenario are contributed towards by these provisions.</i></p>				
<p>Energy and Communications</p>				
<p>Policies</p> <p>ECP 1: To support the provision of adequate energy and communications infrastructure to service developments including gas, electricity, broadband, and telephone services. In particular, the Council supports the increased use of renewable energy and the aims of sustainable energy use and conservation in building design and construction.</p> <p>Objectives</p> <p>ECO 1: To facilitate the provision of an adequate telecommunications infrastructure within the plan area, including telephone and broadband services, to the requirements of the relevant service providers and in accordance with the principles of proper planning and sustainable development.</p> <p>ECO 2: To facilitate the provision of an adequate supply of electricity and gas to developments in the plan area, to the requirements of the relevant service provider, and in accordance with the principles of proper planning and sustainable development.</p> <p>ECO 3: To require new buildings to be sustainable in their siting, orientation, design and construction. Passive solar design techniques, high energy efficiency, low impact construction methods and the use of local building materials shall be encouraged to ensure that new developments minimise the environmental impacts and long term costs.</p> <p>ECO 4: To promote and facilitate the development of renewable sources of energy within the plan area and encourage the integration of micro-renewable energy sources into the design and construction of new developments, as appropriate.</p> <p>ECO 5: To seek to provide more public wi-fi zones in Tullow.</p> <p>ECO 6: To liaise with the ESB to investigate and encourage where possible the ducting and underground routing of overhead powerlines in Tullow in tandem with other work programmes, such as road resurfacing and footpath construction works.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	
<p>Commentary:</p> <p><i>These provisions relate to energy transmission, telecommunications and renewable energy generation. The provisions would contribute towards and support the preferred alternative scenario (see details and evaluation at Section 7). Therefore, the effects arising from implementation of the preferred alternative scenario are contributed towards by these provisions. Energy and telecommunications measures will help to provide a secure supply of energy to existing and new development. They will also contribute towards meeting renewable energy and greenhouse gas emission targets. Energy and communications related infrastructure and ancillary developments have the potential to result in a variety of impacts including:</i></p>				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<ul style="list-style-type: none"> • Loss of biodiversity with regard to Natura 2000 Sites and Annexed habitats and species (SEO B1) • Loss of biodiversity with regard to ecological connectivity and stepping stones (SEO B2) • Loss of biodiversity with regard to designated sites including Wildlife Sites and Listed species (SEO B3) • Spatially concentrated deterioration in human health (SEO PHH1) • Damage to the hydrogeological and ecological function of the soil resource (SEO S1) • Adverse impacts upon the status and quality of water bodies (SEOs W1 W2) • Increase in the risk of flooding (SEO W3) • Increases in waste levels (SEO M3) • Effects on entries to the Record of Monuments and Places and other archaeological heritage (SEO CH1) • Effects on entries to the Records of Protected Structures and other architectural heritage (SEO CH2) • Occurrence of adverse visual impacts (SEO L1) <p>The undergrounding of cables can result in elevated potential for impacts upon environmental components including archaeological heritage and biodiversity.</p> <p>Specific commentary on types of renewable energies:</p> <p>Wind Energy Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets Potential Negative Effects, if unmitigated:</p> <ul style="list-style-type: none"> • Potential impacts include those associated with construction and operation of the turbines and ancillary facilities and infrastructure (including roads and electrical infrastructure) • Potential human health impact: shadow flicker, noise, and impacts arising from bog bursts and landslides • Potential impact upon designated and non-designated biodiversity and flora and fauna including birdlife • Potential interactions leading to change in structure of soil and geology and changes to drainage • Potential impacts on water status during construction - this could interact with drinking water sources and biodiversity • Potential impacts upon the context of protected archaeological and architectural heritage - including the context of this heritage - as well as unknown archaeological heritage • Potential impacts upon traffic during construction due to transportation of turbine components • Changes to the character of areas would be likely to occur however visual impacts would depend on various factors including the size, number and spacing of the turbines, perception of the relevant areas and any cumulative effect arising from multiple wind farms <p>Hydro-Energy Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets Potential Negative Effects, if unmitigated:</p> <ul style="list-style-type: none"> • Depending on the scale and location of the development there is potential for impacts to occur on biodiversity, in particular aquatic biodiversity • Potential to impact upon the morphological, biological and chemical status of waters - this could interact with drinking water sources (in freshwater) and biodiversity • Potential interactions leading to change in structure of soil and geology • Operation could impact upon flood risk elsewhere • Potential impacts upon archaeological heritage or nearby architectural heritage, including context • Changes to the character of locations may occur however visual impacts would depend upon, inter alia, the size of the installation, ancillary facilities and the perception and visibility of the relevant area <p>Solar Energy Positive Effects: Contribution towards renewable energy targets Potential Negative Effects, if unmitigated:</p> <ul style="list-style-type: none"> • Potential impacts on architectural heritage - including the context of this heritage - at micro scale • Potential impacts on habitats and species and micro scale • Large scale installations may have visual impacts - these would depend on perception of the relevant area 				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>Bio Energy <i>Positive Effects: Contribution towards renewable energy and minimisation of greenhouse gases targets. Can provide for the use of agricultural and other wastes</i> <i>Potential Negative Effects, if unmitigated:</i></p> <ul style="list-style-type: none"> • <i>Potential impact upon designated and non-designated biodiversity and flora and fauna arising from changes in vegetation. Soil structure may also be impacted upon.</i> • <i>Changes in farming practices may lead to changes in drainage and runoff which could impact upon biological and chemical status of waters - - this could interact with drinking water sources and biodiversity</i> • <i>Potential human health impact: odour and noise from operation of plants</i> • <i>Potential impacts upon traffic during operation due to transportation of fuel to plants</i> • <i>Fuels derived from bio-mass still produce emissions however these are less than those derived from fossil fuels</i> • <i>Changes to the land cover of areas could occur however visual impacts would depend on perception of the relevant area:</i> • <i>Biomass plants may have visual impacts - these would depend on perception of the relevant area</i> <p>Geo Thermal <i>Positive Effects: Contribution towards renewable energy targets</i> <i>Potential Negative Effects, if unmitigated:</i></p> <ul style="list-style-type: none"> • <i>Potential impacts upon the status of waters and ecology contained within, especially arising from changes in the temperature of groundwater which can impact upon the structure and ecology of the aquifer and any dependent surface waters - this could interact with drinking water sources</i> • <i>Potential interactions leading to change in structure of soil and geology</i> • <i>Potential impacts upon archaeology, including unknown underground archaeology</i> • <i>Potential impacts upon on site water services</i> • <i>Potential impacts upon context of archaeological and architectural heritage arising from surface installation</i> 				
Noise, Air and Light				
<p>Policies P 1: To promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as set out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) (or any updated/superseding documents). P 2: To seek to preserve and maintain good air and noise quality standards in Tullow in accordance with best practice and relevant legislation. P 3: To promote the preservation of best ambient air quality compatible with sustainable development. P 4: To seek the control of lighting of development in particular sensitive locations. P 5: To ensure that adequate soil protection measures are undertaken where appropriate. Appropriate investigations shall be carried out into the nature of any soil and groundwater contamination and the risks associated with site development works. Objectives PO 1: To assess proposals for development in terms of, inter alia, potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, the Council shall ensure the introduction of mitigation measures in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level. PO 2: To ensure the implementation of the specific guidance on radon prevention measures for new homes as contained within the existing Building Regulations (including any updated/superseding regulations that may be published within the lifetime of this Plan).</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3</p>			<p>W3 C1 CH1 CH2 L1</p>

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Commentary:				
<i>These provisions primarily contribute towards the protection of the environment including that relating to human health, soil, water, emissions to air and provision of appropriate levels of water and waste management services (SEOs PHH1 S1 W1 W2 M1 M2 M3). Control of lighting will benefit ecology (SEO B1 B2 B3).</i>				

8.8.8 Chapter 10 Built and Natural Heritage

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Policies in relation to Archaeological Heritage, Cultural Heritage, Industrial Heritage				
Archaeological Heritage HR 1: To contribute, as appropriate, towards the protection and sympathetic enhancement of archaeological heritage, in particular by implementing the relevant provisions of the Planning and Development Act 2000 (as amended) and the National Monuments Act, 1930 (as amended). HR 2: To contribute, as appropriate, towards the protection of archaeological sites and monuments and their settings, archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments. Contribute, as appropriate, towards the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places. HR 3: To ensure the implementation of the legislative, statutory and policy provisions relevant to the conservation of the built heritage including the following (and any updated/superseding documents): <ul style="list-style-type: none"> Legislative provisions in the Planning and Development Act 2000 (as amended) and the National Monuments Act 1930 (as amended). Statutory provisions in the Carlow County Development Plan, including the Record of Protected Structures. Policy guidance in Government Policy on Architecture 2009-2015, the Architectural Heritage Protection Guidelines 2004/2011, the Archaeology and Development: Guidelines for Good Practice for Developers. HR 4: To acknowledge and promote awareness of the origins, historical development and cultural heritage of the town and to generally support high quality developments that relate to local heritage and to ensure that new development respects and is responsive to same. HR 5: To require an appropriate archaeological assessment to be carried out by licenced archaeologist in respect of any proposed development likely to have an impact on a recorded monument or its setting and to consult with the National Monuments Service of the Department of Arts Heritage and the Gaeltacht in relation to proposed developments adjoining archaeological sites.	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	
Cultural Heritage				
HR 6: To support and promote the development of cultural facilities in the town.				
Commentary:				
<i>These provisions primarily contribute towards the protection of architectural and archaeological heritage (SEOs CH1 CH2). By limiting the development of the settings of architectural and archaeological heritage, these provisions also have the potential to improve other environmental components including biodiversity, flora and fauna, soil, water, human health and flood risk management (SEOs B1 B2 B3 S1 PHH1 W1 W2 W3).</i>				
<i>The development of cultural heritage facilities would have the potential to conflict with environmental components and would contribute towards and support the preferred alternative scenario (see details and evaluation at Section 7).</i>				

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Policies in relation to European Directives, Natura 2000 Network, Biodiversity and Designated Species, Trees, Hedgerows Woodlands and Non-Designated habitats and Species and Invasive and Non-Native Species				
<p>European Directives, Natura 2000 Network, Biodiversity and Designated Species Policies</p> <p>HR 7: To contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including proposed Natural Heritage Areas); and Flora Protection Order sites.</p> <p>HR 8: To contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents:</p> <ul style="list-style-type: none"> - EU Directives, including the Habitats Directive (92/43/EEC, as amended)^[1], the Birds Directive (2009/147/EC)^[2], the Environmental Liability Directive (2004/35/EC)^[3], the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC). - National legislation, including the Wildlife Act 1976^[4], the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 2008^[5]. - National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010. - Catchment and water resource management Plans, including the relevant River Basin Management Plan. - Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland's 2nd National Biodiversity Plan (including any superseding version of same). - Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans). - Ireland's Environment 2014 (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges. <p>HR 9: That all projects and plans arising from this plan^[5] (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:</p> <p><i>(a) The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or</i></p> <p><i>(b) The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or</i></p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 L1</p>			<p>M1 M2 M3 C1 CH1 CH2</p>

^[1] Including Annex I habitats, Annex II species and their habitats and Annex IV species and their breeding sites and resting places (wherever they occur).

^[2] Including Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).

^[3] Including protected species and natural habitats.

^[4] Including species of flora and fauna and their key habitats.

^[5] Including protected species and natural habitats.

^[5] Such projects include but are not limited to those relating to: agriculture; amenity and recreation; contaminated sites; electricity transmission; flood alleviation and prevention; forestry; mineral extraction; renewable energy projects; roads; telecommunications; tourism; wastewater and discharges; and water supply and abstraction.

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p><i>©The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.</i></p> <p>HR 10: (a) Not to permit projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other on the basis of this plan (either individually or in combination with other plans or projects^[6]).</p> <p>(b) To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.</p> <p>HR 11: To facilitate the conservation, protection and enhancement of the River Slaney including the adjacent wetlands and associated habitats and to ensure that development does not significantly adversely affect conservation values.</p> <p>HR 12: To seek the submission of an Ecological Impact Assessment for all development which may have a significant impact on the river and riparian habitats. This assessment should where appropriate suggest a minimum buffer of undisturbed vegetation to be retained to mitigate against pollution risks, reduce flooding potential, maintain habitats and provide an ecological corridor. The buffer zone shall, where possible be maintained free of development and hard surfaces. The assessment shall address protected species i.e. bats, otters including the requirement for derogation licences together with the cumulative impact of the proposed development.</p> <p>HR 13: To ensure that development does not have a significant adverse impact on plant species, animals and birds listed in the Flora Protection Order, Wildlife Act 1976 as amended, those listed in Annex IV of the Habitats Directive and those listed in Annex I of the Birds Directive.</p> <p>Trees, Hedgerows Woodlands and Non-Designated habitats and Species Policy</p> <p>HR 18: To promote the protection of trees, in particular native and broadleaf species, which are of conservation and / or amenity value. Development that requires the felling of mature trees of special interest will be discouraged.</p> <p>HP 19: To promote the protection and preservation of existing hedgerows, where appropriate and encourage planting of native hedgerow species.</p> <p>HP 20: To contribute towards the protection of non-designated habitats and species which are of local biodiversity significance</p> <p>Invasive and Non-Native Species Policy</p> <p>HR 21: To support as appropriate the National Parks and Wildlife Service's efforts to seek to control the spread of non-native species on land and water and where appropriate seek the submission of an invasive species management plan.</p>				
<p>Commentary: The provisions contribute towards the protection and management of the environment with interactions with most environmental components including:</p> <ul style="list-style-type: none"> • Biodiversity, flora and fauna (SEOs B1 B2 B3); • Landscape (SEO L1); • Waters (SEOs W1 W2); • Soil (SEO S1); 				

^[6] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the project to proceed; and
- c) Adequate compensatory measures in place.

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<ul style="list-style-type: none"> Flood risk management (SEO W3): and Human health (SEO PHH1). <p>As there are a number of overlaps between the area which is designated as cSAC and existing land use zoning objectives, Policy HR 10B requires applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13 – as shown on Figure 7.1 overleaf) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives. This benefits the protection of the River Slaney cSAC.</p>				
Policies in relation to Green Infrastructure				
<p>HR 14: To encourage and facilitate, in consultation with relevant stakeholders, the development of green infrastructure that recognises the synergies that can be achieved with regard to the following:</p> <ul style="list-style-type: none"> Provision of open space amenities Sustainable management of water Protection and management of biodiversity Protection of cultural heritage Protection of protected landscape sensitivities. <p>HR 15: To seek to contribute towards the protection and enhancement of biodiversity and ecological connectivity, including trees, hedgerows, rivers, streams, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.</p> <p>HR 16: To explore the feasibility, subject to the requirements of the Habitats Directive, of developing a linear park, along the river Slaney, linking to areas of open space and amenity. Where lands are in private ownership it shall be policy, in any development proposal, to secure public access along the waterway.</p> <p>HR 17: To co-ordinate between open space, biodiversity and flood management, in progressing a green infrastructure network.</p>	B1 B2 B3 PHH1 S1 W1 W2 W3 CH1 CH2 L1 C1		B1 B2 B3 PHH1 S1 W1 W2 M3 CH1 CH2 M2 L1	M1
Commentary:				
<p>The development of green infrastructure would facilitate: contributions towards increases in sustainable mobility and reductions in greenhouse gas emissions (SEO C1); increases in flood risk management (SEO W3) and protection of human health (SEO PHH1); protection and management biodiversity and water quality (SEOs B1 B2 B3 W1 W2); and protection cultural heritage and landscape sensitivities (SEOs CH1 CH2 L1).</p> <p>The development of green infrastructure potentially conflicts with most environmental components (SEOs B1 B2 B3 PHH1 S1 W1 W2 W3 M2 M3 CH1 CH2 L1). This type of infrastructure is often constructed in ecologically and visually sensitive areas adjacent to the banks of rivers and streams. Potential adverse effects (including in-combination effects across County borders) would be mitigated by measures that have been integrated into other provisions within the Plan (see Section 9) and any additional requirements arising through lower tier assessments or granting of permission.</p>				
Built and Natural Heritage Objectives				
<p>HO 1: To safeguard and enhance all buildings of intrinsic heritage value within Tullow and its environs and to protect all existing Protected Structures, as set out in the Record of Protected Structures.</p> <p>HO 2: To encourage the facilitation and active and appropriate reuse of vacant structures within the plan area.</p> <p>HO 3: To promote the planting of tree species which are suited to the Slaney landscape as part of any public landscaping projects, or planting associated with developments.</p> <p>HO 4: To promote educational and leisure activities such as bird watching, guided wildlife walks, photography, art etc. which increase awareness and appreciation of the Slaney River Valley but which will not result in significant disturbance to wildfowl and waders and will not have a negative impact on water quality, or on the condition of the protected habitats and species.</p> <p>HO 5: To develop a network of green corridors throughout the town interconnecting open space and extending out to the wider hinterland.</p> <p>HO 6: To assess the possibility of looped pedestrian and cycle routes along the river, the town centre and sites / facilities of interest in the town and its environs.</p>	B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1		B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1	M1

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Commentary:				
<i>See commentary provided for policies above.</i>				

8.8.9 Chapter 11 Tourism

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
Policies and Objectives in relation to Tourism				
<p>Policies</p> <p>TP 1: To seek to promote the status of Tullow as a popular place to live and visit, by striving to preserve the attributes and assets of the town that make it unique and by endeavouring to enrich the inhabitant/visitor experience by contributing positively towards enhancing the overall amenity, ambience and aesthetic of the town.</p> <p>TP 2: To promote and foster a growing sense of innovation and entrepreneurship in the tourism sector.</p> <p>TP 3: To encourage and support increased co-ordination, cohesion and linkages between agencies such as Failte Ireland, Carlow Tourism, Waterways Ireland, the Southern Regional Assembly and Transport Infrastructure Ireland.</p> <p>TP 4: To protect the natural resources upon which tourism is based through relevant policy in relation to resource protection, such as landscape character assessment, water quality and biodiversity.</p> <p>TP 5: To encourage, support, facilitate and promote the development and expansion of eco-tourism, geo and green tourism, industrial tourism sites and similar developments in the town, subject to no negative impacts on the environment.</p> <p>TP 6: To capitalise on potential tourist income by seeking to:</p> <ul style="list-style-type: none"> - Improve the public realm creating a café culture supporting craft and artisan / deli style retailing in the town core and along the riverbank area. - Promote accommodation choices in the town. - Promote and capitalise on the town's position on the River Slaney and its environs for long distance walking routes. <p>TP7: To seek to manage any increase in visitor numbers to avoid significant effects including loss of habitat and disturbance, any projects are a suitable distance from the water's edge and legislation relating to habitats, species, connectivity and designated sites is complied with.</p> <p>Objectives</p> <p>TO 1: To provide where feasible, and support the provision of tourism infrastructure and services, subject to the requirements of the Habitats Directive, including, walking, cycling and water based infrastructure and short-term guest accommodation facilities throughout the settlement in appropriate locations.</p> <p>TO 2: To encourage and assist the sustainable development of the tourism potential of Tullow in a manner that respects, builds on, protects and enhances the cultural, built and natural heritage of the town and the local amenities within the plan area.</p> <p>TO 3: To work with bodies such as Transport Infrastructure Ireland, Failte Ireland and Carlow Tourism to improve signage both to the town itself from all approach routes, and throughout the town, so that all areas of interest are clearly indicated and accessible.</p> <p>TO 4: To support the provision and augmentation, of sporting, kayaking / canoeing and angling facilities, pony trekking routes, adventure centres and associated ancillary uses in appropriate locations subject to the requirements of the Habitats Directive.</p>	<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>		<p>B1 B2 B3 PHH1 S1 W1 W2 W3 M1 M2 M3 C1 CH1 CH2 L1</p>	

	Likely to Improve status of SEOs	Probable Conflict with status of SEOs - unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
<p>TO 5: To encourage the proportionate development of individual and multiple holiday home development schemes within existing adequately serviced sites/lands in the town.</p> <p>TO 6: To create a synergy between Tullow and the surrounding tourist attractions.</p>				
<p>Commentary:</p> <p><i>These provisions are consistent with and contribute towards the preferred alternative scenario for the Plan. In addition, these tourism policies and objectives contribute towards sustainable development and the protection and management of the environment, for example:</i></p> <ul style="list-style-type: none"> • <i>"To protect the natural resources upon which tourism is based through relevant policy in relation to resource protection, such as landscape character assessment, water quality and biodiversity" (Policy TP 4);</i> • <i>"geo and green tourism...subject to no negative impacts on the environment" (Policy TP 5);</i> • <i>"To seek to manage any increase in visitor numbers to avoid significant effects including loss of habitat and disturbance, any projects are a suitable distance from the water's edge and legislation relating to habitats, species, connectivity and designated sites is complied with" (Policy TP7); and</i> • <i>"sustainable development of the tourism potential...protects and enhances the cultural, built and natural heritage of the town and the local amenities within the plan area" (Objective TO 2).</i> <p><i>The evaluation against Strategic Environmental Objectives (SEOs) that is provided above is consistent with the evaluation of the preferred scenario that is provided in Section 7.</i></p>				

Section 9 Mitigation Measures

9.1 Introduction

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan.

Various environmental sensitivities and issues have been communicated to the Council through the SEA, AA and SFRA processes. By integrating related recommendations into the Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

9.2 Integration of Environmental Considerations

All recommendations made by the SEA, AA and SFRA processes were integrated into the Plan.

Table 9.1 links key mitigation measure(s) - which have been integrated into the Plan - to the potential significant effects of implementing the Plan, if unmitigated.

The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

Table 9.1 Integration of Environmental Considerations

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
All	Various below	<p>Regulatory framework for environmental protection and management</p> <p>Cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management. The Council will contribute towards compliance with EU Directives - including the Habitats Directive (92/43/EEC, as amended), the Birds Directive (2009/147/EC), the Environmental Impact Assessment Directive (85/337/EEC, as amended) and the Strategic Environmental Assessment Directive (2001/42/EC) – and relevant transposing Regulations.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR8.
All	Various below	<p>Information to be considered at lower levels of decision making and environmental assessment</p> <p>Lower levels of decision making and environmental assessment should consider the sensitivities identified in Section 4 of the SEA Environmental Report that accompanies the Plan, including the following:</p> <ul style="list-style-type: none"> • Candidate Special Areas of Conservation and Special Protection Areas; • Features of the landscape that provide linkages/connectivity to designated sites (e.g. watercourses or areas of semi-natural habitats); • Proposed Natural Heritage Areas; • Entries to the Record of Monuments and Places; • Entries to the Record of Protected Structures 	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policies: HR7, HR 8, HR15, HR2 and HR3.
Biodiversity and flora and fauna	Loss of biodiversity with regard to designated biodiversity and flora and fauna, ecological connectivity and non-designated biodiversity and flora and fauna	<p>Protection of Biodiversity including Natura 2000 Network</p> <p>Contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including proposed Natural Heritage Areas); and Flora Protection Order sites.</p> <p>Contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents:</p> <ul style="list-style-type: none"> • EU Directives, including the Habitats Directive (92/43/EEC, as amended)^[1], the Birds Directive (2009/147/EC)^[2], the Environmental Liability Directive (2004/35/EC)^[3], the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC). • National legislation, including the Wildlife Act 1976^[4], the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 2008^[5]. • National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Draft Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010. • Catchment and water resource management Plans, including the relevant River Basin Management Plan. • Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: Ireland's 2nd National Biodiversity Plan (including any superseding version of same). • Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans). • Ireland's Environment 2014 (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges. 	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policies HR7 and HR8.

^[1] Including Annex I habitats, Annex II species and their habitats and Annex IV species and their breeding sites and resting places (wherever they occur).

^[2] Including Annex I species and other regularly occurring migratory species, and their habitats (wherever they occur).

^[3] Including protected species and natural habitats.

^[4] Including species of flora and fauna and their key habitats.

^[5] Including protected species and natural habitats.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
		<p>Appropriate Assessment All projects and plans arising from this plan⁴⁶ (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:</p> <ol style="list-style-type: none"> 1. The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or 2. The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or 3. The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000. 	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR9.
		<p>Protection of Natura 2000 Sites No projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this plan (either individually or in combination with other plans or projects⁶¹).</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through Policy HR10.
		<p>Biodiversity and Ecological Networks Contribute towards the protection and enhancement of biodiversity and ecological connectivity, including trees, hedgerows, rivers, streams, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR15.
		<p>Non-Designated Sites Contribute towards the protection of non-designated habitats and species, as appropriate.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HP 20.
		<p>Non-native invasive species Support, as appropriate, the National Parks and Wildlife Service's efforts to seek to control the spread of non-native invasive species on land and water.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR21.
		<p>Protection of Riparian Zone and Waterbodies and Watercourses Planning authorities shall demonstrate that waterbodies and watercourses are protected from inappropriate development, including rivers, streams, associated undeveloped riparian strips and natural floodplains. This will include protection buffers in riverine as appropriate.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR12 and also objective FLO4 (Chapter 9).

⁴⁶ Such projects include but are not limited to those relating to: agriculture; amenity and recreation; contaminated sites; electricity transmission; flood alleviation and prevention; forestry; mineral extraction; renewable energy projects; roads; telecommunications; tourism; wastewater and discharges; and water supply and abstraction.

⁶¹ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the project to proceed; and
- c) Adequate compensatory measures in place.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
		<p>Constrained Land Use Zoning HR 10B: To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.</p> <p>Visitors To seek to manage any increase in visitor numbers to avoid significant effects including loss of habitat and disturbance, any projects are a suitable distance from the water's edge and legislation relating to habitats, species, connectivity and designated sites is complied with.</p> <p>Rewording of the following objectives from an earlier draft of the Plan</p> <p>Public Spaces and Public Realm PR 2: To prioritise the improvement of, and access to, subject to the requirements of the Habitats Directive, the waterfront area and the retail core for the enjoyment of both visitors and residents alike.</p> <p>Water Supply and Quality WSO 8: To ensure that all proposals for the development of an upgrade to the water supply system will be screened for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and where significant potential impacts to the integrity of the Natura 2000 network are identified, a Natura Impact Statement will be prepared.</p> <p>Policies in relation to Green Infrastructure HR 17: To explore the feasibility, subject to the requirements of the Habitats Directive, of developing a linear park, along the river Slaney, linking to areas of open space and amenity. Where lands are in private ownership it shall be policy, in any development proposal, to secure public access along the waterway.</p> <p>Policies and Objectives in relation to Tourism TO 1: To provide where feasible, and support the provision of tourism infrastructure and services, subject to the requirements of the Habitats Directive, including, walking, cycling and water based infrastructure and short-term guest accommodation facilities throughout the settlement in appropriate locations. TO 4: To support the provision and augmentation, of sporting, kayaking / canoeing and angling facilities, pony trekking routes, adventure centres and associated ancillary uses in appropriate locations subject to the requirements of the Habitats Directive.</p>	<p>Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR10B</p> <p>Incorporated into Plan (Chapter 11 – Tourism) through policy TP7</p> <p>Reworded as detailed.</p>
Population and human health	Potential interactions if effects upon environmental vectors such as water are not mitigated	<p>Also see measures under environmental vectors soil, water and air below.</p> <p>Human Health Assess proposals for development in terms of, inter alia, potential impact on existing adjacent developments, existing land uses and/or the surrounding landscape. Where proposed developments would be likely to have a significant adverse effect on the amenities of the area through pollution by noise, fumes, odours, dust, grit or vibration, or cause pollution of air, water and/or soil, the Council shall ensure the introduction of mitigation measures in order to eliminate adverse environmental impacts or reduce them to an acceptable operating level.</p> <p>Radon Ensure the implementation of the specific guidance on radon prevention measures for new homes as contained within the existing Building Regulations (including any updated/superseding regulations that may be published within the lifetime of this Plan).</p>	<p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective PO1.</p> <p>Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective PO2.</p>
Soil	Adverse impacts on the hydrogeological and ecological function of the soil resource	<p>Also see measures under water below.</p> <p>Soil Protection and Contamination Ensure that adequate soil protection measures are undertaken where appropriate. Adequate and appropriate investigations shall be carried out into the nature of any soil and groundwater contamination and the risks associated with site development work which is proposed.</p>	Incorporated into the Plan (Chapter 9 – Utilities Infrastructure, Climate change and Environmental management) through policy P5.

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
Water	Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology	<p>Also see measures under soil above and material assets below.</p> <p>Water Framework Directive and associated legislation Contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WSP1.
		<p>River Basin Management Plan Support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the plan, as well as relevant recommendations contained in the Water Quality in Ireland 2010 – 2012 (EPA, 2015, and any updated/superseding document). Proposals for development would not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 which provides guidance on exemptions to the environmental objectives of the Water Framework Directive.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WSP2.
	Increase in flood risk	As proposed by the SFRA	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policies FL1, FL2, FL4 and objective FLO2.
Air and Climatic Factors	Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases)	Overall development approach for the Plan, consolidating the town and providing for growth within and adjacent to the town centre Also see measures under human health	
		<p>CAFE Directive Promote the preservation of best ambient air quality compatible with sustainable development in accordance with the EU Ambient Air Quality and Cleaner Air for Europe (CAFE) Directive (2008/50/EC) and ensure that all air emissions associated with new developments are within Environmental Quality Standards as out in the Air Quality Standards Regulations 2011 (SI No. 180 of 2011) (or any updated/superseding documents).</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy P1.
		<p>National Climate Change Adaptation Framework Recognise European and national objectives for climate adaptation and work with the EPA, the Southern Regional Assembly and neighbouring planning authorities in implementing future Guidance for climate change proofing of landuse plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012).</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy CCP1.
		<p>Green Infrastructure Encourage and facilitate, in consultation with relevant stakeholders, the development of green infrastructure that recognises the synergies that can be achieved with regard to the following:</p> <ul style="list-style-type: none"> • Provision of open space amenities • Sustainable management of water • Protection and management of biodiversity • Protection of cultural heritage • Protection of protected landscape sensitivities. 	Incorporated into Plan (Chapters 9 and 10) through policy HR14 (chapter 10) and objective CCO1 (chapter 9).

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
Material Assets	The need to provide adequate and appropriate water services (it is the function of Irish Water to provide for such needs)	<p>Irish Water Collaborate with and support, as relevant and appropriate, Irish Water in its new role as the lead authority for water services.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policies WSP3, WW1 and objectives WSO1 and WWO1.
		<p>Sufficient Capacity Development will only be permitted in instances where there is sufficient capacity in the public water and wastewater infrastructure.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WSP6.
		<p>Focus on Urban Waste Water Discharges in Ireland In conjunction with Irish Water, implement relevant recommendations set out in the EPA (2015) publication Urban Waste Water Treatment in 2014 (and any subsequent update).</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) partly through policy WW2.
		<p>Urban Waste Water Treatment Regulations Collaborate with Irish Water in contributing towards compliance with the relevant provisions of the Urban Waste Water Treatment Regulations 2001 and 2004 and the Waste Water Discharge (Authorisation) Regulations 2007</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WW1.
		<p>Drinking Water Regulations Collaborate with Irish Water in contributing towards compliance with the European Communities (Drinking Water) Regulations (No. 2) 2007 and compliance of water supplies comply with the 48 parameters identified in these Regulations.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective WSO1.
		<p>The Provision and Quality of Drinking Water in Ireland The Council, in conjunction with Irish Water, shall have regard to the EPA (2015) publication The Provision and Quality of Drinking Water in Ireland - A Report for the Year 2014 (and any subsequent update) in the establishment and maintenance of water sources in the County.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective WSO4.
		<p>EPA's Remedial Action List The Council, in conjunction with Irish Water, shall undertake recommendations made by the EPA arising from any failure to meet drinking water standards and any enlistment on the EPA's Remedial Action List.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through objective WSO5.
		Increases in waste levels	<p>Construction Waste Construction wastes arising will be managed and disposed of in a way that ensures the provisions of the Waste Management Acts and new Waste Management Plan. Construction Waste Management Plans will be implemented where relevant to minimise waste and ensure correct handling and disposal of construction waste streams in accordance with the Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects, Department of the Environment, July 2006.</p>

Topic	Potentially Significant Adverse Effect, if Unmitigated	Recommendation	Details of how incorporated into the Plan
		<p>Waste Creation Support the minimisation of waste creation and promote a practice of reduce, reuse and recycle where possible.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WMP1.
		<p>Waste Disposal Safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.</p>	Incorporated into Plan (Chapter 9 – Utilities Infrastructure, Climate Change and Environmental Management) through policy WMP2.
Cultural Heritage	Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation	<p>Archaeological Heritage Contribute, as appropriate, towards the protection and sympathetic enhancement of archaeological heritage, in particular by implementing the relevant provisions of the Planning and Development Act 2000 (as amended) and the National Monuments Act, 1930 (as amended).</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR1.
		<p>Protection of Archaeological Sites Contribute, as appropriate, towards the protection of archaeological sites and monuments and their settings, archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments. Contribute, as appropriate, towards the protection and preservation of archaeological sites, which have been identified subsequent to the publication of the Record of Monuments and Places.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR2.
		<p>Consultation Consult with the National Monuments Service of the Department of Arts Heritage and the Gaeltacht in relation to proposed developments adjoining archaeological sites.</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR5.
		<p>Architectural Heritage Contribute towards the protection of architectural heritage by complying, as appropriate, with the legislative provisions of the Planning and Development Act 2000 (as amended) in relation to architectural heritage and the policy guidance contained in the Architectural Heritage Protection Guidelines 2011 (and any updated/superseding document).</p>	Incorporated into Plan (Chapter 10 – Built and Natural Heritage) through policy HR3.
Landscape	Occurrence of adverse visual impacts	<p>Landscape Designations Contribute towards the protection of county and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.</p>	Incorporated into Plan (Chapter 6 – Town Centre, Landscape and Public Realm) through policy L1.

Section 10 Monitoring Measures

10.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures that will be used in order to monitor the likely significant effects of implementing the Plan.

Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

10.2 Indicators and Targets

Monitoring is based around indicators that allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified in Section 4 and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) that were identified with regard to the relevant strategic actions.

Table 10.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Plan, if unmitigated.

The Monitoring Programme may be updated to deal with specific environmental issues - including unforeseen effects - as they arise. Such issues may be identified by the Council or identified to the Council by other agencies.

10.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

⁴⁷ The likely significant effects of development proposals on environmental sensitivities are further determined during the development management process. By documenting this determination (e.g. whether a proposed development will impact upon a

Internal monitoring of the environmental effects of grants of permission in the Council will provide monitoring of various indicators and targets on a grant of permission by grant of permission⁴⁷ basis. Where significant adverse effects - including positive, negative, cumulative and indirect - have the potential to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

10.4 Reporting

A stand-alone Monitoring Report on the significant environmental effects of implementing the Plan will be prepared before in advance of the beginning of the review of the Plan. This report should address the indicators set out below.

The Council is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action.

10.5 Thresholds

Thresholds at which corrective action will be considered include:

- The occurrence of flood events;
- Court cases taken by the Department of Arts, Heritage and the Gaeltacht regarding impacts upon archaeological heritage including entries to the RMP;
- Complaints received from statutory consultees regarding avoidable environmental impacts resulting from development which is granted permission under the Plan;
- Boil notices on drinking water; and
- Fish kills.

Protected Structure or whether a proposed development can be adequately served with water services) while granting permissions, or at a later date, the requirement to monitor the effects of implementing the Plan can be achieved.

Table 10.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan ⁴⁸	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). CORINE mapping resurvey (every c. 5 years).
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Consultations with the NPWS (at monitoring evaluation - see Section 10.4).
	B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan	<ul style="list-style-type: none"> Consultations with EPA and Health Service Executive (at monitoring evaluation - see Section 10.4).
Soil	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).
Water	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' ⁴⁹	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland.
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with The Planning System and Flood Risk Management Guidelines for Planning Authorities	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).

⁴⁸ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
 (b) imperative reasons of overriding public interest for the plan to proceed; and
 (c) adequate compensatory measures in place.

⁴⁹ Good status as defined by the WFD equates to approximately Q4 in the current national classification of rivers as set out by the EPA.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan	<ul style="list-style-type: none"> EPA The Provision and Quality of Drinking Water in Ireland reports (multi-annual). EPA Remedial Action List (every quarter).
	M3i: Total collected and brought household waste	M3i: Minimise increases in and, where possible, reduce household waste generation	<ul style="list-style-type: none"> EPA National Waste Reports EPA Ireland's Environment Reports
	M3ii: Packaging recovered (t) by self-complying packagers	M3ii: Maximise increases in packaging recovered (t) by self-complying packagers	<ul style="list-style-type: none"> EPA Ireland's Environment Reports
Air and Climatic Factors	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means	<ul style="list-style-type: none"> CSO Population Data (every c. 5 years).
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - and the context these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan	CH1: Protect entries to the Record of Monuments and Places - and the context of these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4).
	CH2: Percentage of entries to the Record of Protected Structures and their context protected from adverse effects resulting from development which is granted permission under the Plan	CH2: Protect entries to the Record of Protected Structures and their context from adverse effects resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 10.4).
Landscape	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape resulting from development which is granted permission under the Plan	L1: No developments permitted which result in avoidable impacts on the landscape resulting from development which is granted permission under the Plan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).

Appendix I Relationship with Legislation and Other Plans and Programmes

This appendix is not intended to be a full and comprehensive review of EU Directives, the transposing regulations or the regulatory framework for environmental protection and management. The information is not exhaustive and it is recommended to consult the Directive, Regulation, Plan or Programme to become familiar with the full details of each.

European				
Directive/ Protocol/ Strategy/Programme	High Level Aim/ Purpose/ Objective	Lower level objectives, actions etc.	Relevant legislation in Ireland	Relevance to the CDP
UN Kyoto Protocol and the Second European Climate Change Programme (ECCP II)	The UN Kyoto Protocol set of policy measures to reduce greenhouse gas emissions The Second European Climate Change Programme (ECCP II) aims to identify and develop all the necessary elements of an EU strategy to implement the Kyoto Protocol	<ul style="list-style-type: none"> The Kyoto Protocol is implemented through the European Climate Change Programme (ECCP II) EU member states implement measures to improve on or compliment the specified measures and policies arising from the ECCP 	National Policy Position and final Heads of the Climate Action and Low-Carbon Development Bill	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
EU 2020 climate and energy package	<ul style="list-style-type: none"> Binding legislation which aims to ensure the European Union meets its climate and energy targets for 2020 Aims to achieve a 20% reduction in EU greenhouse gas emissions from 1990 levels Aims to raise the share of EU energy consumption produced from renewable resources to 20% Achieve a 20% improvement in the EU's energy efficiency 	Four pieces of complimentary legislation: <ul style="list-style-type: none"> Reform of the EU Emissions Trading System (EU ETS) to include a cap on emission allowances in addition to existing system of national caps Member States have agreed national targets for non-EU ETS emissions from countries outside the EU Meet the national renewable energy targets of 16% for Ireland by 2020 Preparing a legal framework for technologies in carbon capture and storage 	The Framework for Climate Change Bill European Communities (Renewable Energy) Regulations 2011 (S.I. No. 147/2011)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Habitats Directive (92/43/EEC)	<ul style="list-style-type: none"> Promote the preservation, protection and improvement of the quality of the environment, including the conservation of natural habitats and of wild fauna and flora Contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora Maintain or restore to favourable conservation status, natural habitats and species of wild fauna and flora of Community interest Promote the maintenance of biodiversity, taking account of economic, social, cultural and regional requirements. 	<ul style="list-style-type: none"> Propose and protect sites of importance to habitats, plant and animal species Establish a network of Natura 2000 sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, to enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range Carry out comprehensive assessment of habitat types and species present Establish a system of strict protection for the animal species and plant species listed in Annex IV 	European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000	The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>Birds Directive (2009/147/EC)</p>	<ul style="list-style-type: none"> • Conserve all species of naturally occurring birds in the wild state including their eggs, nests and habitats • Protect, manage and control these species and comply with regulations relating to their exploitation • The species included in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution 	<ul style="list-style-type: none"> • Preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Annex 1. • Preserve, maintain and establish biotopes and habitats to include the creation of protected areas (Special Protection Areas); ensure the upkeep and management in accordance with the ecological needs of habitats inside and outside the protected zones, re-establish destroyed biotopes and creation of biotopes • Measures for regularly occurring migratory species not listed in Annex I is required as regards their breeding, moulting and wintering areas and staging posts along their migration routes. The protection of wetlands and particularly wetlands of international importance. 	<p>European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>European Union Biodiversity Strategy to 2020</p>	<ul style="list-style-type: none"> • Aims to halt or reverse biodiversity loss and speed up the EU's transition towards a resource efficient and green economy • Halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible 	<ul style="list-style-type: none"> • Outlines six targets and twenty actions to aid European in halting the loss to biodiversity and eco-system services • The six targets cover: <ul style="list-style-type: none"> ○ Full implementation of EU nature legislation to protect biodiversity ○ Maintaining, enhancing and protecting for ecosystems, and green infrastructure ○ Ensuring sustainable agriculture, and forestry ○ Sustainable management of fish stocks ○ Reducing invasive alien species ○ Addressing the global need to contribute towards averting global biodiversity loss 	<p>Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>The Clean Air for Europe Directive (2008/50/EC)</p> <p>Fourth Daughter Directive (2004/107/EC)</p>	<ul style="list-style-type: none"> • The CAFE Directive merges existing legislation into a single directive (except for the fourth daughter directive) • Sets new air quality objectives for PM2.5 (fine particles) including the limit value and exposure related objectives • Accounts for the possibility to discount natural sources of pollution when assessing compliance against limit values • Allows the possibility for time extensions of three years (PM10) or up to five years (NO2, benzene) for complying with limit values, based on conditions and the assessment by the European Commission. • The Fourth Daughter Directive lists pollutants, target values and monitoring requirements for the following: arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air 	<ul style="list-style-type: none"> • Sets objectives for ambient air quality • designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole • Aims to assess the ambient air quality in Member States on the basis of common methods and criteria; • Obtains information on ambient air quality in order to help combat air pollution and nuisance and to monitor long-term trends and improvements resulting from national and Community measures; • Ensures that such information on ambient air quality is made available to the public; • Aims to maintain air quality where it is good and improving it in other cases; • Aims to promote increased cooperation between the Member States in reducing air pollution. 	<p>Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011)</p> <p>Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009 (S.I. No. 58 of 2009)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>Noise Directive 2002/49/EC</p>	<p>The Noise Directive - Directive 2002/49/EC relating to the assessment and management of environmental noise - is part of an EU strategy setting out to reduce the number of people affected by noise in the longer term and to provide a framework for developing existing Community policy on noise reduction from source.</p>	<p>The Directive requires competent authorities in Member States to:</p> <ul style="list-style-type: none"> • Draw up strategic noise maps for major roads, railways, airports and agglomerations, using harmonised noise indicators and use these maps to assess the number of people which may be impacted upon as a result of excessive noise levels; • Draw up action plans to reduce noise where necessary and maintain environmental noise quality where it is good; and • Inform and consult the public about noise exposure, its effects, and the measures considered to address noise. <p>The Directive does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities.</p>	<p>Environmental Noise Regulations 2006 (S.I. No. 140 of 2006)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>Floods Directive (2007/60/EC)</p>	<ul style="list-style-type: none"> • Establishes a framework for the assessment and management of flood risks • Reduce adverse consequences for human health, the environment, cultural heritage and economic activity associated with floods in the Community 	<ul style="list-style-type: none"> • Assess all water courses and coast lines at risk from flooding through Flood Risk Assessment • Prepare flood hazard maps and flood risk maps outlining the extent or potential of flooding and assets and humans at risk in these areas at River Basin District level (Article 3(2) (b)) and areas covered by Article 5(1) and Article 13(1) (b) in accordance with paragraphs 2 and 3 • Implement flood risk management plans and take adequate and coordinated measures to reduce flood risk for the areas covered by the Articles listed above • Inform the public and allow the public to participate in planning process 	<p>European Communities (Assessment and Management of Flood Risks) Regulations (S.I. 122/2010)</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>Water Framework Directive (2000/60/EC)</p>	<ul style="list-style-type: none"> • Establish a framework for the protection of water bodies to include inland surface waters, transitional waters, coastal waters and groundwater and their dependent wildlife and habitats • Preserve and prevent the deterioration of water status and where necessary improve and maintain "good status" of water bodies • Promote sustainable water usage • The Water Framework Directive repealed the following Directives: <ul style="list-style-type: none"> ○ The Drinking Water Abstraction Directive ○ Sampling Drinking Water Directive ○ Exchange of Information on Quality of Surface Freshwater Directive ○ Shellfish Directive ○ Freshwater Fish Directive ○ Groundwater (Dangerous Substances) Directive ○ Dangerous Substances Directive 	<ul style="list-style-type: none"> • Protect, enhance and restore all water bodies and meet the environmental objectives outlined in Article 4 of the Directive • Achieve "good status" for all waters by December 2015 • Manage water bodies based on identifying and establishing river basins districts • Involve the public and streamline legislation • Prepare and implement a River Basin Management Plan for each river basin districts identified and a Register of Protected Areas • Establish a programme of monitoring for surface water status, ground water status and protected areas • Recover costs for water services 	<p>European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>Groundwater Directive (2006/118/EC)</p>	<ul style="list-style-type: none"> • Protect, control and conserve groundwater • Prevent the deterioration of the status of all bodies of groundwater • Implements measures to prevent and control groundwater pollution, including criteria for assessing good groundwater chemical status and criteria for the identification of significant and sustained upward trends and for the definition of starting points for trend reversals. 	<ul style="list-style-type: none"> • Meet minimum groundwater standards listed in Annex 1 of Directive • Meet threshold values adopted by national legislation for the pollutants, groups of pollutants and indicators of pollution which have been identified as contributing to the characterisation of bodies or groups of bodies of groundwater as being at risk, also taking into account Part B of Annex II 	<p>European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>Bathing Water Directive (2006/7/EC)</p>	<ul style="list-style-type: none"> • Preserve, protect and improve the quality of the environment and to protect human health by complementing the Water Framework Directive 2000/60/EC 	<ul style="list-style-type: none"> • Identify all bathing waters and define the length of the bathing season • Monitor bathing water quality as per Annex 1, Column A at the frequency outlined in Annex IV of the Directive • Determine the quality status of the bathing water • Achieve at least 'sufficient' standard by 2015 with the aim increase the standard to 'excellent' or 'good' • Prepare, review and update a bathing water profile of each in accordance with Annex III • Manage bathing water areas in exceptional circumstances to prevent an adverse impact on bathing water quality and on bathers' health • Provide public information on bathing water quality 	<p>Bathing Water Quality (Amendment) Regulations 2008 (S.I. No. 79 of 2008) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>Drinking Water Directive (98/83/EC)</p>	<ul style="list-style-type: none"> • Improve and maintain the quality of water intended for human consumption • Protect human health from the adverse effects of any contamination of water intended for human consumption by ensuring that it is wholesome and clean 	<ul style="list-style-type: none"> • Set values applicable to water intended for human consumption for the parameters set out in Annex I • Set values for additional parameters not included in Annex I, where the protection of human health within national territory or part of it so requires. The values set should, as a minimum, satisfy the requirements of Article 4(1) (a) • Implement all measures necessary to ensure that regular monitoring of the quality of water intended for human consumption is carried out, in order to check that the water available to consumers meets the requirements of this Directive and in particular the parametric values set in accordance with Article 5 • Ensure that any failure to meet the parametric values set in accordance with Article 5 is immediately investigated in order to identify the cause • Ensure that the necessary remedial action is taken as soon as possible to restore its quality and shall give priority to their enforcement action • Undertake remedial action to restore the quality of the water where necessary to protect human health • Notify consumers when remedial action is being undertaken except where the competent authorities consider the non-compliance with the parametric value to be trivial 	<p>European Union (Drinking Water) Regulations 2014 (S.I. No. 106 of 2007) (as amended)</p> <p>European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>Urban Waste Water Treatment Directive (91/271/EEC)</p>	<ul style="list-style-type: none"> • This Directive concerns the collection, treatment and discharge of urban waste water and the treatment and discharge of waste water from certain industrial sectors • The objective of the Directive is to protect the environment from the adverse effects of waste water discharges 	<ul style="list-style-type: none"> • Urban waste water entering collecting systems shall before discharge, be subject to secondary treatment • Annex II requires the designation of areas sensitive to eutrophication which receive water discharges • Establishes minimum requirements for urban waste water collection and treatment systems in specified agglomerations to include special requirements for sensitive areas and certain industrial sectors 	<p>European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>Environmental Liability Directive (2004/35/EC)</p>	<ul style="list-style-type: none"> • Establish a framework of environmental liability based on the 'polluter-pays' principle, to prevent and remedy environmental damage 	<ul style="list-style-type: none"> • Relates to environmental damage caused by any of the occupational activities listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities: damage to protected species and natural habitats caused by any occupational activities other than those listed in Annex III, and to any imminent threat of such damage occurring by reason of any of those activities, whenever the operator has been at fault or negligent • Where environmental damage has not yet occurred but there is an imminent threat of such damage occurring, the operator shall, without delay, take the necessary preventive measures • Where environmental damage has occurred the operator shall, without delay, inform the competent authority of all relevant aspects of the situation and take all practicable steps to immediately control, contain, remove or otherwise manage the relevant contaminants and/or any other damage factors in order to limit or to prevent further environmental damage and adverse effects on human health or further impairment of services and the necessary remedial measures, in accordance with Article 7. • The operator shall bear the costs for the preventive and remedial actions taken pursuant to this Directive • The competent authority shall be entitled to initiate cost recovery proceedings against the operator • The operator may be required to provide financial security guarantees to ensure their responsibilities under the directive are met 	<p>European Communities (Environmental Liability) Regulations, 2008</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>SEA Directive (2001/42/EC)</p>	<ul style="list-style-type: none"> Contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development Provide for a high level of protection of the environment by carrying out an environmental assessment of plans and programmes which are likely to have significant effects on the environment 	<ul style="list-style-type: none"> Carry out an environmental assessment for plans or programmes referred to in Articles 2 to 4 of the Directive Prepare an environmental report which identifies, describes and evaluates the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives that consider the objectives and the geographical scope of the plan or programme Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission Consult other Member States where the implementation of a plan or programme is likely to have transboundary environmental effects Inform relevant authorities and stakeholders on the decision to implement the plan or programme Issue a statement to include requirements detailed in Article 9 of the Directive Monitor and mitigate significant environmental effects identified by the assessment 	<p>European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435/ 2004) (as amended)</p> <p>Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436/2004) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>
<p>EIA Directive (2011/92/EU as amended by 2014/52/EU)</p>	<ul style="list-style-type: none"> Requires the assessment of the environmental effects of public and private projects which are likely to have significant effects on the environment Aims to assess and implement avoidance or mitigation measures to eliminate environmental effects, before consent is given of projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects. Those projects are defined in Article 4 	<ul style="list-style-type: none"> All projects listed in Annex I are considered as having significant effects on the environment and require an EIA For projects listed in Annex II, a "screening procedure" is required to determine the effects of projects on the basis of thresholds/criteria or a case by case examination. This should take into account Annex III. The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 12, the direct and indirect effects of a project on the following factors: human beings, fauna and flora, soil, water, air, climate and the landscape, material assets and the cultural heritage, the interaction between each factor Consult with relevant authorities, stakeholders and public allowing sufficient time to make a submission before a decision is made The information to be provided by the developer in accordance with paragraph 1 shall include at least: <ul style="list-style-type: none"> a description of the project comprising information on the site, design and size of the project; a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects; the data required to identify and assess the main effects which the project is likely to have on the environment; an outline of the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects; a non-technical summary of the information referred to each of the above. 	<p>European Communities (Environmental Impact Assessment) Regulations 1989 (S.I. No. 349/1989) (as amended)</p> <p>European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012 (S.I. No. 470/2012)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of the Directive and transposing regulations</p>

National				
Policy/ Framework / Initiative / Strategy	High Level Aim/ Purpose/ Objective	Lower level relevant objectives , actions etc.	Relevant legislation	Relevance to the CDP
Infrastructure and Capital Investment 2012-16: Medium Term Exchequer Framework	<ul style="list-style-type: none"> Reviews infrastructure and capital spending over a medium timeframe to ensure investment is made in the best areas Identifies gaps in existing infrastructure that require addressing to aid economic recovery, social cohesion and environmental sustainability 	<p>The approach identifies four main components of the investment strategy as follows:</p> <ul style="list-style-type: none"> Economic infrastructure – encompassing transport networks, energy provision and telecommunications capacity Investment in the productive sector and human capital – such as direct supports for enterprise development; science, technology and innovation advancement; supports for tourism, agriculture, fisheries and forestry; and capital investment in education infrastructure Environmental infrastructure – including our waste and water systems and investment for environmental sustainability Critical social investment – such as the health service and social housing programmes 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Smarter Travel – A Sustainable Transport Future – A New Transport Policy for Ireland 2009 – 2020 (2009)	<ul style="list-style-type: none"> Outlines a policy for how a sustainable travel and transport system can be achieved Sets out five key goals: <ul style="list-style-type: none"> To reduce overall travel demand. To maximise the efficiency of the transport network. To reduce reliance on fossil fuels. To reduce transport emissions. To improve accessibility to transport. 	<ul style="list-style-type: none"> Others lower level aims include: <ul style="list-style-type: none"> reduce distance travelled by private car and encourage smarter travel, including focusing population growth in areas of employment and to encourage people to live in close proximity to places of employment ensuring that alternatives to the car are more widely available, mainly through a radically improved public transport service and through investment in cycling and walking improving the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies strengthening institutional arrangements to deliver the targets 	not applicable	In combination with this Policy the CDP will contribute towards smarter travel and associated positive environmental effects.
Ireland's First National Cycle Policy Framework (2009)	<ul style="list-style-type: none"> Outlines objectives and actions aimed at developing a strong cycle network in Ireland Sets out 19 specific objectives, and details the 109 actions, aimed at ensuring that a cycling culture is developed 	<ul style="list-style-type: none"> Sets a target where 10% of all journeys will be made by bike by 2020 Proposes the planning, infrastructure, communication, education and stakeholder participations measures required to implement the initiative 	not applicable	In combination with this Framework the CDP will contribute towards smarter travel and associated positive environmental effects.
Scoping Study for a National Cycle Network (NCN)	<ul style="list-style-type: none"> Investigated the feasibility of developing a National Cycle Network for recreational routes in rural areas, urban areas and connecting larger urban areas The scoping study and subsequent workshops resulted in a recommended National Cycle Network 	not applicable	not applicable	In combination with this Study the CDP will contribute towards smarter travel and associated positive environmental effects.
Strategic Framework for Integrated Land use and Transport (SFILT) – Department of Transport, Tourism And Sport	<ul style="list-style-type: none"> Presents the findings and conclusions of a steering group that was convened and tasked with overseeing the preparation of an integrated, evidence-based framework that would guide key land transport investment decisions. 	<p>Key features of the framework policy include the following:</p> <ul style="list-style-type: none"> Focus on economic growth Principles to frame future investment 	not applicable	In combination with this Study the CDP will contribute towards smarter travel and associated positive environmental effects.

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

National Climate Change Strategy 2007 – 2012 (2007)	<ul style="list-style-type: none"> Outlines measures to be undertaken to meet greenhouse gas emission commitments 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Delivering a Sustainable Energy Future for Ireland – The Energy Policy Framework 2007 – 2020 (2007)	<ul style="list-style-type: none"> White paper setting out a framework for delivering a sustainable energy future in Ireland Outlines strategic Goals for: <ul style="list-style-type: none"> Security of Supply Sustainability of Energy Competitiveness of Energy Supply 	<p>The underpinning Strategic Goals are:</p> <ul style="list-style-type: none"> Ensuring that electricity supply consistently meets demand Ensuring the physical security and reliability of gas supplies to Ireland Enhancing the diversity of fuels used for power generation Delivering electricity and gas to homes and businesses over efficient, reliable and secure networks Creating a stable attractive environment for hydrocarbon exploration and production Being prepared for energy supply disruptions 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Climate Change Adaptation Framework (DECLG, 2012)	The National Climate Change Adaptation Framework provides a strategic policy focus to ensure adaptation measures are taken across different sectors and levels of government to reduce Ireland's vulnerability to the negative impacts of climate change.	<p>Actions include those relating to:</p> <ul style="list-style-type: none"> Research and Knowledge Base Governance Local Plans Stakeholder Consultation 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Renewable Energy Action Plan	<ul style="list-style-type: none"> A strategic approach for Ireland including measures to meet European targets for 2020 including Ireland's 16% target of gross final consumption to come from renewables by 2020 	not applicable	Renewable Energy Directive 2009/28/EC	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Energy Efficiency Action Plan for Ireland 2007 – 2020 (2007)	<ul style="list-style-type: none"> This is the second National Energy Efficiency Action Plan for Ireland 	<ul style="list-style-type: none"> The Plan reviews the original 90 actions outlined in the first Plan and updates/renews/removes them as appropriate 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

Sustainable Development – A Strategy for Ireland (1997)	<ul style="list-style-type: none"> Provides an analysis and a strategic framework for sustainable development in Ireland Identifies the approaches required to support sustainable development 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Wildlife Act of 1976 Wildlife (Amendment) Act, 2000	<ul style="list-style-type: none"> The act provides protection and conservation of wild flora and fauna 	<ul style="list-style-type: none"> Provides protection for certain species, their habitats and important ecosystems Give statutory protection to NHAs Enhances wildlife species and their habitats Includes more species for protection 	not applicable	The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation
Actions for Biodiversity 2011-2016 Ireland's National Biodiversity Plan, 2011	<ul style="list-style-type: none"> Sets out strategic objectives, targets and actions to conserve and restore Ireland's biodiversity and to prevent and reduce the loss of biodiversity in Ireland and globally 	<ul style="list-style-type: none"> To mainstream biodiversity in the decision making process across all sectors To substantially strengthen the knowledge base for conservation, management and sustainable use of biodiversity To increase awareness and appreciation of biodiversity and ecosystems services To conserve and restore biodiversity and ecosystem services in the wider countryside To conserve and restore biodiversity and ecosystem services in the marine environment To expand and improve on the management of protected areas and legally protected species To substantially strengthen the effectiveness of international governance for biodiversity and ecosystem services 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
The Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)	<ul style="list-style-type: none"> Sets out comprehensive mechanisms for the incorporation of flood risk identification, assessment and management into the planning process Ensures flood risk is a key consideration in preparing development plans and local area plans and in the assessment of planning applications Implementation of the Guidelines is through actions at national, regional, local authority and site-specific levels 	<ul style="list-style-type: none"> Avoid inappropriate development in areas at risk of flooding Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off Ensure effective management of residual risks for development permitted in floodplains Avoid unnecessary restriction of national, regional or local economic and social growth Improve the understanding of flood risk among relevant stakeholders Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management. 	<p>Planning and Development Act 2000 (as amended)</p> <p>S.I. No. 122/2010 EC (Assessment and Management of Flood Risks) Regulations 2010</p> <p>S.I. No. 470/2012 European Union (Environmental Impact Assessment) (Flood Risk) Regulations 2012.</p>	The Council is obliged to comply with, as relevant and appropriate, the requirements of these Guidelines

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>European Communities (Water Policy) Regulations of 2003 (SI 722 of 2003)</p> <p>European Communities (Water Policy) Regulations of 2003 (SI 350 of 2014)</p>	<ul style="list-style-type: none"> • Transpose the Water Framework Directive into legislation • Outlines the general duty of public authorities in relation to water • Identifies the competent authorities in charge of water policy (amended to Irish Water in 2013) and gives EPA and the CER the authority to regulate and supervise their actions 	<ul style="list-style-type: none"> • Implements River basin districts and characterisation of RBDs and River Basin Management Plans • Requires the public to be informed and consulted on the Plan and for progress reports to be published on RBDs • Implements a Register of protected areas, Classification systems and Monitoring programmes for water bodies • Allows the competent authority to recover the cost of damage/destruction of status of water body • Outlines environmental objectives and programme of measures and environmental quality standards for priority substances • Outlines criteria for assessment of groundwater 	<p>Water Framework Directive 2000/60/EC</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>European Communities Environmental Objectives (Surface waters) Regulations of 2009 (SI 272 of 2009)</p>	<ul style="list-style-type: none"> • Transpose the requirements of the Water Framework Directive into Irish Legislation 	<ul style="list-style-type: none"> • Outlines environmental objectives to be achieved for surface water bodies • Outlines surface water quality standards • Establishes threshold values for the classification and protection of surface waters against pollution and deterioration in quality 	<p>Water Framework Directive 2000/60/EC</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>European Communities Environmental Objectives (Groundwater) Regulations of 2010 (SI 9 of 2010)</p>	<ul style="list-style-type: none"> • Transpose the requirements of the Groundwater Directive 2006/118/EC into Irish Legislation 	<ul style="list-style-type: none"> • Outlines environmental objectives to be achieved for groundwater bodies of groundwater against pollution and deterioration in quality • Sets groundwater quality standards • Outlines threshold values for the classification and protection of groundwater 	<p>Water Framework Directive 2000/60/EC Groundwater Directive (2006/118/EC)</p> <p>European Communities Environmental Objectives (Groundwater) Regulations 2010 (S.I. No. 9/2010) (as amended)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>Water Pollution Acts 1977 to 1990</p>	<ul style="list-style-type: none"> • The Water Pollution Acts allow Local Authorities the authority regulate and supervise actions relating to water in their division 	<p>The Water Pollution Acts enable local authorities to:</p> <ul style="list-style-type: none"> • prosecute for water pollution offences; • attach appropriate pollution control conditions in the licensing of effluent discharges from industry, etc., made to waters; • issue notices ("section 12 notices") to farmers, etc., specifying measures to be taken within a prescribed period to prevent water pollution; • issue notices requiring a person to cease the pollution of waters and requiring the mitigation or remedying of any effects of the pollution in the manner and within the period specified in such notices; • seek court orders, including High Court injunctions, to prevent, terminate, mitigate or remedy pollution/its effects; • prepare water quality management plans for any waters in or adjoining their functional areas 	<p>Water Services Act 2013</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>European Communities (Urban Waste Water Treatment) Regulations 2001 (S.I. No. 254/2001)</p>	<ul style="list-style-type: none"> • Transpose the Urban Waste Water Treatment Directive into Irish Legislation • Aims to protect receiving waters from environmental damage arising from Urban Wastewater 	<ul style="list-style-type: none"> • Sets out the legislative requirements for urban waste water collection and treatment systems • Provides for monitoring programmes of discharges • Specifies threshold values and minimum standards for water quality 	<p>Urban Waste Water Treatment Directive (91/271/EEC)</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>Water Services Act 2007</p> <p>Water Services (Amendment) Act 2012</p> <p>Water Services Act (No. 2) 2013</p>	<ul style="list-style-type: none"> Provides the water services infrastructure Outlines the responsibilities involved in delivering and managing water services Identifies the authority in charge of provision of water and waste water supply Irish Water was given the responsibility of the provision of water and wastewater services in the amendment act during 2013, therefore these services are no longer the responsibility of the 34 Local Authorities in Ireland 	<p>Key strategic objectives include:</p> <ul style="list-style-type: none"> Ensuring Irish Water delivers infrastructural projects that meet key public health, environmental and economic objectives in the water services sector. Ensuring the provision of adequate water and sewerage services in the gateways and hubs listed in the National Spatial Strategy, and in other locations where services need to be enhanced. Ensuring good quality drinking water is available to all consumers of public and group water supplies, in compliance with national and EU drinking water standards Ensuring the provision of the remaining infrastructure needed to provide secondary wastewater treatment, for compliance with the requirements of the EU Urban Wastewater Treatment Directive. Promoting water conservation through Irish Water's Capital Investment Plan, the Rural Water Programme and other measures. Monitoring the on-going implementation of septic tanks inspection regime and the National Inspection Plan for Domestic Waste Water Treatment Systems. Ensuring a fair funding model to deliver water services. Overseeing the establishment of an economic regulation function under the CER. 	<p>not applicable</p>	<p>The Council is obliged to comply with, as relevant and appropriate, the requirements of this legislation</p>
<p>Irish Water's Water Services Strategic Plan (Draft 2015) and associated Proposed Capital Investment Plan 2014-2016</p>	<ul style="list-style-type: none"> This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term. 	<p>Six strategic objectives as follows:</p> <ul style="list-style-type: none"> Meet Customer Expectations. Ensure a Safe and Reliable Water Supply. Provide Effective Management of Wastewater. Protect and Enhance the Environment. Support Social and Economic Growth. Invest in Our Future. 	<p>The Water Services (No. 2) Act (2013)</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>National Spatial Strategy 2002-2020 (2002)</p>	<ul style="list-style-type: none"> Planning framework for Ireland Aims to achieve a better balance of social, economic and physical development across Ireland, supported by effective planning 	<ul style="list-style-type: none"> Proposes that areas of sufficient scale and critical mass will be built up through a network of gateways, hubs and key town 	<p>Planning and Development Act 2000 (as amended)</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>Grid25 Implementation Programme</p>	<ul style="list-style-type: none"> Framework for the development of the electricity transmission grid in the short, medium and long terms, to support a long-term sustainable and reliable electricity supply 	<ul style="list-style-type: none"> Seeks to implement the provisions of the 2007 Government White Paper on Energy - "Delivering a Sustainable Energy Future for Ireland" in terms of development of electricity transmission infrastructure 	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

National Landscape Strategy 2015	<ul style="list-style-type: none"> Aims to implement the European Landscape Convention in Ireland by providing for specific measures to promote the protection, management and planning of the landscape. 	<p>The objectives of the National Landscape Strategy are to:</p> <ul style="list-style-type: none"> Recognise landscapes in law Develop a National Landscape Character Assessment; Develop Landscape Policies; Increase Landscape Awareness; Identity Education, Research and Training Needs; and Strengthen Public Participation. 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Rural Development Programme (draft/in preparation)	<ul style="list-style-type: none"> The National Rural Development Programme, prepared by the Department of Agriculture, Fisheries and Food, sets out a national programme based on the EU framework for rural development and prioritises improving the competitiveness of agriculture, improving the environment and improving the quality of life in rural areas 	<p>At a more detailed level, the programme also:</p> <ul style="list-style-type: none"> Supports structural change at farm level including training young farmers and encouraging early retirement, support for restructuring, development and innovation; Aims to improve the environment, biodiversity and the amenity value of the countryside by support for land management through funds such as Natura 2000 payments etc.; and Aims to improve quality of life in rural areas and encouraging diversification of economic activity through the implementation of local development strategies such as non-agricultural activities 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Forestry Programme 2014-2020	<ul style="list-style-type: none"> Represents Ireland's proposals for 100% State aid funding for a new Forestry Programme for the period 2014 – 2020. 	<p>Measures include the following:</p> <ul style="list-style-type: none"> Afforestation and Creation of Woodland NeighbourWood Scheme Forest Roads Reconstitution Scheme Woodland Improvement Scheme Native Woodland Conservation Scheme Knowledge Transfer and Information Actions Producer Groups Innovative Forest Technology Forest Genetic Reproductive Material Forest Management Plans 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
National Peatlands Strategy (draft/in preparation)	<ul style="list-style-type: none"> This Draft Strategy, prepared by the National Parks and Wildlife Service, will, when finalised, establish principles in relation to Irish peatlands in order to guide Government policy. The Draft Strategy aims to provide a framework for which all of the peatlands within the State can be managed responsibly in order to optimise their social, environmental and economic contribution. 	not applicable	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

National Biodiversity Action Plan	<ul style="list-style-type: none"> This Action Plan sets out an integrated strategy for collective delivery of the potential benefits of bioenergy resources across the agriculture, enterprise, transport, environment and energy sectors. 	Includes detailed actions for the electricity sector, transport fuel sector, heat sector, research and development sector.	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Flood Risk Management Plans arising from National Catchment Flood Risk Assessment and Management Programme (draft/in preparation)	<ul style="list-style-type: none"> The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. 	<p>CFRAM Studies are being undertaken for all River Basin Districts.</p> <p>The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. The final output from the studies will be CFRAM Plans (these are being finalised). The Plans will define the current and future flood risk in the River Basin Districts and set out how this risk can be managed.</p>	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Food Harvest 2020	<ul style="list-style-type: none"> Sets out a vision and recommendations for the agri-food industry based on factual information, figures and trends in order to allow for further productivity, prosperity and sustainability within this sector. 	<ul style="list-style-type: none"> Seeks for the improvement of all agricultural sectors at all levels in terms of sustainability, environmental consideration and marketing development. 	not applicable	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Regional and Inter-County				
Plan / Programme / Guidelines	High Level Aim/ Purpose/ Objective	Lower level relevant objectives , actions etc.	Relevant legislation in Ireland	Relevance to the CDP
Regional Planning Guidelines for the South East Region 2010 -2022	<ul style="list-style-type: none"> The Guidelines provide a planning framework for the future physical, economic and social development of the South East Region which includes County Carlow 	<ul style="list-style-type: none"> Aim to give regional effect to the National Spatial Strategy Guide the Development Plans and lower tier plans of planning authorities 	Requirement of the Planning and Development Act (2000), as amended	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>The South East River Basin Management Plan and associated Programmes of Measures</p>	<ul style="list-style-type: none"> Establish a framework for the protection of water bodies at River Basin District (RBD) level Preserve, prevent the deterioration of water status and where necessary improve and maintain "good status" of water bodies in that RBD Promote sustainable water usage 	<ul style="list-style-type: none"> Aim to protect and enhance all water bodies in the RBD and meet the environmental objectives outlined in Article 4 of the Water Framework Directive Identify and manages water bodies in the RBD Establish a programme of measures for monitoring and improving water quality in the RBD Involve the public through consultations 	<p>Requirement of the Water Framework Directive (2000/60/EC)</p> <p>European Communities (Water Policy) Regulations, 2003 (SI No. 722) (as amended)</p> <p>Guidelines for the Establishment of River Basin District Advisory Councils (RBDAC)</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>Water Quality Management Plans</p>	<ul style="list-style-type: none"> Ensure that the quality of waters covered by the plan is maintained Maintain and improve the quantity and quality of water included in the Plan scope 	<ul style="list-style-type: none"> Monitoring of water bodies against quality standards Outlines management programmes for water catchments Purpose is to maintain and improve the quantity and quality of groundwater 	<p>Water Pollution Acts 1977 to 1990</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>Management Plans for Natura 2000 sites (note that no Management Plans which have been prepared for Natura 2000 sites relevant to the Plan)</p>	<p>Article 6(1) of the Habitats Directive requires that Member States establish the necessary conservation measures for Special Area of Conservation involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans.</p>	<p>Integrated Management Plans can be practical, achievable and sustainable and have regard to all relevant ecological, cultural, social and economic considerations and with special regard to local communities.</p>	<p>Habitats Directive</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
<p>Outputs from the South Eastern Catchment Flood Risk Assessment and Management Programme</p>	<ul style="list-style-type: none"> The national Catchment Flood Risk Assessment and Management (CFRAM) programme commenced in Ireland in 2011 and is being overseen by the Office of Public Works. The CFRAM Programme is intended to deliver on core components of the National Flood Policy, adopted in 2004, and on the requirements of the EU Floods Directive. The Programme is being implemented through CFRAM Studies which are being undertaken for each of the six river basin districts in Ireland. 	<p>CFRAM Studies are being undertaken for all River Basin Districts. The studies are focusing on areas known to have experienced flooding in the past and areas that may be subject to flooding in the future either due to development pressures or climate change. The final output from the studies will be CFRAM Plans (these are being finalised). The Plans will define the current and future flood risk in the River Basin Districts and set out how this risk can be managed.</p>	<p>not applicable</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

Southern Region Waste Management Plan 2015-2021	The regional plan provides the framework for waste management for a period of six years and sets out a range of policies and actions in order to meet specified mandatory and performance targets. The strategic vision of the regional waste plan is to rethink our approach to managing waste, by viewing our waste streams as valuable material resources, leading to a healthier environment and sustainable commercial opportunities for our economy.	Strategic objectives: <ul style="list-style-type: none"> • Policy & Legislation • Prevention • Resource Efficiency • Coordination • Infrastructure Planning • Enforcement & Regulations • Protection • Other Wastes 	European Directive (2008/98/EC) on Waste (Waste Framework Directive); Council Decision (200/532/EC) establishing a list of wastes; and Regulation (1013/2006) on the shipments of waste	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
Freshwater Pearl Mussel Basin Management Plans	<ul style="list-style-type: none"> • Identifies the current status of the species and the reason for loss or decline • Identifies measure required to improve or restore current status 	<ul style="list-style-type: none"> • Identifies pressures on Freshwater Pearl Mussels for each of the designated populations in Ireland • Outlines restoration measures required to ensure favourable conservation status 	Requirement of Water Framework Directive (2000/60/EC) and Habitats Directive (92/43/EEC) European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003) European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) The Wildlife Act 1976 and the Wildlife (Amendment) Act 2000	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management
County and Local				
Plan / Programme / Guidelines	High Level Aim/ Purpose/ Objective	Lower level relevant objectives , actions etc.	Relevant legislation in Ireland	Relevance to the CDP
County Development Plans, Local Area Plans and associated documents in the following authorities: Carlow, Kilkenny, Wexford, Wicklow, Kildare and Laois.	<ul style="list-style-type: none"> • Statutory documents which provide detailed planning policies to ensure proper planning and sustainable development of area • Set out objectives for future planning and development • County Development Plans provide the key parameters for lower tier plans such as the future population and housing targets and sets out the broad strategy for the future economic and social development of these towns. 	<ul style="list-style-type: none"> • Identify issues of relevance to the area and outlines principles for future development of area • Is consistent with relevant County/Town Development Plans, National Spatial Strategy and Regional Planning Guidelines 	Planning and Development Act 2000 (as amended)	To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management

SEA Environmental Report for the Tullow Local Area Plan 2017-2023

<p>County Carlow 2021 Local Economic & Community Plan 2016-2021</p>	<p>The LECP is to set out, for a six year period, the objectives and actions needed to promote and support the economic development and the local and community development of the local authority area, both by itself directly and in partnership with other economic and community development stakeholders.</p>	<p>The LECP and County Development Plan are closely linked. The LECP must be consistent with the Core Strategy of the development plan and the development plan will need to underpin the aims of the LECP where there are 'land use' or 'development' related objectives contained in the LECP. The development plan gives effect to the objectives of the LECP.</p>	<p>Local Government Reform Act 2014</p>	<p>To cumulatively contribute towards – in combination with other users and bodies – the achievement of the objectives of the regulatory framework for environmental protection and management</p>
---	---	---	---	--

SEA ENVIRONMENTAL REPORT

APPENDIX II – NON-TECHNICAL SUMMARY

FOR THE

TULLOW LOCAL AREA PLAN 2017 - 2023

for: Carlow County Council

Athy Road
Carlow
County Carlow



by: CAAS Ltd.

2nd Floor, The Courtyard
25 Great Strand Street
Dublin 1



MARCH 2017

Table of Contents

Section 1	Introduction and Terms of Reference.....	1
Section 2	The Local Area Plan.....	2
2.1	Vision and Strategic Aims.....	2
2.2	Relationship with other relevant Plans and Programmes	2
Section 3	The Environmental Baseline	4
3.1	Introduction.....	4
3.2	Likely Evolution of the Environment in the Absence of the Plan	4
3.3	Biodiversity and Flora and Fauna	5
3.4	Population and Human Health	9
3.5	Soil	9
3.6	Water.....	9
3.7	Air and Climatic Factors	12
3.8	Material Assets.....	13
3.9	Cultural Heritage	13
3.10	Landscape	15
3.11	Overlay of Environmental Sensitivities	15
3.12	Appropriate Assessment and Strategic Flood Risk Assessment	18
3.13	Strategic Environmental Objectives	18
Section 4	Alternatives.....	20
4.1	Introduction.....	20
4.2	Description of Alternatives	20
4.3	Evaluation of Alternatives.....	24
Section 5	Evaluation of Plan Provisions.....	29
5.1	Overall Findings	29
5.2	Potential Adverse Effects and their Determination	29
5.3	Residual Adverse Effects	29
Section 6	Mitigation and Monitoring Measures	31
6.1	Mitigation	31
6.2	Monitoring	31

Section 1 Introduction and Terms of Reference

This is the Non-Technical Summary of the Environmental Report for the Tullow Local Area Plan 2017-2023. The purpose of the Environmental Report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption and implementation of the Plan.

What is an SEA?

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a proposed plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic, social and other considerations.

Why is it needed?

The SEA has been carried out in order to comply with the provisions of the SEA Regulations and in order to improve planning and environmental management within Tullow. The output of the process is an Environmental Report that should be read in conjunction with the Plan.

How does it work?

All of the main environmental issues in the area were assembled and presented to the team who prepared the Plan. This helped them to devise a Plan that protects whatever is sensitive in the environment. It also helped to identify wherever potential conflicts between the Plan and the environment exist and enabled these conflicts to be mitigated.

The SEA was scoped in consultation with designated environmental authorities.

What is included in the Environmental Report that accompanies the Plan?

The Environmental Report contains the following information:

- A description of the environment and the key environmental issues;
- A description and assessment of alternatives for the Plan;
- An assessment of the provisions of the Plan; and,
- Mitigation measures which set out to aid compliance with important environmental protection legislation - e.g. the Water Framework Directive, the Habitats Directive - and which will avoid/reduce the environmental effects of implementing the Plan.

What happens at the end of the process?

An SEA Statement has been prepared which summarises, inter alia, how environmental considerations have been integrated into the Plan.

Section 2 The Local Area Plan

2.1 Vision and Strategic Aims

Carlow County Council's Vision for the town included in the Plan is as follows:

To provide a focused approach to planning for the future growth of Tullow in a coherent and spatial fashion which seeks to deliver high levels of employment and balances future sustainable development with the conservation and enhancement of the town's natural and built environment.

The main Strategic Objectives for the town included in the Plan are as follows:

- 1. To create vibrant integrated communities in a more consolidated urban form.*
- 2. To create a thriving town which contributes to the natural and built heritage amenities of the town and provides a vibrant and vital mixed-use environment.*
- 3. To facilitate the creation of a sustainable vibrant economy which maximises the unique attributes of the town.*

The Council is committed to delivering this vision of the town through working in partnership with the local community and local organisations, and through promoting the policies and objectives contained in the LAP, and future, LAPs.

2.2 Relationship with other relevant Plans and Programmes

Introduction

The Plan sits within a hierarchy of land use forward planning strategic actions. The Plan must comply with relevant higher-level strategic actions and may, in turn, guide lower level strategic actions. The following sections identify a number of these strategic actions, further details of which are contained in the main Plan document.

The Plan is at the lower level of the hierarchy in the context of national, regional and county level plans. The preparation of the Local Area Plan has also been informed and influenced by various local government, national and international policy documents including (but not limited to) the following:

International

- Agenda 2000
- Local Agenda 21
- The European Spatial Development Perspective
- Various EU Directives

National

- Infrastructure and Capital Investment 2012-16: Medium Term Exchequer Framework, 2011
- Sustainable Development: A Strategy for Ireland, 1997
- National Spatial Strategy 2002 – 2020 (NSS)
- Ministerial Guidelines issued under Section 28 of the Planning and Development Act 2000-2011

Regional

- Regional Planning Guidelines for the South East Region 2010-2022

County

- Carlow County Development Plan 2015-2021

Regional Planning Guidelines

County Carlow, including Tullow, is subject to the Regional Planning Guidelines for the South Eastern Regional 2010-2022 that provide a framework for the long-term strategic development of the South-Eastern Region. The Guidelines do this through setting out goals, policies and objectives in relation to population targets, housing, infrastructure, economic development, environment, amenities, social infrastructure and community development, ensuring the successful implementation of the NSS at regional, county and local level.

Carlow County Development Plan 2015-2021

The Carlow County Development Plan 2015-2021 sets out the strategic planning and sustainable development of County Carlow over its lifetime and is consistent with the Regional Planning Guidelines.

Environmental Protection Objectives

The Local Area Plan is subject to a number of high-level environmental protection policies and objectives with which it must comply. Examples of Environmental Protection Objectives include the aim of the EU Habitats Directive - which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States - and the purpose of the Water Framework Directive - which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving a good status.

Section 3 The Environmental Baseline

3.1 Introduction

The environmental baseline of Tullow is described in this section. This baseline together with the Strategic Environmental Objectives, which are identified further in the document, is used in order to identify, describe and evaluate the likely significant environmental effects of implementing the Plan and in order to determine appropriate monitoring measures. The environmental baseline is described in line with the legislative requirements encompassing the following components – biodiversity, flora and fauna, population, human health, soil, water, air and climatic factors, material assets, cultural heritage, landscape and the interrelationship between these components.

The lack of a centralised data source that could make all environmental baseline data for the Plan area both readily available and in a consistent format posed a challenge to the SEA process. This difficulty is one that has been encountered while undertaking SEAs at local authorities across the country and was overcome by investing time in the collection of data from various sources and through the use of Geographical Information Systems.

3.2 Likely Evolution of the Environment in the Absence of the Plan

The 2010-2016 Tullow Local Area Plan contains provisions that contribute towards environmental protection and sustainable development within Tullow.

If the 2010-2016 Plan was to have expired and not be replaced by the 2017-2023 Plan, this would have resulted in a deterioration of the town's planning and environmental protection framework. Although higher-level environmental protection objectives – such as those of the new 2015-2021 County Development Plan and various EU Directives and transposing Irish Regulations – would still apply, the deterioration of this framework would mean that new development would be less coordinated and controlled. Such development would have the potential to result in an increase in the occurrence of adverse effects on all environmental components, especially those arising cumulatively. Cumulative effects occur as a result of the addition of many small impacts to create one larger, more significant, impact.

Such adverse effects could include:

- Loss of biodiversity with regard to Natura 2000 Sites and Annexed habitats and species;
- Loss of biodiversity with regard to ecological connectivity and stepping stones;
- Loss of biodiversity with regard to designated sites including Wildlife Sites and species listed on Schedule 5 of the Wildlife Act 1976;
- Spatially concentrated deterioration in human health;
- Adverse impacts on the hydrogeological and ecological function of the soil resource;
- Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology;
- Increase in the risk of flooding;
- Failure to provide adequate and appropriate waste water treatment;
- Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean;
- Increases in waste levels;
- Failure to contribute towards sustainable transport and associated impacts;
- Effects on entries to the Record of Monuments and Places and other archaeological heritage;
- Effects on entries to the Records of Protected Structures and other architectural heritage; and
- Occurrence of adverse visual impacts.

3.3 Biodiversity and Flora and Fauna

Natura 2000

Candidate Special Areas of Conservation (cSACs) have been selected for protection under the European Council Directive on the conservation of natural habitats and of wild fauna and flora (92/43/EEC) by the (former) Department of the Environment, Heritage and Local Government due to their conservation value for habitats and species of importance in the European Union.

Special Protection Areas (SPAs) have been selected for protection under the 1979 European Council Directive on the Conservation of Wild Birds (79/409/EEC) due to their conservation value for birds of importance in the European Union. SPAs, along with SACs, comprise Ireland's Natura 2000 network – part of an EU-wide network of protected areas established under the Habitats Directive.

There is one Natura 2000 site occurring inside the Plan boundary, which is the River Slaney Valley cSAC. This site has been designated due to the presence of a number of habitats and species including Floating River Vegetation, Old Oak Woodlands, Alluvial Forests, Freshwater Pearl Mussel, Sea Lamprey, Brook Lamprey, River Lamprey, Atlantic Salmon and Otter. cSACs and SPAs in the vicinity of the Plan area are shown on Table 3.1 The River Slaney cSAC transects the Plan area and is shown on Figure 3.1.

Table 3.1 Natura 2000 Sites within 15km of the Plan area

Natura 2000 Sites		
Designation	Code	Site Name
SAC	0770	Blackstairs Mountains SAC
	0781	Slaney River Valley SAC
	1757	Holdenstown Bog SAC
	2162	River Barrow and River Nore SAC

Proposed Natural Heritage Areas

Natural Heritage Areas (NHAs) are designated due to their national conservation value for ecological and/or geological/geomorphological heritage. They cover nationally important semi-natural and natural habitats, landforms or geomorphological features, wildlife plant and animal species or a diversity of these natural attributes. NHAs are designated under the Wildlife (Amendment) Act 2000. Proposed NHAs (pNHA) were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated.

There are no NHAs or pNHAs occurring inside the Plan boundary. pNHAs within 15km of the Plan area are listed on Table 3.2 and mapped on Figure 3.2. There are no NHAs located within the 15km buffer zone of the plan area.

Table 3.2 pNHAs in the vicinity of the Plan area

Proposed Natural Heritage Areas		
Designation	Code	Site Name
pNHA	770	Blackstairs Mountains
	781	River Slaney Valley
	788	Ardristen Fen
	792	Baggot's Wood
	797	Ballymoon Esker
	806	Cloghrystick Wood
	808	John's Hill
	810	Oakpark
	1389	Corballis Hill
	1757	Holdenstown Bog
	1852	Tomnafinnoge Wood

Ecological Networks and Connectivity

Ecological networks are important in connecting areas of local biodiversity with each other and with nearby designated sites so as to prevent islands of habitat from being isolated entities. They are composed of linear features, such as treelines, hedgerows and rivers/streams, which provide corridors or stepping-stones for wildlife species moving within their normal range. They are important for the migration, dispersal and genetic exchange of species of flora and fauna particularly for mammals, especially for bats and small birds and facilitate linkages both between and within designated ecological sites, the non-designated surrounding countryside and the town.

Important ecological networks comprise a variety of features including the Slaney River that flows through the Plan area, various agricultural lands, stands of trees and hedgerows.

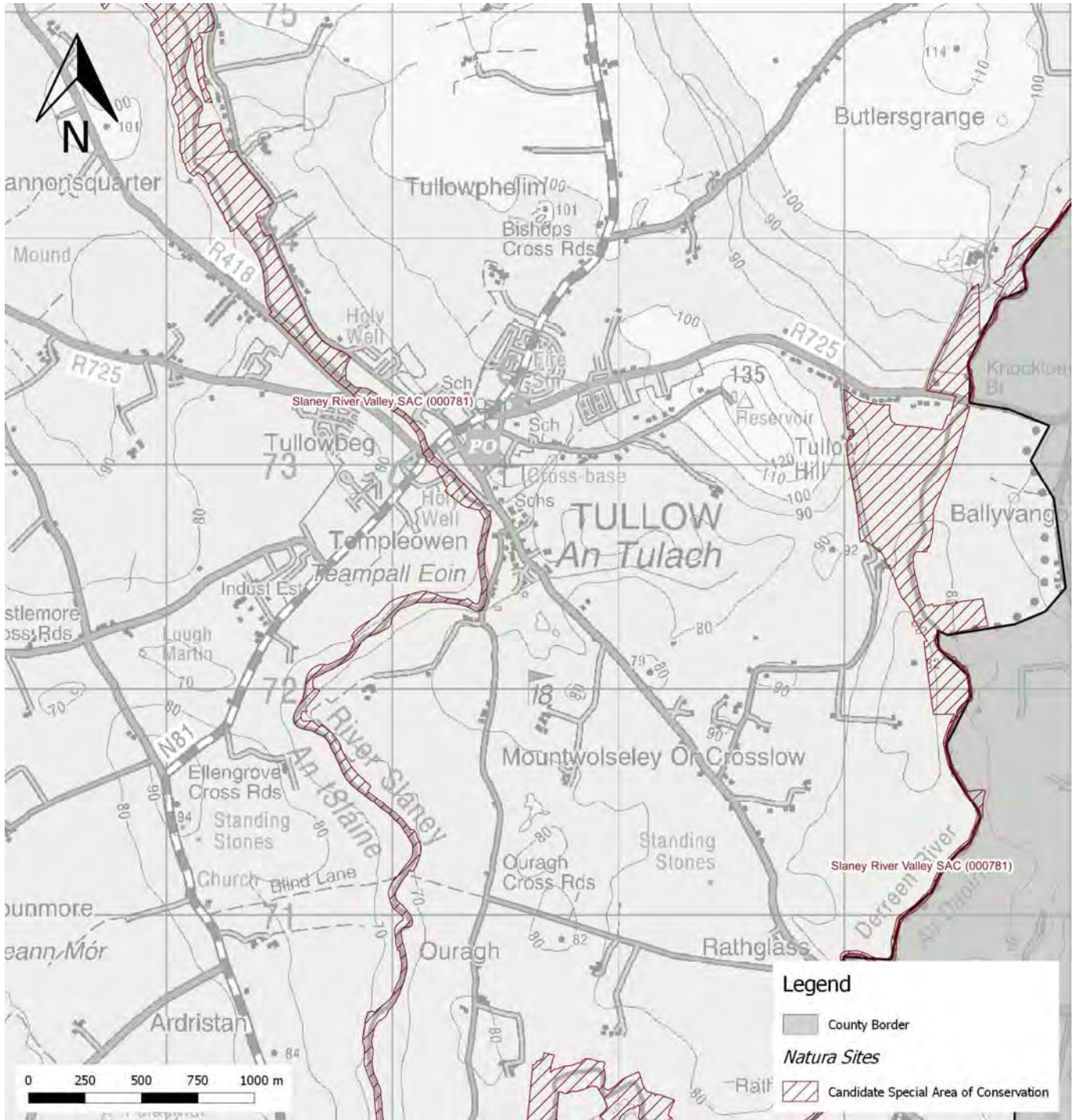


Figure 3.1 River Slaney Valley cSAC
 Source: NPWS (datasets downloaded February 2016)

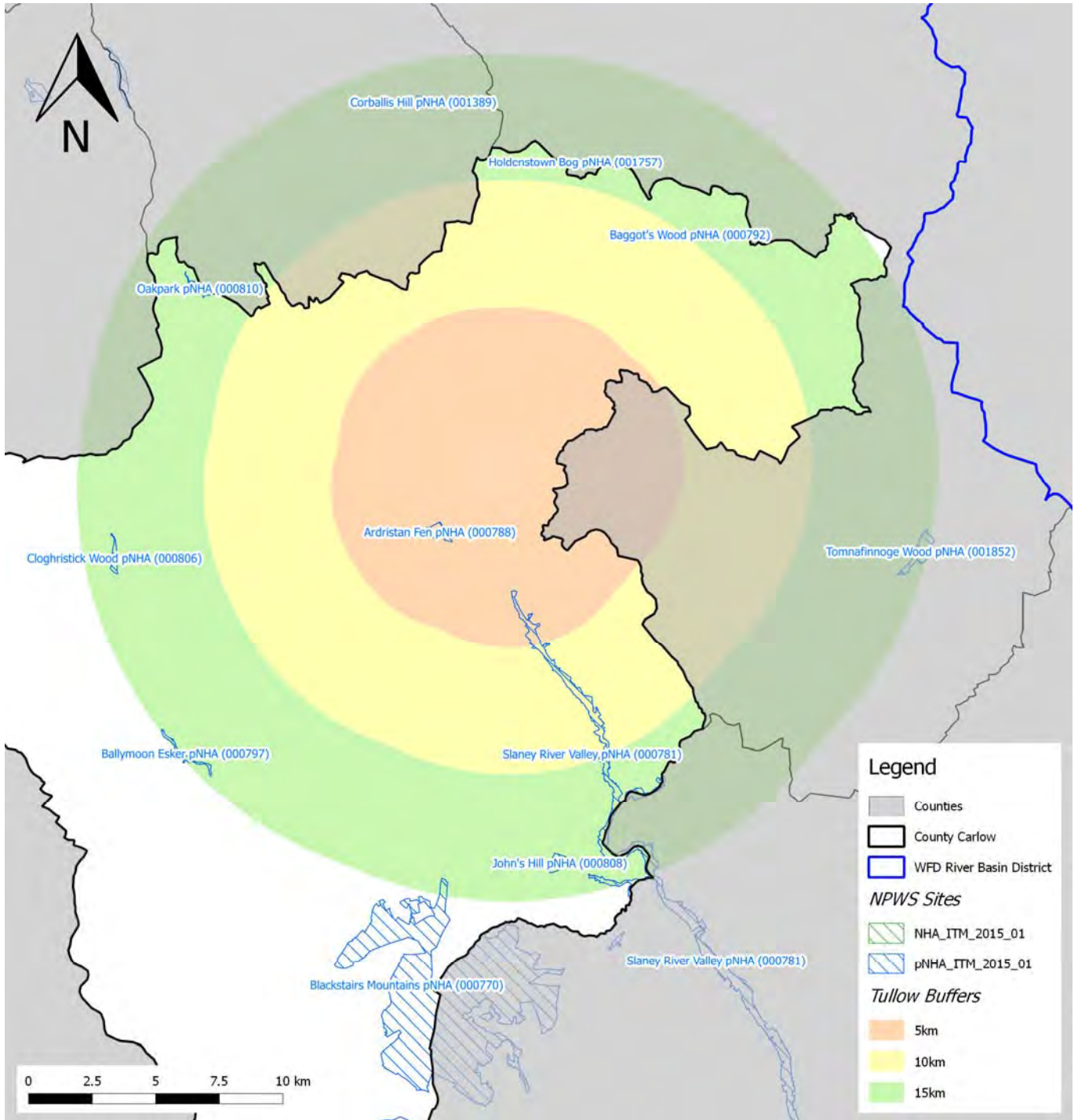


Figure 3.2 NHAs and pNHAs in the vicinity of the Plan area

Source: NPWS (datasets downloaded February 2016)

3.4 Population and Human Health

Population

The population of Tullow was recorded as being 3,972 in 2011.

Human Health

Human health has the potential to be impacted upon by environmental vectors (i.e. environmental components such as air, water or soil through which contaminants or pollutants, which have the potential to cause harm, can be transported so that they come into contact with human beings). Hazards or nuisances to human health can arise as a result of exposure to these vectors arising from incompatible adjacent land uses for example. These factors have been considered with regard to: the description of the baseline of each environmental component; and the identification and evaluation of the likely significant environmental effects of implementing the Plan.

3.5 Soil

Soil can be considered as a non-renewable natural resource because it develops over very long timescales. It is an extremely complex, variable and living medium and performs many vital functions including: food and other biomass production, storage, filtration and transformation of many substances including water, carbon, and nitrogen. Soil has a role as a habitat and gene pool, serves as a platform for human activities, landscape and heritage and acts as a provider of raw materials. Such functions of soil are worthy of protection because of their socio-economic as well as environmental importance. Soils in any area are the result of the interaction of various factors, such as parent material, climate, vegetation and human action.

The Geological Survey of Ireland (GSI) completed an audit of County Geological Sites in County Carlow in 2004. This audit identified six Geological Heritage Sites. Three of the County Geological Sites identified (Aclare, Ballymoon Esker and Morrissey's Quarry) are located within 15km of the Plan area.

3.6 Water

Potential Pressures on Water Quality and the Water Framework Directive

Human activities, if not properly managed, can cause deterioration in water quality. Pressures exerted by human activities include the following: sewage and other effluents discharged to waters from point sources, e.g. pipes from treatment plants; discharges arising from diffuse or dispersed activities on land; abstractions from waters; and structural alterations to water bodies. Since 2000, Water Management in the EU has been directed by the Water Framework Directive 2000/60/EC (WFD). The WFD requires that all Member States implement the necessary measures to prevent deterioration of the status of all waters - surface, ground, estuarine and coastal - and protect, enhance and restore all waters with the aim of achieving "good status". All public bodies are required to coordinate their policies and operations so as to maintain the good status of water bodies that are currently unpolluted and improve polluted water bodies to a good status. Ireland has been divided into eight river basin districts or areas of land that are drained by a large river or number of rivers and the adjacent estuarine / coastal areas. The management of water resources is on these River Basin Districts (RBDs). Tullow falls within the South Eastern RBD.

Surface Water

The WFD defines 'surface water status' as the general expression of the status of a body of surface water, determined by the poorer of its ecological status and its chemical status. Ecological status is an expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as of "good ecological status" when they meet Directive requirements. Good surface water chemical status means that concentrations of pollutants in the water body do not exceed the environmental limit values specified in the Directive.

Stretches of water bodies upstream and running through the town are currently identified by the EPA as having a Moderate status with while Good status is attributed to stretches of water bodies downstream, to the south of Ford Tullow Bridge.

Groundwater

For groundwater bodies, the approach to classification is different from that for surface water. For each body of groundwater, both the chemical status and the quantitative must be determined. Both have to be classed as either good or poor. The WFD sets out a series of criteria that must be met for a body to be classed as good chemical and quantitative status.

The status of the groundwater underlying the area of Tullow is identified as being of good status.

The Geological Survey of Ireland (GSI) rates aquifers according to both their productivity and vulnerability to pollution. Much of the Plan area is underlain by two overlapping aquifers – A locally important aquifer and a Bedrock Aquifer. A gravel aquifer (Burren Basin) occurs to the west and south-west of the Plan area, while as another bedrock aquifer lies to the east.

Aquifer vulnerability refers to the ease with which pollutants of various kinds can enter underground water. Figure 3.3 maps aquifer vulnerability for the Plan and surrounding area – much of the area is identified as being of high vulnerability with pockets of extreme vulnerability or ‘rock at or near surface or Karst’ in the surrounding environs of the town. Medium vulnerability exists in small patches to the north, south and east of the town.

Flooding

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Plan. The requirement for SFRA is provided under ‘The Planning System and Flood Risk Management Guidelines for Planning Authorities’ (DEHLG and OPW, 2009).

The main source of historic and potential flood risk to development in Tullow is the River Slaney with the river Derreen presenting a low risk. The River Slaney has been subject to a Flood Relief Scheme (FRS). In addition to the River Slaney and Derreen there are three smaller tributaries that drain into the aforementioned rivers. The tributaries do not cause significant impacts and present a low risk. Areas at risk of flooding adjacent to these watercourses are mapped on Figure 3.4.

The SFRA includes a review of flood risk to the following key sites within the town, along with recommendations for the development of these sites:

- Residential Lands Adjacent to Slaney
- Town Centre
- Lands to the south of the Town Centre
- Lands adjacent to Mount Wolseley and Tullowphelim Streams
- Lands to east of Tullow

The SFRA also includes reference general management measures in relation to flood risk management.

The preparation of the Plan, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed both the Plan and the SEA. The SFRA has facilitated the integration of flood risk management considerations into the Plan. Further detail on lands that are at elevated levels of flood risk within the Plan area can be found within the SFRA that accompanies the Plan.

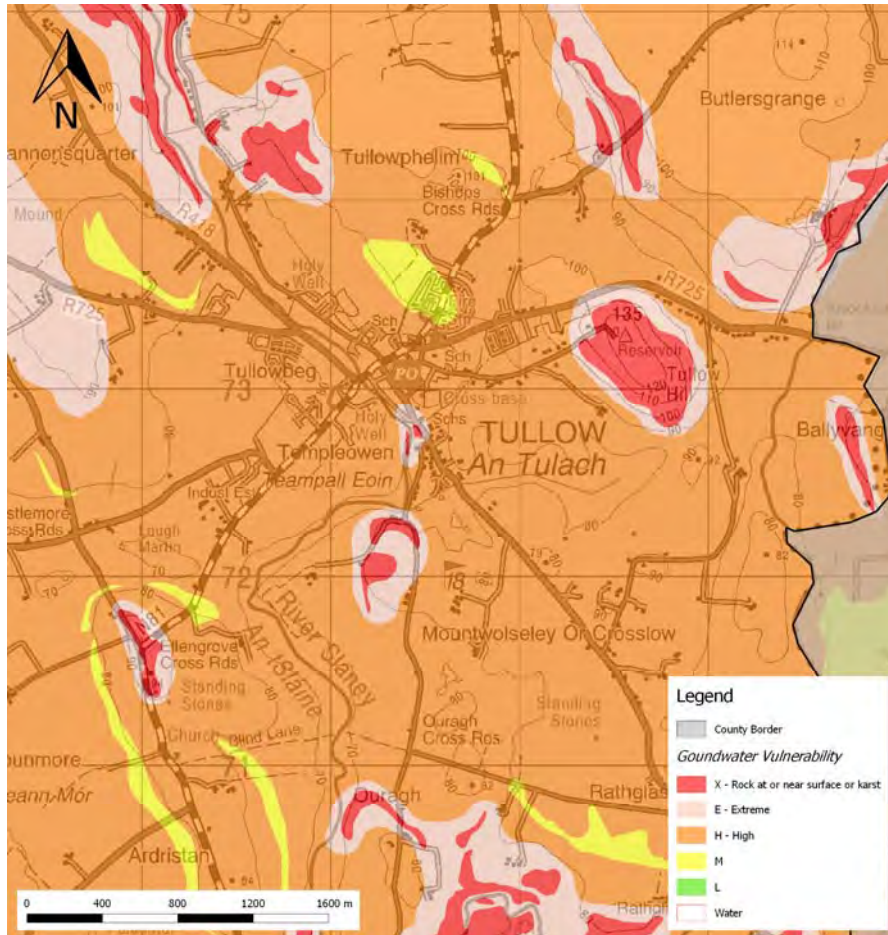


Figure 3.3 Aquifer Vulnerability

Source: GSI (2006)

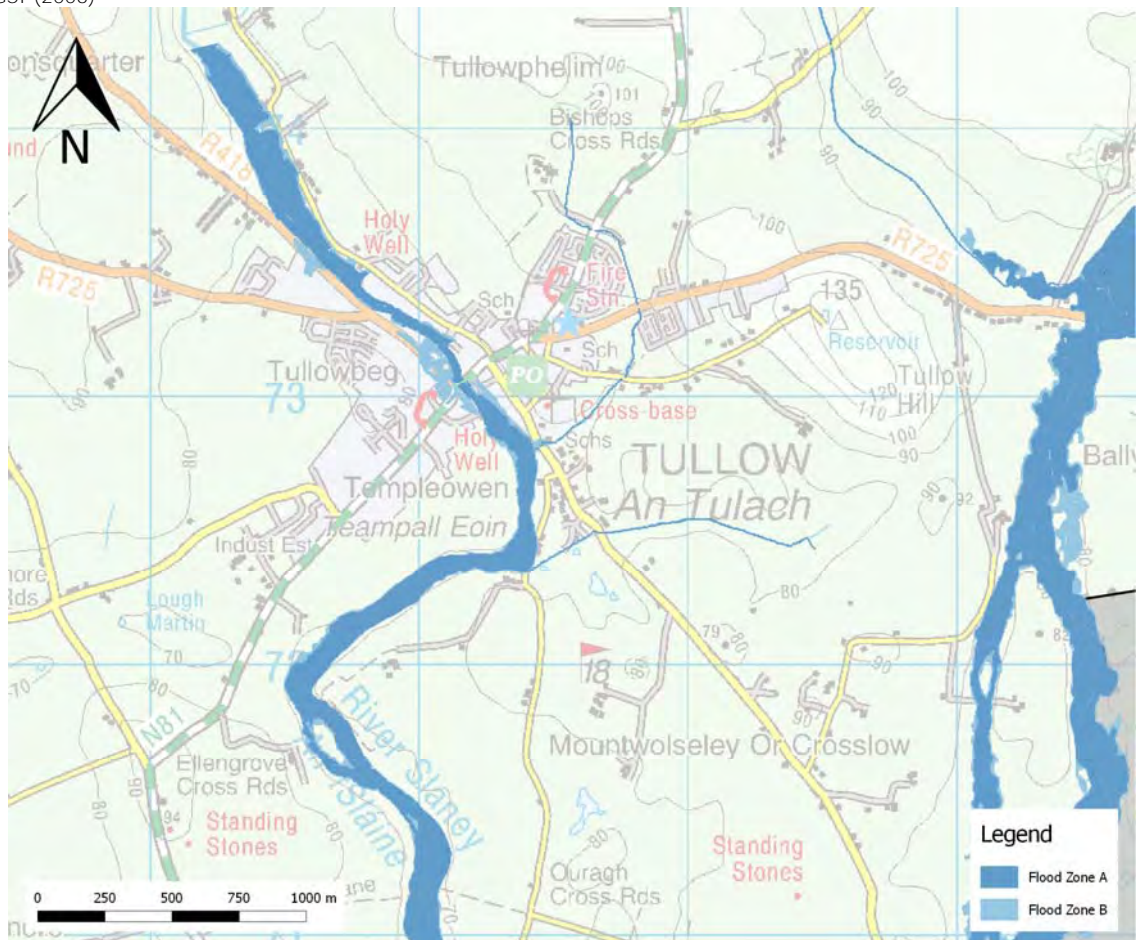


Figure 3.4 SFRA Flood Mapping

Source: SFRA (2016)

3.7 Air and Climatic Factors

Ambient Air Quality

In order to protect human health, vegetation and ecosystems, EU Directives set down air quality standards in Ireland and the other Member States for a wide variety of pollutants. These pollutants are generated through fuel combustion, in space heating, traffic, electricity generation and industry and, in sufficient amounts, could affect the well-being of the areas inhabitants. The EU Directives include details regarding how ambient air quality should be monitored, assessed and managed.

In order to comply with air quality standards directives, the EPA measures the levels of a number of atmospheric pollutants. For the purposes of monitoring in Ireland, four zones are defined in the Air Quality Standards Regulations 2002 (SI No. 271 of 2002).

Tullow is located within Zone D where air quality is currently identified as being “good”. The EPA’s (EPA, 2015) Air Quality in Ireland 2014 identifies that air quality in Ireland continues to be good, with no exceedances for the pollutants measured.

Noise - The Environmental Noise Directive

Noise is unwanted sound. The Environmental Noise Regulations (SI No. 140 of 2006) transpose into Irish law the EU Directive 2002/49/EC relating to the assessment and management of environmental noise, which is commonly referred to as the Environmental Noise Directive or END. The END defines a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise. The END does not set any limit value, nor does it prescribe the measures to be used in the action plans, which remain at the discretion of the competent authorities. Limit values are left to each member state. At this point in time, Ireland does not have any statutory limit values.

Climatic Factors

The key issue involving the assessment of the effects of implementing the plan on climatic factors relates to greenhouse gas emissions arising from transport. It is noted that the Plan contains a number of actions that respond to potential threats to environmental components arising from a changing climate.

Flooding (see Section 3.6) is influenced by climatic factors and the implications of climate change with regard to flood risk in relevant locations have been considered by the SFRA that has been undertaken for the Plan. There are emerging objectives relating to climate adaptation and that there is likely to be future Guidance for climate change proofing of land use plan provisions as is flagged in the National Climate Change Adaptation Framework (DECLG, 2012).

In 2009, Ireland’s greenhouse gas emissions decreased across all sectors due to the effects of the economic downturn with a decline in total emissions of 7.9 per cent. In 2010, Ireland’s emissions fell by a further 0.7 per cent. Ireland’s emissions profile has changed considerably since 1990, with the contribution from transport more than doubling and the share from agriculture reducing since 1998.

Travel is a source of:

1. Noise;
2. Air emissions; and
3. Energy use (41.7% of Total Final Energy Consumption in Ireland in 2014 was taken up by transport, the largest take up of any sector)¹.

Land-use planning contributes to what number and what extent of journeys occur. By addressing journey time through land use planning and providing more sustainable modes and levels of mobility, noise and other emissions to air and energy use can be minimised. Furthermore, by concentrating

¹ Sustainable Energy Ireland (2014) *Energy in Ireland 1990 – 2014*

populations, greenfield development - and its associated impacts - can be minimised and the cost of service provision can be reduced.

Maximising sustainable mobility will also help Ireland meet its emission target for greenhouse gases under the 2020 EU Effort Sharing target that commits Ireland to reducing emissions from those sectors that are not covered by the Emissions Trading Scheme (e.g. transport, agriculture, residential) to 20% below 2005 levels.

3.8 Material Assets

Waste Water

The EPA's most recent report on waste water treatment performance 'Urban Waste Water Treatment in 2015', EPA 2016, identifies that the Tullow Waste Water Treatment Plant (WWTP) failed the water quality standards set down under requirements of the Urban Waste Water Treatment Directive. This is a drop in standards as the WWTP passed the water quality standards in 2013. The development of the town's wastewater drainage system is essential to facilitate growth. The current Tullow wastewater treatment plant, located on the Bunclody Road, was originally designed with a treatment capacity of 4,000 population equivalent (PE). Recent upgrades to the plant including new intake works, new aeration system and tertiary treatment have allowed for an increase in the organic treatment capacity of the plant. The current loading on the plant is determined at 6,104 PE equivalent. Irish Water have acknowledged that the existing plant is overloaded and have committed to including this plant in Irish Waters Emerging Investment Plan for inclusion in the next Capital Investment Plan. Preliminary works have commenced regarding the design phase of the upgrade works to both the treatment plant and the network.

Drinking Water

Both the Tullow Water Supply Scheme and the North Regional Water Supply Scheme (both supplying Tullow) are not listed on the EPA's most recent (Q4 2016) Remedial Action List (a list of public water supplies where remedial action is required to ensure compliance with drinking water standards). The current water supply, between both schemes, is considered to have adequate (headroom) capacity available and would cater for any future development growth during the lifetime of this plan. Water supplied to the town is tested regularly and is consistently of the highest quality.

3.9 Cultural Heritage

Archaeological Heritage

Tullow's archaeological heritage is protected under the National Monuments Acts (1930-2004), Natural Cultural Institutions Act 1997 and the Planning Acts. The Record of Monuments and Places (RMP) is an inventory, established under Section 12 of the National Monuments (Amendment) Act 1994, of sites and areas of archaeological significance, numbered and mapped. The RMP includes all known monuments and sites of archaeological importance dating to before 1700 AD, and some sites that date from after 1700 AD. Figure 3.5 shows the spatial distribution of entries to the RMP in Tullow.

Architectural Heritage

The term architectural heritage is defined in the Architectural Heritage (National Inventory) and Historic Monuments Act 1999 as meaning: all structures and buildings together with their settings and attendant grounds, fixtures and fittings; groups of structures and buildings; and, sites which are of technical, historical, archaeological, artistic, cultural, scientific, social, or technical interest. The Record of Protected Structures (RPS) included in the Plan is legislated for under Section 12 and Section 51 of the Planning and Development Act 2000 as amended. Protected Structures are defined as structures, or parts of structures that are of special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. Current entries to the RPS in Tullow are mapped on Figure 3.6. Examples include Tullow Monastery National School, St. Columba's National School, the Bridge House, the Coachhouse on the Dublin Road, the Courthouse and the Museum.



Figure 3.5 Archaeological Heritage

Source: Carlow County Council (2016)

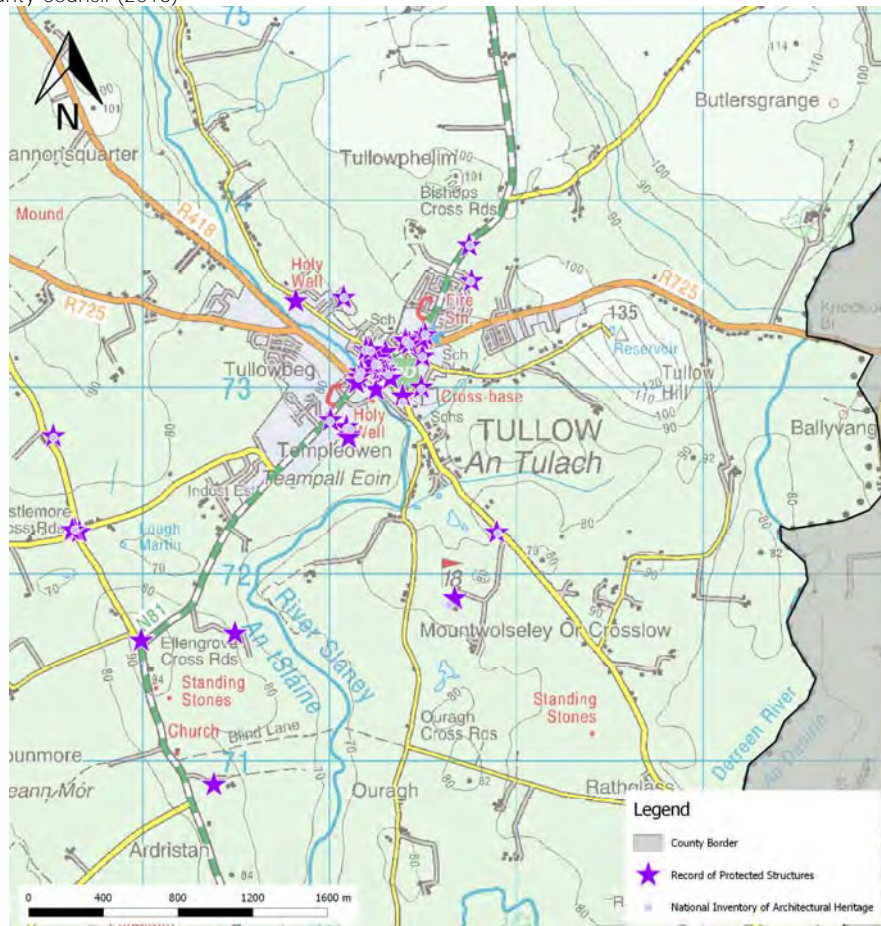


Figure 3.6 Architectural Heritage

Source: Carlow County Council (2016)

CAAS for Carlow County Council

3.10 Landscape

A Landscape Character Assessment (LCA) is a study of a given landscape to determine its 'character'. Landscape character is the combination of physical, as well as, perceived aspects of the landscape.

The Carlow LCA was produced as part of the Carlow County Development Plan 2015-2021. The LCA divides the County into Landscape Character Areas i.e. unique, geographically specific areas of a particular landscape type.

The aim of the County Carlow LCA is to provide a tool for decision making regarding development control and to influence landscape policy at local level. In considering landscape character in the area, the Council acknowledges the importance of taking into account adjoining landscape character, landscape features and designations, including those in adjoining counties.

There are five Principal Landscape Character Areas. Tullow falls within three character areas, which are as follows:

- Central Lowlands Landscape Character Area;
- Blackstairs and Mount Leinster Uplands Landscape Character Area, and;
- River Slaney – East Rolling Farmland Landscape Character Area.

Components of the landscape within and adjacent to Tullow which contribute towards landscape character include the River Slaney, hedgerows and lines of trees.

Landscape sensitivity mapping was prepared for the Carlow LCA by according sensitivity rating to the existing adopted Principal Landscape Character Areas. These boundaries were based on extensive LCA fieldwork augmented by ensuring conformity with a number of 'mappable' and natural factors such as landcover, soils, geology and slope. A large portion of the built area in Tullow is identified as having the least sensitivity rating, a rating of '1'. However, areas to the south and east of the Plan area have been attributed with a higher rating, a rating of '4', while as land to the north-west of the town has the highest sensitivity rating of '5'. Other lands to the north and west of the town are attributed with a sensitivity rating of '2'.

The Plan area itself does not contain protected scenic views or routes. However, there is a protected viewpoint to the south of the Plan area, which provides a view of typical rolling farmland near Mount Wolseley.

3.11 Overlay of Environmental Sensitivities

In order to identify where most sensitivities within Tullow occur, a number of the environmental sensitivities described above were weighted and mapped overlapping each other. Figure 3.7 provides an overlay of environmental sensitivities for the town.

It is emphasised that the occurrence of environmental sensitivities does not preclude development; rather it flags at a strategic level that the mitigation measures - which have already been integrated into the Plan - will need to be complied with in order to ensure that the implementation of the Plan contributes towards environmental protection.

Environmental sensitivities are indicated by colours which range from acute vulnerability (brown) extreme vulnerability (red) to high vulnerability (dark orange) to elevated vulnerability (light orange) to moderate vulnerability (yellow) to low vulnerability (green). Only low, moderate and elevated levels of vulnerability occur within and adjacent to the Plan area. Where the mapping shows a concentration of environmental sensitivities there is an increased likelihood that development will conflict with these sensitivities and cause environmental deterioration.

A weighting system applied through Geographical Information System (GIS) software was used in order to calculate the vulnerability of all areas in the town. Environmental considerations are given equal weight as follows, with a slight differentiation is made in certain layers:

- Ecological designations (candidate Special Areas of Conservation - 10 points - and proposed Natural Heritage Areas - 5 points);
- Cultural heritage (Entries to the Record of Protected Structures and entries to the Record Monuments and Places - 10 points);
- Landscape character areas of very high (10 points) and high value (5 points);
- Scenic routes and views (10 points);
- Sensitive landcover categories (Inland marshes and water bodies - 10 points);
- Surface and groundwaters with bad and poor (10 points) and moderate, good and high (5 points) status;
- Aquifers which are highly (5 points) or extremely (10 points) vulnerable to pollution; and
- Indicative flood zones A (10 points) and B (5 points) from the Strategic Flood Risk Assessment.

The most sensitive areas within Tullow are located along the watercourses through the Plan area (on account of the sensitivity of the River Slaney, fluvial flood risk and Natura 2000 site designations). Sensitivity ratings vary along the watercourse from medium to extreme.

Other sensitive areas are also identified within the town (these largely relate to cultural heritage designations), however, these are of a comparatively lower rating in comparison to the sensitivities along the river.

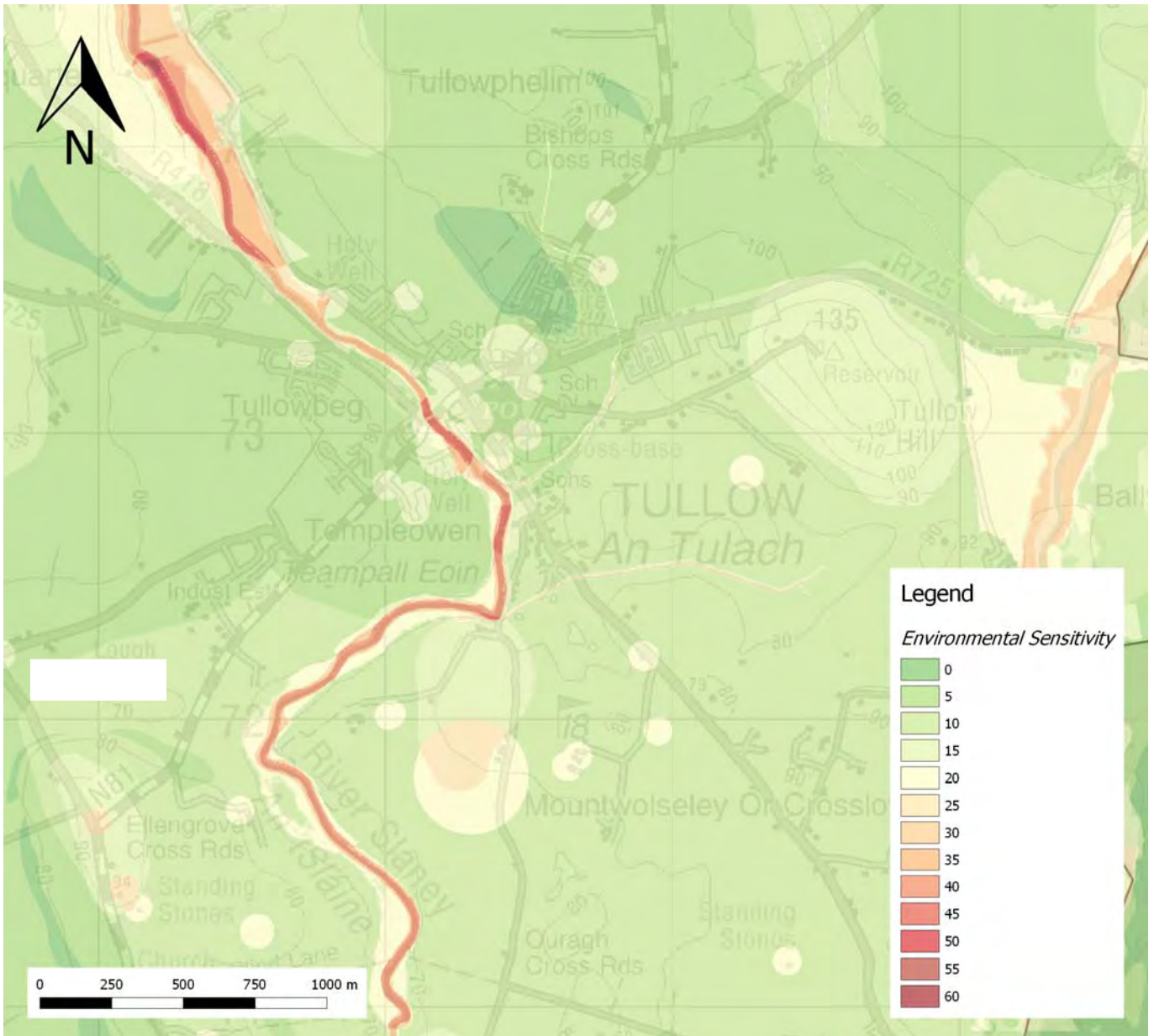


Figure 3.8 Overlay of Environmental Sensitivities

Source: CAAS (2016)

3.12 Appropriate Assessment and Strategic Flood Risk Assessment

A Stage 2 Appropriate Assessment (AA) and a Strategic Flood Risk Assessment (SFRA) have both been undertaken alongside the preparation of the Plan.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

The AA concluded that the Plan will not affect the integrity of the Natura 2000 network² and the SFRA has facilitated the integration of flood risk management considerations into the Plan.

The preparation of the Plan, SEA, AA and SFRA has taken place concurrently and the findings of the AA and SFRA have informed both the Plan and the SEA. All recommendations made by the AA and SEA were integrated into the Plan.

3.13 Strategic Environmental Objectives

Strategic Environmental Objectives (SEOs) are methodological measures against which the environmental effects of the Plan can be tested. If complied with in full, SEOs would result in an environmentally neutral impact from implementation of the Plan. The SEOs are set out under a range of topics and are used as standards against which the provisions of the Plan can be evaluated in order to help identify areas in which potential adverse impacts may occur. SEOs are distinct from the objectives of the Plan and are developed from international and national policies that generally govern environmental protection objectives. Such policies include those of various European Directives which have been transposed into Irish law and which are intended to be implemented within the Plan area.

² Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
- (b) imperative reasons of overriding public interest for the plan to proceed; and
- (c) adequate compensatory measures in place.

Table 3.3 Strategic Environmental Objectives

SEO Code	SEO
B1	To ensure compliance with the Habitats and Birds Directives with regard to the protection of Natura 2000 Sites and Annexed habitats and species ³
B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones - are of significant importance for wild fauna and flora and/or essential for the migration, dispersal and genetic exchange of wild species
B3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
PHH1	To protect populations and human health from exposure to incompatible landuses
S1	To avoid damage to the hydrogeological and ecological function of the soil resource
W1	To maintain and improve, where possible, the quality and status of surface waters
W2	To prevent pollution and contamination of ground water
W3	To comply as appropriate with the provisions of the Flood Risk Management Guidelines
M1	To serve new development with adequate and appropriate waste water treatment
M2	To serve new development with adequate drinking water that is both wholesome and clean
M3	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse
C1	To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport
CH1	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
CH2	To protect architectural heritage including entries to the Record of Protected Structures and their context
L1	To avoid significant adverse impacts on the landscape

³ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

Section 4 Alternatives

4.1 Introduction

The SEA Directive requires that reasonable alternatives (taking into account the objectives and the geographical scope of the plan or programme) are identified, described and evaluated for their likely significant effects on the environment.

The description of the environmental baseline (both maps and text) and Strategic Environmental Objectives (SEOs) are used in the evaluation of alternative development strategies.

4.2 Description of Alternatives

Carlow County Council in preparing the Local Area Plan 2017-2023 developed three Development Strategy Options for Tullow. These are detailed on Table 4.1 below and mapped on Figure 4.1, Figure 4.2 and Figure 4.3.

Table 4.1 Description of Alternative Development Strategies

	Alternative Development Strategy 1	Alternative Development Strategy 2	Alternative Development Strategy 3
Summary	Development Scenario 1: A general continuation in accordance with the development objectives of the 2010 – 2016 Plan	Development Scenario 2: Directs new development to vacant and infill sites in the town only.	Development Scenario 3: To consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner.

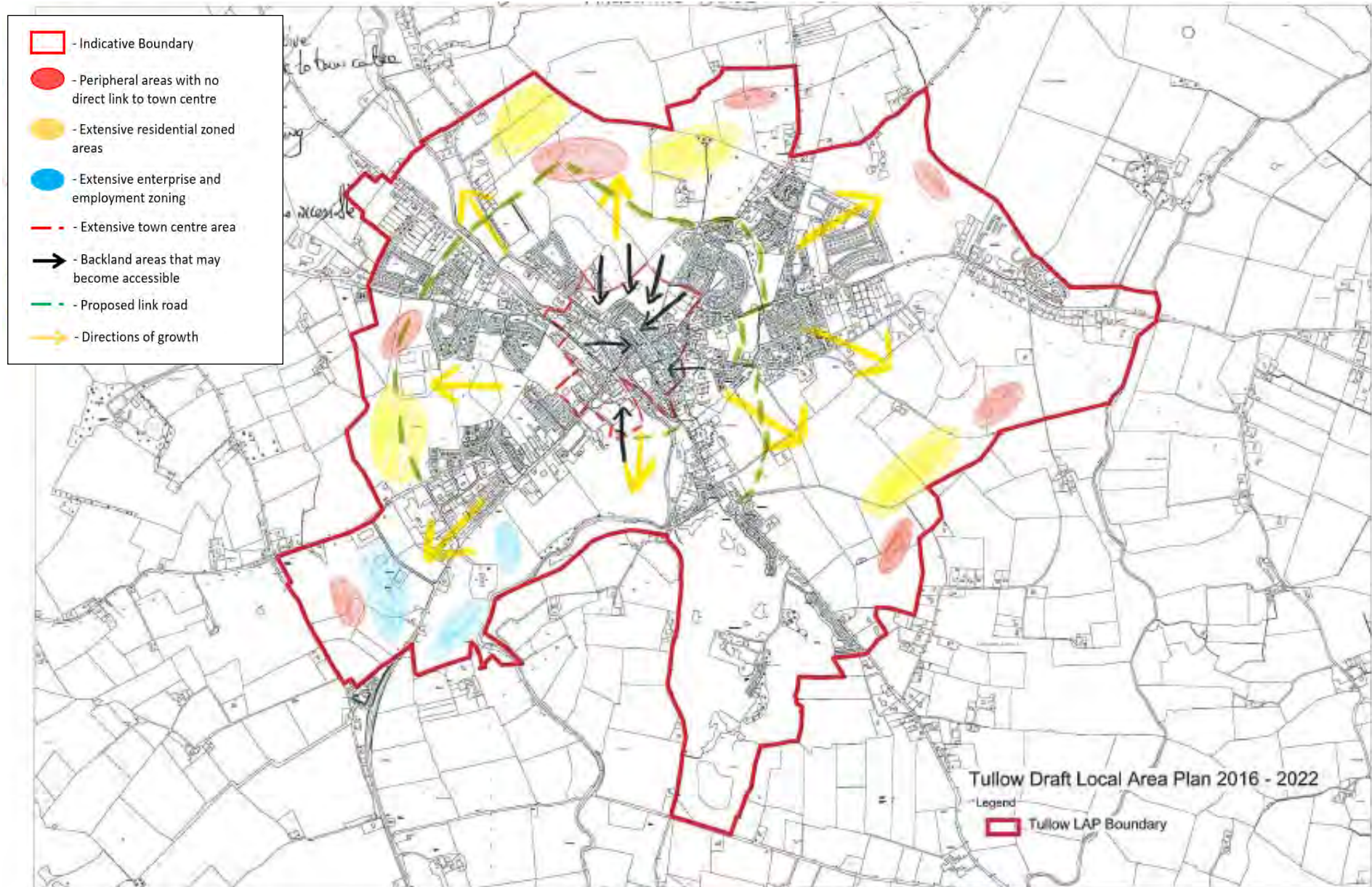


Figure 4.1 Alternative Development Strategy 1

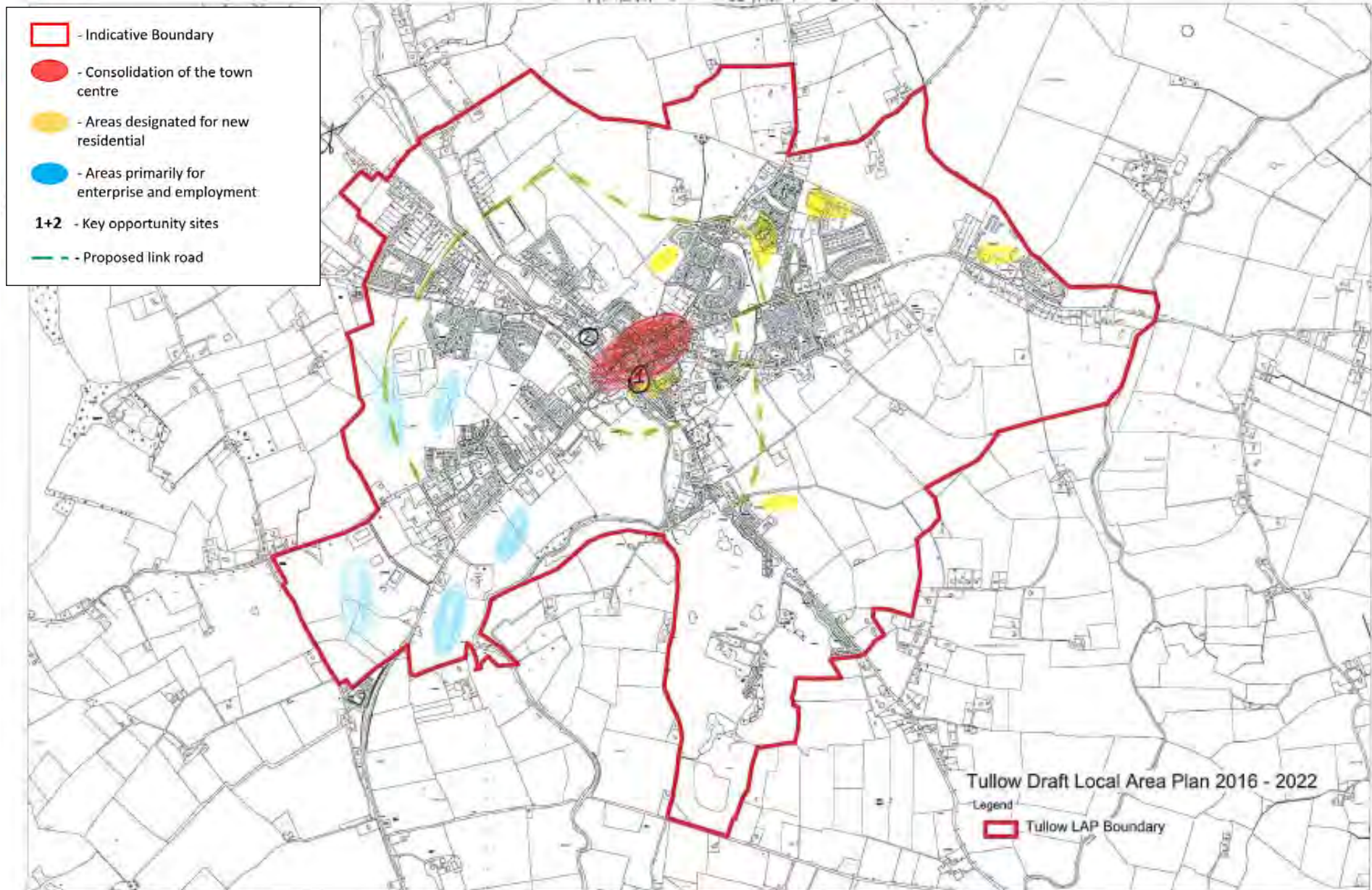


Figure 4.2 Alternative Development Strategy 2

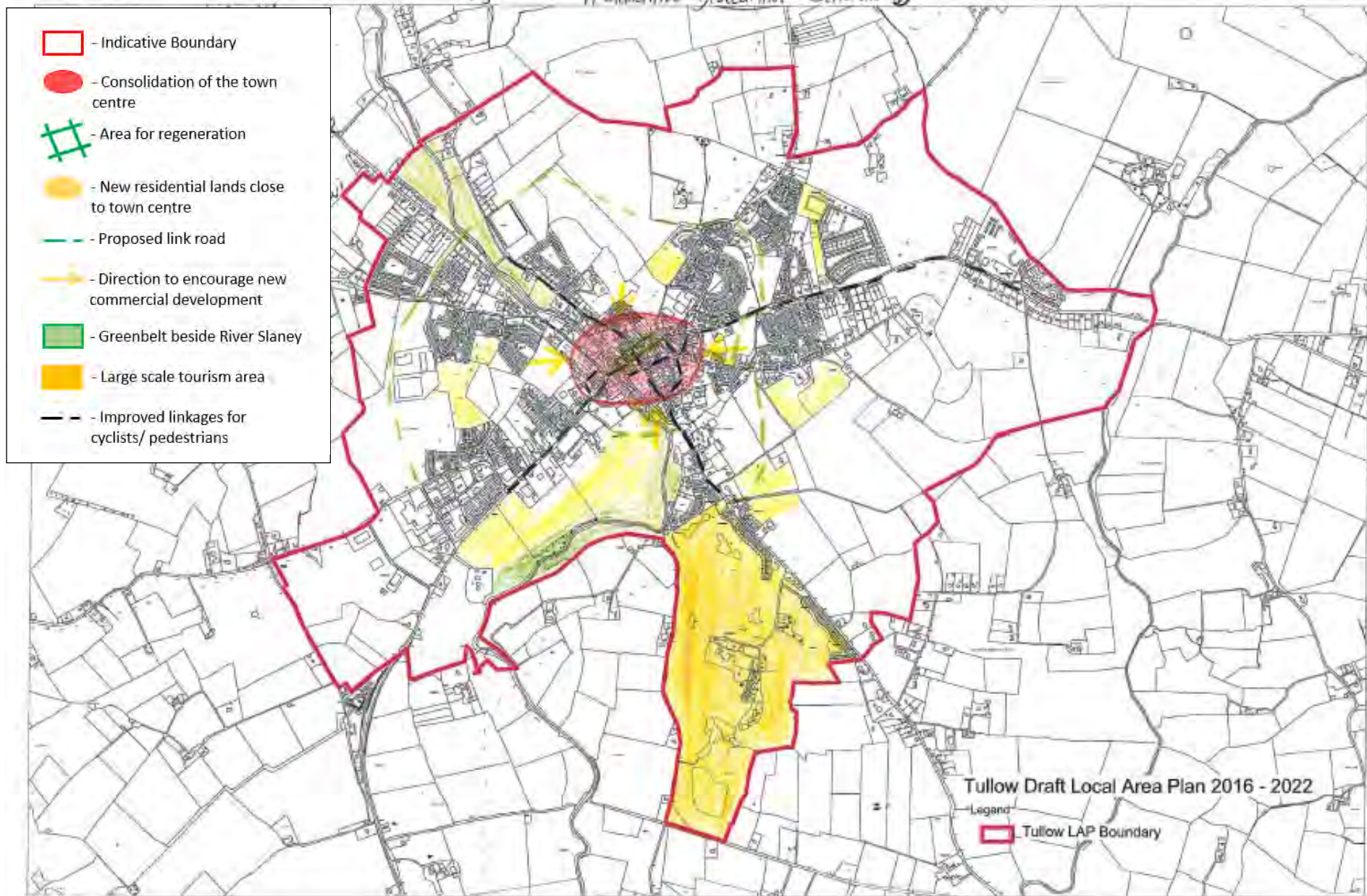


Figure 4.3 Alternative Development Strategy 3

4.3 Evaluation of Alternatives

A number of potentially significant adverse environmental effects that are common to all alternatives and are described on the Table below.

Environmental Component	Likely Significant Effect, if unmitigated
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Loss of biodiversity with regard to designated biodiversity and flora and fauna (including Natura 2000 Sites, proposed Natural Heritage Areas and Annexed habitats and species), ecological connectivity and stepping stones and non-designated biodiversity and flora and fauna (see baseline Section 4.2)
Population and Human Health	<ul style="list-style-type: none"> o Spatially concentrated deterioration in human health
Soil (especially soil on greenfield lands)	<ul style="list-style-type: none"> o Adverse impacts on the hydrogeological and ecological function of the soil resource
Water (including the River Barrow and its tributaries and underlying groundwater)	<ul style="list-style-type: none"> o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology o Increase in flood risk
Material Assets (it is the function of Irish Water to provide for water services needs)	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate waste water treatment o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean o Increases in waste levels
Air and Climatic Factors	<ul style="list-style-type: none"> o Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases)
Cultural Heritage	<ul style="list-style-type: none"> o Effects on entries to the Record of Monuments and Places and other archaeological heritage o Effects on entries to the Records of Protected Structures and other architectural heritage
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse visual impacts

Table 4.2 Potentially Significant Adverse Environmental Effects common to all alternatives

Alternative Development Strategy 1 would contribute towards efforts to improve sustainable mobility (and associated effects on energy, air, noise and human health) by improving existing pedestrian access and the development of a proposed relief road, however: such a contribution would be outweighed by the overall direction of the Strategy which prefers an expansion of peripheral areas for residential, mixed use, industrial and commercial uses, some of which have no direct link to the town centre.

The extent of development provided for would have to be served by infrastructure and could affect flood risk.

By providing significant expansion of suburbs of the town and peripheral areas, this alternative would be likely to result in the greatest number and extent of residual adverse effects across the widest area. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters. This Scenario would provide for various uses on greenfield lands in the peripheries of the plan area, adversely impacting upon the consolidation of the town and sustainable mobility. The visual appearance of peripheral greenfield areas within the LAP area would be most likely to change under this scenario.

Alternative Development Strategy 2 directs new development to vacant and infill sites in the town only. By consolidating the existing town centre and improving connectivity, this alternative would contribute towards efforts to both improve sustainable mobility (and associated effects on energy, air, noise and human health), protect cultural heritage and improve the residential fabric within the town centre.

However, by restricting new development to high density to vacant and infill sites, this alternative would be likely to result in an increase of applications for development outside the LAP area thereby weakening the town centre. It would be a challenge to serve peripheral areas with the necessary infrastructure.

The increase in applications for development within the periphery to the LAP area would provide for the greatest number and extent of residual adverse effects beyond the LAP area as a result of greenfield development. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters and changes to the visual appearance of lands.

By encouraging an extent of development within the town centre, this alternative would somewhat contribute towards the protection and management of the environment elsewhere, however the higher densities of development would have the potential to adversely impact upon the character of the town including cultural heritage and its context.

This alternative provides a significant amount of lands zoned primarily for Enterprise and Employment uses in the west and south west of the Plan area. The extent of lands zoned would be in significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.

Alternative Development Strategy 3 consolidates and strengthens the town centre and provides for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner. Consolidation of the town centre, phasing of residential development, improvement of pedestrian links and public spaces are all provided for.

By providing for development in this manner, this alternative would maximise sustainable mobility (and associated effects on energy, air, noise and human health) and protect cultural heritage within the town centre. Overall, new development would be best served by existing and planned infrastructure under this scenario. By limiting development within the Plan area and on the periphery of the development envelope, this alternative would benefit the protection of various environmental components (e.g. ecology, water, visual sensitivities etc.) beyond the LAP area that could otherwise be threatened.

Potential conflicts with all environmental components (detailed under Table 7.3) would still have to be mitigated to ensure that significant adverse residual environmental effects do not occur.

This scenario provides for a greenbelt along the River Slaney that would contribute towards the protection of the status of the river including associated biodiversity, however, provisions of the plan to maximise the potential of the River Slaney through the creation of a number of uses could potentially have adverse effects on the biodiversity for which the site is designated for

Table 4.3 provides a comparative evaluation of the environmental effects of alternative development strategies against Strategic Environmental Objectives. This is supported by the narrative above and by effects that are common to all alternatives detailed on Table 4.2.

Table 4.3 Comparative Evaluation of Alternative Development Strategies

Alternative Development Strategy	<u>Likely to Improve</u> status of SEOs <u>to a greater degree</u>	<u>Likely to Improve</u> status of SEOs <u>to a lesser degree</u>	<u>Least Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to greater degree.</u> significant adverse effects less likely	<u>More Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to an intermediate degree.</u> significant adverse effects more likely	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	<u>No significant interaction</u> with status of SEOs
Alternative Development Strategy 1		✓		✓		
Alternative Development Strategy 2		✓		✓		
Alternative Development Strategy 3	✓		✓			

4.3.1 The Selected Alternative Development Strategy for the Plan

4.3.2 Overview

The Plan has been developed by the Planning Team and adopted by the Council having regard to both:

1. The environmental effects which were identified by the SEA and are detailed above; and
2. Planning - including social and economic - effects that also were considered by the Council.

Potential adverse effects will be mitigated by various provisions that have been integrated into the Plan (see Section 6).

4.3.3 Selected Alternative Development Strategy

The Alternative Development Strategy that was selected and developed for the Draft Plan was Strategy 3 - *to consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased manner.*

However, the emerging Plan was amended to include a significant extent of lands zoned for Enterprise and Employment uses in the west and south west of the Plan area.

The extent of these lands zoned is significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.

The alternative development strategy that has been placed on public display and adopted therefore is a mixture between Alternative Strategies 2 and 3.

4.3.4 Land Use Zoning Map including Constrained Land Use Zoning

The Land Use Zoning map from the Plan that evolved from and which is consistent with Alternative Strategies 2 and 3 is shown on Figure 4.4 overleaf.

Also shown on this map is the constrained land use zoning objective (Policy HR 10B) for the River Slaney cSAC. This Policy has been integrated into the Plan as there are a number of overlaps between the area that is designated as cSAC and existing land use zoning objectives. Policy HR 10B requires applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13 – as shown on Figure 4.4 overleaf) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.

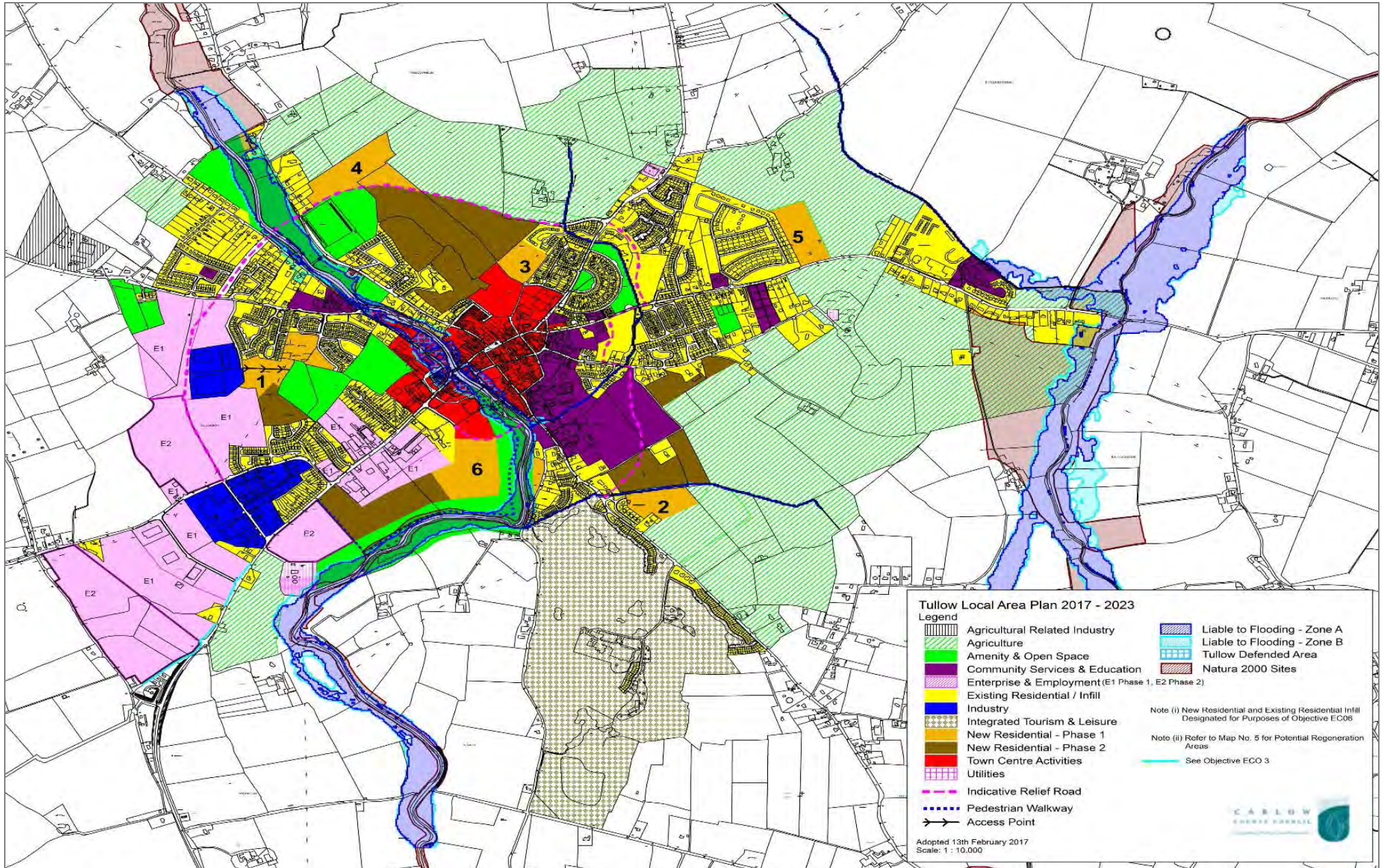


Figure 4.4 Land Use Zoning Map from the Plan

CAAS for Carlow County Council

Section 5 Evaluation of Plan Provisions

5.1 Overall Findings

The overall findings are that:

- The Plan includes a significant extent of lands zoned for Enterprise and Employment uses in the west and south west of the Plan area. The extent of these lands zoned is significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.
- The Council have integrated all recommendations arising from the SEA, Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes into the Plan, facilitating compliance of the Plan with various European and National legislation and Guidelines relating to the environment and sustainable development.
- Plan provisions would be likely to result in significant positive effects upon the protection and management of the environment (including all environmental components; biodiversity, fauna, flora, population, human health, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape).
- Some Plan provisions would have the potential to result in significant negative environmental effects (these will be described in the reports) however these effects will be mitigated by the mitigation measures that have been integrated into the Plan (see Section 6).

5.2 Potential Adverse Effects and their Determination

Environmental impacts which occur, if any, will be determined by the nature and extent of multiple or individual projects and site-specific environmental factors. The potentially significant adverse environmental effects arising from implementation of the Plan are detailed on Table 4.2.

5.3 Residual Adverse Effects

Residual adverse effects likely to occur - considering the extent of detail provided by the Plan and assuming that all mitigation measures are complied with by development - are identified for each of the environmental components on Table 5.1.

Table 5.1 Residual Adverse Effects

Environmental Component	Residual Adverse Effects
Biodiversity and Flora and Fauna	Loss of an extent of non-protected habitats arising from the replacement of semi-natural land covers with artificial surfaces
Population and Human Health	Flood related risks remain due to uncertainty with regard to extreme weather events
Soil	Loss of an extent of soil function arising from the replacement of semi-natural land covers with artificial surfaces
Water	Flood related risks remain due to uncertainty with regard to extreme weather events
Air and Climatic Factors	The Plan includes a significant extent of lands zoned for Enterprise and Employment uses in the west and south west of the Plan area. The extent of these lands zoned is significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility.
Material Assets	Residual wastes to be disposed of
Architectural Heritage	Potential alteration to the context and setting of architectural heritage (Protected Structures) however these will occur in compliance with legislation
Archaeological Heritage	Potential alteration to the context and setting of archaeological heritage (Recorded Monuments) however this will occur in compliance with legislation Potential loss of unknown archaeology however this loss will be mitigated by measures integrated into the Plan
Landscape Designations	The landscapes within and surrounding the town will change overtime as a result of natural changes in vegetation cover combined with new developments. The Plan contributes towards the protection of landscape designations.

Section 6 Mitigation and Monitoring Measures

6.1 Mitigation

Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan.

Various environmental sensitivities and issues have been communicated to the Council through the SEA, AA and SFRA processes. By integrating related recommendations into the Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

All recommendations made by the SEA, AA and SFRA processes have been integrated into the Plan.

Table 6.1 provides a summary table outlining how likely significant effects (if unmitigated) are linked to relevant mitigation measure(s) - which have been integrated into the Plan - and indicator(s) which will be used for monitoring.

6.2 Monitoring

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures that will be used in order to monitor the likely significant effects of implementing the Plan.

Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

Monitoring is based around indicators that allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives (see Section 3.13).

Table 6.1 provides a summary table outlining how likely significant effects (if unmitigated) are linked to relevant mitigation measure(s) - which have been integrated into the Plan - and indicator(s) which will be used for monitoring.

Table 6.1 SEA Summary Table: Likely Significant Effects, Mitigation Measures and Indicators for Monitoring

Likely Significant Effect, if unmitigated	Mitigation Measure Reference(s)	Primary Indicator(s) for Monitoring
Loss of biodiversity with regard to designated biodiversity and flora and fauna, ecological connectivity and stepping stones and non-designated biodiversity and flora and fauna	Incorporated into Plan through policies HR7 and HR8, HR9, HR10, HR15, HP 21, HR21, HR12, FLO4, HR10B, TP7, LU8, SM4 and RC 2 and Objective SMO3	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976
Spatially concentrated deterioration in human health	Objective PO1 and PO2.	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency
Adverse impacts on the hydrogeological and ecological function of the soil resource	Policy P5.	S1: Soil extent and hydraulic connectivity
Adverse impacts upon the status and quality of water bodies	Policy WSP1 and WSP2.	W1: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009) W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC
Increase in flood risk	Policies FL1, FL2, FL4 and Objectives FLO1, FLO2.	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk
The need to provide adequate and appropriate water services (it is the function of Irish Water to provide for such needs)	Policies WSP3, WW1, WSP6, WW2 and Objectives WSO1, WWO1, WSO1, WSO4, WSO5.	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan
Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases)	Overall development approach for the Plan, consolidating the town and providing for growth within and adjacent to the town centre. Also Policy P1, Policy CCP1 and Objective CCO1	C1: To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport
Increases in waste levels	Policy WMP1, WMP2, WMP5.	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers
Potential effects on protected and unknown archaeology and protected architecture	Policy HR1, HR2, HR3 and HR5.	CH1: Percentage of entries to the Record of Monuments and Places - and the context these entries within the surrounding landscape where relevant - protected from adverse effects resulting from development which is granted permission under the Plan CH2: Percentage of entries to the Record of Protected Structures and their context protected from adverse effects resulting from development which is granted permission under the Plan
Occurrence of adverse visual impacts	Policy L1	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape resulting from development which is granted permission under the Plan

Appendix 2

Natura Impact Report

NATURA IMPACT REPORT

IN SUPPORT OF THE
APPROPRIATE ASSESSMENT
OF THE
TULLOW
LOCAL AREA PLAN 2017-2023

IN ACCORDANCE WITH THE REQUIREMENTS OF
ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

for: Carlow County Council

Athy Road
Carlow
County Carlow



by: CAAS Ltd.

2nd Floor, The Courtyard
25 Great Strand Street
Dublin 1



MARCH 2017

Table of Contents

Section 1	Introduction.....	1
1.1	Background.....	1
1.2	Legislative Context	1
1.3	Stages of Appropriate Assessment.....	2
Section 2	Stage 1 Screening	3
2.1	Tullow Area	3
2.2	Description of the Plan.....	3
2.3	European sites in and within 15 km and those hydrologically linked to the Plan Area	5
2.4	Assessment Criteria	10
2.5	Other Plans and Programmes.....	14
2.6	Conclusions.....	16
Section 3	Stage 2 Appropriate Assessment	17
3.1	Introduction.....	17
3.2	Potential Significant Effects	17
3.3	Conservation Objectives.....	19
Section 4	Mitigation Measures.....	21
4.1	Introduction.....	21
4.2	Measures to Protect Habitats and Species	21
4.3	Measures to Protect Water Quality	25
4.4	Mitigation by amendments being made to Plan provisions.....	26
Section 5	Conclusion.....	27

List of Appendices

Appendix I: Summary details of European sites considered during the Appropriate Assessment

List of Tables

Table 2.1 European Sites which occur within 15 km of the Plan Area, Relevant Qualifying Features and Site Vulnerability	6
Table 2.2 European Sites which occur beyond 15 km of the Plan Boundary but are Hydrologically Connected to the Plan Area	7
Table 2.3 Elements of the Plan and the Potential for Significant Effects on European Sites .	11
Table 2.4 Screening of European Sites within 15 km of the LAP Boundary.....	13
Table 2.5 Screening of European Sites which occur outside 15 km of the LAP Boundary but are Hydrologically Linked to the LAP Boundary	14
Table 2.6 Plans & Projects Likely to Cause In-Combination Effects	14
Table 3.1 European Sites Potentially Impacted upon by the Tullow LAP	17
Table 3.2: European sites and Qualifying Interests (QI's) vulnerable to disturbance from the implementation of the Plan	19

List of Figures

Figure 1 European Sites within 15 km of the Plan Area.....	8
Figure 2 European Sites with hydrological links to the LAP but beyond 15 km	9

Section 1 Introduction

1.1 Background

This is the Natura Impact Report in support of the Appropriate Assessment of the Tullow Local Area Plan (LAP) 2017-2023 in accordance with the requirements of Article 6(3) of the EU Habitats Directive¹.

This report is divided into the following five sections:

- Section 1 Introduction
- Section 2 Stage 1 Screening
- Section 3 Stage 2 Appropriate Assessment
- Section 4 Mitigation Measures
- Section 5 Conclusion

1.2 Legislative Context

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, **better known as "The Habitats Directive"**, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. In Ireland, these are candidate Special Areas of Conservation (cSACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC), hereafter referred to as European sites.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect Natura 2000 sites. Article 6(3) establishes the requirement for AA:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

¹ Directive 92/43/EEC

These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011. These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in judgements of the Court of Justice of the European Union (CJEU).

1.3 Stages of Appropriate Assessment

This Natura Impact Report has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, 2010.*
- *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2002.*
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC: European Commission, 2000.*

AA comprises up to four successive stages:

Stage One: Screening

The process which identifies the likely impacts upon a European site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

Stage Two: Appropriate Assessment

The consideration of the impact on the integrity of the European site of the project or plan, **either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives.** Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts. If adequate mitigation is proposed to ensure no significant adverse impacts on European sites, then the process may end at this stage. However, if the likelihood of significant impacts remains, then the process must proceed to Stage 3.

Stage Three: Assessment of Alternative Solutions

The process that examines alternative ways of achieving the objectives of the project or plan that avoids adverse impacts on the integrity of the European site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain

An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any impacts on European sites by identifying possible impacts early in the plan-making process and writing the plan in order to avoid such impacts. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse impacts on the site(s) remain. If the plan is still likely to result in impacts on European sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

In the case of this Natura Impact Report, it was found that the Plan required assessment to Stage 2 AA.

Section 2 Stage 1 Screening

2.1 Tullow Area

Tullow is an important urban centre located on the River Slaney in the north east of the County in the midst of a rich, fertile agricultural hinterland. The town provides a range of residential, community, commercial and employment functions.

Tullow is located approximately 16km to the south east of Carlow town via the R725. Tullow is approximately 18km to the south of Baltinglass via the N81 and is approximately 78km to the south west of Dublin along the R418. The M9 is located approximately 8km to the west of Tullow and is accessed via the N81 and N80. Tullow is also served by the R725 regional road linking Gorey to Carlow.

The town is situated to the east and west of the River Slaney. **Development in recent years has taken place largely on the periphery of the town.**

2.2 Description of the Plan

The main aim of the LAP is to set out a framework for the physical development of the Tullow area so that growth may take place in a coordinated, sensitive and orderly manner, while at the same time being sensitive to the environment. **The key objective of the Council is to provide for sustainable development that will enhance the vitality and prosperity of the town while not overburdening existing services.**

Policies and objectives outlined in the LAP are in addition to the policies and objectives contained in the Carlow County Development Plan 2015-2021. It is acknowledged that not all strategic objectives will be achieved during the six-year LAP timeframe; however it is important to identify these objectives to ensure commitment to achieving them in the longer term.

2.2.1 Plan Vision

Carlow County Council's Vision for the town is as follows:

To provide a focused approach to planning for the future growth of Tullow in a coherent and spatial fashion which seeks to deliver high levels of employment and balances future sustainable development with the conservation and enhancement of the town's natural and built environment.

2.2.2 Strategic Objectives for the LAP

The Strategic Objectives of the Tullow LAP are as follows:

1. To create vibrant integrated communities in a more consolidated urban form.
2. To create a thriving town which contributes to the natural and built heritage amenities of the town and provides a vibrant and vital mixed-use environment.
3. To facilitate the creation of a sustainable vibrant economy which maximises the unique attributes of the town.

2.2.3 Relationship with other Relevant Plans and Programmes

The Tullow LAP sits within a hierarchy of land use forward planning strategic actions. The Plan must comply with relevant higher-level strategic actions and may, in turn, guide lower level strategic actions.

The Plan also forms part of the Carlow County Development Plan along with other Local Area Plans in the County.

The National Spatial Strategy 2002-2020

The National Spatial Strategy (NSS) is the national planning framework for Ireland to achieve a better balance of social, economic and physical development as well as balanced population growth between the regions. The aim of the Strategy is to utilise urban land sensitively and efficiently, reduce dereliction and encourage refurbishment.

Regional Planning Guidelines (South East Region 2010-2022)

Ireland was divided into eight regional forward planning regions, Dublin, Midlands, Mid East, Mid-West, South East, South West, West and Border, each with its own regional planning authority composed of Elected Members selected by the constituent local government councils. Regional planning authorities were required, under the Planning and Development (Regional Planning Guidelines) Regulations 2003 (SI No. 175 of 2003), to draw up Regional Planning Guidelines (RPGs), long term strategic planning frameworks, for their relevant region. Since 2015, three new regional assemblies (the Northern and Western, Southern and Eastern and Midland Regional Assemblies) undertake the work previously undertaken by the Regional Authorities, including the implementation of the Regional Planning Guidelines. Carlow County Council was part of the South East Region Authority and is now part of the Southern and Eastern Regional Assembly.

County Carlow, including Tullow, is subject to the Regional Planning Guidelines for the South East 2010-2022 that provide a framework for the long-term strategic development of the South Eastern Region. The Guidelines do this through setting out goals, policies and objectives in relation to population targets, housing, infrastructure, economic development, environment, amenities, social infrastructure and community development, ensuring the successful implementation of the NSS at regional, county and local level.

The RPGs have allocated a population target of 63,536 for County Carlow by 2022. This represents a population increase of 4,085 from the 2016 population target of 59,451. Applying an average allocation per annum, this amounts to a population of 680 per annum between 2017-2023. The allocation for Tullow to 2022 is therefore calculated as 4.3 % of the population target (29 pop / average household size (2.7) = 11 units with 75% over zoning = 19 additional units). Adding this to the 2021 housing target (112) gives a revised target of 131 housing units for Tullow for the period 2017-2023.

Carlow County Development Plan 2015-2021

The Carlow County Development Plan provides the overall statutory framework for the beneficiary of **the town's** influence. Currently Tullow is a district town and is identified as containing well-developed services and community facilities and have the capacity to accommodate additional growth (subject to certain physical infrastructural investments). The Core Strategy and the County Development Plan will reinforce developments in the Tullow area.

County Carlow Wind Energy Strategy

Carlow County Council recognises the importance of renewable energy. County Carlow has the potential to harness an extensive amount of renewable energy resources, primarily from wind. A Wind Energy Strategy was prepared by Carlow County Council, which explores the potential of wind energy in County Carlow.

County Carlow Retail Strategy

A Retail Strategy for County Carlow was undertaken as part of the preparation of Carlow County Development Plan 2015-2021. The Retail Planning Guidelines for Planning Authorities, issued by the Department of the Environment, Community and Local Government in April 2012, require Local

Authorities to prepare a retail strategy and provide policies for retail development in development plans. Carlow County Council recognises that the retail sector has a key role to play in relation to economic and social activity, employment and the continued vitality of the towns and villages throughout the county.

County Carlow Housing Strategy

A Housing Strategy was prepared for County Carlow as part of the preparation of the Carlow County Development Plan 2015 – 2021. This Strategy is also applicable to the Tullow LAP. It sets out a framework for the supply of land to meet the housing needs arising in the county. It outlines what the anticipated social and affordable housing need for County Carlow between 2015 and 2021.

Smarter Travel 2009 – 2020

“Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009 - 2020” is the Government’s action plan to free towns and cities from traffic congestion, substantially cut CO2 emissions, encourage car based commuters to leave their cars at home, and encourage a shift toward walking, cycling and greater public transport usage.

2.2.1 Environmental Protection Objectives

The Tullow LAP is subject to a number of high-level environmental protection policies and objectives with which it must comply. Examples of Environmental Protection Objectives include the aims of the EU Habitats Directive which is to contribute towards ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of Member States and the purpose of the Water Framework Directive which is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which, among other things, prevents deterioration in the status of all water bodies and protects, enhances and restores all waters with the aim of achieving good status.

2.3 European sites in and within 15 km and those hydrologically linked to the Plan Area

This section of the screening process describes the European sites within a 15 km potential zone of influence of the Plan Area. The distance of 15 km is currently recommended in the DoE document *Appropriate Assessment of Plans and Projects - Guidance for Planning Authorities*, however, sites beyond this distance should also be considered where there are hydrological linkages or other pathways that extend beyond 15 km thereby ensuring that all potentially affected European sites are included in the screening process.

Those European sites that occur within 15km of the Plan Area are listed in Table 2.1 and illustrated in Figure 1 below while those sites which occur beyond 15km but are located downstream of the Plan Area are listed in Table 2.2 and illustrated in Figure 2 below.

Based on the above approach, a total of five European sites, comprising five SACs, require consideration in the AA process. No SPAs require consideration.

In order to determine the potential for effects from the Plan, information on the qualifying features, known vulnerabilities and threats to site integrity pertaining to any potentially affected European Sites was reviewed and is presented in Appendix I. This information was derived from a number of sources including the following:

- *Ireland’s Article 17 Report to the European Commission “Status of EU Protected Habitats and Species in Ireland” (NPWS, 2013).*
- *Site Synopses.*

- *NATURA 2000 Standard Data Forms.*

cSAC sites are selected for a range of different habitats and species listed on Annex I and Annex II of the habitats directive, known as Qualifying Interests (QIs). In summary, those QIs for which cSAC sites are selected are presented in Table 2.1 and Table 2.2.

Since the conservation objectives for the European sites focus on maintaining the favourable conservation condition of the qualifying interests of each site, the screening process concentrated on assessing the potential implications of the Tullow LAP against the qualifying interests of each site.

Table 2.1 European Sites which occur within 15 km of the Plan Area, Relevant Qualifying Features and Site Vulnerability

Site Code	Site Name	Qualifying Features	Location and Site Vulnerability
000770	Blackstairs Mountains cSAC	Wet Heath; Dry Heath	This SAC occurs ca 14 km south of Tullow. Grazing is considered to be one of the main threats to the site. Lower slopes of the site which contains upland grassland has been heavily grazed. Although sheep numbers are low overall, there are pockets where high numbers are found, which has resulted in patches of bare ground. The site is also vulnerable to the burning of Heather, which appears to be carried out on a rotational basis. Bogland present in the area is reduced to fragments bordering improved grassland and forestry.
000781	Slaney River Valley cSAC	Estuaries; Tidal Mudflats and Sandflats; Floating River Vegetation; Old Oak Woodlands; Alluvial Forests*; Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>); Sea Lamprey (<i>Petromyzon marinus</i>); Brook Lamprey (<i>Lampetra planeri</i>); River Lamprey (<i>Lampetra fluviatilis</i>); Twaite Shad (<i>Alosa fallax</i>); Atlantic Salmon (<i>Salmo salar</i>); Otter (<i>Lutra lutra</i>); Common (Harbour) Seal (<i>Phoca vitulina</i>)	This SAC runs through the area of Tullow and continues downstream as far as Wexford Harbour. Agriculture is the main land use. Arable crops are important. Improved grassland and silage account for much of the remainder. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the populations of E.U. Habitats Directive Annex II animal species within it. Run-off is undoubtedly occurring, as some of the fields slope steeply directly to the river bank. In addition, cattle have access to the river bank in places. Fishing is a main tourist attraction along stretches of the Slaney and its tributaries, and there are a number of Angler Associations, some with a number of boats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place. There are some gravel pits along the river below Bunclody and many of these are active. There is a large landfill site adjacent to the river close to Hacketstown and at Killurin. Boating, bait-digging and fishing occur in parts of Wexford Harbour. Waste water outflows, runoff from intensive agricultural enterprises, a meat factory at Clohamon, a landfill site adjacent to the river, and further industrial development upstream in Enniscorthy and in other towns could all have potential adverse impacts on the water quality unless they are carefully managed. The spread of exotic species is also reducing the quality of the woodlands.
001757	Holdenstown Bog cSAC	Transition Mires	This SAC occurs ca. 11 Km north of Tullow. The site is a small wetland in a kettle hole and is mostly dominated by raised bog but there is some open water. Birch woodland is invading the drier areas of the bog. The area surrounding site is agricultural land. Many of the main threats posed to the site arise from agricultural uses. Threats to the site include grazing, vulnerability to fertilisation and cultivation. Infilling of sites features, such as ditches, ponds and marshes, is also considered to be a highly significant threat.

Site Code	Site Name	Qualifying Features	Location and Site Vulnerability
002162	River Barrow and River Nore cSAC	Estuaries; Tidal Mudflats and Sandflats; Salicornia Mud; Atlantic Salt Meadows; Mediterranean Salt Meadows; Floating River Vegetation; Dry Heath; Hydrophilous Tall Herb Communities; Petrifying Springs*; Old Oak Woodlands; Alluvial Forests* Desmoulin's Whorl Snail (<i>Vertigo mouliinsiana</i>); Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>); White-clawed Crayfish (<i>Austropotamobius pallipes</i>); Sea Lamprey (<i>Petromyzon marinus</i>); Brook Lamprey (<i>Lampetra planeri</i>); River Lamprey (<i>Lampetra fluviatilis</i>); Twaite Shad (<i>Alosa fallax</i>); Atlantic Salmon (<i>Salmo salar</i>); Otter (<i>Lutra lutra</i>); Killarney Fern (<i>Trichomanes speciosum</i>); Nore Freshwater Pearl Mussel (<i>Margaritifera durrovensis</i>)	This SAC occurs ca. 12 Km west of Tullow. The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (<i>Prunus laurocerasus</i>) and Rhododendron (<i>Rhododendron ponticum</i>). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and had. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein.

Table 2.2 European Sites which occur beyond 15 km of the Plan Boundary but are Hydrologically Connected to the Plan Area

Site Code	Site Name	County	Qualifying Features	Location and Site Vulnerability
000710	Raven Point Nature Reserve SAC	Wexford	Mudflats and sandflats not covered by seawater at low tide; Annual vegetation of drift lines; Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>); Embryonic shifting dunes; Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes'); *Fixed coastal dunes with herbaceous vegetation ('grey dunes'); Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>); Humid dune slacks	The cSAC occurs >15km downstream of the LAP boundary. Curraclloe is a popular summer resort and parts of the Raven receive high recreational pressure. In particular, pony trekking has caused erosion of the embryonic dunes in some places. It is planned to gradually remove all the conifers from the sand dune system. Some selected areas will be clearfelled, others will be left as scrub pine. After harvesting the conifers, certain areas behind the dunes will be planted with hardwoods, including Alder (<i>Alnus glutinosa</i>) and Sessile Oak (<i>Quercus petraea</i>). Other areas, in particular the more low-lying areas of former dune slack, will be left to regenerate naturally.

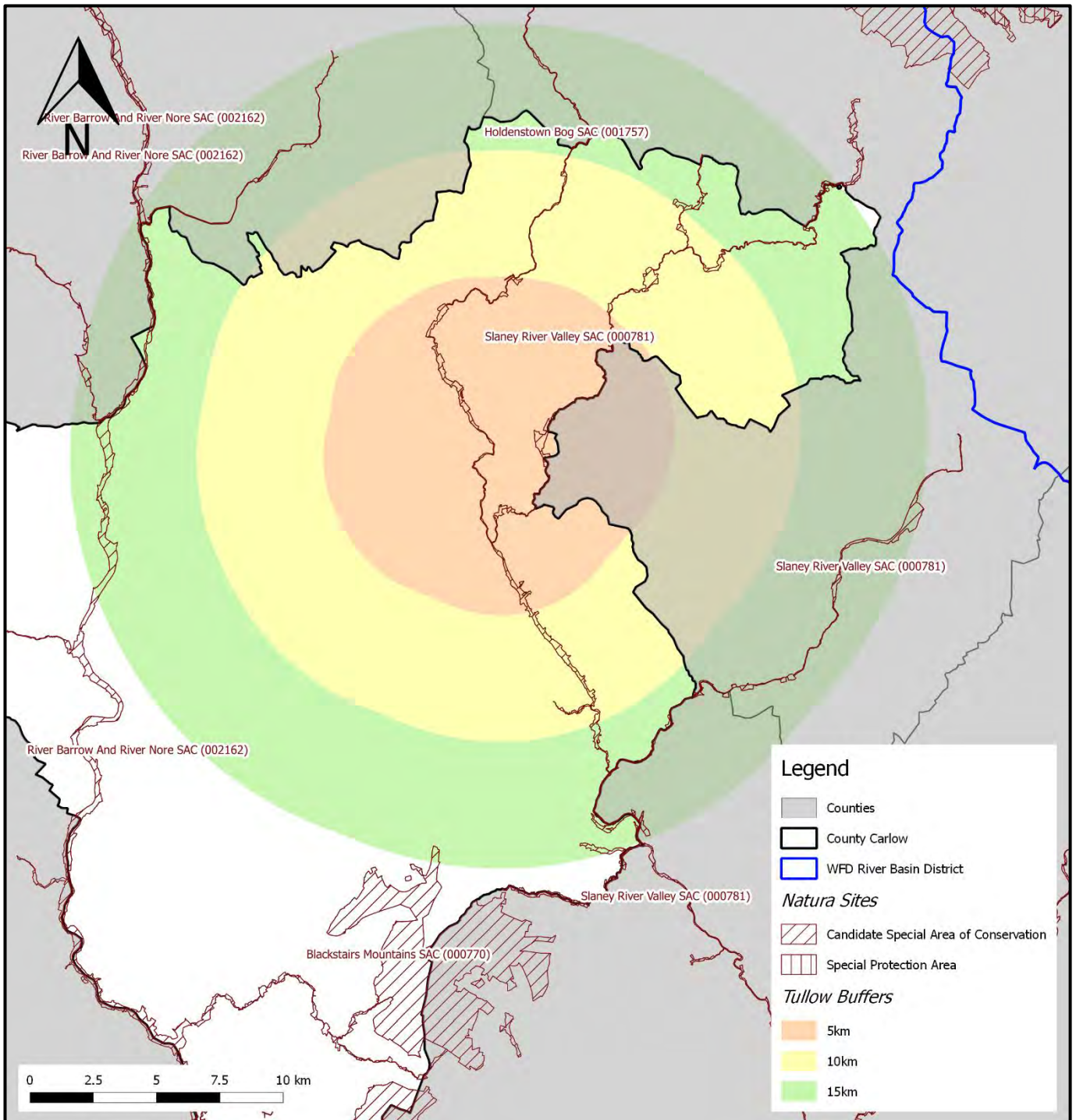


Figure 1 European Sites within 15 km of the Plan Area

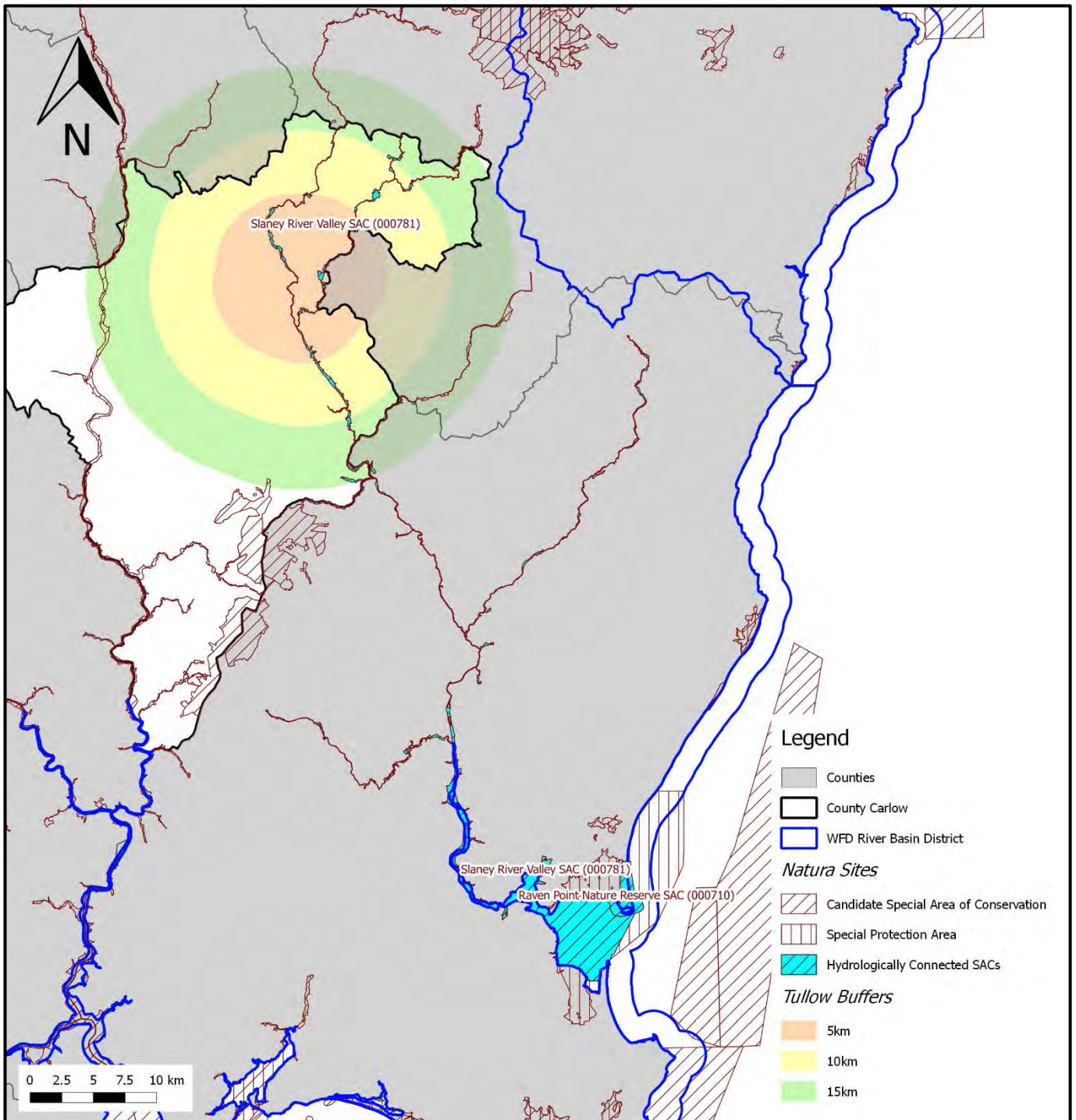


Figure 2 European Sites with hydrological links to the LAP but beyond 15 km

2.4 Assessment Criteria

2.4.1 Is the Plan Necessary to the Management of European Sites?

Under the Habitats Directive, Plans that are directly connected with or necessary to the management of a European site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the plan, even if this might result in positive or beneficial effects for a site(s).

The primary purpose of the Tullow LAP is not the nature conservation management of European sites but to provide for development within the Tullow area. Therefore, the LAP is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

2.4.2 Elements of the Plan with Potential to Give Rise to Significant Effects

This screening assessment process identifies whether the changes brought about by the LAP are likely to cause any direct, indirect or secondary impacts (either alone or in combination with other plans or projects) on European Sites. During this assessment, a number of factors were taken into account **including the sites' conservation objectives**, qualifying interests, special conservation interests and known threats. The overall aim of the assessment is to attempt to predict the consequences that can be reasonably foreseen by implementation of a policy or objective.

It should be noted that the policies and objectives that make up the Plan are strategic in nature and therefore the impact assessment can at best be generalised.

No projects giving rise to significant adverse direct, indirect, or secondary impacts on the integrity of any European Site having regard to their conservation objectives, arising from their size or scale, shall be permitted on the basis of the Plan (either individually or in combination with other plans or projects). The following provisions could, in the absence of mitigation, potentially give rise to significant effects:

- Tourism related development;
- The development of cultural facilities in the town;
- Improvements to pedestrian access and connectivity throughout the Plan Area, particularly towards community, commercial and recreational lands and facilities;
- Recreational and tourism related development including proposed development of recreational and tourism infrastructure and facilities in the area, including the expansion and linkages of existing and new walkways and cycle ways within the town and its surroundings, and wider extent of the county and the development of the recreational potential of the River Slaney;
- The upgrading of roads and transport links;
- New industrial and local enterprise development;
- Wastewater disposal, water supply and surface water disposal developments and upgrades;
- The upgrading, maintenance and expansion of waste management facilities in the area;
- The development of renewable energy sources;
- The extension of telecommunications infrastructure; and
- Land use zoning objectives and associated provisions including those relating to: Utilities, Enterprise and Employment, Existing Residential/Infill, Industry & Warehousing Existing Residential / Infill, Town Centre Activities and Amenity and Open Space.

2.4.3 Identification of Potential Likely Significant Effects

This section documents the final stage of the screening process. It has used the information collected on the sensitivity of each European Site and describes any likely significant effects resulting from the implementation of the LAP. This assumes the absence of any controls, conditions, or mitigation measures. In determining the potential for significant effects, a number of factors have been taken into account. Firstly, the sensitivity and reported threats to the European site. Secondly, the individual elements of the Plan and the potential effect they may cause on the site were considered. The elements of the Plan with potential to cause adverse impacts on European sites is presented in Table 2.3 below.

Sites are screened out based on one or a combination of the following criteria:

- where it can be shown that there are no hydrological links between activities in Tullow and the site to be screened;
- where the site is located at such a distance from Tullow that impacts are not foreseen;
- where it is that known threats or vulnerabilities at a site cannot be linked to potential impacts that may arise from implementation of the Plan.

The screening of individual European sites within 15km of Tullow is presented in Table 2.4 below (sites sorted by distance from the LAP boundary) and screening of those European site which occur outside 15 km of the LAP boundary are presented in Table 2.5.

Table 2.3 Elements of the Plan and the Potential for Significant Effects on European Sites

Element of the Plan	Potential significant effects
<p>Provisions relating to tourism and cultural heritage development including:</p> <p><u>Policies in relation to Tourism</u> EC 13 LU 6 TP 6 <u>Objectives in relation to Tourism</u> TO 1 TO 4 <u>Policies in relation to Cultural facilities</u> HR 6</p>	<p>The provision for the expansion of tourism and associated infrastructure may potentially lead to the run-off of silt and other harmful pollutants to watercourse in the town and its environs. This may lead to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SAC's in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance of key species and habitats
<p>Provisions relating to improvements to pedestrian access and connectivity throughout the Plan Area, particularly towards community, commercial and recreational lands and facilities, including:</p> <p><u>Policies in relation to Land Uses</u> LUO 1 LU11 <u>Policies in relation to Public Space and Public Realm</u> PR 2 <u>Policies in relation to Transport</u> TP 2 <u>Policies in relation to Pedestrian Networks</u> LUO 1</p>	<p>Works to the pedestrian network in the town may potentially lead to the run-off of silt and other harmful pollutants to watercourse within the town. This may potentially lead to adverse impacts on water dependant European sites downstream of the Plan.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in key indicators of conservation value (water quality) • Disturbance of key species and habitats
<p>Proposed development and maintenance of new and existing recreational and tourism infrastructure and facilities in the area, including the expansion and linkages of existing and new walkways and cycle ways within the town and its surroundings, and wider extent of the county</p> <p><u>Policies in relation to Land Uses</u></p>	<p>The provision to develop recreational facilities and areas in the town may potentially lead to the run-off of silt and other harmful pollutants to the watercourse within the town. This may lead to adverse impacts on those waters.</p> <p>Recreational area works may also potentially lead to the disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p>

Element of the Plan	Potential significant effects
<p>LU 8² <u>Policies in relation to Streets and Movement</u> SM 3 SM 4³ <u>Policies in relation to Sports, Recreation and Play</u> SP 1 SP 2 <u>Policies in relation to Recreational Potential of the River Slaney</u> RC 1 RC 2⁴ RC 3 <u>Policies in relation to Green Infrastructure</u> HR 17 <u>Built and Natural Heritage Objectives</u> HO 6</p>	<ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats
<p>The upgrading of roads and transport links <u>Objectives in relation to Public Spaces and Public Realm</u> PRO 1 <u>Objectives in relation to Transport Infrastructure</u> TO 4 TO 3 TO 5</p>	<p>Roads and transport upgrade works in the area may potentially lead to the run-off of silt and other harmful pollutants into the watercourse in the town, potentially leading to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Roads and transport upgrade works may also potentially lead to the disturbance of habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats
<p>New industrial development and Local Enterprise <u>Economic Policies for Tullow</u> EC 2 <u>Economic Objectives for Tullow</u> ECO 1</p>	<p>The provision for industrial developments may potentially lead to the run-off of silt and other harmful pollutants to watercourse in the town and its environs. This may lead to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance of key species and habitats
<p>Wastewater disposal, water supply and surface water disposal developments and upgrades <u>Policies in relation to Water Supply and Quality</u> WSP 3 <u>Objectives relating to Water Supply and Quality</u> WSO 2 WSO 7 WSO 9 <u>Policies in relation to Waste Water</u> WW 5 <u>Objectives in relation to Waste Water</u> WWO 1 WWO 2</p>	<p>Works to the water supply and wastewater treatment facilities within the town may potentially lead to the run-off of silt and other harmful pollutants to watercourses within the town. This may potentially lead to adverse impacts on water dependant European sites which occur downstream of the town.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance of key species and habitats

² Note: Objective LU 8 has been subject to change, resulting from the mitigation process, in order to comply with environmental considerations.

³ Note: Objective SM 4 has been subject to change, resulting from the mitigation process, in order to comply with environmental considerations.

⁴ Note: Objective RC 2 has been subject to change, resulting from the mitigation process, in order to comply with environmental considerations.

Element of the Plan	Potential significant effects
<p>The upgrading, maintenance and expansion of waste management facilities in the area</p> <p><u>Policies in relation to Waste Management</u> WMP 3</p>	<p>Works to waste management facilities within the town may potentially lead to the run-off of silt and other harmful pollutants to watercourses within the town. This may potentially lead to adverse impacts on water dependant European sites which occur downstream of the town.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality)
<p>The development of renewable energy sources</p> <p><u>Economic policies for Tullow</u> EC 6 <u>Policies in relation to Energy and Communications</u> ECP 1 <u>Objectives in relation to Energy and Communications</u> ECO 4</p>	<p>Renewable energy development in the town may potentially lead to the run-off of silt and other harmful pollutants into the watercourse in the town, potentially leading to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Renewable energy works may also potentially lead to the disturbance of habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats
<p>The extension of energy and communications infrastructure</p> <p><u>Policies in relation to Energy and Communications</u> ECP 1 <u>Objectives in relation to Energy and Communications</u> ECO 1 ECO 2 ECO 6</p>	<p>The development of telecommunications infrastructure in the environs of the town may potentially lead to the run-off of silt and other harmful pollutants to the watercourse within the town. This may lead to adverse impacts on those water dependant European sites downstream of the town.</p> <p>Telecommunication works may also potentially lead to the disturbance of habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats
<p>Land use zoning objectives and associated provisions including those relating to: including those relating to Utilities, Enterprise and Employment, Existing Residential/Infill, Industry & Warehousing Existing Residential / Infill, Town Centre Activities and Amenity and Open Space</p>	<p>New development throughout the Plan Area may potentially lead to the potential run-off of silt and / or other harmful pollutants to watercourse within the Plan Area. The provisions for development may potentially lead to adverse impacts on those European sites which occur downstream of the Plan Area.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) <p>In addition, there are a number of overlaps between the area which is designated as cSAC and existing land use zoning objectives. If unmitigated, such overlaps could result in the full range of effects including:</p> <ul style="list-style-type: none"> • Loss / Reduction of Habitat Area • Disturbance to Key Species • Habitat / Species Fragmentation • Reduction in Species Density • Changes in Key Indicators of Conservation Value

Table 2.4 Screening of European Sites within 15 km of the LAP Boundary

Site Name	Potential for likely significant effects	Stage 2 Appropriate Assessment required
Blackstairs Mountains cSAC	Blackstairs Mountains cSAC occurs ca 14 km south of the LAP boundary. Blackstairs Mountain SAC is designated for its Wet Heath and Dry Heath. Given that the site is not directly hydrologically connected to Tullow and the QIs of the cSAC, adverse effects are not foreseen.	No

River Slaney cSAC	This River Slaney SAC runs through the area of Tullow and continues downstream as far as Wexford Harbour. The River Slaney SAC is directly hydrologically linked to Tullow and is designated for a wide variety of habitats and species due to the extent of the site. Given that the LAP is directly linked to the SAC it is deemed that these habitats and species may come under influence from the directions outlined in the LAP. Taking a precautionary approach Stage 2 AA is required to be undertaken in order to ensure potential effects are addressed.	Yes
Holdenstown Bog cSAC	This SAC occurs ca. 11 Km north of Tullow. The site is designated for Transition Mires. Given that the site is not hydrologically linked to the plan area and the distance from the town, adverse effects are not foreseen.	No
River Barrow and River Nore cSAC	The River Barrow and River Nore SAC This SAC occurs ca. 12 Km west of the plan area. The River Barrow and River Nore SAC is designated for a wide variety of habitats and species due to the extent of the site. Given that the site is not hydrologically linked to the plan area and the distance from the town, adverse effects are not foreseen.	No

Table 2.5 Screening of European Sites which occur outside 15 km of the LAP Boundary but are Hydrologically Linked to the LAP Boundary

Site Name	Potential for likely significant effects	Stage 2 Appropriate Assessment required
Raven Point Nature Reserve SAC	Although Raven Point is located a distance downstream of the LAP boundary, impacts via hydrological links between the Plan area and the site cannot be ruled out at this stage and taking a precautionary approach Stage 2 AA is required to be undertaken in order to ensure potential effects are addressed.	Yes

2.5 Other Plans and Programmes

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combinations with the plan or project, have the potential to adversely impact upon European sites. Table 2.6 outlines plans or projects that may interact with the LAP to cause in-combination effects to European sites. The plans or projects are listed according to a spatial hierarchy of International, National, Regional/Local Projects and Plans.

Given the uncertainties that exist with regard to the scale and location of developments facilitated by the Plan, it is recognised that the identification of cumulative impacts is limited and that the assessment of in-combination effects will need to be undertaken in a more comprehensive manner at the project-level.

Table 2.6 Plans & Projects Likely to Cause In-Combination Effects

Directive	Purpose	Interactions resulting in Cumulative Impacts
International		
EU Water Framework Directive (2000/60/EC)	Objectives seek to maintain and enhance the quality of all surface waters in the EU.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
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 risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU 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 risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.

Directive	Purpose	Interactions resulting in Cumulative Impacts
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.	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure such as flood walls or flood defences. Avoidance on, or near protected areas should be implemented or where this is not possible, favouring infrastructure that carries a lower risk of damage to protected areas should be emphasised in the plan.
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 pollution.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Urban Wastewater Treatment Directive (91/271/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 disposal of sludge arising from wastewater treatment.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
Sewage Sludge Directive (86/278/EEC)	Objective is to encourage the appropriate 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. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Integrated Pollution Prevention Control Directive (96/61/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 from industrial sources.	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
National		
National Spatial Strategy 2002-2020	Objectives of the NSS are to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning.	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. Provision of infrastructure may result in: <ul style="list-style-type: none"> • Habitat loss • Alteration of hydrology • Deterioration in water quality • Disturbance during construction / operation.
EirGrid Transmission Development Plan 2012 - 2022	This ten year plan presents those components of the overall long-term development of the transmission system where there is a high level of certainty. In addition, other likely areas where development projects may soon be required are also discussed.	Potential in-combination impacts may arise where there is a requirement to provide for new infrastructure. Provision of infrastructure may result in: <ul style="list-style-type: none"> • Habitat loss • Alteration of hydrology • Deterioration in water quality • Disturbance during construction / operation
Ireland's First National Cycle policy Framework (2009)	<ul style="list-style-type: none"> • Outlines objectives and actions aimed at developing a strong cycle network in Ireland • Sets out 19 specific objectives, and details the 109 actions, aimed at ensuring that a cycling culture is developed 	Potential for in-combination impacts may arise where there is a requirement to provide for new transport infrastructure, or increase capacity of existing infrastructure/services. Provisions for the development of transport infrastructure may potentially result in: <ul style="list-style-type: none"> • Habitat loss • Alteration of hydrology • Deterioration in water quality • Disturbance during construction / operation
Energy Policy framework 2007-2020, Governments White Paper	This policy states that the Government is committed to delivering a significant growth in renewable energy as a contribution to fuel diversity in power generation	Potential in-combination impacts may arise where new wind energy infrastructure is being provided. Provision of infrastructure may result in: <ul style="list-style-type: none"> • Habitat loss • Alteration of hydrology • Deterioration in water quality

Directive	Purpose	Interactions resulting in Cumulative Impacts
	with a 2020 target of 33% electricity consumption	<ul style="list-style-type: none"> Disturbance during construction / operation
Irish Water's Water Services Strategic Plan 2015 and associated Proposed Capital Investment Plan 2014-2016	This Water Services Strategic Plan sets out strategic objectives for the delivery of water services over the next 25 years up to 2040. It details current and future challenges which affect the provision of water services and identifies the priorities to be tackled in the short and medium term.	<p>Potential in-combination effects may arise where there is a requirement to provide for new water and waste water infrastructure and capacity. Meeting additional potable water demands and waste water treatment demands arising from the proposed increase in population has the potential to adversely affect, in the case of abstractions from and effluent discharges to surface waters, the ecological status of surface waters and, in the case of groundwater abstractions, the quantitative status of groundwater. Such demands would occur in-combination with those in adjoining counties. Adverse effects on the ecological status of surface waters and on the quantitative status of groundwater would have the potential to impact upon protected species and habitats. Provision of infrastructure and increases in capacity may result in:</p> <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation
Regional		
Regional Planning Guidelines For the South Eastern Region 2010 – 2022.	Policy document which aims to direct the future growth of the South Eastern Area over the medium to long term and works to implement the strategic planning framework set out in the National Spatial Strategy (NSS)	<p>Potential in-combination effects may arise where there is a requirement to provide for new infrastructure. Provision of infrastructure may result in:</p> <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation
Transport Strategy for the Greater Dublin Area 2016-2035	The Strategy outlines transport development objectives for the Greater Dublin Area over a twenty year period.	<p>Potential for in-combination effects may arise where there is a requirement to provide for new transport infrastructure, or increase capacity of existing infrastructure/services. Provisions for the development of transport infrastructure may potentially result in:</p> <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation
Local		
Carlow County Development Plan (CDP) 2015-2021 Wexford CDP 2013-2019 Kilkenny CDP 2014 – 2020 Laois CDP 2011 – 2017 Kildare CDP 2011 – 2017 Wicklow CDP 2016 - 2022	Overall strategies for the proper planning and sustainable development of the administrative area of the relevant Local Authorities. Include provisions relating to housing, economic (including tourism), community, transport (including cycling) and infrastructural development.	<p>Provision of infrastructure may result in:</p> <ul style="list-style-type: none"> Habitat loss Alteration of hydrology Deterioration in water quality Disturbance during construction / operation

2.6 Conclusions

The likely impacts that could arise from the Plan have been examined in the context of a number of factors that could potentially affect the integrity of the Natura 2000 network of sites. On the basis of the findings of this Screening for AA, it is concluded that the Plan:

- is not directly connected with or necessary to the management of a European site; and
- may have significant impacts on the Natura 2000 network.

Therefore, applying the precautionary principle and in accordance with Article 6(3) of the Habitats Directive, a Stage 2 AA is required. That stage is set out in Section 3 of this report.

Section 3 Stage 2 Appropriate Assessment

3.1 Introduction

The main objective of this stage (Stage 2) in the AA is to determine whether the proposed Tullow LAP would result in significant adverse effects on the integrity of any European Site with respect to the site's structure, function, and/or conservation objectives.

The Stage 1 Screening presented above has identified two European Sites with potential to be affected by the proposed Tullow LAP (see Table 3.1). Therefore, taking a precautionary approach, Stage 2 AA is required. The potential adverse effects considered at this stage will either be effects occurring as a result of the implementation of the Plan alone or in-combination with other plans, programmes, and/or projects.

Detailed information relevant to the sites that has been reviewed to inform the AA includes the following:

- *NPWS Site Synopsis*
- *Natura 2000 Standard Data Form*
- *Conservation Objectives and supporting documents*

Table 3.1 European Sites Potentially Impacted upon by the Tullow LAP

cSAC Rivers with associated habitats and species including downstream aquatic ecological receptors	SPAs
<ul style="list-style-type: none"> - River Slaney cSAC - Raven Point Nature Reserve SAC 	None

3.2 Potential Significant Effects

As outlined in the European Commission Environment DG document "*Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC*", impacts that could potentially occur through the implementation of the Plan can be categorised under a number of headings:

- Loss / reduction of habitat area (e.g. due to the development of new projects)
- Disturbance to Key Species (e.g. increased public access to protected sites, or during the construction phase of infrastructure projects)
- Habitat or species fragmentation
- Reduction in species density
- Changes in key indicators of conservation value such as decrease in water quality / quantity (e.g. through inadequate wastewater treatment, run-off of pollutants during construction and operation of developments, agricultural runoff)

The LAP provides a framework for sustainable development within Tullow. The Plan also prescribes particular locations (site specific) of developments of infrastructure. Overall, the Plan underpins the development of housing, tourism, communities and the town centre with supporting infrastructure and services within the Tullow area including those related to transport, water, energy, and communication infrastructure.

3.2.1 Reduction of Habitat Area

There is a potential that the designated site within the functional area of the Plan may be adversely affected through the implementation of the Plan. Development either in isolation or in combination with other similar developments can potentially lead to significant adverse impacts on the environment with

long term consequences. The development of different land uses and the upgrading of networks could lead to loss of habitats if inappropriately located within the boundaries of the River Slaney cSAC. Indirectly, habitat loss may also occur through draining of development lands adjacent to the cSAC that support wetlands.

Although the LAP is overlapping with a European site, due to the nature of the likely developments that may arise, direct or indirect habitat loss resulting from the implementation of the Plan is not foreseen.

There are a number of overlaps between the area which is designated as cSAC and existing land use zoning objectives. If unmitigated, such overlaps could result in the full range of effects including:

- Loss / Reduction of Habitat Area
- Disturbance to Key Species
- Habitat / Species Fragmentation
- Reduction in Species Density
- Changes in Key Indicators of Conservation Value

A constrained land use zoning objective for the Natura 2000 site has been integrated into the LAP which mitigates this potential (mitigation is detailed under Section 4 below).

3.2.2 Fragmentation

Habitat and species fragmentation can occur through the breaking up of or loss of ecological resources resulting in interference with existing ecological pathways. For example, habitat features such as riparian zones are key commuting routes for a number of species including Bats and Birds. These routes are vital for the connection of isolated resources such as woodland patches. Barriers to movement can be anything from the physical removal of treelines to the imposition of artificial lighting conditions, etc. This is relevant where important corridors for movement or migration are likely to be disrupted where there is no alternate route available.

Installation of linear infrastructure e.g. roads and other transportation links, water and wastewater pipelines, can introduce a landscape scale barrier which can have significant adverse effects over a wide area.

3.2.3 Disturbance to Key Species

Disturbance to species supported by a European Site is likely to occur where there is an increase in activity levels from recreation and amenity or from developments within or adjacent to designated areas. Sources of disturbance include noise, vibration, light, construction and operation activities or other sources of disturbance arising from recreation and amenity or from the inappropriate timing of works.

The Plan supports the development of infrastructural development and the development of tourism and recreation. These projects have the potential to cause disturbance impacts to key species if located in proximity to relevant European Sites.

The European sites potentially affected include the River Slaney cSAC and Raven Point Nature Reserve SAC, both of which have various designated features as qualifying interests. Species such as Otter are vulnerable to disturbance due to construction works, aquaculture practices, and increased amenity uses along waterways arising from proposed developments as part of the Plan. Other species sensitive to disturbance are included on Table 3.2 below.

Table 3.2: European sites and Qualifying Interests (QI's) vulnerable to disturbance from the implementation of the Plan

Site Code	Site Name	QI (s) Key Species potentially affected by disturbance
781	River Slaney cSAC	Estuaries; Tidal Mudflats and Sandflats; Floating River Vegetation; Old Oak Woodlands; Alluvial Forests*; Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>); Sea Lamprey (<i>Petromyzon marinus</i>); Brook Lamprey (<i>Lampetra planeri</i>); River Lamprey (<i>Lampetra fluviatilis</i>); Twaite Shad (<i>Alosa fallax</i>); Atlantic Salmon (<i>Salmo salar</i>); Otter (<i>Lutra lutra</i>); Common (Harbour) Seal (<i>Phoca vitulina</i>)
710	Raven Point Nature Reserve SAC	Mudflats and sandflats not covered by seawater at low tide; Annual vegetation of drift lines; Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>); Embryonic shifting dunes; Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes'); *Fixed coastal dunes with herbaceous vegetation ('grey dunes'); Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>); Humid dune slacks

3.2.4 Changes of Indicators of Conservation Value

Key indicators of conservation value for the two sites under consideration include surface water quality and quantity. Impacts on these sites may occur due to the hydrological connection between the sites and the Plan Area. Implementation of the LAP could result in alterations to the hydrological regime or physical environment of the sites due to drainage, alteration of flow regime, and discharges of pollutants to watercourses.

Discharges of waste water or storm water runoff from the Plan Area to the River Slaney could potentially impact on downstream water quality within those sites occurring downstream of the Plan Area. In-combination effects through waste water discharges from the wider county and surrounding counties could also potentially affect these sites.

3.3 Conservation Objectives

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. It is an aim of NPWS to draw up conservation management plans for all areas designated for nature conservation. These plans will, among other things, set clear objectives for the conservation of the features of interest within a site. No Conservation Management Plans have been prepared for any of those sites considered in Stage 2 of this appropriate assessment.

Site-specific conservation objectives (SSCOs) have been prepared for a number of European sites. These detailed SSCO's aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

***Favourable conservation status** of a **species** can be described as being achieved when: 'population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future,*

and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'

Favourable conservation status of a habitat can be described as being achieved when: 'its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable'.

Generic Conservation Objectives for cSACs have been provided as follows:

- *To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.*

One generic Conservation Objective has been provided for SPAs as follows:

- *To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.*

SSCOs have been prepared for the River Slaney SAC and the Raven Point Nature Reserve SAC considered in Stage 2 of this assessment.

Section 4 Mitigation Measures

4.1 Introduction

Where it cannot be demonstrated that there will be no adverse effects from the implementation of the LAP, mitigation measures have been devised. The policies and objectives outlined below have been developed with input from the SEA and AA process in order to mitigate against identified potential impacts. The measures that are recommended are compatible with those proposed by the SEA environmental report and with other relevant plans and programmes e.g. Programme of Measures proposed by the River Basin Management Plan.

Based on the types of impacts identified above, the mitigation measures presented below are split into **two main categories, 'Measures to Protect Habitats and Species' and 'Measures to Protect Water Quality'**. The Tullow LAP is a lower tier Plan of the Carlow County Development Plan (CCDP), therefore

The Tullow LAP sits within a hierarchy of development plans in County Carlow and environmental protection measures included in the Carlow County Development Plan must be adhered to by applications for development under the LAP.

4.2 Measures to Protect Habitats and Species

As outlined in Section 3.2 of this assessment a number of significant effects that could impact on habitats and species have been identified. Following mitigation, no zoning or specific projects are proposed by the Plan would be likely to result in direct impacts on any European site.

Measures have been included in the policies and objectives of the Plan that will ensure these impacts are avoided.

The Appropriate Assessment and Strategic Environmental Assessment of the Plan have facilitated the integration of a number of policies and objectives into the Plan to strengthen the protection afforded to the Natura 2000 network of sites.

Amongst other things, these policies and objectives will ensure that Appropriate Assessments are carried out where development projects are likely to have significant effects on European designated sites. This will ensure that project level effects, which cannot be predicted at the Plan level, will be mitigated and impacts on protected sites through inappropriate development will be avoided.

Objectives and policies within the Tullow LAP 2017-2023 that will act to protect the Natura 2000 network include the following:

Policies Relating to Flooding

Policy FL 2

To have regard to the findings and recommendations of the current Strategic Flood Risk Assessment carried out for the Tullow Local Area Plan area.

Policy FL 3

To implement the use of the sequential approach and application of the Justification Tests for Development Management and Development Plans, during the period of this plan, as set out in the Flood Risk Management Guidelines as follows: 1) Avoid development that will be at risk of flooding or that will increase the flooding risk elsewhere, where possible; 2) Substitute less vulnerable uses, where avoidance is not possible; and 3) Justify, mitigate and manage the risk, where avoidance and substitution are not possible. Development should only be permitted in areas at risk of flooding when there are no alternative, reasonable sites available in areas at lower risk that also meet the objectives of proper planning and sustainable development.

Policies Relating to Recreational Potential

Policy RC 1

To facilitate where practicable the provision of cycle-ways / walkways along the extent of the River Barrow and Canal in co-operation with landowners, Waterways Ireland and government departments. Any proposed cycling or walking routes along the River and Canal will be such to Appropriate Assessment in accordance with the Habitats Directive.

Policy RC 3

To continue to co-operate with community and sports bodies in the development of the River Slaney for recreational uses. Projects shall have regard to the requirement for Appropriate Assessment in accordance with the Habitats Directive.

Policies Relating to Waste Management

Policy WMP 2

To safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.

Objectives Relating to Waste Management

Objective WMO 2

To assess the feasibility of additional recycling, including composting facilities in the town or environs at a location(s) that will not adversely affect residential amenity or environmental quality.

Policies Relating to Designated Sites

Policy HR 7

To contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including proposed Natural Heritage Areas); and Flora Protection Order sites.

Policy HR 8

To contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents:

- EU Directives, including the Habitats Directive (92/43/EEC, as amended)[1], the Birds Directive (2009/147/EC)[2], the Environmental Liability Directive (2004/35/EC)[3], the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC).
- National legislation, including the Wildlife Act 1976[4], the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 2008[5].
- National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010.
- Catchment and water resource management Plans, including the relevant River Basin Management Plan.
- Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: **Ireland's 2nd National Biodiversity Plan** (including any superseding version of same).
- Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans).
- **Ireland's Environment 2014 (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges.**

Policy HR 9

That all projects and plans arising from this plan (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:

- (a) The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or
- (b) The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a

social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or ©The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.

Policy HR 10

(a) Not to permit projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other on the basis of this plan (either individually or in combination with other plans or projects⁽⁶⁾).

(b) To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.

Policy HR 11

To facilitate the conservation, protection and enhancement of the River Slaney including the adjacent wetlands and associated habitats and to ensure that development does not significantly adversely affect conservation values.

Policy HR 12

To seek the submission of an Ecological Impact Assessment for all development which may have a significant impact on the river and riparian habitats. This assessment should where appropriate suggest a minimum buffer of undisturbed vegetation to be retained to mitigate against pollution risks, reduce flooding potential, maintain habitats and provide an ecological corridor. The buffer zone shall, where possible be maintained free of development and hard surfaces. The assessment shall address protected species i.e. bats, otters including the requirement for derogation licences together with the cumulative impact of the proposed development.

Policy HR 13

To ensure that development does not have a significant adverse impact on plant species, animals and birds listed in the Flora Protection Order, Wildlife Act 1976 as amended, those listed in Annex IV of the Habitats Directive and those listed in Annex I of the Birds Directive.

Policies Relating to Green Infrastructure

Policy HR 15

To seek to contribute towards the protection and enhancement of biodiversity and ecological connectivity, including trees, hedgerows, rivers, streams, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.

Policies Relating to Invasive and Non-Native Species

Objective HR 21

To support as appropriate the National Parks and Wildlife Service’s efforts to seek to control the spread of non-native species on land and water and where appropriate seek the submission of an invasive species management plan.

⁽⁶⁾ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the project to proceed; and
- c) Adequate compensatory measures in place.

Policies Relating to Tourism

Policy TP 7 – as in chapter 11

To seek to manage any increase in visitor numbers to avoid significant effects including loss of habitat and disturbance, any projects are a suitable distance from the water's edge and legislation relating to habitats, species, connectivity and designated sites is complied with.

Policies Relating to the Landscape

Policy L1

To contribute towards the protection of county and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.

Policies Relating to Land Use Zoning

Policy HR 10B

To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.

4.3 Measures to Protect Water Quality

Section 3.2 of this assessment identified that impacts on water quality to a number of downstream European sites have potential to arise through, discharges of wastewater, and possible discharges of sediment and other pollutants from future development and associated works.

In addition, any newly proposed or upgraded wastewater treatment plants should fully comply with all Urban Waste Water Regulations requirements 2001 – 2004, and should furthermore comply with all wastewater discharge authorisation requirements as per 2007 Regulations and Urban Wastewater Regulations 2001.

Policies and objectives within the Plan that will act to protect the water quality and quantity with those European sites against the potential impacts identified include the following:

Policies Relating to Water Supply and Quality

Policy WSP 1

To contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.

Policy WSP 2

To support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the plan, as well as relevant recommendations contained in the Water Quality in Ireland 2010 – 2012 (EPA, 2015, and any updated/superseding document). Proposals for development would not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 which provides guidance on exemptions to the environmental objectives of the Water Framework Directive.

Policy WSP 8

To protect surface water and ground water resources and their associated habitats and species including fisheries and in particular Annex II listed species.

Objective Relating to Water Supply and Quality

Objective WSO 8

To ensure that all proposals for the development of an upgrade to the water supply system will be screened for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and where significant impacts are identified, a Natura Impact Statement will be prepared.

Policy Relating to Waste Water

Policy WW 4

To ensure the changeover from septic tanks to mains connections in all cases where this is feasible, and that all new developments utilise and connect to the existing wastewater infrastructure. The provision of individual septic tanks and treatment plants within the Plan boundary will be strongly discouraged to minimise the risk of groundwater pollution. Where such facilities are permitted, full compliance with the 2009 EPA Code of Practice - Code of Practice Wastewater treatment and Disposal Systems serving single houses (p.e. ≤ 10), is required.

Objective Relating to Waste Water

Objective WWO 3

To ensure that any proposals for the development and /or upgrade of the Tullow waste water treatment plant and waste water network will be subject to Appropriate Assessment in accordance with Article 6(3) and 6(4) of the EU Habitats Directive.

Objective Relating to Flooding

Objective FLO 4

To protect water bodies and watercourses within the plan area from inappropriate development, including the river, canal, streams, associated undeveloped riparian strips, wetlands and natural floodplains. A 10 metre strip on either side of such channel will be retained, where required, to facilitate access thereto. In addition, promote the sustainable management and uses of water bodies and avoid culverting or realignment of these features.

Policy Relating to Soil

Policy P 5

To ensure that adequate soil protection measures are undertaken where appropriate. Appropriate investigations shall be carried out into the nature of any soil and groundwater contamination and the risks associated with site development works.

4.4 Mitigation by amendments being made to Plan provisions

The AA and SEA processes facilitated the amendment of the Plan provisions including the following (recommended text which was inserted into the Plan is in **bold** and recommended deletions which were removed from the Plan are in ~~strikethrough~~):

Public Spaces and Public Realm

PR 2: To prioritise the improvement of, and access to, **subject to the requirements of the Habitats Directive**, the waterfront area and the retail core for the enjoyment of both visitors and residents alike.

LU11: To support improved pedestrian connections throughout the town and to investigate the feasibility of providing a pedestrian bridge(s) linking:

- (i) the Carlow Road to the Ballymurphy Road (amenity facilities) and
- (ii) the Ouragh Road to the proposed amenity lands to the west bank of the Slaney River.

Any such proposals shall be subject to Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and shall be subject to a Flood Risk Assessment and OPW consent under Section 50 of the Arterial Drainage Act.

Water Supply and Quality

WSO 8: To ensure that all proposals for the development of an upgrade to the water supply system will be screened for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and where ~~significant~~ **potential impacts to the integrity of the Natura 2000 network** are identified, a Natura Impact Statement will be prepared.

Policies in relation to Green Infrastructure

HR 17: To **explore the feasibility, subject to the requirements of the Habitats Directive, of developing** a linear park, along the river Slaney, linking to areas of open space and amenity. Where lands are in private ownership it shall be policy, in any development proposal, to secure public access along the waterway.

Policies and Objectives in relation to Tourism

TO 1: To provide where feasible, and support the provision of tourism infrastructure and services, **subject to the requirements of the Habitats Directive**, including, walking, cycling and water based infrastructure and short-term guest accommodation facilities throughout the settlement in appropriate locations.

TO 4: To support the provision and augmentation, of sporting, kayaking / canoeing and angling facilities, pony trekking routes, adventure centres and associated ancillary uses in appropriate locations **subject to the requirements of the Habitats Directive.**

Section 5 Conclusion

Stage 1 Screening and Stage 2 Appropriate Assessment of the Tullow Local Area Plan has been carried out. Implementation of the Plan has the potential to result in adverse effects to the integrity European Sites, if unmitigated.

The risks to the safeguarding and integrity of the qualifying interests and conservation objectives of European Sites have been addressed by the inclusion of mitigation measures that will prioritise the avoidance of effects in the first place and mitigate effects where these cannot be avoided. In addition, all lower level plans and projects arising through the implementation of the Plan will themselves be subject to Appropriate Assessment when further details of design and location are known.

Having incorporated mitigation measures, it is considered that the Plan is not foreseen to have significant adverse effects on the integrity of any European Site⁵.

⁵ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the plan to proceed; and
- c) Adequate compensatory measures in place.

NATURA IMPACT REPORT - APPENDIX I

SUMMARY DETAILS OF ALL EUROPEAN SITES CONSIDERED DURING THE APPROPRIATE ASSESSMENT

IN SUPPORT OF THE

APPROPRIATE ASSESSMENT

OF THE

TULLOW

LOCAL AREA PLAN 2017-2023

IN ACCORDANCE WITH THE REQUIREMENTS OF
ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

for: Carlow County Council

Athy Road
Carlow
County Carlow



by: CAAS Ltd.

2nd Floor, The Courtyard
25 Great Strand Street
Dublin 1



MARCH 2017

Introduction

This appendix presents background summary data relating to each European Site (cSACs and SPAs) that was considered during the Appropriate Assessment of the Tullow Local Area Plan 2017-2023. Data presented has been collated from various sources made available by the National Parks and Wildlife Service (NPWS) of the Department of Arts, Heritage and the Gaeltacht.

All sites within each list are sorted according to NPWS Site Code.

The principal sources of information include the following:

- *Site Synopses*
- *NATURA 2000 Standard Data Forms*
- *Conservation Objective (Generic Versions)*
- *Detailed Site Specific Conservation Objectives and supporting documents (where available)*¹

Data presented on each site includes:

- *Site Name*
- *Site Code*
- *County*
- *SSCO Published or not (as of March 2017)*
- *SSCO Version reference used during AA*
- *Location relevant to the Strategy area*
- *Previously reported threats*
- *Qualifying Interests (QIs) in the case of SACs:*
 - *Listed Annex I habitats for which site is selected - abbreviated version as used by NPWS (2013)*²
 - *Listed Annex II species for which site is selected - common English name*

¹ Site-Specific Detailed Conservation Objectives List for designated sites is available at:

<http://www.npws.ie/protected-sites/conservation-management-planning/conservation-objectives> (05/03/2017).

² NPWS (2013). The Status of EU Protected Habitats and Species in Ireland. Overview Volume I. Unpublished Report, National Parks and Wildlife Services.

European Sites which occur within 15 Km of the Plan Area

Site Name:	Blackstairs Mountains cSAC
Site Code:	770
County(s):	Carlow, Wexford
SSCO's Published:	No
Location:	Occurs ca 14 km south of Tullow.
Threats:	Grazing is considered to be one of the main threats to the site. Lower slopes of the site which contains upland grassland has been heavily grazed. Although sheep numbers are low overall, there are pockets where high numbers are found, which has resulted in patches of bare ground. The site is also vulnerable to the burning of Heather, which appears to be carried out on a rotational basis. Bogland present in the area is reduced to fragments bordering improved grassland and forestry.
SSCO Version:	NPWS (2015) Conservation objectives for Blackstairs Mountains SAC [000770]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.
Habitat QI's (Annex I Habitats):	<ul style="list-style-type: none"> • Wet Heath; • Dry Heath
Species QI's (Annex II Species):	

Site Name:	Slaney River Valley cSAC
Site Code:	781
County(s):	Carlow, Wexford, Wicklow
SSCO's Published:	Yes
Location:	Runs through the area of Tullow and continues downstream as far as Wexford Harbour.
Threats:	Agriculture is the main land use. Arable crops are important. Improved grassland and silage account for much of the remainder. The spreading of slurry and fertiliser poses a threat to the water quality of this salmonid river and to the populations of E.U. Habitats Directive Annex II animal species within it. Run-off is undoubtedly occurring, as some of the fields slope steeply directly to the river bank. In addition, cattle have access to the river bank in places. Fishing is a main tourist attraction along stretches of the Slaney and its tributaries, and there are a number of Angler Associations, some with a number of boats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place. There are some gravel pits along the river below Bunclody and many of these are active. There is a large landfill site adjacent to the river close to Hacketstown and at Killurin. Boating, bait-digging and fishing occur in parts of Wexford Harbour. Waste water outflows, runoff from intensive agricultural enterprises, a meat factory at Clohamon, a landfill site adjacent to the river, and further industrial development upstream in Enniscorthy and in other towns could all have potential adverse impacts on the water quality unless they are carefully managed. The spread of exotic species is also reducing the quality of the woodlands.
SSCO Version:	NPWS (2011) Conservation Objectives: Slaney River Valley SAC 000781. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Habitat QI's (Annex I Habitats):	<ul style="list-style-type: none"> • Estuaries; • Tidal Mudflats and Sandflats; • Floating River Vegetation; • Old Oak Woodlands; • Alluvial Forests*;
Species QI's (Annex II Species):	<ul style="list-style-type: none"> • Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>); • Sea Lamprey (<i>Petromyzon marinus</i>); • Brook Lamprey (<i>Lampetra planeri</i>); • River Lamprey (<i>Lampetra fluviatilis</i>); • Twaite Shad (<i>Alosa fallax</i>); • Atlantic Salmon (<i>Salmo salar</i>); • Otter (<i>Lutra lutra</i>); • Common (Harbour) Seal (<i>Phoca vitulina</i>)

Site Name:	Holdenstown Bog cSAC
Site Code:	1757
County(s):	Wicklow
SSCO's Published:	No
Location:	Occurs ca. 11 Km north of Tullow.
Threats:	The site is a small wetland in a kettle hole and is mostly dominated by raised bog but there is some open water. Birch woodland is invading the drier areas of the bog. The area surrounding site is agricultural land. Many of the main threats posed to the site arise from agricultural uses. Threats to the site include grazing, vulnerability to fertilisation and cultivation. Infilling of sites features, such as ditches, ponds and marshes, is also considered to be a highly significant threat.
SSCO Version:	NPWS (2015) Conservation objectives for Holdenstown Bog SAC [001757]. Generic Version 4.0. Department of Arts, Heritage and the Gaeltacht.
Habitat QI's (Annex I Habitats):	<ul style="list-style-type: none"> • Transition Mires
Species QI's (Annex II Species):	

Site Name:	River Barrow and River Nore cSAC
Site Code:	2162
County(s):	Carlow, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford
SSCO's Published:	Yes
Location:	Runs through the area of Muine Bheag/ Royal Oak.
Threats:	The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (<i>Prunus laurocerasus</i>) and Rhododendron (<i>Rhododendron ponticum</i>). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and had. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein.
SSCO Version:	NPWS (2011) Conservation Objectives: River Barrow and River Nore SAC 002162. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Habitat QI's (Annex I Habitats):	<ul style="list-style-type: none"> • Estuaries; • Tidal Mudflats and Sandflats; • Salicornia Mud; • Atlantic Salt Meadows; • Mediterranean Salt Meadows; • Floating River Vegetation; • Dry Heath; • Hydrophilous Tall Herb Communities; • Petrifying Springs*; • Old Oak Woodlands; • Alluvial Forests*
Species QI's (Annex II Species):	<ul style="list-style-type: none"> • Desmoulin's Whorl Snail (<i>Vertigo moulinsiana</i>); • Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>); • White-clawed Crayfish (<i>Austropotamobius pallipes</i>); • Sea Lamprey (<i>Petromyzon marinus</i>); • Brook Lamprey (<i>Lampetra planeri</i>); • River Lamprey (<i>Lampetra fluviatilis</i>); • Twaite Shad (<i>Alosa fallax</i>); • Atlantic Salmon (<i>Salmo salar</i>); • Otter (<i>Lutra lutra</i>); • Killarney Fern (<i>Trichomanes speciosum</i>); • Nore Freshwater Pearl Mussel (<i>Margaritifera durrovensis</i>)

European Sites that occur beyond 15 km of the Plan Boundary but are Hydrologically Connected to the Plan Area

Site Name:	Raven Point Nature Reserve cSAC
Site Code:	710
County(s):	Wexford
SSCO's Published:	Yes
Location:	Occurs approximately 57 km south-east of the LAP boundary (ca 72 km downstream).
Threats:	Curracloe is a popular summer resort and parts of the Raven receive high recreational pressure. In particular, pony trekking has caused erosion of the embryonic dunes in some places. It is planned to gradually remove all the conifers from the sand dune system. Some selected areas will be clearfelled, others will be left as scrub pine. After harvesting the conifers, certain areas behind the dunes will be planted with hardwoods, including Alder (<i>Alnus glutinosa</i>) and Sessile Oak (<i>Quercus petraea</i>). Other areas, in particular the more low-lying areas of former dune slack, will be left to regenerate naturally.
SSCO Version:	NPWS (2011) Conservation Objectives: Raven Point Nature Reserve SAC 000710. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
Habitat QI's (Annex I Habitats):	<ul style="list-style-type: none"> • Mudflats and sandflats not covered by seawater at low tide; • Annual vegetation of drift lines; • Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>); • Embryonic shifting dunes; • Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('white dunes'); • *Fixed coastal dunes with herbaceous vegetation ('grey dunes'); • Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>); • Humid dune slacks
Species QI's (Annex II Species):	

AA CONCLUSION STATEMENT

IN SUPPORT OF THE
APPROPRIATE ASSESSMENT
OF THE
TULLOW
LOCAL AREA PLAN 2017-2023

IN ACCORDANCE WITH THE REQUIREMENTS OF
ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

for: Carlow County Council

Athy Road
Carlow
County Carlow



by: CAAS Ltd.

2nd Floor, The Courtyard,
25 Great Strand Street,
Dublin 1



MARCH 2017

Table of Contents

Section 1	Introduction and Background.....	1
1.1	Introduction	1
1.2	Legislative Requirements in relation to AA.....	1
1.3	AA Conclusion Statement	2
Section 2	How the findings of the AA were factored into the Local Area Plan ..	3
Section 3	Appraisal Process of Alternatives Considered with Reference to the AA	8
3.1	Summary Description of Alternatives	8
3.2	Considerations of Cumulative Impacts/In-Combination Effects	10
3.3	Emerging Preferred Option.....	11
Section 4	Determination	14

List of Tables

Table 1-1	Matters taken into account by the AA	1
Table 3-1	Potentially Significant Adverse Environmental Effects common to all alternatives.....	9
Table 3-2	Comparative Evaluation of Alternative Development Strategies	10
Table 3-3	Summary of potential effects arising from the Selected Alternative	11

Section 1 Introduction and Background

1.1 Introduction

This is the Appropriate Assessment (AA) Conclusion Statement for the Tullow Local Area Plan 2017-2023.

The obligation to undertake AA derives from Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC as transposed into Irish legislation by the European Communities (Birds and Natural Habitats) Regulations 2011 and the Planning and Development Act 2000, as amended. AA is a focused and detailed impact assessment of the implications of a strategic action (such as a plan or programme) or project, alone and in combination with other strategic actions and projects, on the integrity of any European Site in view of its conservation objectives.

This AA Conclusion Statement should be read in conjunction with the following documents which accompany the Statement:

- Strategic Environmental Report;
- Strategic Flood Risk Assessment; and
- Natura Impact Report (NIR), **including Appendix I** 'Summary details of European sites considered during the Appropriate Assessment'.

1.2 Legislative Requirements in relation to AA

In carrying out the AA for the Local Area Plan, the Part XAB of the Planning and Development Act 2000, as amended, requires, inter alia, that the Council take into account the matters arrayed in the first column on Table 1.1 below. The second column identifies how these issues have been addressed.

Table 1-1 Matters taken into account by the AA

Matter specified by the Regulations	How addressed by AA
(a) the NIR	A NIR accompanies this AA Conclusion Statement and the Plan
(b) any other plans or projects that may, in combination with the plan or project under consideration, adversely affect the integrity of a European Site (see Section 2)	Throughout the NIR, particularly Section 2.5 of the NIR, as well as Section
(c) any supplemental information furnished in relation to any such report or statement	This AA Conclusion Statement supplements the NIR which is also accompanied by an Appendix (NIR Appendix I) which provides additional detail on European Sites
(d) if appropriate, any additional information sought by the authority and furnished by the applicant in relation to a Natura Impact Report	The Natura Impact Report has taken into account submissions received during the Plan/AA preparation process – see Section 2 of this Statement
(e) any information or advice obtained by the public authority	
(f) if appropriate, any written submissions or observations made to the public authority in relation to the application for consent for proposed plan or project	
(g) any other relevant information	

In addition to the above, the regulations require that the Council makes available for inspection a determination regarding the outcome of the assessment with respect to effects on the integrity of European Sites (such a determination is provided at Section 4 of this document).

1.3 AA Conclusion Statement

The Department of Arts, Heritage and the Gaeltacht's Non-Statutory AA guidance states that (Section 4.14) *it "is recommended that planning authorities include a clear and discrete AA Conclusion Statement as a distinct section in the written statement of the plan separate to the SEA statement."*

This guidance recommends that the following issues are addressed by the AA:

- Summary of how the findings of the AA were factored into the plan
- Reasons for choosing the plan as adopted, in the light of other reasonable alternatives considered as part of the AA process;
- A declaration that the plan as adopted will not have an adverse effect on the integrity of European Sites; and
- The Natura Impact Report.

As recommended, this AA Conclusion Statement addresses the above issues.

Section 2 How the findings of the AA were factored into the Local Area Plan

Various environmental sensitivities and issues have been communicated to the Council through the SEA and the AA. By integrating all related recommendations into the Plan, the Council have ensured that both the beneficial environmental effects of implementing the Plan have been and will be maximised and that potential adverse effects have been and will be avoided, reduced or offset.

Integration of AA considerations into the Plan was achieved through the:

1. Consultations

As environmental authorities identified under the Planning and Development (SEA) Regulations, as amended, the following authorities were sent Strategic Environmental Assessment (SEA) scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council various submissions were received from the environmental authorities, including one from the Department of Arts, Heritage and the Gaeltacht (DAHG) provided information/suggestions **topics including 'legislative and procedural requirements for Habitats Directive', 'Habitats Directive AA Scoping' and the potential for adverse effects** arising from Local Area Plans, all of which were taken into account by the Appropriate Assessment.

Furthermore, submissions from the public and others were made on the Plan and AA Natura Impact Report while these documents were on public display and these resulted in updates being made to the documents. Changes to the provisions of the Plan made on foot of submissions were considered and did not change the conclusions of the AA. No comments **relating to the AA were made by the DAHG's submission on the Plan** and associated assessments.

2. Consideration of alternatives

Consideration of and integration of environmental considerations into alternatives, including sequencing, and ultimately into the Plan will contribute towards the protection and management of the environment over the lifetime of the Plan (see Section 3 of this Statement).

3. Integration of individual AA-related provisions into the Plan

Various provisions have been integrated into the text of the Plan through the iterative Plan-preparation with SEA and AA processes. These include AA-related measures that are part the Strategic Environmental Report. Objectives and policies within the Tullow LAP 2017-2023 that will act to protect European Sites include the following:

Policies Relating to Flooding

Policy FL 2

To have regard to the findings and recommendations of the current Strategic Flood Risk Assessment carried out for the Tullow Local Area Plan area.

Policy FL 3

To implement the use of the sequential approach and application of the Justification Tests for Development Management and Development Plans, during the period of this plan, as set out in the Flood Risk Management Guidelines as follows: 1) Avoid development that will be at risk of flooding or that will increase the flooding risk elsewhere, where possible; 2) Substitute less vulnerable uses, where avoidance is not possible; and 3) Justify, mitigate and manage the risk, where avoidance and substitution are not possible. Development should only be permitted in areas at risk of flooding when there are no alternative, reasonable sites available in areas at lower risk that also meet the objectives of proper planning and sustainable development.

Policies Relating to Recreational Potential

Policy RC 1

To facilitate where practicable the provision of cycle-ways / walkways along the extent of the River Barrow and Canal in co-operation with landowners, Waterways Ireland and government departments. Any proposed cycling or walking routes along the River and Canal will be such to Appropriate Assessment in accordance with the Habitats Directive.

Policy RC 3

To continue to co-operate with community and sports bodies in the development of the River Slaney for recreational uses. Projects shall have regard to the requirement for Appropriate Assessment in accordance with the Habitats Directive.

Policies Relating to Waste Management

Policy WMP 2

To safeguard the environment by seeking to ensure that residual waste is disposed of appropriately.

Objectives Relating to Waste Management

Objective WMO 2

To assess the feasibility of additional recycling, including composting facilities in the town or environs at a location(s) that will not adversely affect residential amenity or environmental quality.

Policies Relating to Designated Sites

Policy HR 7

To contribute, as appropriate, towards the protection of designated ecological sites including candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs); Wildlife Sites (including proposed Natural Heritage Areas); and Flora Protection Order sites.

Policy HR 8

To contribute towards compliance with relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines, including the following and any updated/superseding documents:

- EU Directives, including the Habitats Directive (92/43/EEC, as amended)[1], the Birds Directive (2009/147/EC)[2], the Environmental Liability Directive (2004/35/EC)[3], the Environmental Impact Assessment Directive (85/337/EEC, as amended), the Water Framework Directive (2000/60/EC) and the Strategic Environmental Assessment Directive (2001/42/EC).
- National legislation, including the Wildlife Act 1976[4], the European Communities (Environmental Impact Assessment) Regulations 1989 (SI No. 349 of 1989) (as amended), the Wildlife (Amendment) Act 2000, the European Union (Water Policy) Regulations 2003 (as amended), the Planning and Development Act 2000 (as amended), the European Communities (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and the European Communities (Environmental Liability) Regulations 2008[5].
- National policy guidelines (including any clarifying Circulars or superseding versions of same), including the Landscape and Landscape Assessment Guidelines 2000, the Environmental Impact Assessment Sub-Threshold Development Guidelines 2003, Strategic Environmental Assessment Guidelines 2004 and the Appropriate Assessment Guidance 2010.
- Catchment and water resource management Plans, including the relevant River Basin Management Plan.
- Biodiversity Plans and guidelines, including Actions for Biodiversity 2011-2016: **Ireland's 2nd National Biodiversity Plan** (including any superseding version of same).
- Freshwater Pearl Mussel Regulations (S.I. 296 of 2009) (including any associated designated areas or management plans).
- **Ireland's Environment 2014** (EPA, 2014, including any superseding versions of same), and to make provision where appropriate to address the report's goals and challenges.

Policy HR 9

That all projects and plans arising from this plan (including any associated improvement works or associated infrastructure) will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the competent authority has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:

- (a) The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or
- (b) The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or

economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or ©The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.

Policy HR 10

(a) Not to permit projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other on the basis of this plan (either individually or in combination with other plans or projects^[6]).

(b) To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.

Policy HR 11

To facilitate the conservation, protection and enhancement of the River Slaney including the adjacent wetlands and associated habitats and to ensure that development does not significantly adversely affect conservation values.

Policy HR 12

To seek the submission of an Ecological Impact Assessment for all development which may have a significant impact on the river and riparian habitats. This assessment should where appropriate suggest a minimum buffer of undisturbed vegetation to be retained to mitigate against pollution risks, reduce flooding potential, maintain habitats and provide an ecological corridor. The buffer zone shall, where possible be maintained free of development and hard surfaces. The assessment shall address protected species i.e. bats, otters including the requirement for derogation licences together with the cumulative impact of the proposed development.

Policy HR 13

To ensure that development does not have a significant adverse impact on plant species, animals and birds listed in the Flora Protection Order, Wildlife Act 1976 as amended, those listed in Annex IV of the Habitats Directive and those listed in Annex I of the Birds Directive.

Policies Relating to Green Infrastructure

Policy HR 15

To seek to contribute towards the protection and enhancement of biodiversity and ecological connectivity, including trees, hedgerows, rivers, streams, other landscape features and associated wildlife where these form part of the ecological network and/or may be considered as ecological corridors or stepping stones in the context of Article 10 of the Habitats Directive.

Policies Relating to Invasive and Non-Native Species

Objective HR 21

To support as appropriate the National Parks and Wildlife Service's efforts to seek to control the spread of non-native species on land and water and where appropriate seek the submission of an invasive species management plan.

^[6] Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the project to proceed; and
- c) Adequate compensatory measures in place.

Policies Relating to Tourism

Policy TP 7 – as in chapter 11

To seek to manage any increase in visitor numbers to avoid significant effects including loss of habitat and disturbance, any projects are a suitable distance from the water's edge and legislation relating to habitats, species, connectivity and designated sites is complied with.

Policies Relating to the Landscape

Policy L1

To contribute towards the protection of county and local level landscape designations from incompatible developments. Proposals for development that have the potential to significantly adversely impact upon these designations shall be accompanied by an assessment of the potential landscape and visual impacts of the proposed development - demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape and the nature of the designation.

Policies Relating to Land Use Zoning

Policy HR 10B

To require applications for development within the constrained land use zoning objective for the Natura 2000 site (Map 13) to undergo Appropriate Assessment and demonstrate that the proposal will not give rise to any effect on the Natura 2000 site in view of its qualification features and conservation objectives.

Policies Relating to Water Supply and Quality

Policy WSP 1

To contribute towards the protection of existing and potential water resources, and their use by humans and wildlife, including rivers, streams, groundwater and associated habitats and species in accordance with the requirements and guidance in the EU Water Framework Directive 2000 (2000/60/EC), the European Union (Water Policy) Regulations 2003 (as amended), the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009), the Groundwater Directive 2006/118/EC and the European Communities Environmental Objectives (groundwater) Regulations, 2010 (S.I. No. 9 of 2010) and other relevant EU Directives, including associated national legislation and policy guidance (including any superseding versions of same). To also support the application and implementation of a catchment planning and management approach to development and conservation, including the implementation of Sustainable Drainage System techniques for new development.

Policy WSP 2

To support the implementation of the relevant recommendations and measures as outlined in the relevant River Basin Management Plan, and associated Programmes of Measures, or any such plans that may supersede same during the lifetime of the plan, as well as relevant recommendations contained in the Water Quality in Ireland 2010 – 2012 (EPA, 2015, and any updated/superseding document). Proposals for development would not have an unacceptable impact on the water environment, including surface waters, groundwater quality and quantity, river corridors and associated woodlands. Also to have cognisance of, where relevant, the EU's Common Implementation Strategy Guidance Document No. 20 which provides guidance on exemptions to the environmental objectives of the Water Framework Directive.

Policy WSP 8

To protect surface water and ground water resources and their associated habitats and species including fisheries and in particular Annex II listed species.

Objective Relating to Water Supply and Quality

Objective WSO 8

To ensure that all proposals for the development of an upgrade to the water supply system will be screened for Appropriate Assessment in accordance with Article 6(3) of the Habitats Directive and where significant impacts are identified, a Natura Impact Statement will be prepared.

Policy Relating to Waste Water

Policy WW 4

To ensure the changeover from septic tanks to mains connections in all cases where this is feasible, and that all new developments utilise and connect to the existing wastewater infrastructure. The provision of individual septic tanks and treatment plants within the Plan boundary will be strongly discouraged to minimise the risk of groundwater pollution. Where such facilities are permitted, full compliance with the 2009 EPA Code of Practice - Code of Practice Wastewater treatment and Disposal Systems serving single houses (p.e. ≤ 10), is required.

Objective Relating to Waste Water

Objective WWO 3

To ensure that any proposals for the development and /or upgrade of the Tullow waste water treatment plant and waste water network will be subject to Appropriate Assessment in accordance with Article 6(3) and 6(4) of the EU Habitats Directive.

Objective Relating to Flooding

Objective FLO 4

To protect water bodies and watercourses within the plan area from inappropriate development, including the river, canal, streams, associated undeveloped riparian strips, wetlands and natural floodplains. A 10-metre strip on either side of such channel will be retained, where required, to facilitate access thereto. In addition, promote the sustainable management and uses of water bodies and avoid culverting or realignment of these features.

Policy Relating to Soil

Policy P 5

To ensure that adequate soil protection measures are undertaken where appropriate. Appropriate investigations shall be carried out into the nature of any soil and groundwater contamination and the risks associated with site development works.

Section 3 Appraisal Process of Alternatives Considered with Reference to the AA

3.1 Summary Description of Alternatives

As per the requirements of the SEA Directive, this SEA considers reasonable alternatives, which are capable of being implemented for the Local Area Plan, taking into account the objectives and policies of all higher-level Plans. These alternatives were assessed through the SEA process with reference to the specific requirements of the EU Habitats Directive and European Sites. An iterative process was undertaken between the SEA, AA and Local Area Plan design/development. The alternatives and their evaluation is detailed below:

- Development Scenario 1: A general continuation in accordance with the development objectives of the 2010 – 2016 Plan
- Development Scenario 2: Directs new development to vacant and infill sites in the town only.
- Development Scenario 3: To consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner.

3.1.1 Alternative Development Strategy 1

Alternative Development Strategy 1 would contribute towards efforts to improve sustainable mobility (and associated effects on energy, air, noise and human health) by improving existing pedestrian access and the development of a proposed relief road, however: such a contribution would be outweighed by the overall direction of the Strategy which prefers an expansion of peripheral areas for residential, mixed use, industrial and commercial uses, some of which have no direct link to the town centre.

The extent of development provided for would have to be served by infrastructure and could affect flood risk.

By providing significant expansion of suburbs of the town and peripheral areas, this alternative would be likely to result in the greatest number and extent of residual adverse effects across the widest area. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters. This Scenario would provide for various uses on greenfield lands in the peripheries of the plan area, adversely impacting upon the consolidation of the town and sustainable mobility. The visual appearance of peripheral greenfield areas within the LAP area would be most likely to change under this scenario.

3.1.2 Alternative Development Strategy 2

Alternative Development Strategy 2 directs new development to vacant and infill sites in the town only. By consolidating the existing town centre and improving connectivity, this alternative would contribute towards efforts to both improve sustainable mobility (and associated effects on energy, air, noise and human health), protect cultural heritage and improve the residential fabric within the town centre.

However, by restricting new development to high density to vacant and infill sites, this alternative would be likely to result in an increase of applications for development outside the LAP area thereby weakening the town centre. It would be a challenge to serve peripheral areas with the necessary infrastructure.

The increase in applications for development within the periphery to the LAP area would provide for the greatest number and extent of residual adverse effects beyond the LAP area as a result of greenfield development. Such effects include loss of ecology (including non-designated ecology and ecological corridors and stepping-stones), the sealing of greenfield soils and threats to the status of waters and changes to the visual appearance of lands.

By encouraging an extent of development within the town centre, this alternative would somewhat contribute towards the protection and management of the environment elsewhere, however the higher

densities of development would have the potential to adversely impact upon the character of the town including cultural heritage and its context.

This alternative provides a significant amount of lands zoned primarily for Enterprise and Employment uses in the west and south west of the Plan area. The extent of lands zoned would be in significantly in excess of the needs of the town and would lead to unnecessary environmental effects on a variety of environmental components as a result of greenfield development in this edge of town location. Such effects would include a hindrance of efforts to maximise sustainable mobility as well as adverse effects on non-designated biodiversity and visual impacts.

3.1.3 Alternative Development Strategy 3

Alternative Development Strategy 3 consolidates and strengthens the town centre and provides for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner. Consolidation of the town centre, phasing of residential development, improvement of pedestrian links and public spaces are all provided for.

By providing for development in this manner, this alternative would maximise sustainable mobility (and associated effects on energy, air, noise and human health) and protect cultural heritage within the town centre. Overall, new development would be best served by existing and planned infrastructure under this scenario. By limiting development within the Plan area and on the periphery of the development envelope, this alternative would benefit the protection of various environmental components (e.g. ecology, water, visual sensitivities etc.) beyond the LAP area that could otherwise be threatened.

Potential conflicts with all environmental components (detailed under Table 7.3) would still have to be mitigated to ensure that significant adverse residual environmental effects do not occur.

This scenario provides for a greenbelt along the River Slaney that would contribute towards the protection of the status of the river including associated biodiversity, however, provisions of the plan to maximise the potential of the River Slaney through the creation of a number of uses could potentially have adverse effects on the biodiversity for which the site is designated for

3.1.4 Summary Evaluation of Alternatives

A number of potentially significant adverse environmental effects that are common to all alternatives and are described on the Table below taken from the SEA.

Table 3-1 Potentially Significant Adverse Environmental Effects common to all alternatives

Environmental Component	Likely Significant Effect, if unmitigated
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Loss of biodiversity with regard to designated biodiversity and flora and fauna (including Natura 2000 Sites, proposed Natural Heritage Areas and Annexed habitats and species), ecological connectivity and stepping stones and non-designated biodiversity and flora and fauna (see baseline Section 4.2)
Population and Human Health	<ul style="list-style-type: none"> o Spatially concentrated deterioration in human health
Soil (especially soil on greenfield lands)	<ul style="list-style-type: none"> o Adverse impacts on the hydrogeological and ecological function of the soil resource
Water (including the River Barrow and its tributaries and underlying groundwater)	<ul style="list-style-type: none"> o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology o Increase in flood risk
Material Assets (it is the function of Irish Water to provide for water services needs)	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate waste water treatment o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean o Increases in waste levels
Air and Climatic Factors	<ul style="list-style-type: none"> o Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases)
Cultural Heritage	<ul style="list-style-type: none"> o Effects on entries to the Record of Monuments and Places and other archaeological heritage o Effects on entries to the Records of Protected Structures and other architectural heritage
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse visual impacts

Table 3-2 below provides a comparative evaluation of the environmental effects of alternative development strategies against Strategic Environmental Objectives. This is supported by the narrative above and by effects that are common to all alternatives detailed on Table 3-1.

Table 3-2 Comparative Evaluation of Alternative Development Strategies

Alternative Development Strategy	<u>Likely to Improve</u> status of SEOs <u>to a greater degree</u>	<u>Likely to Improve</u> status of SEOs <u>to a lesser degree</u>	<u>Least Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to greater degree.</u> significant adverse effects less likely	<u>More Potential Conflict</u> with status of SEOs - <u>likely to be mitigated to an intermediate degree.</u> significant adverse effects more likely	Probable <u>Conflict</u> with status of SEOs- unlikely to be mitigated	<u>No significant interaction</u> with status of SEOs
Alternative Development Strategy 1		✓		✓		
Alternative Development Strategy 2		✓		✓		
Alternative Development Strategy 3	✓		✓			

3.2 Considerations of Cumulative Impacts/In-Combination Effects

Both the SEA and NIR account for potential interactions with other Plans and Projects. These include interactions resulting from the Plan and Projects such as:

- Other land use Plans (e.g. the Carlow County Development Plan);
- Water services, transport and energy infrastructure plans (e.g. **Irish Water’s Water Services Strategic Plan** and associated Capital Investment Plan 2014-2016, Grid25 and associated Implementation Programme) and the County Carlow 2021 Local Economic & Community Plan 2016-2021; and
- Environmental protection and management plans (e.g. South East River Basin Management Plans and flood risk management plans).

Such potential effects include the following (note that mitigation measure and provisions to account for these effects have been integrated into the Plan):

- Contributions towards reductions in travel related greenhouse gas and other emissions to air (in combination with plans and programmes from all sectors, including transport and land use planning) as a result of consolidating development and facilitating sustainable mobility/a shift from motorised transport modes to more sustainable and non-motorised transport modes.
- Contributions towards travel related greenhouse gas and other emissions to air (in combination with plans and programmes from all sectors, including transport and land use planning) as a result of facilitating development that must be accompanied by road capacity.
- Facilitation of new development that is accompanied by appropriate levels of water services thereby contributing towards environmental protection.
- Need for and use of water and wastewater treatment capacity arising from new developments and associated potential adverse effects.
- Potential cumulative effects upon surface and ground water status as a result of development including housing and employment – loadings and abstractions;
- Potential cumulative effects (habitat damage, enhancing ecological connectivity, contributing towards sustainable mobility) arising from linear developments, such as those relating to Green Infrastructure;
- Potential cumulative effects on flood risk by, for example, development of greenfield lands;

- **Potential cumulative visual impact of development at the interface between the LAP boundary and the surrounding area of the County which is subject to the provisions of the County Development Plan; and**
- In combination with plans and programmes from all sectors potential adverse effects on all environmental components arising from all development in greenfield and brownfield areas (e.g. infrastructural, residential, economic, agricultural etc.). The type of these effects is consistent with those described on Table 3-1. These plans and programmes from other sectors undergo SEA and comply with environmental legislation while projects are subject to EIA and AA, as relevant.

3.3 Emerging Preferred Option

Following the comparative evaluation process which is detailed in full in Section 4 of the SEA Scenario 3 was selected as the emerging preferred option as it emerged as the least constrained option in terms of ecological and environmental constraints. To consolidate and strengthen the town centre and provide for the limited expansion of Tullow on the outskirts of the town in a phased sustainable manner. The Plan includes Phase 1 Residential development and Enterprise and Employment. A summary of the likely significant effects and potentially significant effects (if unmitigated) to European Sites that could arise from the Plan can be found in Table 3-3 (as taken from Table 2.3 of the NIR). Where likely is above 95% chance of occurrence and probable is between 50-95% chance.

Table 3-3 Summary of potential effects arising from the Selected Alternative

Element of the Plan	Potential significant effects
<p>Provisions relating to tourism and cultural heritage development including:</p> <p><u>Policies in relation to Tourism</u> EC 13 LU 6 TP 6</p> <p><u>Objectives in relation to Tourism</u> TO 1 TO 4</p> <p><u>Policies in relation to Cultural facilities</u> HR 6</p>	<p>The provision for the expansion of tourism and associated infrastructure may potentially lead to the run-off of silt and other harmful pollutants to watercourse in the town and its environs. This may lead to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SAC's in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance of key species and habitats
<p>Provisions relating to improvements to pedestrian access and connectivity throughout the Plan Area, particularly towards community, commercial and recreational lands and facilities, including:</p> <p><u>Policies in relation to Land Uses</u> LUO 1 LU11</p> <p><u>Policies in relation to Public Space and Public Realm</u> PR 2</p> <p><u>Policies in relation to Transport</u> TP 2</p> <p><u>Policies in relation to Pedestrian Networks</u> LUO 1</p>	<p>Works to the pedestrian network in the town may potentially lead to the run-off of silt and other harmful pollutants to watercourse within the town. This may potentially lead to adverse impacts on water dependant European sites downstream of the Plan.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in key indicators of conservation value (water quality) • Disturbance of key species and habitats
<p>Proposed development and maintenance of new and existing recreational and tourism infrastructure and facilities in the area, including the expansion and linkages of existing and new walkways and cycle ways within the town and its surroundings, and wider extent of the county</p> <p><u>Policies in relation to Land Uses</u> LU 8¹</p> <p><u>Policies in relation to Streets and Movement</u> SM 3 SM 4²</p> <p><u>Policies in relation to Sports, Recreation and Play</u></p>	<p>The provision to develop recreational facilities and areas in the town may potentially lead to the run-off of silt and other harmful pollutants to the watercourse within the town. This may lead to adverse impacts on those waters.</p> <p>Recreational area works may also potentially lead to the disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats

¹ Note: Objective LU 8 has been subject to change, resulting from the mitigation process, in order to comply with environmental considerations.

² Note: Objective SM 4 has been subject to change, resulting from the mitigation process, in order to comply with environmental considerations.

Element of the Plan	Potential significant effects
<p>SP 1 SP 2 <u>Policies in relation to Recreational Potential of the River Slaney</u> RC 1 RC 2³ RC 3 <u>Policies in relation to Green Infrastructure</u> HR 17 <u>Built and Natural Heritage Objectives</u> HO 6</p>	
<p>The upgrading of roads and transport links <u>Objectives in relation to Public Spaces and Public Realm</u> PRO 1 <u>Objectives in relation to Transport Infrastructure</u> TO 4 TO 3 TO 5</p>	<p>Roads and transport upgrade works in the area may potentially lead to the run-off of silt and other harmful pollutants into the watercourse in the town, potentially leading to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Roads and transport upgrade works may also potentially lead to the disturbance of habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats
<p>New industrial development and Local Enterprise <u>Economic Policies for Tullow</u> EC 2 <u>Economic Objectives for Tullow</u> ECO 1</p>	<p>The provision for industrial developments may potentially lead to the run-off of silt and other harmful pollutants to watercourse in the town and its environs. This may lead to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance of key species and habitats
<p>Wastewater disposal, water supply and surface water disposal developments and upgrades <u>Policies in relation to Water Supply and Quality</u> WSP 3 <u>Objectives relating to Water Supply and Quality</u> WSO 2 WSO 7 WSO 9 <u>Policies in relation to Waste Water</u> WW 5 <u>Objectives in relation to Waste Water</u> WWO 1 WWO 2</p>	<p>Works to the water supply and wastewater treatment facilities within the town may potentially lead to the run-off of silt and other harmful pollutants to watercourses within the town. This may potentially lead to adverse impacts on water dependant European sites which occur downstream of the town.</p> <p>Development along the rivers may also potentially lead to disturbance to those habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance of key species and habitats
<p>The upgrading, maintenance and expansion of waste management facilities in the area <u>Policies in relation to Waste Management</u> WMP 3</p>	<p>Works to waste management facilities within the town may potentially lead to the run-off of silt and other harmful pollutants to watercourses within the town. This may potentially lead to adverse impacts on water dependant European sites which occur downstream of the town.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality)
<p>The development of renewable energy sources <u>Economic policies for Tullow</u> EC 6 <u>Policies in relation to Energy and Communications</u> ECP 1 <u>Objectives in relation to Energy and Communications</u> ECO 4</p>	<p>Renewable energy development in the town may potentially lead to the run-off of silt and other harmful pollutants into the watercourse in the town, potentially leading to adverse impacts on those water dependant European sites which occur downstream of the town.</p> <p>Renewable energy works may also potentially lead to the disturbance of habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p>

³ Note: Objective RC 2 has been subject to change, resulting from the mitigation process, in order to comply with environmental considerations.

Element of the Plan	Potential significant effects
<p>The extension of energy and communications infrastructure</p> <p><u>Policies in relation to Energy and Communications</u> ECP 1</p> <p><u>Objectives in relation to Energy and Communications</u> ECO 1 ECO 2 ECO 6</p>	<ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats <p>The development of telecommunications infrastructure in the environs of the town may potentially lead to the run-off of silt and other harmful pollutants to the watercourse within the town. This may lead to adverse impacts on those water dependant European sites downstream of the town.</p> <p>Telecommunication works may also potentially lead to the disturbance of habitats and species for which SACs in the area are designated.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) • Disturbance to key species and habitats
<p>Land use zoning objectives and associated provisions including those relating to: including those relating to Utilities, Enterprise and Employment, Existing Residential/Infill, Industry & Warehousing Existing Residential / Infill, Town Centre Activities and Amenity and Open Space</p>	<p>New development throughout the Plan Area may potentially lead to the potential run-off of silt and / or other harmful pollutants to watercourse within the Plan Area. The provisions for development may potentially lead to adverse impacts on those European sites which occur downstream of the Plan Area.</p> <p>This provision may potentially lead to:</p> <ul style="list-style-type: none"> • Changes in indicators of conservation value (water quality) <p>In addition, there are a number of overlaps between the area which is designated as cSAC and existing land use zoning objectives. If unmitigated, such overlaps could result in the full range of effects including:</p> <ul style="list-style-type: none"> • Loss / Reduction of Habitat Area • Disturbance to Key Species • Habitat / Species Fragmentation • Reduction in Species Density • Changes in Key Indicators of Conservation Value

Section 4 Determination

**Appropriate Assessment Determination under:
the Planning and Development Act 2000 (as amended)
for the:
Tullow Local Area Plan 2017-2023.**

An Appropriate Assessment (AA) determination has been made by Carlow County Council regarding the Tullow Local Area Plan 2017 – 2023.

Section 20 (3) (f) of the Planning and Development Act 2000 (as amended), requires, inter alia, a determination to be made as to whether Tullow Local Area Plan 2017 – 2023 warrant the undertaking of AA. An Appropriate Assessment determination [pursuant to Article 6(3) of the Habitats Directive as to whether or not a plan or project would adversely affect the integrity of a European site and the Planning and Development Act 2000 (as amended)] is being made by Carlow County Council.

In carrying out this Appropriate Assessment, the Council is taking into account the relevant matters specified under Part XAB of the Planning and Development Act 2000 (as amended), including:

- Existing Carlow County Development Plan 2015-2021 (and associated NIR and SEA reports);
- The Strategic Environmental Report; and
- The Natura Impact Report.

It is determined that the risks to the safeguarding and integrity of the qualifying interests, special conservation interests and conservation objectives of all European Sites have been addressed by the inclusion of achievable mitigation measures within the existing Tullow LAP. These prioritise the avoidance of effects in the first place and will reliably mitigate these effects where these cannot be avoided. In addition, any lower level plans and projects arising through the implementation of the Plan will themselves be subject to relevant stages of Appropriate Assessment when further details of design and location are known.

Having incorporated these mitigation commitments; it is considered that the Tullow Local Area Plan 2017 – 2023 is not foreseen to have any likely significant effects on the ecological integrity of any European Site⁴.

⁴ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

a) no alternative solution available,
b) imperative reasons of overriding public interest for the plan to proceed; and
c) Adequate compensatory measures in place.

**Appropriate Assessment Determination under:
the Planning and Development Act 2000 (as amended)**

for the:

Proposed Variation to the Tullow Local Area Plan 2017 – 2023

An Appropriate Assessment (AA) determination has been made by Carlow County Council regarding the Tullow Local Area Plan 2017 – 2023.

Section 20 (3) (f) of the Planning and Development Act 2000 (as amended), requires, inter alia, a determination to be made as to whether Tullow Local Area Plan 2017 – 2023 warrant the undertaking of AA. An Appropriate Assessment determination [pursuant to Article 6(3) of the Habitats Directive as to whether or not a plan or project would adversely affect the integrity of a European site and the Planning and Development Act 2000 (as amended)] is being made by Carlow County Council.

In carrying out this Appropriate Assessment, the Council is taking into account the relevant matters specified under Part XAB of the Planning and Development Act 2000 (as amended), including:

- Existing Carlow County Development Plan 2015-2021 (and associated NIR and SEA reports);
- Existing Tullow Local Area Plan 2011-2016 (and associated NIR and SEA reports)
- The Strategic Environmental Report; and □ The Natura Impact Report.

It is determined that the risks to the safeguarding and integrity of the qualifying interests, special conservation interests and conservation objectives of all European Sites have been addressed by the inclusion of achievable mitigation measures within the existing Tullow LAP. These prioritise the avoidance of effects in the first place and will reliably mitigate these effects where these cannot be avoided. In addition, any lower level plans and projects arising through the implementation of the Plan will themselves be subject to relevant stages of Appropriate Assessment when further details of design and location are known.

Having incorporated these mitigation commitments; it is considered that the Tullow Local Area Plan 2017 – 2023 is not foreseen to have any likely significant effects on the ecological integrity of any European Site¹.

Signed: B. O'Brien

Signatory
Approved Officer

¹ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be: a) no alternative solution available, b) imperative reasons of overriding public interest for the plan to proceed; and c) Adequate compensatory measures in place.

CAAS Ltd. for Carlow County Council

Appendix 3

Strategic Flood Risk Assessment

The logo for JBA consulting, featuring the text "JBA" in a large, bold, white sans-serif font above the word "consulting" in a smaller, white sans-serif font. The logo is set against a teal-colored rounded square background.

JBA
consulting

SFRA for the Tullow Local Area Plan 2016-2022

Strategic Flood Risk Assessment

March 2017

The logo for Carlow County Council, featuring the text "CARLOW COUNTY COUNCIL" in a teal, spaced-out sans-serif font. Below this is the Gaelic name "COMHAIRLE CHONTAE CHEATHARLOCHA" in a smaller teal font. To the right of the text is a teal circular emblem containing a stylized, interlocking geometric design.

C A R L O W
C O U N T Y C O U N C I L

COMHAIRLE CHONTAE CHEATHARLOCHA

JBA Project Manager

Ross Bryant BSc MSc CEnv MCIWEM C.WEM
 24 Grove Island
 Corbally
 Limerick
 Ireland

Revision History

Revision Ref / Date Issued	Amendments	Issued to
SFRA v1.0 June 2016	First Issue	Carlow County Council
SFRA v1.1 July 2016	Zoning adjustments	Carlow County Council
SFRA v1.2 March 2017	Adopted version	Carlow County Council

Contract

This report describes work commissioned by Fiona O' Neill, on behalf of Carlow County Council, by a letter dated 25th of February 2016. Carlow County Council's representative for the contract was Fiona O' Neill of Carlow County Council. Ross Bryant and Conor Quinlan of JBA Consulting carried out this work.

Prepared by Ross Bryant BSc MSc CEnv MCIWEM C.WEM
 Chartered Senior Analyst

Reviewed by Jonathan Cooper BEng MSc DipCD CEng MICE
 MCIWEM C.WEM MIO D MIEI
 Managing Director

Purpose

This document has been prepared as an SFRA for Carlow County Council. JBA Consulting accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.

JBA Consulting has no liability regarding the use of this report except to Carlow County Council.

Copyright

© JBA Consulting Engineers and Scientists Ltd 2017

Carbon Footprint

A printed copy of the main text in this document will result in a carbon footprint of 165g if 100% post-consumer recycled paper is used and 210g if primary-source paper is used. These figures assume the report is printed in black and white on A4 paper and in duplex.

JBA is aiming to reduce its per capita carbon emissions.

Contents

1	Study Background	1
1.1	Scope of Study	1
1.2	Report Structure	1
2	Tullow Study Area	3
2.1	Introduction	3
2.2	Watercourses.....	3
2.3	Environment.....	3
2.4	Planning Policy	4
3	The Planning System and Flood Risk Management	6
3.1	Introduction	6
3.2	Definition of Flood Risk.....	6
3.3	Definition of Flood Zones.....	7
3.4	Objectives and Principles of the Planning Guidelines	8
3.5	The Sequential Approach and Justification Test	9
3.6	Scales and Stages of Flood Risk Assessment.....	10
4	Data Collection	11
4.1	Overview	11
4.2	National PFRA Study Fluvial Flood Outlines	12
4.3	National CFRAM Programme.....	12
4.4	Tullowphelim Flood Relief Scheme (FRS).....	13
4.5	Historic Flood Review and Consultation with Area Engineer	15
4.6	Sources of Flooding.....	16
4.7	Climate Change	20
5	Approach to Flood Risk Management	21
5.1	The Strategic Approach	21
5.2	Application of the Plan Making Justification Test	22
5.3	Flood Management Action Plans.....	22
5.4	Development Management and Flood Risk	23
5.5	Requirements for a Flood Risk Assessment	23
5.6	Flood Mitigation Measures at Site Design	25
5.7	Drainage impact assessment	26
5.8	Incorporating Climate Change into Development Design	27
6	Settlement Review	28
6.1	Residential Lands Adjacent to Slaney	28
6.2	Town Centre	29
6.3	Lands to the south of the Town Centre	31
6.4	Lands adjacent to Mount Wolseley and Tullowphelim Streams	32
6.5	Lands to east of Tullow	33
7	SFRA Review and Monitoring	34

List of Figures

Figure 2-1 Watercourses flowing through Tullow	3
Figure 3-1 Source Pathway Receptor Model.....	6
Figure 3-2 Sequential Approach Principles in Flood Risk Management	9
Figure 4-1 Flood Zone mapping with watercourse annotation	12
Figure 4-2 Tullow FRS Layout: Embankments (green) and Walls (pink)	14
Figure 4-3 Bypassing point indicated by SE CFRAM Hydraulics Report	14
Figure 4-4 Historic Flood Mapping; Spatial Representation	15
Figure 4-5 Tullow Flood Zones and Defended Areas (CFRAM Data).....	17

List of Tables

Table 3-1 Probability of Flooding	7
Table 3-2 Definition of Flood Zones	8
Table 3-3 Matrix of Vulnerability versus Flood Zone	9
Table 4-1 Flood Data Used to Compile Flood Zone Mapping	11
Table 4-2 Historic Flooding Information - quoted from South Eastern CFRAM Inception Report and the consultation with Carlow Engineering staff	16
Table 4-3 Allowances for Future Scenarios (100 Year Time Horizon)	20
Table 5-1: Zoning objective vulnerability	21
Table 7-1 SFRA Review Triggers.....	34

Abbreviations

1D	One Dimensional (modelling)
2D	Two Dimensional (modelling)
AEP	Annual Exceedance Probability
AFA	Area for Further Assessment
CFRAM	Catchment Flood Risk Assessment and Management
DoEHLG.....	Department of the Environment, Heritage and Local Government
DTM	Digital Terrain Model
EC	European Community
EPA.....	Environmental Protection Agency
FRA.....	Flood Risk Assessment
FRMP	Flood Risk Management Plan
FRR.....	Flood Risk Review
GSDSDS	Greater Dublin Strategic Drainage Strategy
HEFS	High End Future Scenario
HPW.....	High Priority Watercourse

LA.....	Local Authority
LAP.....	Local Area Plan
MRFS.....	Medium Range Future Scenario
OPW.....	Office of Public Works
OS.....	Ordnance Survey
PFRA.....	Preliminary Flood Risk Assessment
SAC.....	Special Area of Conservation, protected under the EU Habitats Directive
SEA.....	Strategic Environmental Assessment
SFRA.....	Strategic Flood Risk Assessment
SI.....	Site Investigation
SPR.....	Standard percentage runoff
Tp.....	Time to Peak

1 Study Background

JBA Consulting was appointed by Carlow County Council to carry out the Strategic Flood Risk Assessment for the Tullow Local Area Plan 2016-2022.

This report details the SFRA for this area and has been prepared in accordance with the requirements of the DoEHLG and OPW Planning Guidelines, The Planning System and Flood Risk Management; these guidelines were issued under the Planning and Development Act 2000, and recognise the significance of proper planning to manage flood risk.

1.1 Scope of Study

Under the "Planning System and Flood Risk Management" guidelines, the purpose for the FRA is detailed as being *"to provide a broad (wide area) assessment of all types of flood risk to inform strategic land-use planning decisions. SFRAs enable the LA to undertake the sequential approach, including the Justification Test, allocate appropriate sites for development and identify how flood risk can be reduced as part of the development plan process"*.

The Carlow County Development Plan 2015-2021 (CCDP) will be the key document for setting out a vision for the development of Tullow during the plan period.

It is important that the LAP fulfils the requirements of the document "The Planning System and Flood Risk Management Guidelines for Planning Authorities" (OPW/DoEHLG, 2009) which states that flood risk management should be integrated into spatial planning policies at all levels to enhance certainty and clarity in the overall planning process.

In order to ensure that flood risk is integrated into the LAP, the main requirements of this document are to:

- Produce Flood Mapping.
- Prepare a Stage 2 - Flood Risk Assessment of Tullow in particular in relation to location and type of zoning and land-use proposals.
- Prepare a Flood Risk Management Plan in compliance with OPW/DoEHLG – "The Planning System and Flood Risk Management –Guidelines for Planning Authorities (OPW/DoEHLG, 2009)" and Circular PL02/2014 (August 2014).
- Advise on zonings/land use-proposals, assess and report on any submissions received as part of both the preparation and the public consultation stage of the plan, as they relate to flood risk.

1.2 Report Structure

This study considers the development strategy that will form part of the Local Area Plan for Tullow. The context of flood risk in Tullow are considered with specific reference to the primary flood source, fluvial flooding, and secondary sources such as, pluvial, groundwater, sewer and artificial reservoirs.

A two stage assessment of flood risk was undertaken, as recommended in 'The Planning System and Flood Risk Management' guidelines, for the area that lies within the development boundary of the Local Area Plan. The first stage is to identify flood risk and is based primarily on the findings of the South Eastern Catchment Flood Risk Assessment and Management Study (SECFRAM). Historical records and recent events demonstrate that Tullow has a history of flooding in certain areas. The second stage and the main purpose of this SFRA report is to appraise the adequacy of existing information, to prepare an indicative flood zone map, based on available data, and to highlight potential development areas that require more detailed assessment on a site specific level.

Section 2 of this report provides an introduction to the study area and Section 3 discusses the concepts of flooding, Flood Zones and flood risk as they are incorporated into the Planning System and Flood Risk Management.

In Section 4 the available data related to flooding is summarised and appraised and outlines the sources of flooding to be considered, based on the review of available data.

Following this, Section 5 provides guidance and suggested approaches to managing flood risk to development; the contents of this section will be of particular use in informing the policies and objectives within the Local Area Plan.

In Section 6 the proposed zonings are reviewed, with specific responses to flood risk in relation to a number of key development sites in Tullow.

Finally, triggers for the ongoing monitoring and future review of the SFRA are detailed in Section 7.

2 Tullow Study Area

2.1 Introduction

The plan area comprises of the full extent of the town of Tullow located in the Slaney Catchment.

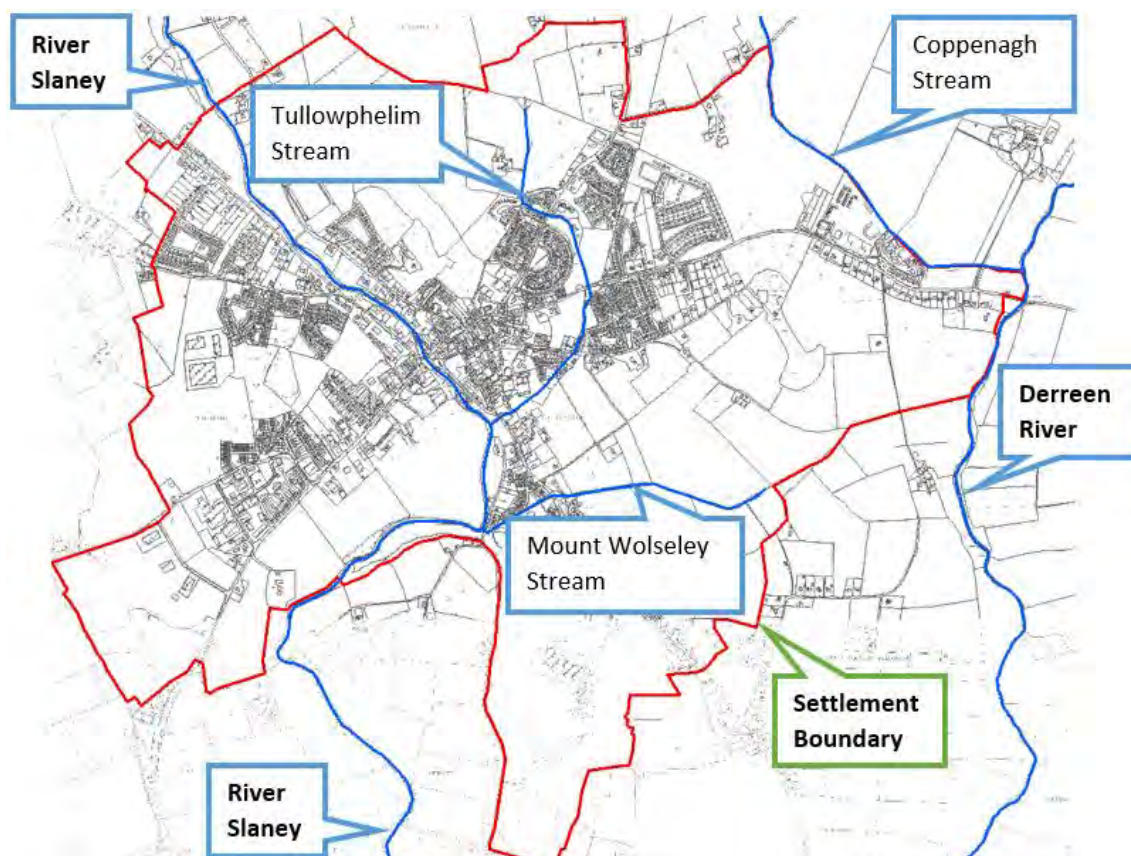
2.2 Watercourses

The Slaney catchment covers an area of 1,762km² and the river is 117km in length, rising in the Lugnaquilla Mountain in Wicklow and flowing down through Wicklow and Carlow passing through major towns such as Baltinglass and the area of study, Tullow, before flowing through Wexford where it enters the Irish Sea in Wexford Town with the Slaney estuary forming Wexford Harbour.

The river is fast flowing, rocky and has overgrown banks in parts along the stretch between Baltinglass and Tullow. From Tullow on to Bunclody the river flattens out more the banks are generally clear and the river is wider, with a strong fast current. However, there are a greater number of weirs along this stretch and some slower flowing areas.

A main tributary of the River Slaney, The River Derreen also flows through the study area along with two tributaries of the river Slaney, the Tullowphelim and Mount Wolseley streams along with the Coppengah Stream a tributary of the River Derreen. The River Derreen rises, like the River Slaney in the Lugnaquilla Mountain in Wicklow and joins the river Slaney south of Tullow.

Figure 2-1 Watercourses flowing through Tullow



2.3 Environment

The River Slaney through Tullow and one its tributaries the River Derreen have been designated as Special Areas of Conservation (SAC) - Site 0781 Slaney River Valley SAC.

Under Article 6(3) of the EU Habitats Directive, an “appropriate assessment” (AA) is required where any plan or project, either alone or ‘in combination’ with other plans or projects, could have an adverse effect on the integrity of a Natura 2000 site.

The management of flood risk within such areas must have regard to potential negative impacts to this environment. Further information is provided in the full Strategic Environmental Assessment (SEA) and AA for the CDP.

2.4 Planning Policy

2.4.1 Carlow County Development Plan

The current plan covers the period 2015-2021. The plan sets out compliance with national spatial strategy and the West Regional Planning Guidelines, including; "policies for the protection of areas at risk from flooding."

The flood management policies of Carlow County Council, as laid out in the development plan include:

- Carry out flood risk assessment for the purpose of regulating, restricting and controlling development in areas at risk of flooding and to minimise the level of flood risk to people, business, infrastructure and the environment through the identification and management of existing and potential future flood risk;
- Lower tier plans shall undertake Strategic Flood Risk Assessment in accordance with the requirements of the Planning System and Flood Risk Management-Guidelines for Planning Authorities (DEHLG and OPW, 2009);
- Apply the sequential approach which is based on the principles of avoidance, reduction and mitigation of flood risks when preparing town development plans and local area plans and when assessing planning applications for development proposals;
- Require the use of Sustainable Urban Drainage Systems (SuDS) to minimise the extent of hard surfacing and paving and require the use of sustainable drainage for new development or extensions to existing developments;
- Ensure that all development proposals comply with the requirements of the Planning System and Flood Risk Management-Guidelines for Planning Authorities' (DEHLG and OPW 2009) and to ensure that the Justification Test for Development Management is applied to required development proposals and in accordance with methodology set out in the guidelines;
- Preserve appropriately sized riparian strips alongside river channels free of development and of adequate width to permit access for river maintenance;
- Integrate as appropriate the recommendations of any relevant CFRAM Studies, Flood Risk Management Plans, future flood hazard maps or flood risk maps;
- Ensure that where flood protection or alleviation works take place that the natural and cultural heritage and rivers, streams and watercourses are protected and enhanced. Such works will be subject to Appropriate Assessment as required under Article 6 of the EU Habitats Directive;
- Ensure that development proposals in areas at moderate (Flood Zone B) or high (Flood Zone A) risk of flooding which are considered acceptable in principle demonstrate that appropriate mitigation measures can be put in place and that residual risks can be managed to acceptable levels;
- Site-specific Flood Risk Assessment (FRA) is required for all planning applications in areas at risk of flooding, even for developments appropriate to the particular Flood Zone. The detail of these site-specific FRAs will depend on the level of risk and scale of development. A detailed site-specific FRA should quantify the risks, the effects of selected mitigation and the management of any residual risks. The Council shall have regard to the results of any CFRAM Study in the assessment of planning applications;
- Support, in co-operation with the OPW, the implementation of the EU Flood Risk Directive (2007/60/EC), the Flood Risk Regulations (SI No. 122 of 2010) and the DEHLG/OPW publication The Planning System and Flood Risk Management Guidelines (2009) (and any updated/superseding legislation or policy guidance). Carlow County Council will also take account of the South Eastern Catchment Flood Risk Assessment and Management Study;
- Protect water bodies and watercourses within the County from inappropriate development, including rivers, streams, associated undeveloped riparian strips, wetlands and natural floodplains. This will include protection buffers in riverine and wetland areas as

appropriate. For larger river channels (over 10m), the recommended width of the core riparian core (CZR) is 35-60m (18-30m on each side of the river) and may be larger where flood plains adjoin the riparian zone. For smaller channels (under 10m), a core riparian zone (CZR) of 20m or greater (minimum 10m on each side of the river) is recommended.

In addition, the Specific Objective for Flood Risk Management requires a detailed site-specific FRA for identified potential flood risk areas, taking into consideration findings of the CFRAM Study when completed.

The requirement for a detailed FRA for every development within Flood Zones A or B has been reviewed as part of this SFRA, and specific standards and guidance are included in this document.

3 The Planning System and Flood Risk Management

3.1 Introduction

Prior to discussing the management of flood risk, it is helpful to understand what is meant by the term. It is also important to define the components of flood risk in order to apply the principles of the Planning System and Flood Risk Management in a consistent manner.

The Planning System and Flood Risk Management: Guidelines for Planning Authorities, published in November 2009, describe flooding as a natural process that can occur at any time and in a wide variety of locations. Flooding can often be beneficial, and many habitats rely on periodic inundation. However, when flooding interacts with human development, it can threaten people, their property and the environment.

This Section will firstly outline the definitions of flood risk and the Flood Zones used as a planning tool; a discussion of the principles of the planning guidelines and the management of flood risk in the planning system will follow.

3.2 Definition of Flood Risk

Flood risk is generally accepted to be a combination of the likelihood (or probability) of flooding and the potential consequences arising. Flood risk can be expressed in terms of the following relationship:

$$\text{Flood Risk} = \text{Probability of Flooding} \times \text{Consequences of Flooding}$$

The assessment of flood risk requires an understanding of the sources, the flow path of floodwater and the people and property that can be affected. The *source - pathway - receptor model*, shown below in Figure 3-1, illustrates this and is a widely used environmental model to assess and inform the management of risk.

Figure 3-1 Source Pathway Receptor Model



Fig. A1: Sources, pathways and receptors of flooding

Source: Figure A1 The Planning System and Flood Risk Management Guidelines Technical Appendices

Principal sources of flooding are rainfall or higher than normal sea levels while the most common pathways are rivers, drains, sewers, overland flow and river and coastal floodplains and their defence assets. Receptors can include people, their property and the environment. All three elements must be present for flood risk to arise. Mitigation measures, such as defences or flood resilient construction, have little or no effect on sources of flooding but they can block or impede pathways or remove receptors.

The planning process is primarily concerned with the location of receptors, taking appropriate account of potential sources and pathways that might put those receptors at risk.

3.2.1 Likelihood of Flooding

Likelihood or probability of flooding or a particular flood event is classified by its annual exceedance probability (AEP) or return period (in years). A 1% AEP flood indicates the flood event that will occur or be exceeded on average once every 100 years and has a 1 in 100 chance of occurring in any given year.

Return period is often misunderstood to be the period between large flood events rather than an average recurrence interval. Annual exceedance probability is the inverse of return period as shown in Table 3-1.

Table 3-1 Probability of Flooding

Return Period (Years)	Annual Exceedance Probability (%)
2	50
100	1
200	0.5
1000	0.1

Considered over the lifetime of development, an apparently low-frequency or rare flood has a significant probability of occurring. For example:

- A 1% flood has a 22% (1 in 5) chance of occurring at least once in a 25-year period - the period of a typical residential mortgage;
- And a 53% (1 in 2) chance of occurring in a 75-year period - a typical human lifetime.

3.2.2 Consequences of Flooding

Consequences of flooding depend on the hazards caused by flooding (depth of water, speed of flow, rate of onset, duration, wave-action effects, water quality) and the vulnerability of receptors (type of development, nature, e.g. age-structure, of the population, presence and reliability of mitigation measures etc.).

The 'Planning System and Flood Risk Management' provides three vulnerability categories, based on the type of development, which are detailed in Table 3.1 of the Guidelines, and are summarised as:

- **Highly vulnerable**, including residential properties, essential infrastructure and emergency service facilities;
- **Less vulnerable**, such as retail and commercial and local transport infrastructure;
- **Water compatible**, including open space, outdoor recreation and associated essential infrastructure, such as changing rooms.

3.3 Definition of Flood Zones

In the 'Planning System and Flood Risk Management', Flood Zones are used to indicate the likelihood of a flood occurring. These Zones indicate a high, moderate or low risk of flooding from fluvial or tidal sources and are defined below in Table 3-2.

It is important to note that the definition of the Flood Zones is based on an **undefended scenario** and does not take into account the presence of flood protection structures such as flood walls or embankments. This is to allow for the fact that there is a residual risk of flooding behind the defences due to overtopping or breach and that there may be no guarantee that the defences will be maintained in perpetuity.

It is also important to note that the Flood Zones indicate flooding from fluvial and tidal sources and do not take other sources, such as groundwater or pluvial, into account, so an assessment of risk arising from such sources should also be made.

Table 3-2 Definition of Flood Zones

Zone	Description
Zone A High probability of flooding.	This zone defines areas with the highest risk of flooding from rivers (i.e. more than 1% probability or more than 1 in 100) and the coast (i.e. more than 0.5% probability or more than 1 in 200).
Zone B Moderate probability of flooding.	This zone defines areas with a moderate risk of flooding from rivers (i.e. 0.1% to 1% probability or between 1 in 100 and 1 in 1000) and the coast (i.e. 0.1% to 0.5% probability or between 1 in 200 and 1 in 1000).
Zone C Low probability of flooding.	This zone defines areas with a low risk of flooding from rivers and the coast (i.e. less than 0.1% probability or less than 1 in 1000).

3.4 Objectives and Principles of the Planning Guidelines

The 'Planning System and Flood Risk Management' describes good flood risk practice in planning and development management. Planning authorities are directed to have regard to the guidelines in the preparation of Development Plans and Local Area Plans, and for development control purposes.

The objective of the 'Planning System and Flood Risk Management' is to integrate flood risk management into the planning process, thereby assisting in the delivery of sustainable development. For this to be achieved, flood risk must be assessed as early as possible in the planning process. Paragraph 1.6 of the Guidelines states that the core objectives 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 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".*

The guidelines aim to facilitate *'the transparent consideration of flood risk at all levels of the planning process, ensuring a consistency of approach throughout the country.'* SFRAs therefore become a key evidence base in meeting these objectives.

The 'Planning System and Flood Risk Management' works on a number of key principles, including:

- Adopting a staged and hierarchical approach to the assessment of flood risk;
- Adopting a sequential approach to the management of flood risk, based on the frequency of flooding (identified through Flood Zones) and the vulnerability of the proposed land use.

3.5 The Sequential Approach and Justification Test

Each stage of the FRA process aims to adopt a sequential approach to management of flood risk in the planning process.

Where possible, development in areas identified as being at flood risk should be avoided; this may necessitate de-zoning lands within the plan boundary. If de-zoning is not possible, then rezoning from a higher vulnerability land use, such as residential, to a less vulnerable use, such as open space may be required.

Figure 3-2 Sequential Approach Principles in Flood Risk Management



Source: The Planning System and Flood Risk Management (Figure 3.1)

Where rezoning is not possible, exceptions to the development restrictions are provided for through the Justification Test. Many towns and cities have central areas that are affected by flood risk and have been targeted for growth. To allow the sustainable and compact development of these urban centres, development in areas of flood risk may be considered necessary. For development in such areas to be allowed, the Justification Test must be passed.

The Justification Test has been designed to rigorously assess the appropriateness, or otherwise, of such developments. The test is comprised of two processes; the Plan-making Justification Test, and the Development Management Justification Test. The latter is used at the planning application stage where it is intended to develop land that is at moderate or high risk of flooding for uses or development vulnerable to flooding that would generally be considered inappropriate for that land.

Table 3-3 shows which types of development, based on vulnerability to flood risk, are appropriate land uses for each of the Flood Zones. The aim of the SFRA is to guide development zonings to those which are 'appropriate' and thereby avoid the need to apply the Justification Test.

Table 3-3 Matrix of Vulnerability versus Flood Zone

	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable development (Including essential infrastructure)	Justification Test	Justification Test	Appropriate
Less vulnerable development	Justification Test	Appropriate	Appropriate
Water-compatible development	Appropriate	Appropriate	Appropriate

Source: Table 3.2 of The Planning System and Flood Risk Management

3.6 Scales and Stages of Flood Risk Assessment

Within the hierarchy of regional, strategic and site-specific flood-risk assessments, a tiered approach ensures that the level of information is appropriate to the scale and nature of the flood-risk issues and the location and type of development proposed, avoiding expensive flood modelling and development of mitigation measures where it is not necessary. The stages and scales of flood risk assessment comprise:

- **Regional Flood Risk Appraisal (RFRA)** – a broad overview of flood risk issues across a region to influence spatial allocations for growth in housing and employment as well as to identify where flood risk management measures may be required at a regional level to support the proposed growth. This should be based on readily derivable information and undertaken to inform the Regional Planning Guidelines.
- **Strategic Flood Risk Assessment (SFRA)** – an assessment of all types of flood risk informing land use planning decisions. This will enable the Planning Authority to allocate appropriate sites for development, whilst identifying opportunities for reducing flood risk. This SFRA will revisit and develop the flood risk identification undertaken in the RFRA, and give consideration to a range of potential sources of flooding. An initial flood risk assessment, based on the identification of Flood Zones, will also be carried out for those areas which will be zoned for development. Where the initial flood risk assessment highlights the potential for a significant level of flood risk, or there is conflict with the proposed vulnerability of development, then a site specific FRA will be recommended, which will necessitate a detailed flood risk assessment.
- **Site Specific Flood Risk Assessment (FRA)** – site or project specific flood risk assessment to consider all types of flood risk associated with the site and propose appropriate site management and mitigation measures to reduce flood risk to and from the site to an acceptable level. If the previous tiers of study have been undertaken to appropriate levels of detail, it is highly likely that the site specific FRA will require detailed channel and site survey, and hydraulic modelling.

4 Data Collection

4.1 Overview

There are a number of sources of flood data available for the Tullow area. The following table lists the core datasets used to compile the flood map for the Tullow Local Area Plan and gives an assessment of the data quality and the confidence in its accuracy.

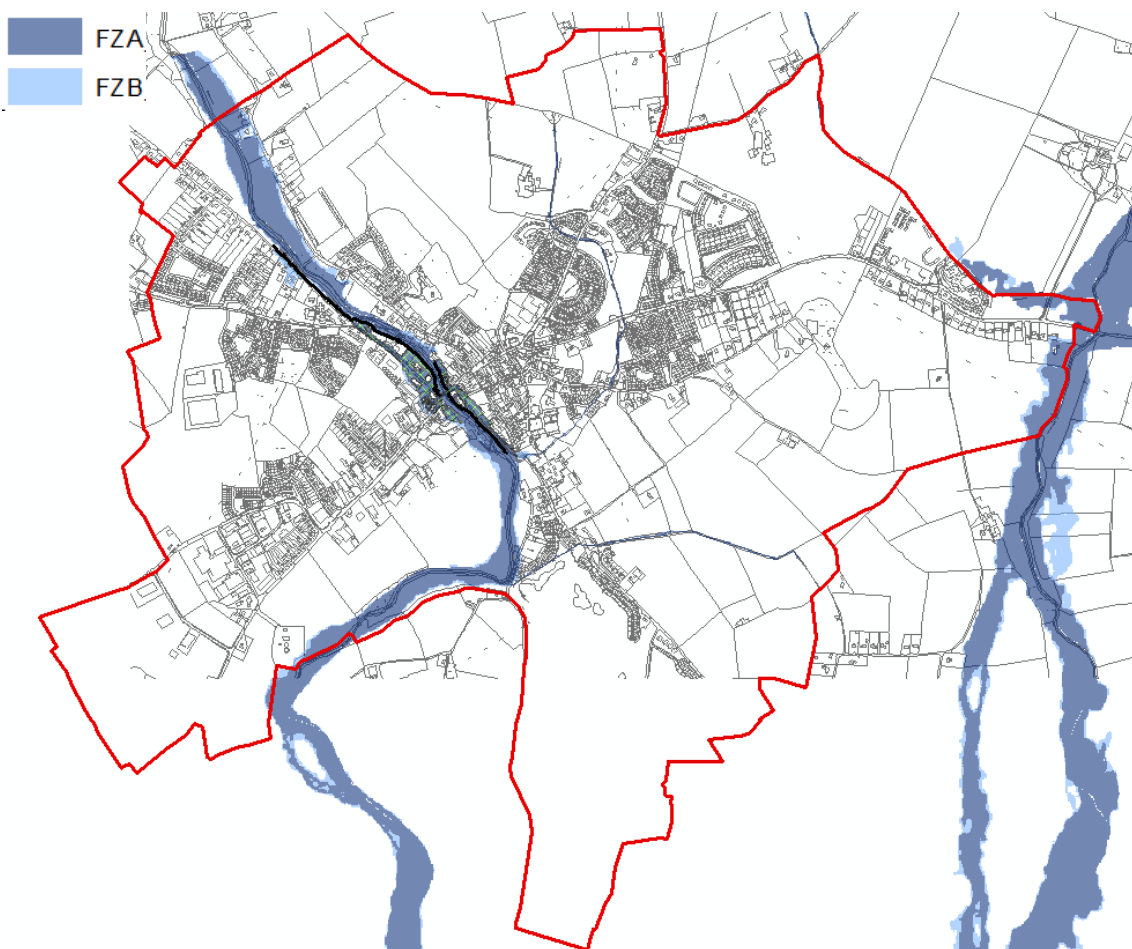
Table 4-1 Flood Data Used to Compile Flood Zone Mapping

Description	Coverage	Robustness	Comment on usefulness
South Eastern CFRAM Draft Flood Mapping	Covers the Rivers Slaney & Derreen as well as Tullowphelim, Mount Wolseley & Copenagh streams.	High AFA status.	Detailed 1D/2D CFRAM HPW model and is useful. Site verified by walkover and consultation with Local Authority.
OPW PFRA flood extent maps, as verified by CFRAM FRR	Covers all watercourses.	Moderate	CFRAM mapping supersedes all PFRA mapping. Has been used for sensibility checking only.
Historical Flood Records and Consultation with Area Engineer	Spot coverage of whole LAP (Area Engineer specific input).	Moderate	Highly useful oversight of historic flooding issues provided by Local Authority.
Walkover Survey	Covers all significant watercourses.	Moderate	Walkover used to validate outlines, estimate new outlines and flow paths at key locations. Essential process in the Flood Zone process.

The Flood Zone mapping represents a combination of the above flood sources. The draft South Eastern CFRAM mapping, has formed the core source of the final Flood Zones for all watercourses as they have all been subject to detailed analysis under this project. All flood mapping has been site verified by walkover and consultation with the Local Authority Area Engineer. There has also been a thorough review of historic flood records. The result is Flood Zone mapping that presents the best available data for the study area.

Figure 4-1 over the page presents an overview of the Flood Zones and watercourses. Each of the sources of flood information is discussed in more detail below.

Figure 4-1 Flood Zone mapping with watercourse annotation



4.2 National PFRA Study Fluvial Flood Outlines

The Preliminary Flood Risk Assessment (PFRA) is a national screening exercise that was undertaken by the OPW to identify areas at potential flood risk. The PFRA was a requirement of the EU Floods Directive and the publication of this work informed the more detailed assessment that is being undertaken as part of the Catchment Flood Risk Assessment and Management (CFRAM) studies. The PFRA study considered flooding from a number of sources; fluvial, tidal, pluvial and groundwater and resulted in production of a suite of broadscale flood maps.

For the preparation of the PFRA fluvial flood maps, flood flow estimates were calculated at nodes every 500m along the entire river network. (The river network is the EPA 'blue-line' network, which, for the most part, matches the rivers mapped at the 1:50,000 scale Discovery Series OS mapping). This flow estimation was based on the OPW Flood Studies Update research programme. An assumption was made that the in-channel flow equates to the mean annual flood and so the out of bank flow for a particular AEP event was determined by deducting the mean annual flood from the flood flow estimate for that probability event.

Using a 5m national digital terrain model (DTM) a cross section was determined at 100m spacings. The Manning's equation, a hydraulic equation for normal flow, was used to calculate a flood level which was then extrapolated across the DTM to determine the flood extent. This exercise was completed by the OPW for all river catchments greater than 1km².

This methodology did not take into account defences, channel structures or channel works. Potential sources of error in the mapping include local errors in the DTM or changes to the watercourse flow route due to an error in mapping or new development.

4.3 National CFRAM Programme

Following on from the PFRA study, the OPW commenced appointment of consultants to carry out a more detailed flood risk assessment for key flood risk areas. This work is being undertaken under the national CFRAM programme across seven river basin districts in Ireland. The CFRAM

programme commenced with three pilot studies covering the River Lee, Fingal East Meath area and the River Dodder. A further 6 studies are currently underway in the East, South-East, South-West, West, North-West and Neagh-Bann regions.

Tullow falls within the South Eastern CFRAM Study area. The initial Flood Risk Review (FRR) stage of the South Eastern CFRAM has been completed and this included a site based review of the PFRA flood outlines for the area, which provided feedback on flood risk and potential for inclusion as a detailed Area of Further Assessment.

The area was designated as a probable AFA (Area for Further Assessment). The area was subject to the full analysis under the South Eastern CFRAM. This included a detailed 1D-2D hydraulic model, the model represents the Tullow AFA and encompasses the River Slaney upstream and downstream of its extent, plus associated tributaries¹. Three tributaries are included in the model these are the Derreen River and one of its tributaries the Coppengh stream, the urban Tullowphelim and Mount Wolseley streams that flow through the study area. The CFRAM mapping represents a significant improvement compared to the accuracy provided by the PFRA mapping and the CFRAM mapping has been verified by a site walkover and consultation with the Local Authority.

A Public Consultation on the preliminary options for flood risk management within the Tullow AFA was held in Tullow on 9th March 2016. The consultation confirmed that there are 69 properties currently defended by the Tullowphelim Flood Relief Scheme (FRS). The draft recommendation for the Tullow AFA is that flood risk continues to be managed by the FRS and that a further single house can potentially be defended under a minor works proposal. Further details on the FRS is provided in the next section.

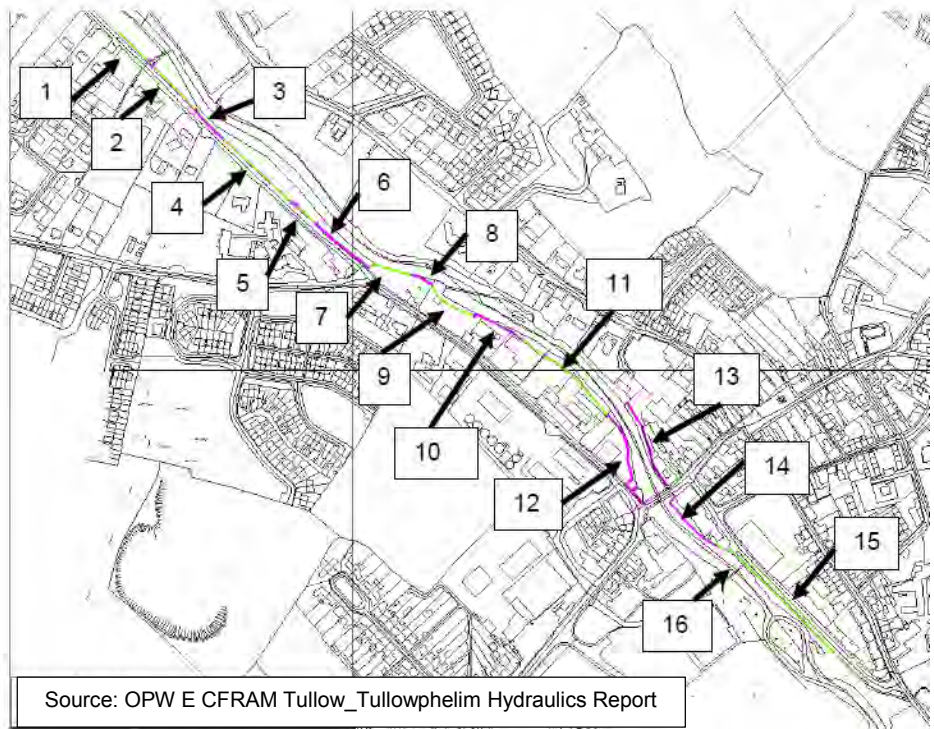
4.4 Tullowphelim Flood Relief Scheme (FRS)

The Tullow FRS was completed in 2011 and has a standard of protection up to a 1% AEP flood event. It includes a series of walls, embankments and six demountable flood barriers. In addition, the channel of the River Slaney has been widened downstream of the bridge, a schematic of the FRS is included in Figure 4-2 below.

As indicated above, the scheme relies on demountable barriers which are put in place by Carlow County Council, all six barriers are located on the western bank of the Slaney, with three upstream and three downstream of the town bridge. Pumps are then installed to manage surface water levels behind the defences. A telemetry system monitors river level information from Rathvilly (15km upstream on the Slaney) and also within Tullow itself. A series of operational rules dictate when the defences are manually installed and the monitoring equipment sends out automated text messages to key operational staff. Met Eireann rainfall warnings are also monitored and used to inform precautionary installation of the barriers. The upstream catchment results in a relatively rapid rise in flood levels and lead-in times for the installation of the barriers are therefore short (circa 5 hours).

¹South Eastern CFRAM Study HA12 Hydraulics Report Tullow (Tullowphelim) Model, August 2015
2016s4003 Tullow SFRA v1.2.docx

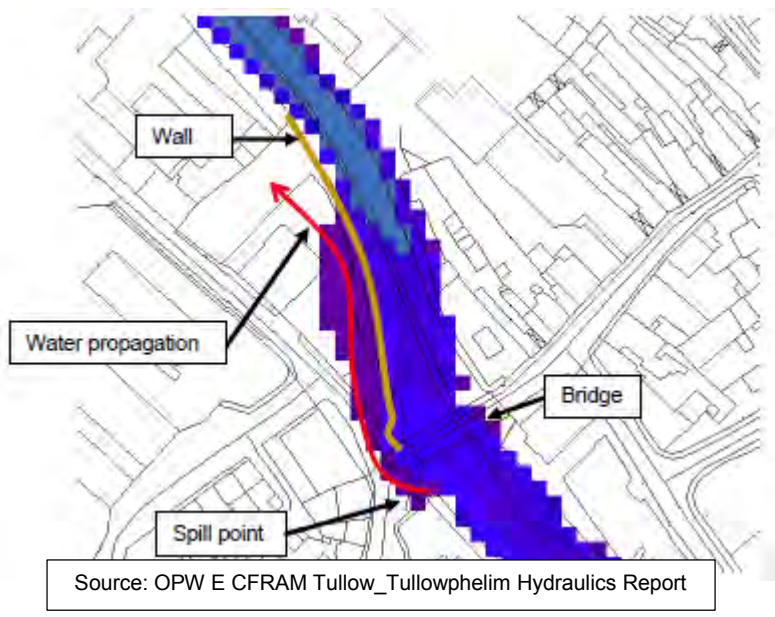
Figure 4-2 Tullow FRS Layout: Embankments (green) and Walls (pink)



There is a residual risk associated with failure of these defences due to overtopping or breach, or failure to erect sections of the defences. The failure to erect the removable barriers is perhaps the most significant risk facing the town centre area given the short lead in time and reliance on a telemetered river level monitoring system.

The South Eastern CFRAM provides a useful review of the operation of the FRS and within the draft hydraulics report it confirms that the system is effective to the 1% AEP with the exception of an over spill point located on the western side of the town bridge which spills water at lower return periods, see Figure 4-3 below. JBA has verified this potential spill location with Carlow County Council who confirmed that there is a flood barrier in place at the stated location (between the bridge parapet and gable end wall of the public house). As such the spill point could be stated in error, or possibly be overestimated.

Figure 4-3 Bypassing point indicated by SE CFRAM Hydraulics Report



4.5 Historic Flood Review and Consultation with Area Engineer

Records of past flooding are useful for looking at the sources, seasonality, frequency and intensity of flooding. Historical records are mostly anecdotal and incomplete, but are useful for providing background information.

4.5.1 OPW Floodmaps.ie

The OPW hosts a National Flood Hazard Mapping website² that makes available information on areas potentially at risk from flooding. This website provides information on historical flood events across the country and formed the basis of the Regional Flood Risk Appraisal.

Information is provided in the form of reports and newspaper articles which generally relate to rare and extreme events. Since the establishment of the hazard mapping website, more records are available which identify more frequent and often recurring events. These tend to include memos and meeting records from local authority area engineers, often relating to road flooding.

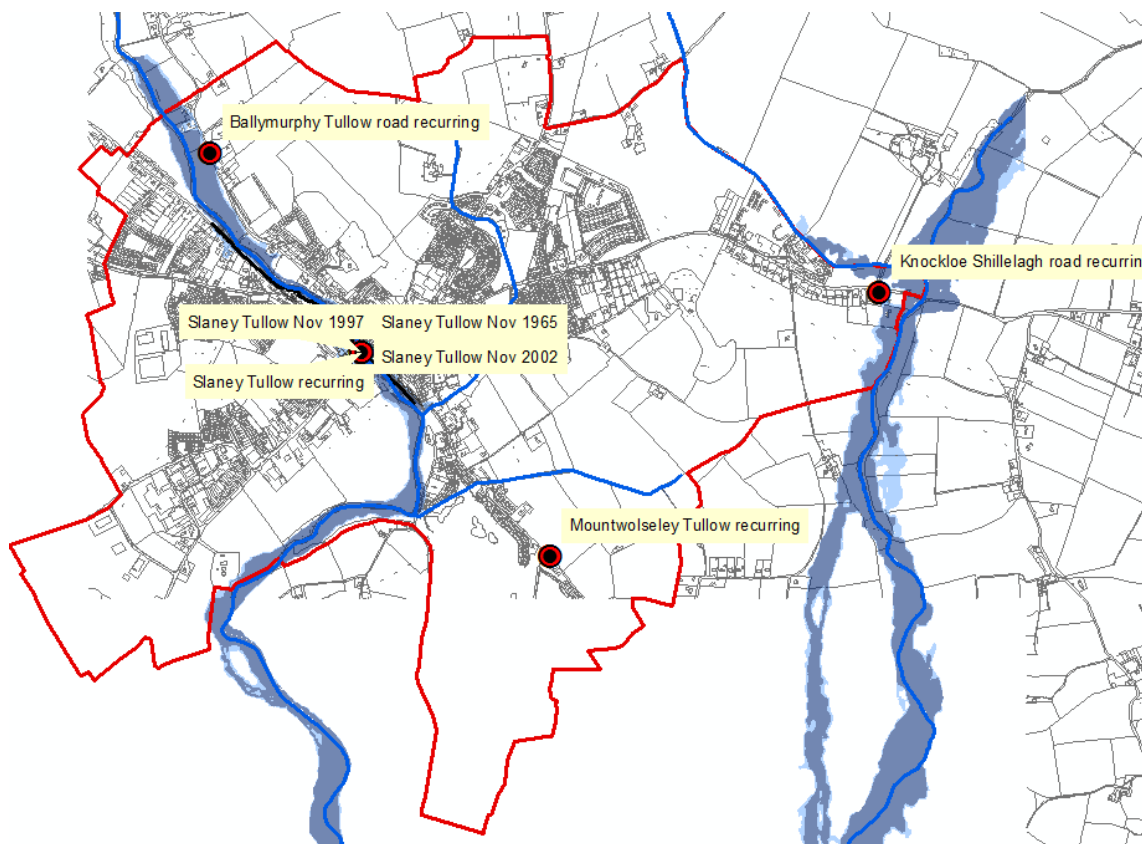
4.5.2 Consultation

A meeting with the Area Engineer for Tullow helped to clarify and improve on the general appreciation of flood risk across the settlement. This includes for appropriate screening of the historic and potential flood risk from the smaller watercourses within the settlement boundary. Incidences of flooding from the consultation are noted in the following section.

4.5.3 Summary of Historic Flood Risk

The pertinent flood risk history from both the consultation and OPW floodmaps.ie sources are summarised in Figure 4-4 and Table 4-2 below.

Figure 4-4 Historic Flood Mapping; Spatial Representation



² www.floodmaps.ie
2016s4003 Tullow SFRA v1.2.docx

Table 4-2 Historic Flooding Information - quoted from South Eastern CFRAM Inception Report³ and the consultation with Carlow Engineering staff

Date of Flood	Description
November 18th 1965	Largest recorded flooding event to have occurred in Tullow. 60 properties flooded by depths of up to 1.5m. Reports suggest that the flooding was a result of a blocked bridge upstream which had effectively become a dam failing, sending a flood wave downstream. ⁴
November 18th 1997	The 1997 event is reported to have caused infrastructural flooding and some flooding of properties. Availability of extents, flood levels and depths are limited for this event. ⁵
November 6th 2000	The second greatest recorded flood event occurred in Tullow in November 2000. The event was caused by heavy rainfall and resulted in flooding of 30 properties. ⁶
November 27th 2002	Some roads such as Thomas Traynor Street and Ouragh Road were flooded in November of 2002. No flooding of properties was recorded, and the flood event was attributed to backing up of the surface water drainage system as opposed to fluvial flooding. ⁷
Recurring	Two sections of road at Mountwelseley Tullow regularly become impassable due to flooding. ⁸
Recurring	Recurring flooding to buildings and roads in the Tullow town centre to buildings and roads was previously an issue. ⁹

4.6 Sources of Flooding

A review of the historical event data and predictive flood information has highlighted a number of sources of potential flood risk to the town. These are discussed in the following sections.

4.6.1 Fluvial Flooding

The main source of historic and potential flood risk to development in Tullow is the River Slaney with the river Derreen presenting a low risk. The River Slaney has been subject to a Flood Relief Scheme (FRS). In addition to the River Slaney and Derreen there are three smaller tributaries that drain into the aforementioned rivers. The tributaries do not cause significant impacts and present a low risk.

Although there are several historic events of flooding for Tullow listed in Table 4-2 most of these events are prior to the construction flood defences in the town along the Slaney River however the river does still present a residual flood risk to these defended areas.

4.6.2 Residual Risk

The flood defence works along the River Slaney are designed to a 1% AEP (100 year) standard of protection, although it is noted that there is a potential spill located at the western side of the town bridge, at a lower AEP event. As with any built defences there is a residual risk associated with failure of these defences due to overtopping or breach, or failure to erect sections of the defences.

The areas benefiting from defences are presented below in Figure 4-5 and indicate the areas of residual risk.

With climate change, the frequency, pattern and severity of flooding are expected to change and become more damaging. Climate change and increased river flows will impact on the level of protection of the scheme in future years. Further discussion on the types of residual risk is provided below.

³ South Eastern CFRAM Study HA07 Inception Report, RPS/OPW June, 2012.

⁴ Tullow Pre-Feasibility Flood Relief Study, OPW September 2003

⁵ Tullow Pre-Feasibility Flood Relief Study, OPW September 2003

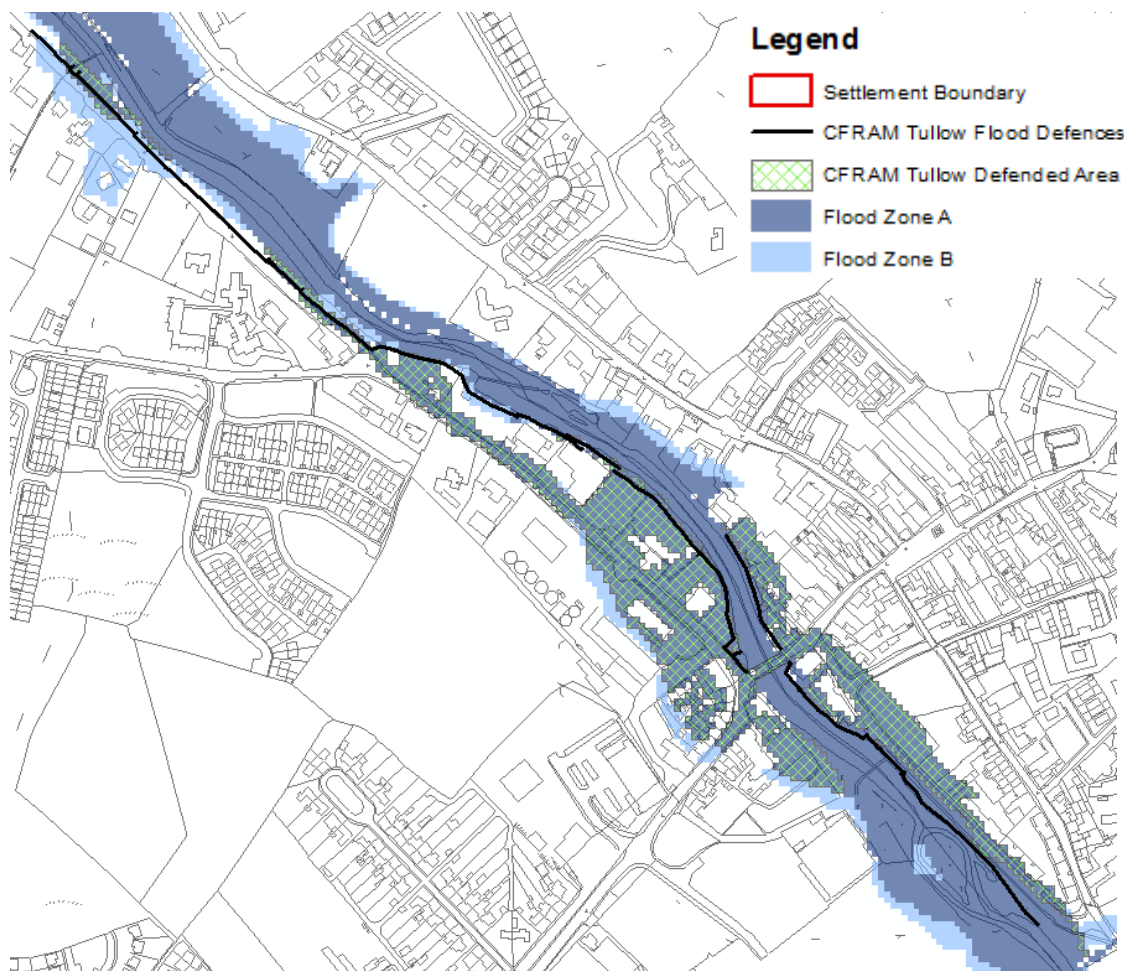
⁶ Tullow Pre-Feasibility Flood Relief Study, OPW September 2003

⁷ Tullow Pre-Feasibility Flood Relief Study, OPW September 2003

⁸ <http://www.floodmaps.ie/>

⁹ <http://www.floodmaps.ie/>

Figure 4-5 Tullow Flood Zones and Defended Areas (CFRAM Data)



4.6.2.1 Residual Risk due to Overtopping

Overtopping of flood defences will occur during flood events greater than the design level of the defences. The defences in Tullow have been designed to a 1% AEP level of protection, this will include a level of freeboard. During any event greater than a 1% AEP (or an event less than 1% AEP at the town bridge), overtopping will occur. This can cause more limited inundation of the floodplain than if defences had not been built, but the impact will depend on the duration, severity and volume of floodwater. In a narrow floodplain like that of the Slaney the river levels may be a similar level to the floodplain. However, and more critically, overtopping can destabilise a flood defence, cause erosion and make it more susceptible to breach or failure.

Overtopping may become more likely in future years due to the impacts of climate change. In Tullow the defences have been designed to a 1% AEP standard of protection without the inclusion of possible climate change impacts, such as more frequent and higher river flows.

4.6.2.2 Residual Risk due to Breach or Structural Failure

Breach or structural failure of flood defences is hard to predict and is largely related to the structural condition and type of flood defence. 'Hard' flood defences such as solid concrete walls are less likely to breach than 'soft' defence such as earth embankments.

Breach will usually result in sudden flooding with little or no warning and presents a significant hazard and danger to life. There is likely to be deeper flooding in the event of a breach than due to overtopping. The volume and impact of flooding will depend on a number of factors including:

- Size and number of breaches
- The time that the breach develops; a breach that develops early will allow more floodwater through, however a breach that develops near the peak of the event will be more hazardous.

- How long the breach remains open, leaving those in the floodplain vulnerable to secondary flood peaks on a watercourse.

4.6.2.3 Residual Risk due to Operational Failure

If a defence system includes temporary or demountable sections, such as in Tullow, it may fail due to forecasting errors, access or technical difficulties with the demountable system itself. The lead in time is short and this residual risk should not be underestimated. Operational failure predominantly impacts the western bank of the Slaney, which is where the six flood barriers are located.

There is also a risk that surface water pumping from behind the defences suffers failure, this pumping occurs on both the western and eastern sides of the river.

4.6.2.4 Scales of Residual Risk

In the event of defence overtopping or breach on relatively narrow flood plains, such as that of the Slaney through Tullow, inundation levels across the floodplain are likely to be the same, or very nearly the same, as levels in the river channel. In the area immediately behind the defences, known as the 'rapid inundation zone' flood depths and velocities will be highest, particularly in the time immediately following the onset of overtopping or breach. There may be little time for warning or reacting to the failure of the defence. In the area of floodplain furthest from the river, water levels will rise more gradually and reach lower depths and velocities. Being nearest to higher and dry land, evacuation opportunities from this area are also greatest.

Where an area is protected by a demountable defence, either fully or in part, the residual risks are greater than where land is behind a fixed defence. It is therefore important that risks, and the impact of defence failure, is considered in relation to the whole flood cell, rather than the land immediately behind one section of defence. This is particularly relevant in Tullow, where FRS relies on a combination of fixed and demountable defences.

The relief scheme in Tullow was constructed recently and is therefore in good condition and unlikely to fail due to structural deficiencies. The standard of protection and condition of the defences will be dependent on regular inspection and maintenance over its entire lifetime. The current level of residual risk behind the defences is low due to the fact that the defences have been recently designed and constructed.

The scale of residual risk is difficult to predict and requires detailed modelling to estimate the flood extents from a range of different scenarios, defended and undefended. As part of SE CFRAM, defended and un-defended draft flood extents are available and the undefended flood extents have been used to create Flood Zone A.

Understanding the residual risks is critical to application of the Flooding Guidelines in these defended areas. Even though the area is defended, it is important to be able to guide more vulnerable development to the lower residual risk areas, and to assess how the urban form of the development maybe impacted by these risks. Without detailed breach modelling, the following assumptions have been made in order to assess the residual risk.

- Worst case scenario would be flood extent equal to that of an undefended scenario for a particular return period.
- Flood depths in this narrow floodplain can be accurately assumed to be similar to the predicted flood levels from the SE CFRAM modelling.
- Flow velocities and hence hazard will be greatest immediately adjacent to the flood defences.

Development in areas benefiting from defences must consider long-term flood risk management policies and plans. On a site specific level, emergency response plan should be prepared taking into account the overall plan for the area and the implications for adding further demands on the blue light services.

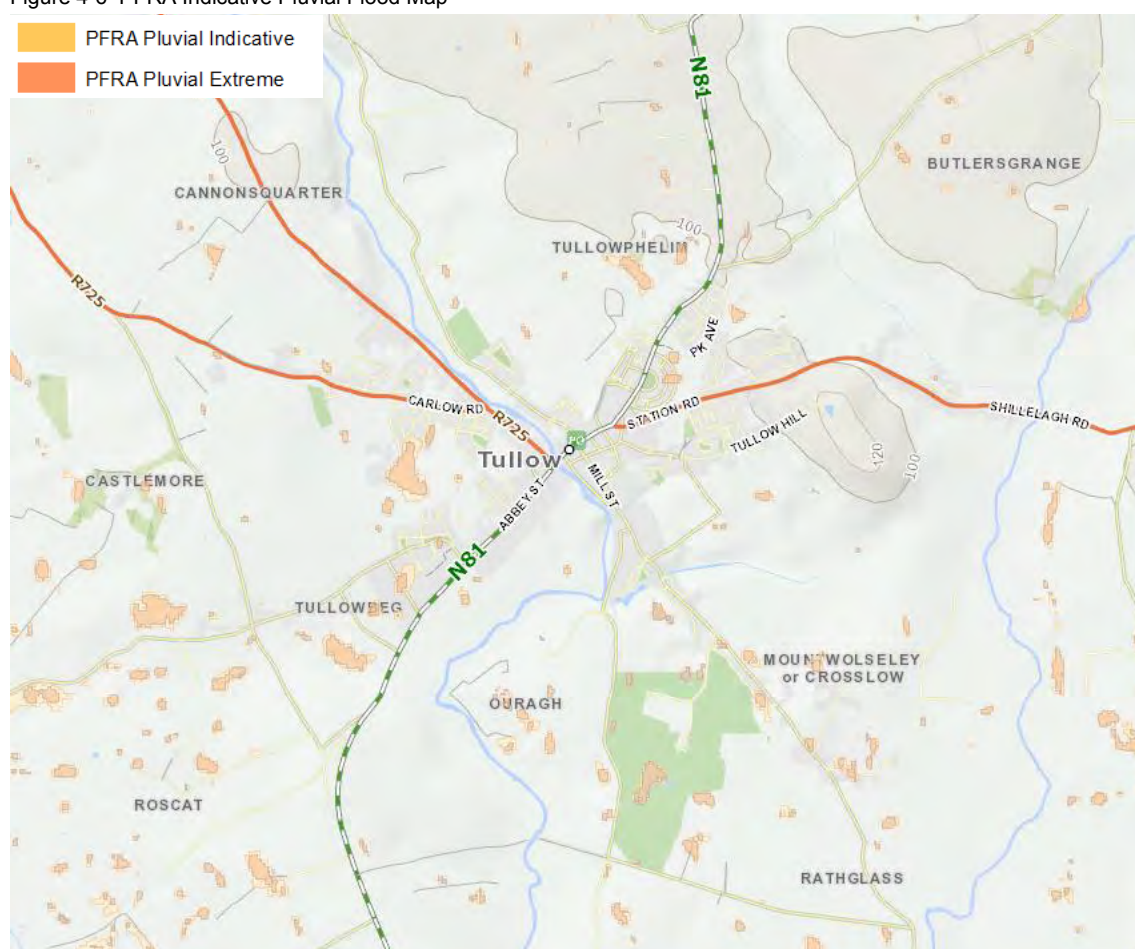
The management of fluvial flood risk through the development of appropriate policies and objectives is discussed Section 5. A full review of locations where development is impacted by flood risk is included in Section 6.

4.6.3 Surface Water / Pluvial Flooding

Flooding of land from surface water runoff is usually caused by intense rainfall that may only last a few hours. Areas at risk from fluvial flooding will almost certainly be at risk from surface water flooding. The indicative pluvial map from myplan.ie shows the OPW PFRA study in Figure 4-6. It has been used to identify development areas at particular risk of surface water and pluvial flooding.

The OPW historic records indicate that backing up of the surface water system has caused problems within the town centre. However, most previous flood events attributed to fluvial flooding from the River Slaney, prior to the installation of the FRS. Although surface water could have been a contributing factor within some of these flood events, poorly planned developments or inadequately designed surface water drainage systems can increase the risk of surface water flooding and exacerbate the extent of fluvial flooding. New development or redevelopment of existing sites adhering to the policies on the management of surface water will ensure the risk will be adequately managed. This is explained further in Section 5.

Figure 4-6 PFRA Indicative Pluvial Flood Map¹⁰



4.6.4 Groundwater Flooding

Groundwater flooding is caused by the emergence of water originating from the subsurface, and is particularly common in karst landscapes. This source of flooding can persist over a number of weeks and poses a significant but localised issue that has attracted an increasing amount of public concern in recent years. In most cases groundwater flooding cannot be easily managed or lasting solutions engineered.

The draft PFRA groundwater flood maps¹¹, which entailed an evidence-based approach and considered the hydro-geological environment, such as the presence of turloughs, did not show any significant risk in the LAP area. Based on the PFRA study the risk of groundwater flooding is not considered significant enough to warrant further investigation in this SFRA.

¹⁰ Source: <http://www.myplan.ie/en/index.html>

¹¹ Reference: <http://www.myplan.ie/en/index.html>
2016s4003 Tullow SFRA v1.2.docx

4.7 Climate Change

The Planning System and Flood Risk Management guidelines recommends that a precautionary approach to climate change is adopted due to the level of uncertainty involved in the potential effects.

Specific advice on the expected impacts of climate change and the allowances to be provided for future flood risk management in Ireland is given in the OPW draft guidance. Two climate change scenarios are considered. These are the Mid-Range Future Scenario (MRFS) and the High-End Future Scenario (HEFS). The MRFS is intended to represent a "likely" future scenario based on the wide range of future predictions available. The HEFS represents a more "extreme" future scenario at the upper boundaries of future projections. Based on these two scenarios the OPW recommended allowances for climate change are given in Table 4-3 below.

Table 4-3 Allowances for Future Scenarios (100 Year Time Horizon)

Criteria	MRFS	HEFS
Extreme Rainfall Depths	+20%	+30%
Flood Flows	+20%	+30%
Mean Sea Level Rise	+500mm	+1000mm
Land Movement	-0.5mm / year*	-0.5mm / year*
Urbanisation	No General Allowance - Review on Case by Case Basis	No General Allowance - Review on Case by Case Basis
Forestation	-1/6 Tp**	-1/3 Tp** +10% SPR***

Notes:

- * Applicable to the southern part of the country only (Dublin - Galway and south of this)
- ** Reduce the time to peak (Tp) accordingly; this allows for potential accelerated runoff that may arise as a result of drainage of afforested land
- *** Add 10% to the Standard Percentage Runoff (SPR) rate; this allows for increased runoff rates that may arise following felling of forestry

4.7.1 Climate Change and Flood Risk Assessment

The Flood Zones are determined based on readily available information and their purpose is to be used as a tool to avoid inappropriate development in areas of flood risk. Where development is proposed within an area of potential flood risk (Flood Zone A or B), a flood risk assessment of appropriate scale will be required and this assessment must take into account climate change and associated impacts. Under the National CFRAM programme, the detailed modelling and assessment stage of each study will include for climate change effects, but has not yet been delivered under the draft stage.

Climate change may result in increased flood extents and therefore caution should be taken when zoning lands in transitional areas. **As recommended in the Planning System and Flood Risk Management Guidelines; Flood Zone B, which represents the 0.1% AEP extent, can be taken as an indication of the extent of the 1% AEP flood event with climate change.** In steep valleys an increase in water level will relate to a very small increase in extent, however in flatter low-lying basins a small increase in water level can result in a significant increase in flood extent.

In the design of flood alleviation measures, climate change should be taken into account and design levels of structures, such as flood walls or embankments, must be sufficient to cope with the effects of climate change over the lifetime of the structure or where circumstances permit, be capable of adaptation. Further consideration to the potential future impacts of climate change will be given for specific areas of the LAP within Section 6.

5 Approach to Flood Risk Management

The Planning Guidelines recommend a sequential approach to spatial planning, promoting avoidance rather than justification and subsequent mitigation of risk. The implementation of the Planning Guidelines on a settlement basis is achieved through the application of the policies and objectives contained within Section 10.5 'Flooding' of the CCDP 2015-2021. These have been outlined in Section 2.4.1.

The use and application of the policies and guidelines at the LAP level constitutes the formal plan for flood risk management for Tullow.

5.1 The Strategic Approach

A strategic approach to the management of flood risk is important in Tullow as there is a significant area of the core town centre area located within Flood Zone A/B. Whilst there is an FRS in place, the protection afforded by the scheme relies on the placement of demountable defences and the defences can fail or overtop. The residual risk therefore remains significant and FRAs for development within the town centre must take this into account when providing mitigation and design advice.

A summary of flood risks associated with each of the zoning objectives has been provided in Table 5-1, below. It should be noted that this table is intended as a guide only and should be read in conjunction with the detailed assessment of risks provided in Section 6. However, when applications are being considered it is important to remember that not all uses will be appropriate on flood risk grounds, hence the need to work through the Justification Test for Development Management on a site by site basis and with reference to Section 6. For example, the community zoning objective could include a highly vulnerable crèche, less vulnerable shops and water compatible car parking / sports facilities but they would not be equally permissible on the ground floor within Flood Zone A or B.

Table 5-1: Zoning objective vulnerability

Zoning Objective	Indicative Primary Vulnerability	Flood Risk Commentary
Existing/Permitted Residential	High vulnerability	Justification Test needs to be passed to allow zoning in Flood Zone A and B. For alterations to existing development see Section 5.2
New Residential - Phase 1 and 2	High vulnerability	Justification Test needs to be passed to allow zoning in Flood Zone A and B.
Utilities	High vulnerability	Justification Test needs to be passed to allow zoning in Flood Zone A and B. For alterations to existing development see Section 5.2.
Agriculture	High or less vulnerable or water compatible	Justification Test needs to be passed to allow highly vulnerable development (Farmhouses) in Flood Zone A and B and for less vulnerable development in Flood Zone B. Water compatible uses are appropriate.
Integrated Tourism and Leisure	High or less vulnerable	Justification Test needs to be passed to allow highly vulnerable development Flood Zone A and B and for less vulnerable development in Flood Zone B. For alterations to existing development see Section 5.2.
Community Services and Educational	High or less vulnerable or water compatible	Justification Test needs to be passed to allow highly vulnerable development Flood Zone A and B and for less vulnerable development in Flood Zone B.
Neighbourhood Facilities	High and less vulnerable	Justification Test needs to be passed to allow highly vulnerable development Flood Zone A and B and for less vulnerable development in Flood Zone B.
Town Centre	Less vulnerable, with some highly vulnerable	Justification Test needs to be passed to allow highly vulnerable development

Zoning Objective	Indicative Primary Vulnerability	Flood Risk Commentary
		Flood Zone A and B and for less vulnerable development in Flood Zone B.
Industry and Warehousing and associated Office Use	Less vulnerable	Justification Test needs to be passed to allow zoning in Flood Zone B.
Enterprise and Employment	Less vulnerable	Justification Test needs to be passed to allow zoning in Flood Zone B.
Manufacturing, Tourism and Enterprise / Employment Development	Less vulnerable	Justification Test needs to be passed to allow zoning in Flood Zone B.
Open Space and Amenity	Water compatible or less vulnerable	Water compatible uses are appropriate. Justification needs to be passed to allow less vulnerable development in Flood Zone B.

5.2 Application of the Plan Making Justification Test

Having reviewed the proposed zoning objectives within the settlement it is clear that there is relatively little overlap between zoned **undeveloped** lands and potential conflict with flood risk. Where there are overlaps then specific measures can be put in place to define and avoid risk and the Justification Test has not been applied, this is discussed in Section 5.2.1.

Appropriate measures for assessing and managing risks to existing high and low vulnerability development in Flood Zones A, B and C at Development Management (Planning Application) stage is discussed in Section 5.4 onwards.

5.2.1 Development on Greenfield Land

The majority of undeveloped land that is within Flood Zone A or B is zoned for water compatible uses, such as Amenity and Open Space. This is an appropriate zoning and should continue.

Risk specific uses and detailed FRA are discussed in Section 6 for each specific area. Measures focus on the more detailed assessment of risk from the contributing watercourses and the avoidance of highly vulnerable development within the redefined Flood Zone A.

Other proposals for new development on greenfield land within Flood Zone A or B would not pass the Justification Test and land is zoned accordingly with a water compatible or less vulnerable use.

5.2.2 Existing, Developed, Zoned Areas at Risk of Flooding

There are significant areas of **existing** town centre development located behind flood defences that is at potential residual risk of flooding (within Flood Zone A/B) and in this case zoning cannot be significantly amended, but measures can be put in place to manage risk, particularly that to any significant new development within this sensitive area.

Section 5.4 onwards provides general guidance on how to manage development and Section 6 provides a detailed review of risk to specific areas of the settlement.

5.3 Flood Management Action Plans

There are various levels of flood management plans produced by a number of public bodies and these include the overall strategy for the river catchment, the emergency response plan of the local authority and the flood risk management plan at a site specific level.

Strategic Flood Risk Management Plan - this will be informed by the detailed assessment of the Tullow area which will follow completion of the SE CFRAM later in 2016. It is informed by the details on the operation of the Tullow FRS. The formulation of a management plan is particularly important in Tullow because of the presence of the flood defences. The management plan must consider residual risk and an effective emergency response should the defences fail due to overtopping or breach.

Emergency Response Plan - it is recommended that the Local Authority draft an Emergency Plan that deals with severe weather scenarios, including flooding, and the document should incorporate a 'Flood Plan'. It is essential that the flood plan is reviewed to ensure the operation and evacuation procedures associated with the demountable defences are included, along with the specific roles

and responsibilities of those issuing alerts, erecting the defences and carrying out any related duties.

Site Specific FRMP - this will be specific to the development and associated activities, most likely it will be required for more significant town centre sites that are located behind the defences and are at residual risk of flooding. A site specific FRMP, which may include an emergency plan, will be required for any development proposal that is granted approval in an area of flood risk.

5.4 Development Management and Flood Risk

In order to guide both applicants and relevant council staff through the process of planning for and mitigating flood risk, the key features of a range of development scenarios have been identified (relating the flood zone, development vulnerability and presence or absence of defences). For each scenario, a number of considerations relating to the suitability of the development are summarised below.

It should be noted that this section of the SFRA begins from the point that all land zoned for development has passed the Justification Test for Development Plans, and therefore passes Part 1 of the Justification Test for Development Management. In addition to the general recommendations in the following sections, Section 6 should be reviewed for specific recommendations for individual areas of the LAP.

As stated in Section 6, in order to determine the appropriate design standards for a development it may be necessary to undertake a site specific flood risk assessment. This may be a qualitative appraisal of risks, including drainage design. Further details of each of these scenarios, including considerations for the flood risk assessment are provided in the following sections.

5.5 Requirements for a Flood Risk Assessment

It is recommended that an assessment of flood risk is required in support of any planning application where flood risk may be an issue and this may include sites in Flood Zone C where a small watercourse or field drain exists nearby. The level of detail will vary depending on the risks identified and the proposed land use. As a minimum, all proposed development, including that in Flood Zone C, must consider the impact of surface water flood risks on drainage design. In addition, flood risk from sources other than fluvial and tidal should be reviewed.

For sites within Flood Zone A or B, a site specific "Stage 2 - Initial FRA" will be required, and may need to be developed into a "Stage 3 - Detailed FRA". The extents of Flood Zone A and B are delineated through this SFRA. However, future studies may refine the extents (either to reduce or enlarge them) so a comprehensive review of available data should be undertaken once a FRA has been triggered.

Within the FRA the impacts of climate change and residual risk (including culvert/structure blockage) should be considered and remodelled where necessary, using an appropriate level of detail, in the design of finished floor levels. Further information on the required content of the FRA is provided in the Planning System and Flood Risk Management Guidelines.

Any proposal that is considered acceptable in principle shall demonstrate the use of the sequential approach in terms of the site layout and design and, in satisfying the Justification Test (where required), the proposal will demonstrate that appropriate mitigation and management measures are put in place.

5.5.1 Development Proposals in Flood Zone A or B

Commentary on the procedure for developing lands within Flood Zone A or B within Tullow are closely linked the location of the potential development within a defended or undefended area of the town. Additional consideration is then given to the scale of the development, be it renovation, minor infill or more significant new development.

Generally, the approach to deal with flood protection would involve raising the ground floor levels above the level of extreme river levels. If this leads to floor levels being much higher than adjacent streets it could create a hostile streetscape for pedestrians. This would cause problems for infill development sites if floor levels were required to be significantly higher than those of neighbouring properties. In this regard, it has been recognised that some flexibility could be allowed when within defended areas or where the development is considered minor. In these cases, the detailed design of the development should reflect the vulnerability of the site in terms of internal layout, materials, fixtures and fittings and internal layout. For high risk areas, less vulnerable uses are

encouraged at ground floor levels. The site specific FRA will inform appropriate uses and detailed design and layout.

It should be noted that for residential buildings within Flood Zone A or B, bedroom accommodation is more appropriate at upper floor levels.

For commercial operations, business continuity must be considered, and steps taken to ensure operability during and recovery after a flood event for both residential and commercial developments. Emergency access must be considered as in many cases flood resilience will not be easily achieved in the existing built environment.

5.5.1.1 Undefined Areas

It is not appropriate for new, highly vulnerable development to be located in Flood Zones A or B, particularly where there are no flood defences, and such proposals will not pass the Justification Test. Instead, a less vulnerable use should be considered.

In general, the application of the sequential approach under this SFRA has ensured that there is only a small amount of land zoned for vulnerable use and the development is caveated by further analysis and avoidance (see Section 6), therefore ensuring the continued application of the sequential approach and appropriate site specific FRA.

5.5.1.2 Defended Areas

In areas of renovation and/or regeneration within the defended town centre of Tullow it is not necessarily desirable to exclude highly and less vulnerable development altogether. By definition, it can pass the Justification Test, however, extremely careful consideration must be given to the position and design of any development. Minor/small scale infill housing, extensions or changes of use is discussed in Section 5.5.1.3 and, subject to site specific flood risk assessment, can generally be considered appropriate and resilience/resistance will be employed.

In cases where larger scale new development is proposed within the town centre area a "Stage 3 - Detailed FRA" and management plan is required to accompany the Planning Application. For this type of development, The FRA should improve on the detail provided by the SE CFRAM and investigate the impacts of defence failure/breach. It should therefore include an examination of hazard, velocity and time of inundation, and should propose suitable management and mitigation measures. Of prime importance is the requirement to manage risk to the development site and not to increase flood risk elsewhere. It may be necessary to raise the FFLs above significant flood levels and the design should give due consideration to safe evacuation routes and access for emergency services during a flood event, further advice on design levels and assessment is provided in Section 5.6.3 below.

Within the FRA the impacts of climate change and residual risk (including culvert/structure blockage) should be modelled and used to inform the design and FFLs.

5.5.1.3 Note on Minor Developments

Section 5.28 of the Planning Guidelines on Flood Risk Management identifies certain types of development as being 'minor works' and therefore exempt from the Justification Test. Such development relates to works associated with existing developments, such as extensions, renovations and rebuilding of the existing development, small scale infill and changes of use.

Despite the 'Sequential Approach' and 'Justification Test' not applying, as they relate to existing buildings, an assessment of the risks of flooding should accompany such applications. This must demonstrate that the development would not increase flood risks, by introducing significant numbers of additional people into the flood plain and/or putting additional pressure on emergency services or existing flood management infrastructure. The development must not have adverse impacts or impede access to a watercourse, floodplain or flood protection and management facilities. Where possible, the design of built elements in these applications should demonstrate principles of flood resilient design (See 'The Planning System and Flood Risk Management Guidelines for Planning Authorities Technical Appendices, 2009', Section 4 - Designing for Residual Flood Risk).

The requirement for providing compensatory storage for minor developments has been reviewed and can generally be relaxed, even where finished floor levels have been raised. This is because the development concerns land which has previously been developed and would already have

limited capacity to mitigate flooding. However, a commentary to this effect must be substantiated in the site specific FRA.

5.5.2 Development proposals in Flood Zone C

Where a site is within Flood Zone C, but adjoining or in close proximity to Flood Zone A or B there could be a risk of flooding associated with factors such as future scenarios (climate change) or in the event of failure of a defence, blocking of a bridge or culvert. Risk from sources other than fluvial and coastal must also be addressed for all development in Flood Zone C. As a minimum in such a scenario, a flood risk assessment should be undertaken which will screen out possible indirect sources of flood risk and where they cannot be screened out it should present mitigation measures. The most likely mitigation measure will involve setting finished floor levels to a height that is above the 1 in 100 year fluvial flood level, with an allowance for climate change and freeboard, or to ensure a step up from road level to prevent surface water ingress. Design elements such as channel maintenance or trash screens may also be required. Evacuation routes in the event of inundation of surrounding land should also be detailed.

The impacts of climate change should be considered for all proposed developments. Details of the approach to incorporating climate change impacts into the assessment and design are provided in Sections 4.7 and 5.8.

5.6 Flood Mitigation Measures at Site Design

For any development proposal within Flood Zone A or B that is considered acceptable in principle, it must be demonstrated that appropriate mitigation measures can be put in place and that residual risks (failure or overtopping of the flood defences in Tullow) can be managed to acceptable levels. The approach will vary depending on whether the development is located within a defended or un-defended area of Tullow.

Various mitigation measures are outlined below and further detail on flood resilience and flood resistance are included in the Technical Appendices of the Planning Guidelines, The Planning System and Flood Risk Management¹².

5.6.1 Raised Defences

Installation of raised defences has been the traditional response to flood risk and Tullow is already subject to an FRS that protects the core town centre to a 1% AEP standard. A review of flood risk and management measures has recently been completed under the OPW SE CFRAM and with the exception of a minor works application to protect a single dwelling, no further recommendations have been made to extend or construct further defences in the town.

5.6.2 Site Layout and Design

To address flood risk in the design of new development, a risk based approach should be adopted to locate more vulnerable land use to higher ground while water compatible development i.e. car parking, recreational space can be located in higher flood risk areas. This should be the preferred approach for sites located within the town centre and subject to redevelopment.

The site layout should identify and protect land required for current and future flood risk management. Waterside areas or areas along known flow routes can be used for recreation, amenity and environmental purposes to allow preservation of flow routes and flood storage, while at the same time providing valuable social and environmental benefits.

5.6.3 Ground levels, floor levels and building use

Modifying ground levels to raise land above the design flood level is a very effective way of reducing flood risk to the particular site in question. However, in most areas of fluvial flood risk, conveyance or flood storage would be reduced having an adverse effect on flood risk elsewhere. Therefore, there is a general requirement that compensatory storage is provided on a level for level basis where raising ground levels is proposed in un-defended areas.

¹² The Planning System and Flood Risk Management Guidelines for Planning Authorities, Technical Appendices, November 2009

This requirement can be relaxed in areas behind defences, where the flood storage has already been lost and assessed through the design of the flood relief scheme.

For undefended areas:

- The particular zoning must have been justified through this SFRA based on the existing (unmodified) ground levels.
- The FRA should establish the function provided by the floodplain. Where conveyance is a prime function then a hydraulic model will be required to show the impact of its alteration.
- Compensatory storage should be provided on a level for level basis to balance the total area that will be lost through infilling where the floodplain provides static storage.
- The provision of the compensatory storage should be in close proximity to the area that storage is being lost from (i.e. within the same flood cell).
- The land proposed to provide the compensatory storage area must be within the ownership / control of the developer.
- The land being given over to storage must be land which does not flood in the 1% AEP event (i.e. Flood Zone B or C).
- The compensatory storage area should be constructed before land is raised to facilitate development.

In some sites it is possible that ground levels can be re-landscaped to provide a sufficiently large development footprint. However, it is likely that in other potential development locations there is insufficient land available to fully compensate for the loss of floodplain. In such cases it will be necessary to reconsider the layout or reduce the scale of development, or propose an alternative and less vulnerable type of development. In other cases, it is possible that the lack of availability of suitable areas of compensatory storage mean the target site cannot be developed and should remain open space.

For defended areas:

- Raising finished floor levels within a development is an effective way of avoiding damage to the interior of buildings (i.e. furniture and fittings) in times of flood. Raising of FFLs is recommended for consideration on new development of highly vulnerable uses, given the residual risk of defence failure in Tullow. Appropriate FFL should be typically directed by at least 300mm freeboard above the breach level at the 1% AEP plus climate change and this level should be ascertained by detailed hydraulic modelling under a site specific FRA.
- The overall impact on the risk to surrounding property (if significant ground raising is employed) should still be defined by a detailed FRA that represents a breach scenario for the design event under pre and post-development scenarios. Any significant increase in residual risk to surrounding properties will not be appropriate and alternative mitigation solutions should be investigated.
- Alternatively, it may not be suitable to raise FFLs significantly and assigning a water compatible use (i.e. garage, car parking, landscaping) or less vulnerable use to the ground floor level, along with suitable flood resilient construction, is an effective way of raising vulnerable living space above design flood levels. It can however have an impact on the streetscape. Safe access and egress is a critical consideration in allocating ground floor uses.
- Depending on the scale of residual risk, resilience and resistance measures may be an appropriate response but this will mostly apply to less vulnerable development.

5.7 Drainage impact assessment

It is recommended that all proposed development, whether in Flood Zone A, B or C, must consider the impact of surface water flood risks on drainage design. A suitable standard for this is specified by the surface water management policies in the Greater Dublin Strategic Drainage Study (GSDSDS). Consideration of the surface water risk should be in the form of a section within the flood risk assessment (for sites in Flood Zone A or B) or part of a surface water management plan.

Areas vulnerable to ponding are indicated on the OPW's PFRA mapping reproduced in Figure 4-6. Particular attention should be given to development in low-lying areas which may act as natural ponds for collection of runoff.

The drainage design should ensure no increase in flood risk to the site, or the downstream catchment. Where possible, and particularly in areas of new development, floor levels should at a minimum be 300mm above adjacent roads and hard standing areas to reduce the consequences of any localised flooding. Where this is not possible, an alternative design appropriate to the location may be prepared.

In addition, for larger sites (i.e. multiple dwellings or commercial units) master planning should ensure that existing flow routes are maintained, through the use of green infrastructure.

5.8 Incorporating Climate Change into Development Design

The Flood Zones are determined based on readily available information and their purpose is to be used as a tool to avoid inappropriate development in areas of flood risk. Where development is proposed within an area of potential flood risk (Flood Zone A or B), a flood risk assessment of appropriate scale will be required and this assessment must take into account climate change and associated impacts.

Consideration of climate change is particularly important where flood alleviation measures are proposed as the design standard of the proposal may reduce significantly in future years due to increased rainfall and river flows. As recommended by the planning guidelines, a precautionary approach should be adopted.

Climate change may result in increased flood extents and therefore caution should be taken when zoning lands in transitional areas. In general, Flood Zone B, which represents the 0.1% AEP extent, can be taken as an indication of the extent of the 1% AEP flood event with climate change. In steep valleys (such as the smaller tributary streams) an increase in water level will relate to a very small increase in extent, however in flatter low-lying basins a small increase in water level can result in a significant increase in flood extent, however it is noted that the River Slaney floodplain does not include a large variation between Flood Zone A and B, however the River Derreen does.

For most development, including residential, nursing homes, shops and offices, the medium-range future scenario (20% increase in flows) is an appropriate consideration. This should be applied in all areas that are at risk of flooding (i.e. within Flood Zone A and B) and should be considered for sites which are in Flood Zone C but are adjacent to Flood Zone A or B. This is because land which is currently not at risk may become vulnerable to flooding when climate change is taken into account.

Where the risk associated with inundation of a development is low and the design life of the development is short (typically less than 30 years) the allowance provided for climate change may be less than the 20%. However, the reasoning and impacts of such an approach should be provided in the site specific FRA. An example of this might be commercial use in Town Centre lands or manufacturing uses potentially at risk of flooding from the River Barrow.

Conversely, there may be development which requires a higher level response to climate change. This could include major facilities which are extremely difficult to relocate, such as hospitals, Seveso sites or waste water treatment plants, and those which represent a high-economic and long term investment within the scale of development of the specific settlement. In such situations it would be reasonable to expect the high-end future scenario (30% increase in flow) to be used as the design standard.

Further consideration to the potential future impacts of climate change will be given for each settlement within Section 6.

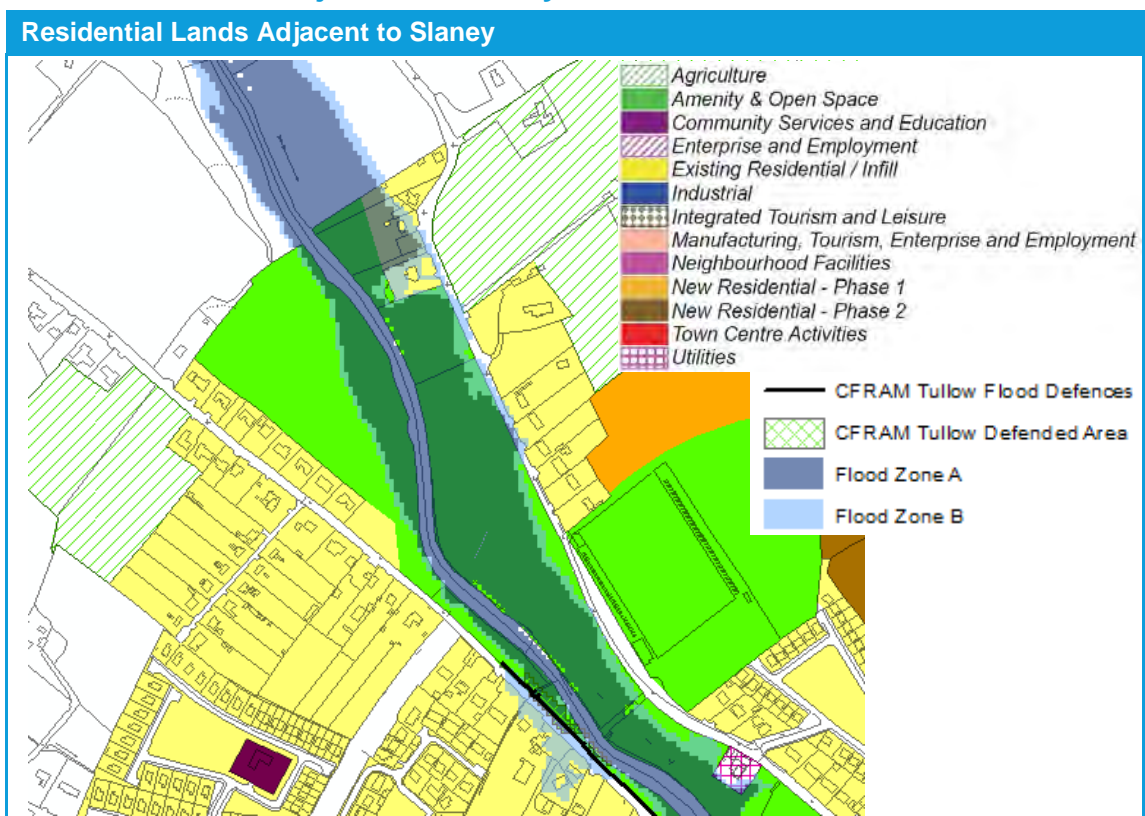
6 Settlement Review

In the following sections, a review of flood risk to key sites has been provided, along with recommendations for the development of these sites. Reference is made to general management measures that are discussed in more detail under Section 5 of this report.

For each site consideration of flood risk will be required at the development management stage of the planning process. This ranges from an assessment of surface water drainage for sites within Flood Zone C, to more considered FRAs for sites in Flood Zone A and B. The construction of any significant new re-development behind the flood defences in Tullow will necessitate that a detailed flood risk assessment will be required to define residual flood risk and lead mitigation design, but in other areas it is generally possible to understand risks through an initial FRA without incurring the cost and time input required for a detailed FRA.

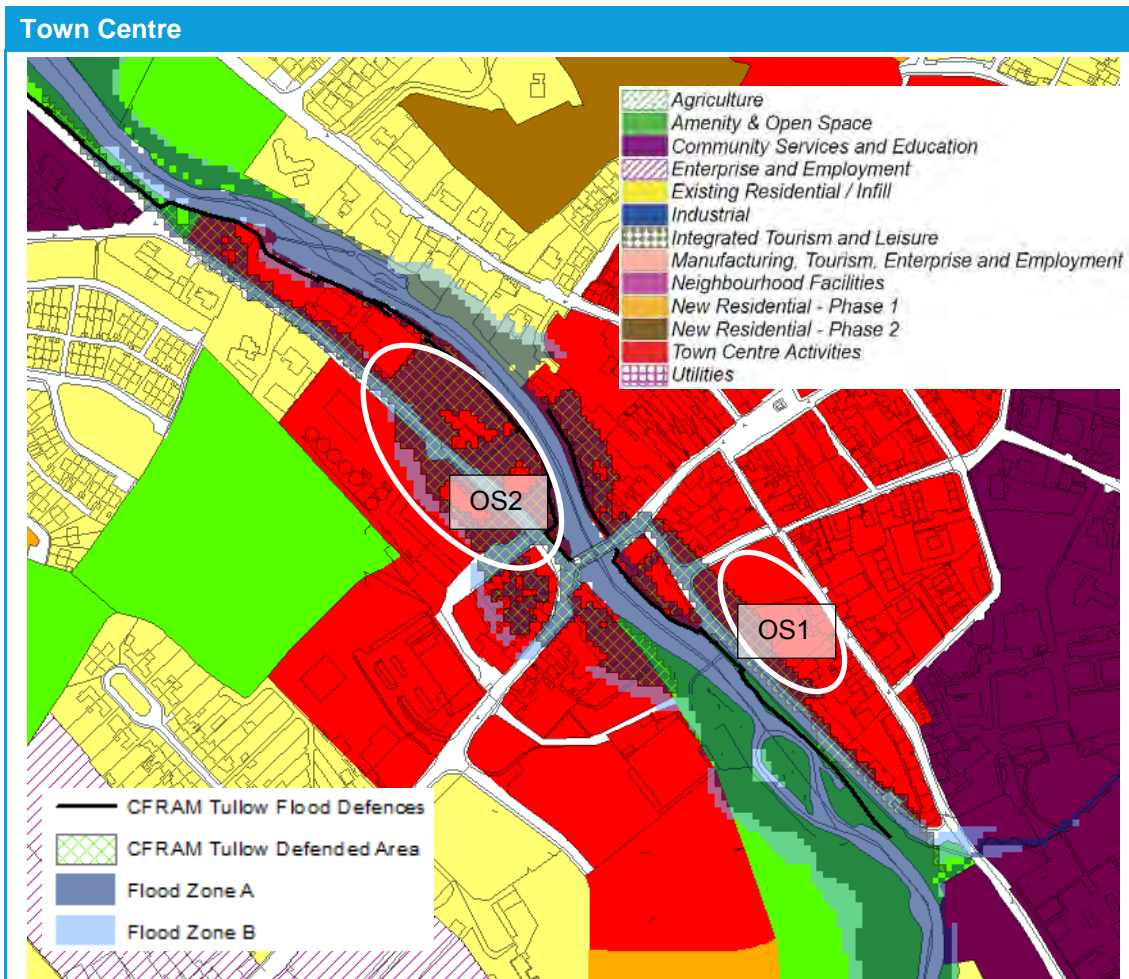
In all cases, the advice on flood mitigation for site design contained in Section 5 should be followed, along with any site specific recommendations detailed in the following sections.

6.1 Residential Lands Adjacent to Slaney



Flood Zone Data	OPW CFRAM mapping, JBA site verified.
Flood Risk Overview	Potential flood risk from River Slaney to existing residential lands.
Sensitivity to Climate Change	Low/Moderate
Historical Flooding	Ballymurphy, Tullow Road recurring plus likely recurring flooding of the floodplain.
Comment:	
Some existing residential lands are at risk of flooding from the River Slaney. The OPW SE CFRAM has recommended a minor works scheme to enable protection in this area. Any Undeveloped lands within Flood Zone A/B are appropriately zoned as amenity and open space.	
Future applications for re-development on any residential sites on or adjacent to Flood Zone A/B will require an FRA at development management stage - in accordance with the requirements stated under Section 5 of this SFRA.	

6.2 Town Centre



Flood Zone Data	OPW CFRAM mapping, JBA site verified. Defences in place which provide a 1% AEP standard of protection. The west bank of the Slaney includes demountable defences.
Flood Risk Overview	Potential flood risk from River Slaney from Flood Zone A & B to the core of the town. The floodplain remains relatively narrow and flood depths in the floodplain are likely to mirror that of the main channel. Town is protected to 1% AEP standard, but residual risk of flooding remains and is a key consideration.
Sensitivity to Climate Change	Moderate
Historical Flooding	Significant historical flooding prior to the installation of the Tullow FRS.

Comment:

The town centre lands contain significant areas that are within the defended Flood Zone A and Flood Zone B. Minor applications for re-development and or/renovation should apply the principles outlined within Section 5.5.1 and 5.6. The focus is on managing the potential residual flood risks to the development and maintaining safe access and egress.

The potential for largescale re-development is limited to two opportunity sites. Opportunity Site 1 (OS1) is the Mill Street Car Park opposite the Council buildings. Opportunity Site 2 (OS2) is located on both sides of Thomas Traynor Road, near its junction with the N81. Both sites are partially within Flood Zone A/B and their re-development requires a greater level of assessment and consideration.

As/when significant new development is proposed within OS1 or OS2, it should be accompanied by a site scale detailed management plan and FRA, which would build upon the

Town Centre

outputs of the SE CFRAM, but should also include an examination of hazard, velocity and time of inundation, and should propose suitable management and mitigation measures, along with an emergency plan in the event of defence failure. It is particularly important that the capability of blue-light services to manage the additional risks be addressed.

OS1 is subject to a gradual increase in gradient in a north easterly direction towards Mill Street, potential inundation depths graduate from 1m or less to zero as the site moves up and out of the floodplain. It is recommended that FFLs of any highly vulnerable use is kept above the design flood level plus freeboard of at least 300mm and that emergency access is retained to Flood Zone C at the Mill Street side of the development.

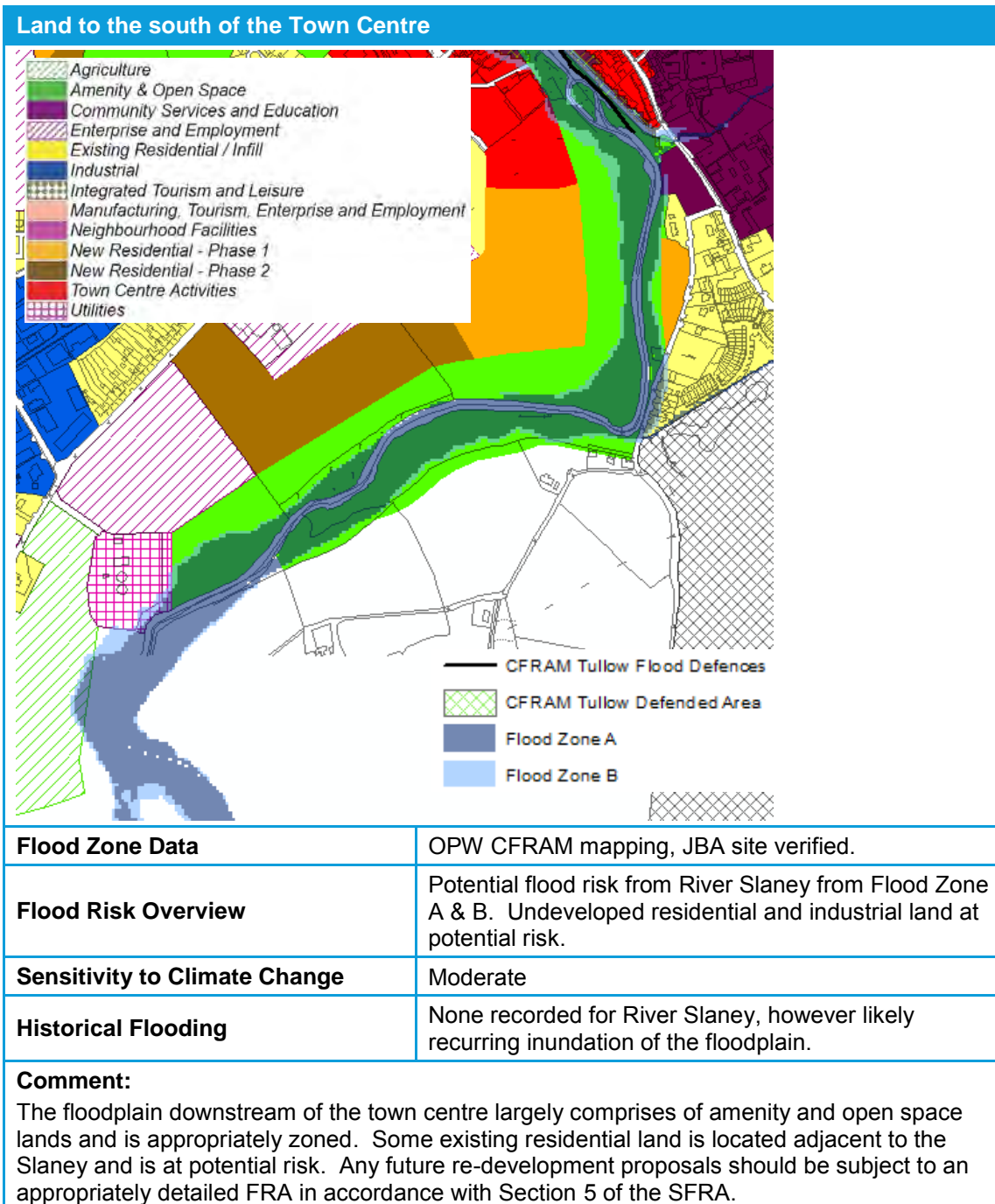
OS2 is split either side of Thomas Traynor Road. Lands on the river side (north) of the road are low lying and given the potential flood depths (>2m) on the site in a breach condition it is unlikely that FFLs in excess of breach levels will be feasible. As such these lands should only be considered for less vulnerable land uses. Lands to the south of Thomas Traynor Road are at a higher elevation and include areas of Flood Zone C. Potential flood depths grade from 1.5m to zero as the site moves up and out of the defended floodplain. The lands are suitable for highly or less vulnerable use and consideration can also be given to ensuring FFLs are above potential breach levels. Any FRA for this site must investigate the issue of the standard of protection at the downstream western bridge parapet, as discussed in Section 4.4. It will be necessary to liaise with Carlow County Council to ensure that the protection is functioning as designed.

Refer to Section 5.5.1 and 5.6 for further guidance for the opportunity sites and the requirements for further assessment and FFLs.

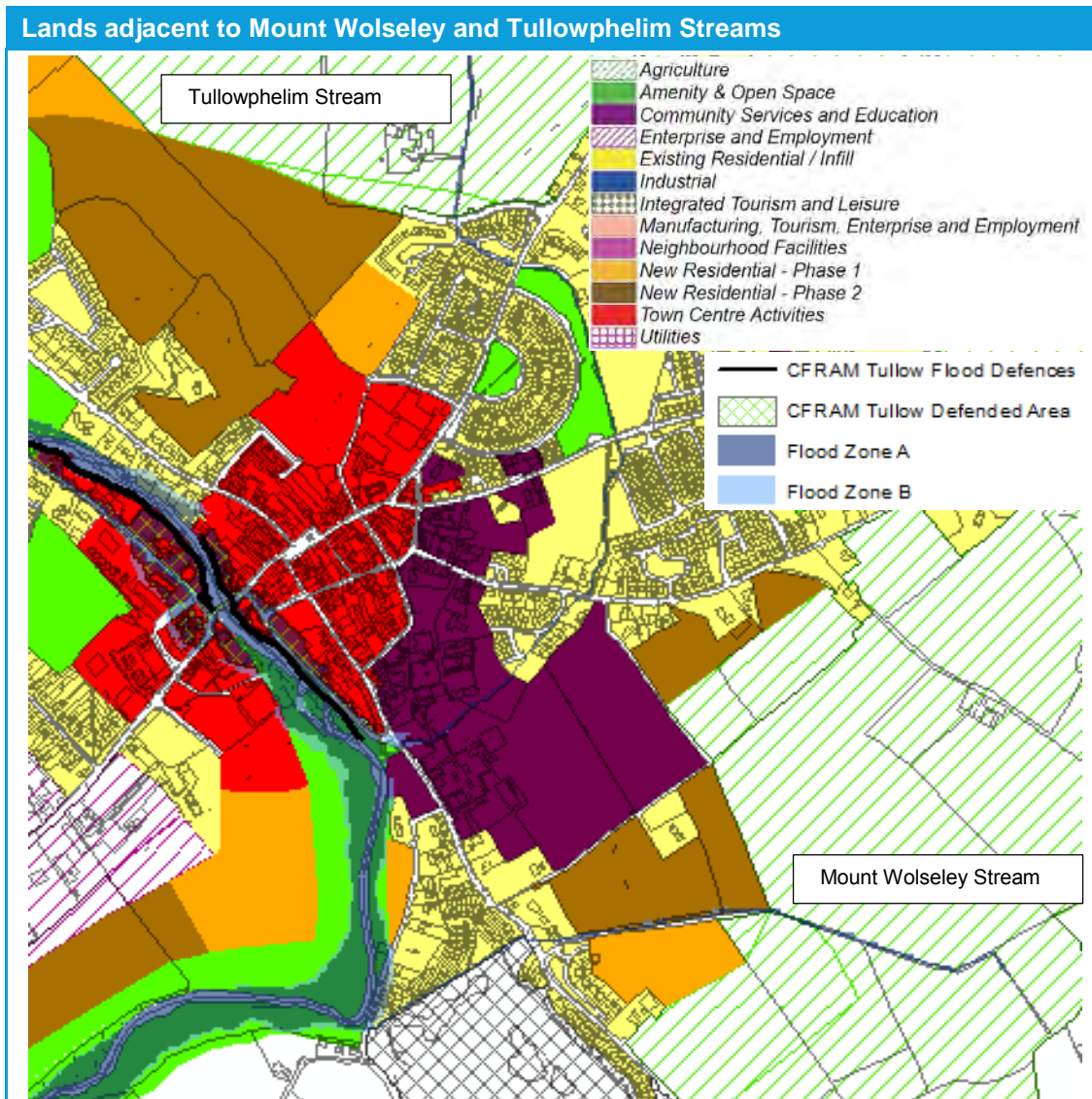
Given the restricted function of the surface water drainage during high river levels the consideration of surface water drainage should be given appropriate consideration at design stage. This is most relevant to the opportunity sites and guidance is provided within Section 5.7.

For any redevelopment of existing residential lands located to the north west of the town centre an appropriately detailed FRA will be required, in line with the considerations stipulated within Section 5.

6.3 Lands to the south of the Town Centre

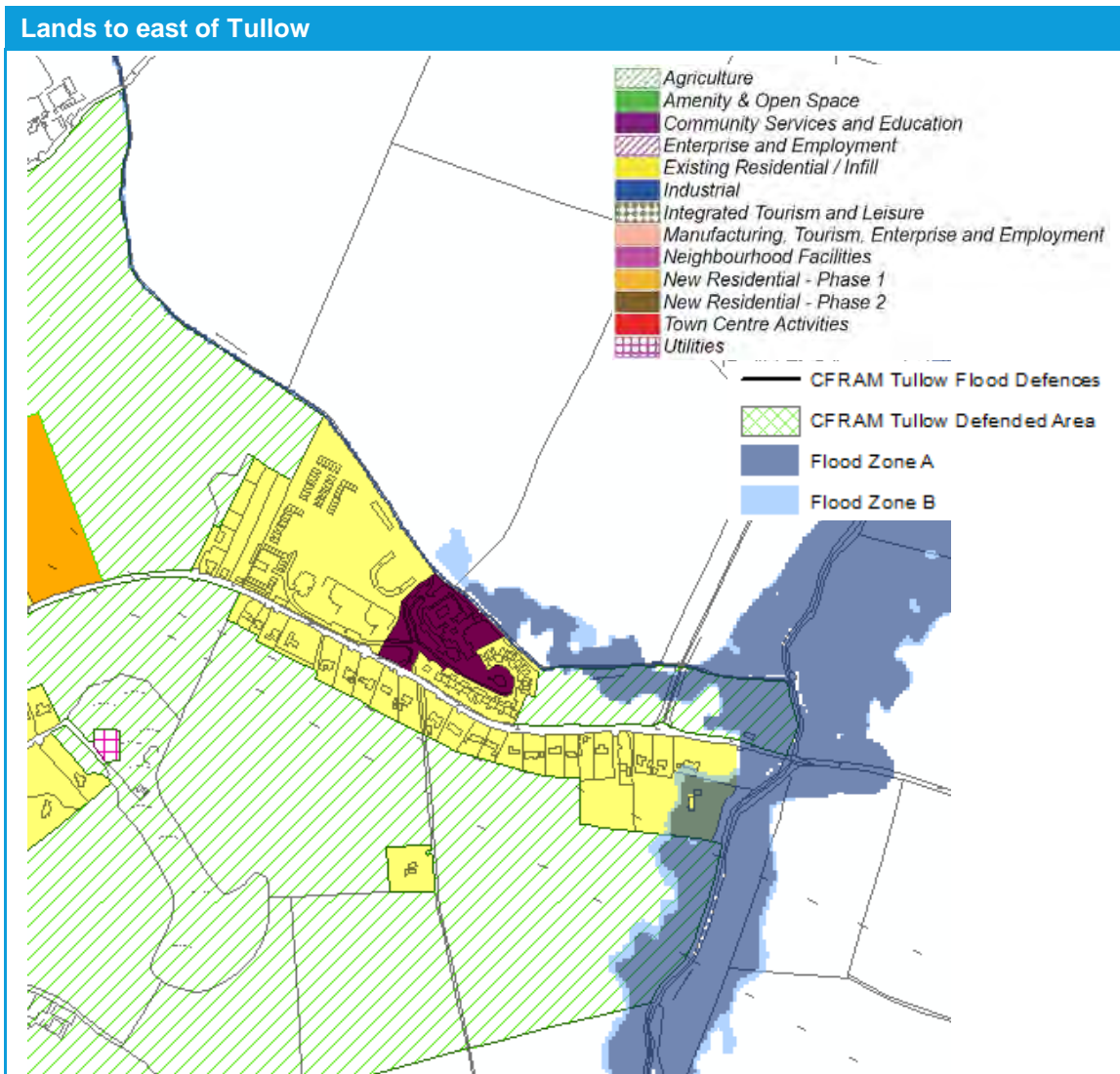


6.4 Lands adjacent to Mount Wolseley and Tullowphelim Streams



Flood Zone Data	OPW CFRAM mapping, JBA site verified.
Flood Risk Overview	Potential flood risk from the two small tributaries is minimal, however the residual risk of culvert blockage must be considered at development management stage.
Sensitivity to Climate Change	Moderate
Historical Flooding	None found.
Comment:	
<p>The two minor watercourses flowing into the Slaney are the Mount Wolseley and Tullowphelim Streams. The watercourses have been modelled under the CFRAM and do not indicate any significant risk to adjacent lands. It is recommended to have a green corridor adjacent to the channel to facilitate maintenance/wayleave and maintain open space. The width of this margin can be discussed and agreed with Carlow County Council.</p> <p>A suitably detailed FRA should be provided for any development adjacent to the streams or near to a culvert crossing. The FRA can manage site design at development management stage but the residual risk of culvert blockage will need to be specifically investigated in all cases and it must be determined the site design can manage the potential residual risk. Refer to Section 5 of the SFRA.</p>	

6.5 Lands to east of Tullow



Flood Zone Data	OPW CFRAM mapping, JBA site verified.
Flood Risk Overview	Potential flood risk from Derreen River to existing residential site and to land zoned for agricultural uses. Coppengh Stream approaches from north west and floods agricultural land as a result of the limited capacity of a farm culvert.
Sensitivity to Climate Change	Moderate
Historical Flooding	Some recurring road flooding mentioned.
Comment:	
Some existing developed residential lands extend into Flood Zone A/B. Any future redevelopment proposals should be subject to an appropriately detailed FRA in accordance with Section 5 of the SFRA.	
Any redevelopment within the institutional lands (nursing home) and the adjacent residential land will require detailed FRA to ensure appropriate FFLs/design and any potential interaction with the under capacity agricultural culvert, again this must be in accordance with Section 5 of the SFRA.	

7 SFRA Review and Monitoring

An update to the SFRA will be triggered by the six-year review cycle that applies to Local Authority development plans. In addition, there are a number of other potential triggers for an SFRA review and these are listed in the table below.

There are a number of key outputs from possible future studies and datasets, which should be incorporated into any update of the SFRA as availability allows. Not all future sources of information should trigger an immediate full update of the SFRA; however, new information should be collected and kept alongside the SFRA until it is updated.

Tullow will be subject to a detailed flood risk mapping and management study under the CFRAM 2017. It will be necessary to review the results and recommendations of the CFRAM with respect to the LAP when results are finalised. Finalised CFRAM flood mapping will also be made available and this should be reviewed.

Detailed, site specific FRAs may be submitted to support planning applications. Whilst these reports will not trigger a review of the Flood Zone maps or SFRA, they should be retained and reviewed as part of the next cycle of the Development Plan.

Table 7-1 SFRA Review Triggers

Trigger	Source	Possible Timescale
Catchment Flood Risk Assessment and Management (CFRAM) Flood Hazard Mapping - Final	OPW under the Floods Directive	2016
South Eastern River Basin Flood Risk Management Plan	OPW	2017, and 6 yearly reviews
Flood maps of other sources, such as drainage networks	Various	Unknown
Significant flood events	Various	Unknown
Changes to Planning and / or Flood Management Policy	DoEHLG / OPW	Unknown



Registered Office

**24 Grove Island
Corbally
Limerick
Ireland**

t: +353 (0) 61 345463
e: info@jbaconsulting.ie

**JBA Consulting Engineers
and Scientists Limited**

Registration number 444752



Visit our website
www.jbaconsulting.ie

Appendix 4

List of Civic and Community Facilities in Tullow

CIVIC and COMMUNITY FACILITIES IN TULLOW

Pre-Schools – Tots to Teens (Full Day Child Care), Chatterbox Playschool and Absolute Beginners Playschool

Primary Schools – Scoil Naomha Padraig, Scoil Mhuire Lourdes and St. Columba's National School

Secondary School - Tullow Community School incorporating St. Anne's Post Leaving Certificate Courses

Doctors Surgeries – Dr. John Murray and Dr. Eithne Bolger

Dentist – Tullow Dental Centre

H.S.E. – Tullow Health Centre

Care Organisations – Tullow Day Care Centre for the Elderly, Tullow Cairdeas Centre and St. Patrick's Cheshire Home

Civic – Tullow Civic Centre incorporating Tullow Branch Library, Tullow CRISP (computer training centre) and the Housing Department of Carlow County Council.

Family Development – Forward Steps Family Resource Centre

Sports Clubs with Grounds – Tullow Rugby Club (Senior and Juvenile), St. Patrick's G.F.C. (Senior and Juvenile), Parkville United Soccer Club (Senior and Juvenile) and Tullow and South Leinster Tennis Club

Churches – The Church of the Most Holy Rosary (Roman Catholic) and St. Columba's Church (Church of Ireland)

Supermarkets – Tesco, Aldi, Lidl and Supervalu

Department of Social Protection – Branch Office on Abbey Street

Broadband – Tullow Telephone Exchange is Broadband enabled

Town Park – Town Park and Children's Playground and Skateboard Park

Museum – Tullowphelim Historical Society Limited

Nursing Home – Glendale Nursing Home

Garda – Tullow Garda Station

Fire Service – Tullow Fire and Rescue Station

Resort – Mount Wolseley – golf, spa, gym and pool

CLUB and SOCIETIES in TULLOW

SPORTS

Tullow Rugby Club
St. Patrick's G.F.C. (incorporating a 900 metre walking track)
St. Anne's G.F.C. (Ladies)
Tullow / Grange Community Games
St. Patrick's Athletic Club
Tullow Tae Kwon Do Club
Tullow Golfing Society
Tullow Angling Club
Tullow Amateur Boxing Club
Tullow Snooker Club
Tullow and South Leinster Tennis Club
Tullow Kayak Club
Slaney Valley Cycling Club
Emerald Darts Academy
Naomh Padraig Bowls Club

ARTISTIC and CULTURAL

Tullow Stage School
Dowsa
Flanagan Kirwan School of Irish Dancing

FARMING

Tullow I.F.A.
Tullow Macra na Fierce
Tullow Sheep Breeders Association
Tullow Agricultural

YOUTH

Tullow Youth Project (Bishop's House)
Tullow Baton Twirlers Club
Tullow Scouts
Tullow Girls Friendly Society
Tullow Boys' Brigade

COMMUNITY

Develop Tullow Association Limited
DTA Tullow Tidy Towns

DTA Tullow Traders
DTA St. Patrick's Day Parade

OTHER

Tullow Group Mothers' Union
Tullow Men's Shed
Tullow Active Retirement Association
Tullow Bingo
Tullow Bridge Club
Tullow Vintage Club