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1.0 INTRODUCTION

This Environmental Report forms part of the Strategic Environmental Assessment (SEA) of the review of the existing Tralee Town Development Plan (2003-2009) and the Draft Tralee Development Plan 2009-2015. The purpose of this Environmental Report is to identify, evaluate and describe the likely significant effects on the environment of implementing the Tralee Development Plan 2009-2015.

Tralee is the largest town in County Kerry and is the County's administrative centre. It has a population of (circa) 20,250 and comprises an area of 1,237 hectares. The review of the existing Development Plan began in October 2007 and the new plan is due to be adopted by March 2009.

This section identifies the legislative requirements for an SEA and outlines the contents and main objectives of the Development Plan.

1.1 LEGISLATIVE FRAMEWORK

On the 5th of June 2001, the European Council adopted Directive 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (" the SEA Directive") (EU,2001).

The Strategic Environmental Assessment Directive was adopted into Irish Law on the 14th July 2004 by means of the Planning and Development (Strategic Environmental Assessment) Regulations (S.I. 436 of 2004).

The Directive requires all European Union member states, including Ireland, to systematically evaluate the likely significant environmental effects of implementing a plan or programme prior to its adoption.

The main objective of the EU Directive and the purpose of subjecting plans to SEA is to *'provide for a high level of protection for the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development'* . The SEA process is designed to ensure that significant environmental effects arising from plans are;

- properly identified and evaluated;
- subject to public consultation;
- taken into consideration by decision makers
- regularly monitored

SEA is a process for evaluating at the earliest appropriate stage, the environmental quality, and potential consequences, of policies, plans or programmes and to ensure that any potential consequences are assessed during their preparation and before they are adopted. Its overall purpose is to contribute to sustainable development. The SEA is intended to provide a framework for influencing decision-making at an early stage; to improve the environmental sustainability of the new Plan and to raise awareness of the potential environmental consequences of its implementation so that these consequences may be mitigated or avoided altogether. It also gives the public and other interested parties an opportunity to comment and to be kept informed on decisions that may impact on the environment and how they were made.

The SEA process is recognised as an important instrument in promoting sustainable development, in raising awareness of environmental issues, and in ensuring that such issues are properly addressed within the capacity of the planning system.

1.2 REQUIREMENT FOR SEA

As part of a Development Plan review/preparation process, where the population of the area of a Planning Authority is 10,000 persons or more, Section 13B of the Planning & Development (Strategic Environmental Assessment) Regulations 2004, requires the Planning Authority to *"prepare an environmental report of the likely significant effects on the environment of implementing the plan… and the provisions of articles 13B to 13J shall apply".* As the population of Tralee is more than 10,000 persons, Tralee Town Council is required to prepare an Environmental Report in respect of the Review of the Town Development Plan and the preparation of a new Development Plan.

1.3 TRALEE DEVELOPMENT PLAN

1.3.1 Background

The town of Tralee is the largest town in County Kerry and is the County administrative, retail and services centre, comprising an area of 1,237ha (3,057 acres). The character of the town has been shaped by its mercantile role underpinned by its large agricultural hinterland. Contemporary Tralee town is a vibrant, rapidly growing and dynamic settlement supporting a large rural catchment area with higher order services and administration. Over the last number of years Tralee has experienced exponential growth in areas such as tourism, housing developments, infrastructural projects and urban regeneration. However, the 2006 Census Results indicates that the population of the town has decreased from 20,375 in 2002 to 20,228 in 2006, while the population of its environs has increased from 1,652 to 2,456. Over the same period the average household size has decreased from 2.69 to 2.43.

The National Spatial Strategy designated Tralee and Killarney as linked hubs. This provides Tralee with the opportunity to benefit from focused public and private sector investment. The designation of hub status for Tralee has the potential to achieve strong and sustainable economic growth driven by the interplay of market forces, location and accessibility and to promote growth within its zone of influence.

1.3.2 Development Plan

Tralee Town Council, as a Planning Authority, has a duty to review its Development Plan every six years. The existing Tralee Development Plan was adopted in December 2003 and remains in force until December 2009. The review of the Development Plan began in October 2007 and the new plan will be adopted by March 2009. The new Development Plan will state the planning authority's policies for land use and for planning control and promotion in the area for the period 2009 to 2015.

The Tralee Development Plan will give spatial expression to the economic, social and cultural needs of the community in terms of influencing new development, enhancing and protecting valued amenities, and protecting the environment and heritage. The Plan will present a clear strategic vision for the future development of the town and will contain clear strategy and policy objectives under different heading encompassing the broad range of social, cultural, economic and infrastructural development throughout the town.

The Tralee Development Plan has been informed by the principles of sustainability thus protecting and ensuring the development potential of the town, not only for this generation but for future generations. These principles encompass the three interdependent and mutually reinforcing pillars of sustainable development, namely economic development; social development; and environmental protection.

The overall strategy of the Plan will be influenced by the recommendations of the National Spatial Strategy, the Regional Planning Guidelines and the Kerry Hub Development Strategy

and Land Use Plan. In addition, the Plan will be guided by the recommendations of the strategic Tralee Electoral Area study (Tralee Land Use and Transportation Study).

Tralee exerts influence over the surrounding environs and its hub status asserts its importance at regional level. Consequently, the policies and objectives contained in the Plan must be prepared in conjunction with Kerry County Council, the Planning Authority for Tralee's hinterland. This will ensure that Tralee will continue to develop as the County capital to the betterment of the county as a whole.

The Plan will be based on fundamental policies which provide a positive enabling resource for the spatial management and sustainable development of the town.

It will provide for an enhanced quality of life for the citizens of the town and the large number of visitors to the town by improving the quality of the residential, recreational and working environment.

Policies will provide for balanced growth while recognising the responsibility to protect the quality of the environment for the present and future generations in a sustainable manner.

The plan polices will be underpinned by the need to improve linkages and achieve critical mass consistent with the objectives of the National Spatial Strategy and the Regional Planning Guidelines.

1.3.3 Context of Development Plan

Since the adoption of the 2003-2009 Development Plan, there have been many significant changes in the external environment in which Tralee Town Council functions. These changes have occurred at all levels – international, national, regional and local, and they all impact directly or indirectly on the future development of the town.

These changes include:

- economic growth
- demographic change including unprecedented levels of immigration
- development of infrastructure
- demands on existing services
- substantial changes in the retail and commercial sector
- increased car ownership
- pressure on amenities and heritage, and
- legislative requirements and statutory guidelines as issued by the European Union and Irish government.

1.3.4 Content of Development Plan

The 2000 Planning and Development Act sets out the statutory content of a development plan and includes the following mandatory objectives:

- The zoning of lands for particular purposes (residential, retail, commercial, amenity)
- The provision of infrastructure (roads and sanitary services)
- The conservation and protection of the built and natural environment

- Social, community and cultural requirements of the town such as childcare, healthcare, education and other community services
- Protection and preservation of the architectural, archaeological, historical and cultural heritage of the town
- Regeneration of areas in need of renewal
- Provision of accommodation for the travelling community
- The provision and improvement of amenities

The Tralee Development Plan addresses the above requirements under the following policy areas;

- Economic Development
- Social Infrastructure and Amenity;
- Transportation
- Environmental Management;
- Housing;
- Built Environment and Urban Design;
- Natural Environment;
- Action Area Plans;
- Zoning Policy and Objectives;
- Development Management.

2.0 SEA METHODOLOGY

2.1 INTRODUCTION

The objective of SEA is to ensure that the environmental effects of certain plans and programmes are taken into account at a planning stage before the plans and programmes are adopted, in order to ensure that environmental considerations are incorporated in the decision making process.

The key requirements of the EU Directive may be summarised as follows:

- The screening of Plans, at drafting stage, to determine if SEA is required
- The scoping and preparation of an Environmental Report identifying, describing and evaluating the likely significant effects on the environment of implementing the plan, and reasonable alternatives taking account of the objectives and the geographical scope of the plan
- Public consultation on the Draft Plan and the Environmental Report
- The modification of the Plan, where appropriate, on the basis of the inputs from the consultation stage
- The issuing of an SEA Statement detailing how environmental considerations have been integrated into the final Plan and the measures decided upon to monitor the significant environmental effects of implementation of the plan

The Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436 of 2004) transposes part of the EU Directive and makes SEA mandatory for the following Plans:

- City and County Development Plans
- Town Council Development Plans and Local Area Plans where Population is greater than 10,000
- Regional Planning Guidelines
- Planning Schemes for Strategic Development Zones

Thus it is a mandatory requirement that an SEA of the Tralee Development Plan be carried out as the population of Tralee Town Council's administrative area is greater than 10,000.

2.2 ASSESSMENT METHODOLOGY

The SEA methodology involves the following main stages:

- Scoping the extent and level of detail to be examined in the Environmental Report and evaluation of feedback received from the scoping consultation process.

- Identify the content and main objectives of the Tralee Development Plan, its relationship with other plans and programmes and the reasonable alternatives considered.

- Establish the current (baseline) environment of the areas likely to be significantly affected by the implementation of the Plan.

- Identify the relevant aspects of the current state of the environment and their likely evolution without implementing the Plan (Do-Nothing Scenario). The assessment will focus on the "Key Issues" identified in the Scoping Report.

- Identify environmental protection objectives (National and EU Level), which are relevant to the Plan.
- Assessment of the impact of implementing the Development Plan.
- Consultation on the Plan and Environmental Report
- Production of the SEA Statement,
- Monitoring the environmental impacts of the Plan

The main outputs of the SEA process and their importance in the context of the SEA process are shown in **Table 2.1**.

Table 2.1 Main Outputs of the SEA Process

SEA Output	Description
Scoping Report	The purpose of the Scoping Report is to inform Environmental Authorities of the key elements of the Plan and the key environmental issues relevant to the Plan. It aims to generate comment from stakeholders on the scope and approach to the SEA and on the Plan itself.
Environmental Report	The Environmental Report contains an assessment of the likely significant effects (on biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors) of implementing the Plan.
SEA Statement	The main purpose of the SEA Statement is to provide information on the decision-making process making the process more transparent. It must be made available to the public to accompany the adopted Plan.

2.3 BASELINE DATA

The SEA process requires that baseline data be collected using the indicators described in the SEA Directive. **Table 2.2**, which has been adapted from guidelines provided by the EPA and DoEHLG, presents the data types and information sources that have been considered as part of the SEA of the Tralee Draft Development Plan 2009 – 2015.

Table 2.2 Sources of Environmental Data for SEA

Environmental Issue	Type of data	Information Sources
Biodiversity, Flora & Fauna	Designated areas, protected species and habitats	DEHLG, DCMNR, NPWS, Marine Institute, Fisheries Board, Local Authority Wildlife Officer.
Population	Census data, population trends, HSE statistics	Central Statistics Office (CSO), EPA, County Development Boards, HSE
Water	Annual Water Quality reports, Drinking Water Quality reports, Groundwater Protection zones, Coastal water quality, flooding and drainage data	EPA, Office of Public Works (OPW), Geological Survey of Ireland (GSI), Marine Institute, Waterways Ireland
Soil & Geology	Types, quality and significance potential for contamination	Teagasc, GSI, Local Authorities
Air & Climate	Local air quality, changes in air quality, sources of emissions, longterm climate data, climate-change reports	EPA, Local Authority monitoring data, Met Éireann
Cultural Heritage (Architectural and Archaeological Heritage)	Protected buildings, sites and monuments, architectural inventories, National Heritage Plan	NPWS, OPW, Heritage Council, Local Authority, Local/Regional Museum, Archaeological Survey of Ireland, Excavations Database
Material Assets	Infrastructure, traffic, noise, community facilities, open space, services	Local Authority,
Landscape	Landscape character types, protected views and landscapes	NPWS, Forest Service, Landscape Character Assessments

2.4 DIFFICULTIES ENCOUNTERED

The SEA Guidelines produced by the DEHLG in 2004 state that the SEA process *'does not require major new research'*. As such, the Environmental Report was prepared and informed by many already available data sources.

The lack of available current environmental data specific to the town posed a difficulty in establishing the current baseline environment of the town

2.5 TIMEFRAME

The Tralee Town Development Plan Review and SEA commenced in October 2007 and the Draft Plan and Environmental Report will be published for public consultation in June 2008. Following a consultation process the Development Plan and SEA Statement will be published in March 2009.

3.0 CONSULTATION

3.1 DRAFT PLAN

3.1.1 Public Participation

Public participation is an essential element in the planning process, and in particular the formation of planning policies which will shape the future development of Tralee. The Tralee Town Development Plan review provides a number of opportunities for public participation throughout the process. Consultation completed to date is as follows:

Submissions to Issues Paper:

Following the publication of a notice informing the public of the commencement of the review, Tralee Town Council published an Issues Paper in October 2007 and invited submissions on the issues raised. The purpose of the Issues Paper was to explain the process, highlight issues, stimulate debate and encourage public participation. This Issues Paper formed the basis of a period of public consultation lasting 8 weeks. During this period an open day was organized at which members of the public were able to discuss issues with staff of the Planning Department.

The issues paper identified that an SEA of the Development Plan was required and invited the public to make submissions on environmental issues pertaining to Tralee.

A total of one hundred and sixteen (116) individual submissions were received by the Planning Authority during the initial phase of public consultation. Submissions were also received at the public meeting held along with two submissions received after the deadline.

The main issues that arose during this consultation were as follows:

Location and Pattern of Development

Concern was raised in relation to the density, height and location of new developments. The use of height restrictions and visual impact studies for large scale developments was proposed to protect visual amenity. In addition, the need for the protection and use of views and prospects was also highlighted.

Infrastructure and Transport

Many submissions referred to traffic congestion, poor road surfaces and footpaths, the need to promote public transport and cycle lanes and the need for traffic calming measures. Proposals to use a shuttle bus to link areas such as Manor West with the town centre were also mooted. Lack of car parking and the issue of universal access were also highlighted. A clear need for a review of the town's transportation system and accessibility has emerged and will be addressed by Kerry Co. Co. who has employed consultants to carry out a review of traffic and transportation plans for Tralee. This review will include traffic calming, parking and pedestrianisation.

Environment

A strong recognition of the need to safeguard the environment was also highlighted in the submissions received. Issues raised include waste management, litter, river walks, protection of the Canal area, the River Lee and the Town Park, the town's natural setting, landscaping, the maritime and eco tourism potential of the town and the importance of the recreational and social benefits associated with a high quality landscape and environment.

Amenities

The provision of facilities such as childcare, youth facilities, community buildings, recreational developments and the provision of new schools were also highlighted for inclusion in the Draft Development Plan.

Heritage

The importance of the built and natural environment focusing on landscape quality, views and prospects, the preservation of streetscapes and archaeological heritage was identified in many of the submissions raised, acknowledging that the very components of the town's character are intrinsic to its identity and success.

These issues have been taken into consideration during the preparation of the Draft Plan.

3.2 SEA SCOPING

As stated above, the Issues Paper published by the Council identified that an SEA of the Development Plan was required and invited the public to make submissions on environmental issues pertaining to Tralee. A significant number of the submissions on environmental issues were received as outlined above. These submissions were used to inform the Scoping Report for the SEA prepared by the Council.

Under SEA legislation, specified environmental authorities must be consulted in relation to the scope and level of detail to be included in the Environmental Report. The following authorities are identified as Environmental Authorities in the SEA Regulations;

- The Environmental Protection Agency (EPA);
- The Department of the Environment, Heritage and Local Government (DoEHLG) and
- Department of Communications, Energy and Natural Resources (DCENR).

A formal letter requesting submissions on the scope and detail of information to be contained in the Environmental Report was issued to these authorities in January 2008, accompanied by the Scoping Report.

Responses were received from the EPA and DCENR. A summary of their response are outlined below.

- The EPA drew the Council's attention to the various national guidance documents available in relation to the SEA process and recommended that a workshop be held with the EPA and the various professionals preparing the Environmental Report and Draft Development Plan

- The DCENR had no specific recommendations to make but suggested that the South Western Regional Fisheries Board be contacted for comment.

In addition to the above the following stakeholders were consulted during the preparation of the Environmental Report.

- South Western Regional Fisheries Board
- National Parks & Wildlife Services
- Office of Public Works
- Kerry Co. Co. Planning Department (Forward Planning)
- Kerry Co. Co. Environment Department
- Kerry Co. Co. Water Services
- Consultants preparing the SEA of the Kerry Development Plan
- Tralee Town Council – Town Engineer Department & Planning Department

Submissions, observations and comments resulting from this scoping process have been taken into account during the preparation of the Environmental Report for the SEA. The complete submissions received in writing from the Environmental Authorities are contained in **Appendix 1**.

3.3 CONSULTATION – ENVIRONMENTAL REPORT

This Environmental Report along with the (draft) Tralee Development Plan will be put on display for public consultation in accordance with SEA legislation (S.I. No. 435 of 2004). A notice advising of the above will be published to inform the public of where and when the reports can be inspected and where written submissions can be sent. Both reports will be made available on the Tralee Town Councils website.

4.0 RELEVANT PLANS AND PROGRAMMES

4.1 INTRODUCTION

In preparing the review of the Tralee Development Plan, the Town Council must adhere to various national and regional policies. The Planning and Development Acts 2000-2006 requires that, so far as it is practical, a Development Plan shall be consistent with national plans, policies and strategies, which relate to the proper planning and sustainable development of the area covered by the plan.

The Planning and Development Act, 2000 specifically requires Planning Authorities to have regard to ministerial guidelines from the Department of the Environment, Heritage and Local Government.

The following provides a summary of relevant national, regional, county and local plans, strategies and guidelines.

4.2 NATIONAL PLANS, STRATEGIES AND GUIDELINES

4.2.1 National Development Plan 2007-2013

The National Development Plan forms the basis on which national capital expenditure will be based over the next number of years. It sets out within a sustainable economic and budgetary framework indicative seven-year investment allocations for the various sectoral areas, totalling €184bn.

It includes the following objectives;

- Continuing sustainable national economic and employment growth,
- Consolidating and improving Ireland's international competitiveness,
- Fostering balanced regional development,
- Promoting social inclusion.

4.2.2 National Spatial Strategy 2002-2020

The National Spatial Strategy 2002-2020 is the national strategic planning framework to achieve a better balance of social, economic and physical development, across Ireland, supported by more effective planning. It recognises that regions of the country have different roles and seeks to organise and coordinate these roles in a complementary way making all regions more competitive according to their strengths. It seeks also to promote a high quality urban environment, as well as vibrant rural areas. The National Development Plan (NDP) 2007-2013 underpins the NSS objectives and the prioritisation of capital investment in line with the NSS will establish the Strategy as a viable and practical policy measure to encourage more balanced regional development placing the NSS at the heart of our capital infrastructure decisions over the next seven years.

Gateways have a strategic location nationally and relate to the principal cities in the country (existing or emerging). Their location and scale support the achievement of the type of critical mass necessary to drive growth in their respective regions and provide social and economic infrastructure and support services. The nearest designated gateways to the Kerry Hub are Cork and Limerick, both approximately 95 kilometres.

Hubs are medium-sized towns, which support the national and international role of the gateways and in turn energise smaller towns and rural areas within their sphere of influence.

Hubs tend to be well positioned to act as strong market and service centres for an extensive rural hinterland.

The NSS does not ignore the role of other towns or villages and rural areas. It acknowledges the fact that urban and rural areas are intrinsically interdependent and seeks to develop rural potential and strengthen the rural economy by capitalising on local economic strengths in these areas.

The NSS indicates that the Tralee-Killarney linked hub 'will capitalise on the combined capacities of both towns, such as those in third-level education, developing links between industry and centres of learning, surface and air transport links and key natural resources such as scenic landscape.'

The Strategy also states that, *'for the linked-hubs to function effectively, improved local linkages will be required through the road network and bus-based public transport options, improved energy and telecommunications and all co-ordinated through the integrated planning frameworks…'*

4.2.3 The National Climate Change Strategy 2007-2012

The first National Climate Change Strategy, published in 2000 and reviewed in 2002, provided a framework for the achievement of reductions in greenhouse gas emissions as an essential step in achieving the targets agreed under the Kyoto Protocol. The second Strategy follows on from this document and takes account of the public consultation process carried out in 2006. The purpose of the National Climate Change Strategy 2007 – 2012 is to show clearly the measures by which Ireland will meet its 2008 – 2012 commitment and to show how these measures will position us for the post-2012 period. The Strategy also aims to identify the areas in which further measures are being researched and developed to enable us to meet our eventual 2020 commitment.

The Tralee Town Development Plan 2009–2015 aims to provide realistic alternatives to the use of the private car through the provision of a quality public transport system and a network of safe and accessible cyclist and pedestrian routes.

One of the key elements of the Tralee LUTS strategy is to reduce the attractiveness of the private car for commuting while facilitating shopping, business and leisure trips in the interests of reducing congestion and environmental degradation. A policy of maintaining and improving transport choice makes sense in economic and environmental terms, as the alternatives to car travel require fewer resources and cause less damage to the environment.

The LUTS strategy for the Tralee Electoral Area focuses on changing from private car use towards increased use of public transport, cycling and walking by:

1. Improvements in time-tabling, route coverage and advertising for the bus service in Tralee;

2. Provision of improved facilities for cyclists through the development of an interconnected network of cycleways;

3. The provision of park and ride facilities at the N86 and N69;

4. The development of linkages between the various modes of transport in order to provide for an integrated transport system; and

5. The allocation of additional priority to pedestrians in traffic management and the development of additional pedestrian routes.

The development of a high quality efficient public transport service is of primary importance to enable the Council address the issue of climate change and improve accessibility to and within the town. Public transport has been highlighted in the Tralee LUTS as being a crucial element in the effort to reduce dependency on the private car.

The overall development strategy of the Town Plan is to consolidate the development of the town by concentrating future development over the plan period on lands closer to the town centre. This strategy will ensure that future residential development in particular, is located closer to essential commercial, community and other services. This in turn will also help to reduce trip generation and consequently traffic congestion and will make the most efficient use of the existing physical infrastructure. In this regard, it is considered that the Town Plan is consistent with the aims of the National Climate Change Strategy.

4.2.4 Sustainable Development: A Strategy for Ireland, 1997

This is the government's policy on sustainable development, how it can be implemented and how it can be integrated into the decision making process. The policies in this document with regard to the sustainability of urban housing have been modified by the publication of *Draft Planning Guidelines on Sustainable Residential Development in Urban Areas*.

4.3 REGIONAL PLANS, STRATEGIES AND GUIDELINES

4.3.1 South West Regional Planning Guidelines 2004-2020

Under the Planning and Development Act, 2000, each Regional Authority is required to prepare and adopt Regional Planning Guidelines (RPGs), which are set in the context of the NSS. They provide more detailed strategies at regional level, responding to the objectives and targets established in the NSS. In short, the RPGs are seen as a bridge between national policies and local plans. The guidelines include the following goals for the South West Region:

- To promote the sustainable development of Mallow and Tralee/Killarney as vibrant hub towns – creating a critical mass in terms of population, employment and services, which will enable them to attract investment and people – thereby supporting the role of the Gateway (Cork City) and delivering balanced regional development within the South West, through energising smaller towns and villages within their sphere of influence.
- To secure the development of other towns and rural areas to their maximum potential, to support the Gateway and Hubs, and to ensure a sustainable future for the rural areas of the Region.
- To establish an upgraded quality transport system, linking the Gateway and Hubs, to facilitate their growth and sustainable development.
- To develop educational, health, recreational and cultural facilities that will facilitate the development of the Region, in accordance with the goals above.
- To integrate land-use and infrastructure provision, so as to ensure an efficient and effective development process, which assists community and economic development in a sustainable manner.
- To further sustainably develop the tourism industry in the South West Region, building on its existing success in this sector.
- To progress the economic, social and cultural growth of the Region, within a framework of protecting both the natural and built environment and the cultural heritage of the South West.

Tralee, as the County Capital of Kerry, performs a key role in terms of the County's economic, cultural and social wellbeing. The Town also plays an important role in the South West, as a centre of administration, education and health. The Tralee LUTS provides a strategic

framework for the town's development, and identifies its specific needs - from industry to tourism, education, amenity, etc. – in addition to issues already identified in these Guidelines.

The RPGs identify that:

- The Town Centre should be rejuvenated and expanded in a planned orderly fashion, to facilitate an increase in retail and office space. Where necessary, CPO and derelict sites powers, coupled with flexible policies on infill development, should be considered. In order to retain the vitality of the Town Centre, in face of competition from out-of-centre retail locations, key sites within the Town should be identified and reserved for retail purposes.
- The Town Centre should be upgraded through a strategic and integrated approach to the built and public environment. This is presently underway, with some quality developments proposed. The quality of the built environment, built heritage and public domain needs to be protected and upgraded in an integrated fashion, delivering a high-quality Town Centre, which will appeal to shoppers, workers and visitors alike.
- Policy should, in accordance with national policy guidance, restrict the development of out-of- centre retailing, particularly comparison shopping, in favour of developments in the Town Centre and, subsequently, follow the sequential test. Planning policies should, wherever possible, support the expansion of the Kerry Technology Park as a key engine of growth for the Area.

4.3.2 Limerick/Clare/Kerry Waste Management Plan 2006-2011

The government's policy document on waste *'Changing Our Ways'* called for a regional approach to waste management

The Local Authorities Limerick City Council, Limerick County Council, Clare County Council and Kerry County Council agreed to jointly prepare a Regional Waste Management Plan in 1998/99 which was adopted in 2001. The Local Authorities agreed in June 2004 to review the 2001 plan and to prepare this Plan for 2006-2011.

The Regional Waste Management Plan for the Limerick/Clare/Kerry Region details the amount of waste being generated in the Region, the progress made since the 2001 Plan was introduced and how it is proposed to minimise and treat the waste that is produced in the Region going forward.

The Plan sets out the proposed policy for integrated waste management in the Region including the planning, regulation, collection, recycling, recovery and disposal of wastes in accordance with current National and EU waste legislation and policies. The policy is summarised by the EU waste hierarchy below, which places the emphasis on prevention, minimisation, reuse, recycling and recovery of energy in order to end the current over-reliance on landfill.

This Waste Management Plan has its fundamental strategy grounded in the concept of an integrated waste management policy, operated on a regional basis, with priority assigned in accordance with the EU Waste Management Hierarchy and National policy. The strategy takes account of all relevant and pending regulations, recognises priority waste streams, and promotes sustainable waste management practices at local, business and industrial level. In particular the policy set out in this Plan will have the following specific objectives:

- To implement EU policy on waste including the waste management hierarchy
- To implement National Policy on Waste Management
- To achieve targets set out in the EU Landfill Directive
- To implement targets set out in National Biodegradable Waste Strategy

In order to meet these ambitious National targets the Limerick/Clare/Kerry Region proposes waste prevention as the key focus area. The revised targets for the treatment of total waste arisings by 2013 are:

- Recycling 45%
- Energy Recovery 41%
- Landfill Disposal 14%

4.4 COUNTY PLANS, STRATEGIES AND GUIDELINES

4.4.1 Kerry County Development Plan 2003-2009

The principle aim of the County Development Plan is to provide for an improved quality of life for all the people in the county while regulating development in a sustainable manner. This can be achieved through the promotion of employment opportunities, efficient transportation and infrastructure, sufficient housing and social facilities as well as a safe, healthy and clean environment which all contribute to a good quality of life. The County Development Plan promotes these goals.

One of the major difficulties that the county experience is its peripheral location. It is a priority that this development corridor is promoted which can act as a focal point for investment into the county. It is imperative that strong linkages between this development corridor and national networks are developed. The development of the corridor itself will create employment opportunities and encourage the population growth in the area to reach a critical mass. This critical mass of population will sustain an increased range of services and facilities which will in turn make further inward investment more likely.

The distribution of growth throughout the county needs to be planned. This approach will facilitate the Local Authority in the future allocation of resources, and inform it with regard to policy decisions. To achieve this, a settlement hierarchy has been identified. This hierarchy is based on existing functions and services and also their functional relationships with other settlements in the locality. The improvement of linkages between these towns and the larger urban centres of the county as well as the development corridor region will strengthen the existing role of these towns and promote them as employment locations.

The strengthening of rural communities is fundamental to the development plan. Many of these areas have experienced significant population loss in the past. This is not due to planning restrictions in these areas but primarily to a lack of employment opportunities. The infrastructure and services needed to promote job creation cannot be provided in the countryside. It must be provided in towns and villages. The overall strategy for rural areas is therefore based on the strengthening of towns and villages and making them more attractive places to live.

4.4.2 The Tralee /Killarney Environs Plan 2007

The concept of the linked-hub emerged from the Government's National Spatial Strategy (NSS) for Ireland 2002-2020 and was carried forward into the Regional Planning Guidelines (RPGs) for the Southwest Region (May 2004).

The purpose of this Local Area Plan is three-fold:

1. To develop the Linked Hub Strategy for the towns of Tralee and Killarney.
2. To plan for and address the development pressure that exists in the environs of both Tralee and Killarney,
3. Address the demand for one-off housing in the area of urban influence.

The principal objective of the plan is to provide a coordinated framework for the future development of the Tralee-Killarney Linked Hub area. The vision for the Hub is for a well-connected urban network that is a source of creativity, economic generation, community involvement and cultural value, and is distinctive for its tourism attractions, lifestyle choice and unique quality of life offer.

4.4.3 Meitheal Chiarraí, 2002–2011

Kerry County Development Board was established in February, 2000 with the aim of developing an economic, social and cultural development strategy for County Kerry.

Meitheal Chiarraí, 2002 – 2011 is an economic, social and cultural development strategy concerned with the co-ordination and integration of services within the County and sets the framework within which all organisations and agencies will work towards up to 2011. The objective is to work towards agreed priorities and to co-ordinate the activities of these agencies in enhancing the quality of life of the people of Kerry. The vision for Meitheal Chiarraí is outlined in a number of Statements.

An Economic Vision

Focus on the comparative strengths of the county in such areas as tourism, agriculture, food production, fisheries and small enterprise development.

A Social and Health Vision

Address the social issues in the county, the need for education and training, the recognition that the quality of lifestyle can be achieved through healthy living and the specific recognition of the needs of people in rural areas.

A Cultural Vision

Building on and preserving Kerry's cultural identity – a unique Kerry experience.

An Infrastructural Vision

Ease of access to the county for all transportation modes. Provision of an adequate information and communications technology infrastructure to overcome the peripheral location of Kerry. The development of energy sources with particular reference to alternative energy methods.

An Environmental Vision

Balanced development between urban and rural areas and the protection of the unique landscape of the county. The strategy intends to co-ordinate all the economic, social and cultural sectors within the county in achieving the vision of the strategy.

4.4.4 Heritage and Biodiversity Plan 2008- 2012

The Heritage and Biodiversity Plan took effect from January 1st 2008. The plan was compiled throughout early 2007 utilizing a series of intensive targeted consultations and public meetings. A Heritage Forum was appointed to guide the plan through formulation and its five year implementation.

This is Kerry County Councils' second Heritage Plan. The first plan (2003-07) has been highly successful with 95% of the actions contained within it having been achieved or commenced during the lifetime of the plan.

The Kerry County Council Heritage and Biodiversity Plan has three Key Performance Areas. These are (1) Education and Access, (2) Research and (3) Management. A number of policies, aims and actions were devised within these areas in respect of heritage and

biodiversity protection and promotion. Significant geological sites, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and National Heritage Areas (NHAs) listed in the plan in the Tralee area include the following:

- Plover Hill (Tralee/Fenit) – Theme site Ref. IGH8
- Derrymore Island and Tralee Bay -Theme site Ref. IGH13
- Ballyegan (east side of Tralee /Castleisland), Theme site Ref. IGH12
- Maharees (Tralee Bay), Theme site Ref.IGH8
- Tralee Bay and Magharees Peninsula West to an Cloghane –SAC Ref 002070
- Tralee Bay - SPA Ref 004018
- Church Hill, Tralee - NHA Ref 001341
- Tralee Bay and Magharees Peninsula West to an Cloghane – NHA Ref 002070
- Ballyseedy Wood – SAC 002112
- Slieve Mish Mountains –SAC 002185

It should be noted however, that with the exception of the upper reaches of the Tralee Bay SAC, none of the above are located within the administrative area of Tralee Town Council and are not covered by the Development Plan.

4.5 LOCAL PLANS, STRATEGIES AND GUIDELINES

4.5.1 The Tralee / Killarney Hub Settlements LAP Strategy 2006

The overall aim for this plan is to provide a comprehensive local planning framework for the settlements within the Hub which clearly sets out the policies and objectives for their development. Taken in conjunction with the Regional Planning Guidelines and the County Development Plan, it will complete the planning framework for the Hub area. These plans will clearly set out the policies and objectives for the development of each settlement and make clear to landowners, developers and agents the vision of the Planning Authority for the development of the area.

This plan, in conjunction with the Castleisland Local Area Plan and the Local Area Plan for the Environs of Tralee and Killarney comprises a set of plans covering each of the settlements within the Tralee / Killarney hub catchment.

This strategy document is presented in two sections. Section 1 outlines the strategic context, overall strategy, the growth strategy, and the policy issues for each sector. Section 2 comprises the policies, objectives and maps for each of the settlements within the Hub Area.

The key issues outlined in the Hub Strategy are:

- To develop linkages, involving transportation, communications and power, from the Tralee/Killarney Hub, in particular to the National *'gateways'* of Limerick and Cork and to ensure that the effects of peripherality can be reduced. In this way the hub can be promoted as a vibrant element of the South West region with ready access to both markets and a significant available workforce within its catchment.
- To reinforce the economic strength of the Tralee/Killarney Hub by building critical mass of population and jobs within the hub
- To support the development of tourism, particularly year round tourism throughout the Hub
- To recognise the complementary roles of the different settlements.
- To develop settlements in accordance with their long term development potential having regard to their natural constraints

- To promote the development of settlements as a strategic focal point for the provision of services and employment for their rural catchments and halt rural depopulation.
- To promote a high quality of Urban Design and urban environment throughout the settlements.
- To zone sufficient lands in the settlements at appropriate densities to cater for all sectoral demands in the housing market including housing at a density required to provide a viable alternative to one-off rural housing.
- To promote a high quality retail provision within the Hub in order to promote employment, competition and choice.
- To facilitate the provision of high added-value knowledge based industry throughout the hub.
- To promote and facilitate alternative energy uses within the county.
- Through addressing these issues to provide a high quality of life throughout the hub and the wider county.
- Through a combination of these policies to increase the pull factor of the County in order to attract the inward migration, investment and employment necessary to enable the Hub to achieve its potential.

4.5.2 Ballyard /Cloghers Action Area Plan 2000

The 1982 Ballyard /Cloghers Action Area Plan was reviewed in 2000 and adopted by the Town Council. The objective of the Action Plan is to ensure that development is carried out in an integrated orderly fashion, ensuring that existing and future residents of the area have easy access.

4.5.3 Manor West Action Area Plan, 2000

The Manor West Action Area Plan comprises the area located between the residential area of Killerisk, the N21 to the north and the Town Council boundary to the east. The plan was commissioned in response to the Manor West Retail Park proposal. The area is characterised by heavy car use and low density suburban housing

4.5.4 Boherbree Action Area Plan, 2000

The Boherbee Action Area Plan was adopted by Tralee Town Council in 2000. This plan focuses on the area bounded by John Joe Sheehy Road, Edward Street, Upper Castle Street and Boherbee. The area is characterised by a mix of uses, including retail, residential, the train and bus station and vacant plots. The objective of the Action Plan is to improve the street pattern and urban environment and provide a coherent framework within which provision is made for residential and commercial developments.

4.5.5 Tralee Lee Valley Land Use Masterplan, 2000

The area consists of the strip of land running from the Aqua Dome to Blennerville Bridge (including the former landfill site). The northern boundary of the site is bounded by the Blennerville – Tralee Canal. The area will become a corridor between built up residential areas and can act either as a barrier to interaction between them or as a unifying component for the expanding urban area unifying component for the expanding urban area.

Work commenced in November 2007 on the construction of the 1.5km Nature Walk and Cycle Way along the River Lee from the Ballyard Road to Ballymullen and is now complete.

The Nature Way is 3 metres wide and includes both embankment and raised sections and has full accessibility. Seating, fishing stands and nature information panels will also be

provided along the route. It begins just west of the Aqua Dome and (the current phase) ends at the new Camp Park in Ballymullen.

The project has received grant support totalling €416,640 from the Tourism Infrastructure Fund of the new National Development Plan administered by Fáilte Ireland.

The next phase will involve the extension of the walk and cycle way by Kerry County Council eastwards from Ballymullen to Ballyseedy Wood.

4.5.6 The Monavally Action Area Plan 1982

The Monavally Action Area Plan was adopted by Council in 1982. The plan area comprised the Monavalley, Rahoonane and Shanakill areas of the town. The area is bounded to the south by the railway line, to the east by the Big River, to the west by the Abbeydorney Road and to the north by the Killeen Road. The objectives of the plan are the preparation of a landuse structure and block layout for the area; consideration and solution of the problems of access to the area development of a preferred pattern of traffic circulation, services and other infrastructure to serve the area; consideration of the issues of residential density and house types, together with open space distribution within the development; and proposals in relation to phasing of development and recommendations on development control standards to be applied to the area. Given the fact that this Plan is twenty years old, a number of recommendations have already been put in place (such as access roads, school provision, housing developments and pedestrian linkages). The remaining substantial portion of land available for development of circa 59 acres is currently in the planning process. A neighbourhood centre, first mooted in the 1982 Action Plan and planned for the area, will be developed in conjunction with further large-scale residential development in the area.

4.5.7 Tralee Town Centre Framework Plan 2001

The Tralee Town Centre Framework Plan focuses on the area of town bounded by Denny Street to Day Place, and Ivy Terrace to the Square. The Plan aims to promote high quality urban design, improve the retail function of the town centre, encourage mixed landuses in the area including residential uses, and to ensure the remains of the Abbey, located in the vicinity of the Abbey Square, are protected as an integral part of the development of the quarter. The end aim of this Plan is to develop the area as a vibrant, bustling, distinct urban quarter.

It is proposed to develop two high quality urban spaces: the Square and the Abbey Square, ensuring that both squares are linked by a network of streets and both are pedestrianised and landscaped. The development of three and four storey buildings around the Abbey Square is envisaged to provide a sense of space and enclosure with vibrant ground floor uses.

To ensure implementation of the plan and full realisation of the objectives contained therein, Tralee Town Council will continue to develop lands in its ownership in the manner defined in the Plan. In addition, the Town Council will continue to positively encourage private sector landowners and developers in the area to engage in consultation with the Town Council with the aim of achieving the objectives of the Plan.

4.5.8 LUTS for Electoral Area of Tralee 2000

Another important plan within the context of preparing the RPGs is the Tralee Land Use and Transportation Study LUTS, which is a future framework for land use and transportation planning, aimed at supporting and facilitating dynamic, sustainable and quality-based economic, social and physical development, in the County Kerry capital and its catchment area, over the next 20 years.

The Strategy recommendations place strong emphases on the regional context of Tralee and the need to strengthen its position, both within the Country and as an engine of growth within the South West Region.

In particular, the Tralee LUTS addresses:

- Reinforcing the economic strength of the Tralee /Castleisland /Farranfore /Killarney corridor, with a critical mass of population and jobs;
- Developing regional links to the national Gateways of Cork and Limerick;
- Developing sub-regional links to other parts of Kerry;
- Supporting the growth of tourism, particularly with year-round all-weather products;
- Facilitating growth and diversification of the rural economy, including new agri-enterprises, which can maintain viable rural communities;
- Strengthening rural towns and villages, so that they have the capacity to support a greater range of employment opportunities and support the viability of local shops and services.

The LUTS identified strategic development areas for Tralee, Castleisland and Farranfore, which it considers to be of strategic importance to the development of these settlements and the area. It identifies that the lack of supply of building sites and properties in towns and villages must be addressed in term of availability and cost, thus making urban areas attractive places to live. It also identifies requirements in terms of public transport and road improvements, and makes detailed recommendations for the development of the Tralee urban area, together with other main towns and rural areas.

5.0 CURRENT STATE OF THE ENVIRONMENT

5.1 INTRODUCTION

The environmental baseline in Tralee is described in this section. This baseline together with the Environmental Protection Objectives, which are outlined in **Section 8**, are used to identify, describe and evaluate the likely significant environmental effects of implementing the Plan and to determine the required monitoring measures.

The environmental baseline is described in line with the legislative requirements, encompassing the following components:

- Biodiversity
- Population
- Human Health
- Flora
- Fauna
- Soil
- Water
- Air
- Climatic Factors
- Material Assets
- Cultural Heritage including Architectural & Archaeological Heritage
- Landscape
- and the Interrelationship between These Components.

5.2 BIODIVERSITY, FLORA AND FAUNA

Biodiversity is defined as *'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 ecosystem'* (UN, 1992).

Sites of International Importance include; Special Areas of Conservation (SACs) protected under the EU Habitats Directive (92/43/EEC), established for the conservation of natural and seminatural habitats and species of flora and fauna and; Special Protection Areas (SPAs) for the protection of birds were established under the Birds Directive of the EU in 1979. Sites of national importance are designated as Natural Heritage Areas (NHAs) and are designated under the Wildlife (Amendment) Act 2000.

In addition to the protected sites referred to, biodiversity also relates to species, habitats and ecosystems that are not designated, but that may still have biodiversity value. The details of natural heritage in the Tralee area in terms of flora, fauna and biodiversity are listed below by habitat type. The habitat types are taken *from 'A Guide to Habitats in Ireland'* (Fossit, 2000).

5.2.1 Habitats

The following habitats have been identified around the Tralee area.

- *Depositing / Lowland Rivers (FW2)*

The River Lee runs by the south of the town from Ballyseedy Wood towards Blennerville leading through a network of varied habitats and environmental features that are both rich and varied and include woodlands (at Ballyseedy Wood), the river corridor, farmland, wetlands, canal, estuary, mud-flats and callows (Kerry County Council, 2007). The Big River and its

tributaries run from the north-east through the town centre before being culverted at North Circular Road and subsequently discharging to the Lee River.

- *Canals (FW3)*

The short Ship Canal (approximately 2.5km) runs from the west of the town to Blennerville adjacent to the estuary of the River Lee.

- *Drainage Ditches (FW4)*

There are numerous drainage ditches present in the Tralee area along the borders of existing fields which were previously or are currently used for agricultural purposes.

- *Improved Agricultural Grassland (GA1)*

This habitat is represented by a number of agricultural and greenfield sites mostly around the fringes of the town.

- *Amenity Grassland (Improved) (GA2)*

There are a number of areas of improved amenity grassland within the Tralee area. These include the racecourse and various sports pitches and parks throughout the town.

- *Dry Meadows and Grassy Verges (GS2)*

Unmaintained grassland is common along roadsides and railway embankments. The habitat generally consists of tall, coarse and tussocky grasses (Fossit, 2000). There are a number of areas of this habitat in the Tralee area.

- *Wet Grassland (GS4)*

Areas of wet, alluvial grassland are present in the callows of the River Lee. Areas of poorly drained farmland are also included in this habitat.

- *Wet Willow-Alder-Ash Woodland (WN6)*

Ballyseedy Wood is a Special Area of Conservation (site code 2112) dominated by this habitat type. Hazel, Oak, Yew, Elm and Spindle also occur on the site along with a number of non-native tree species such as Sycamore, Horse-Chestnut, Poplar, Beech and Hornbeam. Alder and Ash dominate the areas adjacent to the River Lee with Ash-Hazel and Alder-Grey Willow on higher ground. This rare and threatened habitat is listed as priority in Annex I of the EU Habitats Directive (NPWS, 1997). It should be noted however, that Ballyseedy Wood is outside the administrative area of Tralee Town Council.

- *(Mixed) Broadleaved Woodland (WD1)*

There are several areas of mixed broadleaved woodland in the Tralee area including some parts of Ballyseedy Wood. These areas generally comprise a mix of native and non-native trees.

- *Scattered Trees and Parkland (WD5)*

The trees around the Town Park contain this habitat which would be typical of demesnes around the country. There are also other areas of scattered parkland around the town.

- *Hedgerows (WL1)*

There are numerous hedgerows intact in agricultural fields around the edge of Tralee town. These habitats are important ecological corridors for small mammals, birds and insects.

- *Treelines (WL2)*

Treelines are found in association with hedgerows at a number of locations around Tralee.

- *Spoil and Bare Ground (ED2)*

Bare ground includes land recently cleared for agricultural purposes, construction sites and other unconsolidated surfaces. The latter category includes unpaved roads, paths, car parks and derelict urban lands. There are a number of sites in and around Tralee that match these criteria.

- *Buildings and Artificial Surfaces (BL3)*

Large areas of Tralee town are occupied by built land. This habitat also includes roads and paths.

- *Tidal Rivers (CW2)*

The estuary of the River Lee is included within the Tralee Bay and Magharees Peninsula, West to Cloghane Candidate Special Area of Conservation (site code 2070). Tralee Bay is also a Statutory Nature Reserve. Extensive tidal mudflats are noted in the Lee estuary, an Annex I habitat in the EU Habitats Directive. Tralee Bay is also an internationally important wintering waders and wildfowl. Species present which are listed on Annex I of the E.U. Birds Directive include Whooper Swans, Golden Plover and Bar-tailed Godwit. Otters are known to feed extensively in the area (NPWS, 2003).

- *Upper Salt Marsh (CM2)*

The mudflats of the Lee estuary are fringed with saltmarsh vegetation in places. The dominant type of saltmarsh present is Atlantic salt meadow (NPWS, 2003).

5.2.2 Protected Areas

There are two sites designated as protected areas within the Development Plan area as well as a further two sites in the vicinity (see **Map 5.1**).

The estuary of the River Lee is included in the Tralee Bay and Magherees Peninsula, West to Cloghane Candidate Special Area of Conservation (site code 2070). This site is also a Natural Heritage Area. Habitats present at the site which are listed in Annex I of the EU Habitats Directive are *Salicornia* mudflats, tidal mudflats and Atlantic saltmarsh. The otter, an Annex II species in the same directive is also known to frequent the area but has not been proven to breed there. The majority of Tralee Bay is shallow and composed of sublittoral sediments. In the more sheltered areas of the bay, there is a variety of important sublittoral sediment communities in which a number of rare species occur. Seagrass beds in sandy substrates are characterized by oysters and the rare anemone *Calliactis parasitica* which lives on shells inhabited by the hermit crab *Pagurus bernhardus*. The native oyster, *Ostrea edulis* occurs in sediment communities throughout the bay. Saltmarsh vegetation frequently fringes the mudflats. The dominant type of saltmarsh present is Atlantic salt meadow. Characteristic species occurring include Common Saltmarsh-grass (*Puccinellia maritima*), Sea Aster (*Aster tripolium*), Thrift (*Armeria maritima*), Sea-milkwort (*Glaux maritima*), Sea Plantain (*Plantago maritima*), Red Fescue (*Festuca rubra*), Creeping Bent (*Agrostis stolonifera*), Saltmarsh Rush (*Juncus gerardii*), Long-bracted Sedge (*Carex extensa*), Lesser Sea-spurrey (*Spergularia marina*) and Sea Arrowgrass (*Triglochin maritima*) (NPWS, 2003).

Ballyseedy Wood lies approximately 2km east of Tralee town and is a Special Area of Conservation (site code 2112). The site is dominated by native tree species: Ash (*Fraxinus excelsior*), Alder (*Alnus glutinosa*), Grey Willow (*Salix cinerea*) and Hazel (*Corylus avellana*) with Oak (*Quercus* spp.), Yew (*Taxus baccata*), Elm (*Ulmus* sp.) and Spindle (*Euonymus europaeus*) also occurring. Non-native tree species found include Sycamore (*Acer pseudoplatanus*), Horse-chestnut (*Aesculus hippocastanum*), Poplar (*Populus* sp.), Beech (*Fagus sylvatica*) and Hornbeam (*Carpinus betulus*). This is a mature woodland with secondary regeneration thought to be up to 100 years old. The Alder/Ash-dominated woodland conforms well with the woodland type *"Residual Alluvial Forest"* listed with priority status on Annex I of the EU Habitats Directive. Several plant species which are nationally or locally scarce are found on the site: Rough Horsetail (*Equisetum hyemale*), Thin-spiked

Wood-sedge, Dark-leaved Willow (*Salix myrsinifolia*) and Wood Horsetail (*Equisetum sylvaticum*). The rare moss, *Pylaisia polyantha*, a species known in Ireland only from Cos Donegal, Kerry and Mayo, has also been recorded from the site (NPWS, 1997).

5.3 POPULATION & HUMAN HEALTH

5.3.1 Current Population

The 2006 CSO Census shows that the population figures for Ireland have increased by 8.2% from 3,917,203 to 4,239,848, an actual increase of 322,645 persons. This four-year period has experienced the highest annual growth rate on record. For the equivalent period, the population of County Kerry increased from 132,527 to 139,835, an increase of 7,308 persons.

The 2006 Census results show that the population of Tralee town dropped marginally, approximately 0.4%, from 20,375 persons in 2002 to 20,258 persons in 2006, during a time when the population of the State grew by +7.6% and the population of County Kerry increased by +5.22%. This rate of decrease represents a significant decrease on the preceding intercensal rates of change (+10.6% in the 1991-1996 period and +6.9% in the 1996-2002 period). The town population now accounts for approximately 14.5% of the total county population, a decrease of 5% since 2002. This population decrease was mirrored by a substantial population increase in the suburbs of Tralee, reflecting the strong demand for and supply of urban generated rural housing in the environs of the town.

It should be noted that the population trends in the environs of Tralee show increases over the last two census periods. Areas such as Ballyseedy, Blennerville, Clogherbrien and Rathass show increases well above this average. This reflects changing patterns in housing demand and supply, availability of choice and price. It also reflects an increasing demand for urban generated rural housing.

It should be noted that the “Environs” of Tralee are located within Kerry Co, Co.’s administrative area.

5.3.2 Projected Population

The Tralee town Development Plan 2009-2015 sets out the indicative population projections to the year 2020. It is anticipated that the population will reach 22,410 in 2011, 24,201 in 2016 and 25,372 in 2020. These figures were calculated based on the slowest rate of growth and show that Tralee town will need to accommodate 400 people per year over the lifetime of the Development Plan. At this growth rate it is estimated that an additional 180 dwellings per year will be required within the area over the lifetime of the Plan.

The NSS envisages a faster growth rate over the period 2006-2020 and estimates that that population figures will reach 26,880 in 2020. This suggests maximum growth of 6,600 persons from 2006-2020, which equates to a total growth of 470 persons per year up to 2020 and the requirement for an additional 200 dwellings per year up to 2020.

It is projected that the labour force in the town is likely to grow over the plan period by circa 150 people per year. Sustaining and increasing employment growth in Tralee during the lifetime of the Plan will be an important factor in achieving critical mass.

5.3.3 Human Health/Health Facilities

There is no specific recent information available on the health of people living in Tralee. Health statistics for the Kerry area published in 1999 indicate a higher than national average of people in the older age bracket. Statistics published in 2001 indicate a higher than average rate of suicide among young males in the county. However, no information was found on health issues that might be attributed to environmental factors.

Tralee General Hospital is an acute facility for both public and private patients, providing routine and emergency medical services mainly, but not exclusively, for the population of Co. Kerry. The hospital has 377 beds and also provides long stay extended care services and respite services for the elderly. This service is arranged by the Public Health Nursing Service.

The capacity in Tralee General is sufficient for the moment, but more facilities will be needed in the future, for example, maternity ward, new laboratory, new medical apartments and general accommodation for staff. There is enough space for future expansion at the current site and the Hospital has its own development plan for expansion.

The Bon Secour Private Hospital, Strand Street, Tralee, which employs 400 persons at present, has recently announced a €30 million expansion, which will result in the increase of beds, additional in-patient facilities, additional treatment facilities and extension of specialist consultant services.

5.4 SOILS GEOLOGY AND LANDUSE

5.4.1 Soils

Soils information was sourced from the Teagasc Soils and Subsoils (EPA, 2008) data. The majority of Tralee Town is classified as made ground; however natural overburden types can be extrapolated from soil maps. The soil and subsoil of the area is divided into three dominant areas whose boundaries run approximately southeast-northwest. The northern area covers approximately one fifth at the north of Tralee Town, the southern area approximately one tenth, and the middle area covers the majority of the town. The areas are also related to the elevation, with the northern and southern areas being at higher elevations than the middle.

The soils underlying the majority of the town area are deep basic mineral soils with both well drained grey brown podzolics and poorly drained surface and groundwater gleys present. To the north and south deep, poorly drained acidic surface and groundwater soils are present. Deep, well drained acid brown earths are also present in the south. Mineral alluvium soils are present along river corridors.

The subsoils of the area are tills (glacial deposits composed of sub-rounded clasts of all sizes, varying from clays to boulders) or alluvium. In the north the tills have a shale and sandstone origin, in the middle a limestone origin and in the south a sandstone origin. Alluvium is found along the routes of streams and rivers in the area.

5.4.2 Geology

Tralee Town is underlain by three rock formations: Cracoean Reef Member (CLcr) in the north, Waulsortian Limestone (WA) in the south and small areas of Rockfield Limestone Formation (RF) in the middle and southeast.

The Cracoean Reef Member is an unbedded calcilutite "reef" limestone. The Waulsortian Limestone is a massive, unbedded lime-mudstone and the Rockfield Limestone Formation is a fine-grained, dark-grey, argillaceous, well-bedded limestone.

There is very little faulting in the area of Tralee Town. Three major folds underlie the town in the southeast corner. These have an east-west strike.

There are numerous karst features in the town area. Within the town boundary there are three springs (one in the north near Sunday's Well housing estate and two in the south, in the Town Park and in Ballyvelly) and a number of enclosed depressions (a group of six to the north close to the N69 near Ballybeggan and two to the south near Fels Point and The Devils Hole). Enclosed depressions are a small topographic low where surface waters accumulate and percolate to ground. The time percolation takes to occur is dependant on the clay content of the karst feature.

5.4.3 Landuse

The town of Tralee is centred at the intersection of the N21, N69, N70 and much of the development is centred on these roads. Tralee is the capital town of County Kerry and Ireland's 7th largest town. It is a shopping, tourism, commercial, educational, retail, industrial and services centre, the seat of local government, and a regional transport hub. The centre of town contains a mixture of commercial and residential properties. The majority of lands in the north, west and eastern peripheries of the town are used for residential purposes. A larger portion of the eastern area of town is used for industrial and municipal purposes. There is one IPPC licensed site in town:

- Amann Industries Corporation, Clash Industrial Estate (P0509-01)- The dyeing, treatment or finishing (including moth-proofing and fire-proofing) of fibres or textiles (including carpet) where the capacity exceeds 1 tonne per day of fibre, yarn, or textile material.

While census figures indicate a slight decrease in the population of the town itself, they show increases in the population living in the environs of the town. This has resulted in a strong demand for and supply of urban generated housing in the environs of the town. Areas such as Ballyseedy, Blennerville, Clogherbrien and Rathass show increases well above average with the resulting loss of the rural character of these areas.

5.5 GROUNDWATER AND SURFACE WATER

The EU Water Framework Directive (WFD) is now the over arching legislation in relation to the regulation of all water bodies in Ireland and Europe. The WFD requires that all water bodies achieve "good status" by 2015. Good status relates to the physico-chemical composition of the water, its ability to support ecology, the quantity of water present and is defined for each type of water body. All water bodies in the country have been classified in relation to their risk of not achieving good status.

5.5.1 Groundwater

The bedrock underlying Tralee Town is predominantly karsified limestone and is classed as a Regionally Important Aquifer – Karstified (diffuse) (Rkd). Aquifers such as this are capable of supplying regionally important abstractions (e.g. large public water supplies) with *'excellent'* yields (>400 m^3/d) of water. There is also a number of small areas of Locally Important Bedrock Aquifer – Moderately Productive only in Local Zones (Ll), corresponding with the

Rockfield Limestone Formation. Aquifers such as this are capable of supplying locally important abstractions with *'good'* yields (100-400 m^3/d) of water.

The aquifer is recharged by diffuse infiltration of rainfall through the soil and subsoil into the aquifer. There is also direct recharge to the aquifer through swallow holes and dolines where surface water is concentrated and enters the aquifer at a single point. The aquifer discharges as baseflow to the River Lee and the River Big and directly to the estuary. There is additional groundwater discharge at a spring, which is located to the west of the town near the estuary in the Farranstephen area.

The GSI have only undertaken interim vulnerability mapping in the area, highlighting areas of extreme vulnerability. The majority of the Tralee Town area is defined as High to Low vulnerability with only one area of extreme vulnerability noted near the town boundary at Farranstephen where rock outcrops at or near the surface. However, areas in the south – east of the town at Killierisk, Manor West and eastwards towards Ballyseedy are defined as extremely vulnerable with areas of rock outcropping at or near the surface. The area around Blennerville is also defined as extremely vulnerable. There are a number of Karst features within the town (see **Section 5.4.2** above). Such features increase the vulnerability of the underlying aquifer to pollution from surface sources. The aquifers underlying the town are classified as "possibly at risk" of failing the meet "good status" as required under the Water Framework Directive.

There is no information on the GSI website relating to wells in Tralee Town and no source protection areas for public water sources are defined. However, while the town is served by a regional water supply sourced in the Killarney area, it is likely that there are some private wells drawing potable water from the underlying aquifer, particularly on the outskirts of the town and in the surrounding area.

5.5.2 Surface Water

There are two dominant surface water bodies in Tralee Town: the southwest flowing Big River which joins the west flowing River Lee. There is a third unnamed stream which flows in a southerly direction which joins the Big River in a culvert from the west. A tributary also joins the Lee River from the south near Blenerville.

There is only one river quality monitoring station in Tralee Town, this is on the River Lee and in 2005 had a Q rating (biological quality rating) of 3 – poor status.

Both the Big and Lee rivers have been classed as at risk of not achieving good status by 2015 as required under the EU Water Framework Directive. The tributary joining the Lee at Blenerville (Flyte (Kearney's) River) is classified as "expected to achieve good status" by 2015.

The Lee Estuary Upper is part of the Tralee Bay SAC and is classified as a Nutrient Sensitive Area for the purposes of the Water Framework Directive. Water quality in the Lee Estuary and in Inner Tralee Bay is considered to be unpolluted. However, both are considered to be at risk of not achieving "good status" by 2015.

The Lee Estuary, from Ballymullin Bridge seaward to the mouth of the Ship Canal, is designated a "Sensitive Area" under the Urban Wastewater Treatment Regulations.

There are two active hydrometric stations in the town. Tralee Clonalour (Station Number 23022) is on the Big River in the north of the town, data for this can be obtained from the EPA. Ballyard (Station Number 23063) is on the River Lee in the southwest of the town, data can be obtained from the OPW.

Further surface water details are outlined **Section 5.7.1** of this report.

5.6 AIR AND CLIMATIC FACTORS

Section 4 of the Air Pollution Act, 1987 defines Air Pollution as follows *'a condition of the atmosphere in which a pollutant is present in such a quantity as to be liable to be injurious to public health, have a deleterious effect on flora or fauna or damage property, or impair or interfere with amenities or with the environment.'*

Local Authorities have various powers under this Act including the issuing of notices under Sections 26 & 27 requiring measures to be taken to prevent or limit air pollution.

As part of the EU Framework Directive on Air Quality (1996/62/EC), 4 air quality zones have been defined for Ireland, as follows;

- Zone A: Dublin Conurbation
- Zone B: Cork Conurbation
- Zone C: Other Cities and Large Towns comprising 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 excluding Zones A, B and C

Limit values are set for each individual pollutant which need to be met by a specific attainment date. Upper and lower assessment thresholds are also set for each pollutant. Assessment thresholds are levels below the limit value, used solely in the determination of the level of monitoring needed for that pollutant in a particular zone. The extent of monitoring in any zone is determined by population size and air quality status. Measurement is mandatory in agglomerations (population >250,000) and where concentrations are above the lower assessment threshold. The greatest monitoring effort applies if concentrations are above the upper assessment threshold. Less intensive monitoring is required when concentrations are between the two assessment thresholds (EPA, 2004a).

The Environmental Protection Agency Act, 1992 (Ambient Air Quality Assessment and Management) Regulations, 1999 (S.I. No. 33 of 1999) and the Air Quality Standards Regulations, 2002 (S.I. No. 271 of 2002) transpose Council Directive 96/62/EC and the first two daughter directives, Council Directive 1999/30/EC and Council Directive 2000/69/EC, into Irish law. The 2002 regulations came into force on 17th June 2002; they deal with sulphur dioxide, nitrogen dioxide and oxides of nitrogen, particulate matter, lead, carbon monoxide and benzene in ambient air. A third daughter directive, Council Directive 2002/3/EC relating to ozone, was published in February 2002 and was transposed into Irish law by the Ozone in Ambient Air Regulations, 2004 (S.I. No. 53 of 2004). The fourth daughter directive has not yet been drafted. It will deal with polyaromatic hydrocarbons, arsenic, nickel, cadmium and mercury in ambient air.

5.6.1 Air

The Environmental Protection Agency had a mobile air quality monitoring laboratory stationed in Tralee between November 2003 and June 2004. The laboratory was situated in the southern campus of Tralee Institute of Technology approximately 1.2km from the town centre in a primarily residential area. The mobile laboratory contained the following instruments:

- Monitoring instruments which continuously measure and record concentrations of the pollutants sulphur dioxide, nitrogen oxides and carbon monoxide.
- Instrument which continuously measures and records the levels of particulate matter.
- Gas chromatograph which measures levels of benzene, toluene and xylene
- Sampler for particulate matter (the official method specified for this parameter by the EU commission involves collection of the particulate matter on a filter on site followed by laboratory determination of the filter's increase in weight).

- Sampler for lead and other metals in air (collection on filter for determination in the laboratory).
- Mini meteorological station for measuring and recording temperature, relative humidity, wind speed and direction.

The results of this monitoring compared with the various assessment thresholds and limit values are presented below (EPA, 2004a).

Parameter	Lower Assessment Threshold	Upper Assessment Threshold	Limit Value	Mean Hourly Value
Carbon Monoxide (mg/m^3)	5	7	10	0.3
Sulphur Dioxide ($\mu g/m^3$)	8 (e)	12 (e)	20 (e)	6.1
Nitrogen Oxides ($\mu g/m^3$)	26	32	40	13.8
PM_{10} ($\mu g/m^3$)	10	14	40	16.9 (d)
Benzene ($\mu g/m^3$)	2	3.5	5	0.4
Toluene ($\mu g/m^3$)	*	*	*	1.7
Lead ($\mu g/m^3$)	0.25	0.35	0.5	0.1

(e) For the protection of ecosystems
(d) Mean daily value
* No limit values assigned

As shown in the above table, there were no exceedences of the relevant limit values for any of the measured parameters during the monitoring period. Daily mean PM_{10} values were above the upper assessment threshold value of 14 $\mu g/m^3$ (PM_{10} - Particulate Matter measuring less than 10 microns in diameter which, due to their size, are likely to be inhaled by humans). According to the EU Framework Directive on Air Quality, continuous monitoring must be carried out if any pollutant exceeds the Upper Assessment Threshold. There is however no record of any additional monitoring being carried out in Tralee since the survey described above.

All parameters other than PM_{10} were below the lower assessment threshold.

5.6.2 Climate

Climate Change is considered to be the most serious environmental issue of this century (EPA, 2004b). The United Nations Intergovernmental Panel on Climate Change has identified the build-up of atmospheric gases such as carbon dioxide as threatening global climate stability (EPA, 2004b). It is within this context that Local Authorities have an obligation to play their part in reducing carbon dioxide emissions and associated emission reduction targets.

The EPA reports that national greenhouse gas emissions have been above the levels set out in the Kyoto Protocol since 1997, with the energy sector, transport sector and agricultural sector contributing the majority of emissions in 2002 (EPA, 2004b).

The EPA has compiled revised and updated figures for Ireland's greenhouse gas emissions for the period 1990-2004 (EPA, 2006). The key findings of the 2004 figures indicate that emissions from the transport sector increased by 6%; emissions from the residential sector increased by 7%; and emissions from the process sector increased by 19.8%. Based on the revised figures, the EPA estimate that Ireland's greenhouse gas emissions in 2004 were 23.5% above 1990 levels, that is 10.5% greater than the national target of 13% above 1990 levels for the period 2008-2012 (EPA, 2006).

The table below summarises data on the climate at the Valentia Island Observatory between 1961 and 1990 from the Met Eireann website (*www.meteireann.ie*).

Temperature Annual Mean (°C)	Relative Humidity at 0900 Annual Mean (%)	Relative Humidity at 1500 Annual Mean (%)
10.4	83	78

Sunshine Annual Mean (hours)	Rainfall Annual Total (mm)	Wind Annual Average (knots)
3.39	1430.1	10.9

The following were used as references in establishing the baseline

- EPA (2004a). Ambient Air Monitoring in Tralee 17th November 2003 – 30th June 2004. Environmental Protection Agency, Wexford.
- EPA (2004b). *Ireland's Environment 2004*. Environmental Protection Agency, Wexford.
- EPA (2006). Ireland's Emissions of Greenhouse Gases – Revised and Updated Figures. Environmental Protection Agency, 2006.
- www.meteireann.ie

5.7 MATERIAL ASSETS

5.7.1 Water Supply, Surface and Foul Drainage

Tralee has an abundant high quality water supply derived from the central regional water scheme and has a modern waste water treatment plant. These facilities ensure that the town can sustain further domestic and industrial expansion without any adverse effect on the environment.

5.7.1.1 Wastewater (Foul Drainage)

The town is served by a combined sewerage system and a modern waste water treatment plant (WwTP) situated at Lohercannon. The WwTP is operated by Kerry County Council and has a design population equivalent (PE) of 42,000 (based on 60g BOD/PE). The waste water from the agglomeration is collected in a combined network and is conveyed to the Waste Water Treatment Plant. Where gravity does not allow flow to the WwTP pumping stations are used. The largest of these is located at Mulgrave Bridge which pumps the greater part of the waste water to the treatment plant. In times of heavy rainfall waste water heavily diluted with storm water, of volume in excess of 6 times Dry Weather Flow, is discharged via storm overflows, to local watercourses – mainly the Big River and the River Lee.

At the Waste Water Treatment Plant preliminary treatment consists of screening and grit removal. Waste water in excess of 3 times Dry Weather Flow is held in stormwater holding

tanks to be treated later. Secondary treatment consists of primary settling tanks, biological filters, activated sludge treatment tanks, final settling tanks, inlet and outlet flow monitoring and discharge of treated effluent to Tralee Bay via a holding tank. Ultra violet disinfection is also used to further protect the environment.

The current maximum average BOD loading on the plant is 27,000 PE, indicating that there is significant spare capacity in the plant in relation to its design capacity. The plant has a hydraulic design capacity of 6,350m^3/day and this load is reached and surpassed on a regular basis. Preliminary investigations indicate that there is significant infiltration into the collection network including brackish water. Investigations also indicate that there are also losses out of the system, probably via the combined storm water overflows mentioned above.

The primary outfall from the treatment plant discharges to the lower Lee Estuary, approximately 150 metres from the shoreline north of the mouth of the shipping canal. However, the storm water overflows mainly discharge into the Lee River, the Big River and into the Upper Lee Estuary.

The Upper Lee Estuary, from Ballymullin Bridge to the end of the Shipping Canal is classified as a sensitive area in for the purposes of the Urban Waste Water Treatment Regulations in relation to nutrient enrichment/eutrophication. The eutrophication is considered to be caused by agricultural activities and emissions from the storm water overflows in Tralee.

The waters in Tralee Bay, into which the water from the Lee Estuary flows, are considered to be unpolluted and of high quality as are the waters of the Lee Estuary (EPA Webmap). However both are considered to be at risk of not achieving the objective of *'good water status'* laid down by the Water Framework Directive.

In recognition of the "*sensitive area classification*" of the Upper Lee Estuary the Tralee Sewerage Scheme Nutrient Reduction Preliminary Report was prepared in April 2006 and its recommendations have been prioritised in the Kerry County Council Water Services Investment Programme Capital Works Programme 2007. The implementation of the report has been allocated €260,000 in the Department of the Environment Heritage and Local Government Water Services Investment Programme 2007 – 2009. The report recommends a detailed investigation and modelling of the existing collection system, together with further waste water testing and sampling, as a basis for planning necessary future improvements. The report also recommends the consideration of the provision of Phosphate removal facilities at the WwTP. However, as noted above, the discharge from the treatment plant enters the Lee Estuary just down stream of the downstream extent of the "sensitive area" classification.

The WwTP has the capacity to cater for the potential increase in biological load from population and industrial growth forecast within the timescale of the new Tralee Town development plan. However, the hydraulic capacity of the plant is affected by significant infiltration into the collection system. This infiltration needs to be minimised to provide hydraulic capacity at the plant to cater for planned domestic and industrial growth.

Kerry County Council Water Services Dept., have applied to the EPA for a discharge license for the Tralee Waste Water Network, under the Waste Water Discharge (Authorization) Regulations 2007. Tests are presently being carried out by the Water Services/Environmental Section with regards water quality in the vicinity of storm overflows from the storm water/sewerage networks. The final effluent from the Waste Water Treatment Plant, which discharges to Tralee Bay, is also tested leaving the plant for compliance with the Urban Waste Water Directive."

5.7.1.2 Surface Water Drainage

The drainage system serving the town is largely a combined system collecting both foul and surface water as mentioned above. However, a policy was included in the last development plan to include separate drainage systems for foul and surface waters in new developments. Thus more recent developments are serviced by separate drainage systems.

As noted above, the current combined system is subject to both infiltration and leakage resulting in frequent discharges to surface water courses and unnecessarily large flows reaching the waste water treatment plant.

A number of local authorities have adopted policies advocating the use of Sustainable Urban Drainage Systems (SUDS) as a means of minimising the impact of urban drainage on surface water courses in terms of both water quality and flooding issues. The principles of SUDS are to separate stormwater/surface drainage from foul drainage, to improve the quality of the drainage flow thought filtration or sedimentation and to reduce flows from drainage systems to natural surface water courses to the rate of run-off expected from an undeveloped site through providing online storage in retention ponds or tanks or discharges to ground. While surface facilities such as ponds and swales (filtration basins) can add to the biodiversity and landscaping of their environs, there use in built-up urban areas can be limited due to the pressure on development land etc. Underground SUDS facilities may be more appropriate in urban settings.

As noted in **Section 5.5.1**, Groundwater and Surface Water, the aquifer underlying the majority of the Tralee Town Council's functional area is of regional importance and is karsified. While the vulnerability of the aquifer has yet to be identified for the Tralee Town area, there are a number of karst features in the area and a further small number of areas where rock appears near the surface. Such features increase the vulnerability of the underlying aquifer to pollution from surface discharges. Therefore, care would need to be taken when specifying specific SuDS facilities such as infiltration swales or ponds in areas where the underlying aquifer is vulnerable to pollution.

5.7.1.3 Water Supply

The town is served by the Central Regional Water Supply Scheme which is sourced from Lough Guitane, Killarney. The system is currently under pressure due to an unacceptable rate of leakage from its distribution networks. Water conservation measures are required, particularly in relation to minimising water losses from the distribution system, in order to ensure adequate supply for planned growth in water demand during the time span of the new development plan. In addition, the implementation of water conservation measures such as the specification of appliances which use less water, recycling of process water, rain harvesting etc. would reduce demand on the existing supply system.

A Preliminary Report has been prepared in relation to upgrading the Central Regional Water Supply Scheme which would include a new treatment plant at Lough Guitane and significant upgrading of the distribution network. A provision to increase the potable water supply to the Tralee by 12,000 PE by 2030 has been included in the proposed works.

Subject to the implementation of effective water conservation measures and the subsequent upgrading of the of the existing system, there is sufficient available water supply to meet future demands of planned growth in the Town Council's function area during the lifetime of the new development plan.

5.7.2 Flooding

Flood hazard maps for the Tralee area, prepared by the Office of Public Works, indicate that there is considerable flood risk within the town (generally adjacent to the Big River) and along the Lee River and Estuary (see **Map 5.2**). The hazard mapping indicates areas of historic and reoccurring flooding and areas that are liable to flood. Tidal and fluvial generated flooding and urban drainage contribute to this risk. While flood embankments are present along much of the Lee River to protect land from inundation from river or tidal flooding, these lands are still at risk of flooding from overland drainage, high ground water tables, floods exceeding the designed for flood event or breaches in flood defences. Records of historic flooding in the town are available on OPW's National Flood Hazard Mapping website and are listed at the end of this section. New flood risk mapping for the whole country will shortly be initiated by the OPW and will be available in 2013.

At present in Ireland there are no formalised guidelines to inform best practise with regard to planning policy for developments and flood risk. Following the implementation of the Planning and Development Act 2000, guidelines are currently being developed by the Department of the Environment Heritage and Local Government to address the issue of flooding.

In the interim, the Office of Public Works (OPW) has produced a paper "*Flood Risk and Development: A Sustainable and Appropriate Approach"* discussing some of the issues and approaches with regard to development and the management of flood risk. Guidance on the approach to follow is best provided in this paper. Plans for new development should ensure that existing flood risks are either reduced or addressed and that new development does not individually or cumulatively give rise to new flood risks. Furthermore, it is acknowledged that certain development in a flood risk area is sometimes necessary for economic or social reasons, but the type of development permitted should be compatible with the existence and the degree of the risk.

Types of development that may have a low-susceptibility to flood damage would include minor infrastructure such as roads where temporary closure would not cause significant inconvenience, warehouses storing flood resistant materials, playing fields, parks and other green amenity areas, elevated structures where flow may pass under the property which is built above the predicted design (or highest historic) flood level.

Historic and predicted flood levels have been taken into account in relation to setting ground floor levels of new developments in areas subject to flood risk within the current and proposed development plan. A *'freeboard'* (margin of safety) of 1.2 metres above predicted flood levels has been set for the ground floor level of all new developments in these areas. Predicted flood levels are based on an analysis of flood events that occurred in the town in 1986 and other relevant water level data (Tralee Flooding Development Study, Nov 1986). Much of the land susceptible to flooding from the Lee River has already been developed with the appropriate floor levels. Some of the area susceptible to flooding are in the historical Town Centre where floor levels are already in existence and it is difficult to protect these properties from flooding. Where large new sites are/have been developed in the core area of Town, the Council have insisted on raising floor levels above the predicted flood levels and including a freeboard.

The Tralee Flood Relief Scheme was completed in 1997 to address flood issues within the town. The scheme included the construction of trunk sewers and culverts to relieve flooding and extend the drainage network and provide capacity to cater for new developments in and around Tralee.

Significant development has taken place in the town since flood levels were predicted in 1986. It would be advisable to review the reliability of the 1986 predictions in light of this development and its potential influence on the storage capacity and conveyance of the flood plane of the water courses in the town.

Records of Historic Flooding in Tralee from OPW Webmap

- Tralee, November 1916
- Lee Tralee, December 1973
- Lee Ballymullen and Killierisk, November 1980
- Lee and Big Rivers, Tralee, August 1986
- Lee (Tralee) Ballymullen August 1986
- Pembroke and Rock Street, Recurring
- Ballymullen, Recurring
- Castle Countess, Recurring
- Cahermoneen Gallows Field Tralee, Recurring
- James Street, Tralee Recurring
- Ballinorig Tralee, Recurring

5.7.3 Waste Management and Infrastructure

Waste generated in the Tralee Town Council's functional area is managed in accordance with the policies and objectives of the Regional Waste Management Plan for Clare/Limerick and Kerry 2006-2011. The over-aching objectives of the Plan are to implement EU policy on waste management including the EU waste management hierarchy and targets set out in the EU Landfill Directive, the implementation of national policy on waste management and the achieving of national targets on waste minimisation, recycling and diversion of waste from landfill. Waste management targets set in the Plan include the following targets for waste generated in the region; recycling of 45%, thermal treatment of 41% and disposal of 14%.

The local authorities in the region have undertaken to prioritise waste prevention and minimisation through raising waste awareness at household and business level and implementing environmental management systems in local authority offices by 2010.

In addition the local authorities will promote the reuse and recycling of "waste" by providing facilities for the collection of recyclables. A recycling centre is to be provided in Tralee by 2010.

There is also an objective to meet national targets on diversion of biodegradable waste (Biowaste) from landfill, 35% diversion by 2010 and 43% by 2013. This will be achieved by the separate collection of household biowaste and delivery to Green Waste Composting Facilities, home composting of household and garden biowaste and the separate collection and biological treatment of commercial biowaste.

The Waste Management Plan also advocates the polluter pays principle, i.e. the waste generator must pay for its collection, treatment and or disposal.

Door to door collection of household and commercial waste is carried out by TTC and by 3 private operators. The Council operates a pre-paid tag system, collects dry recyclable on a fortnightly basis and residual waste on a weekly basis. This waste is brought to the regional landfill at Munignaminane outside Tralee for disposal. This landfill is operated by Kerry County Council. Private operators have similar collection arrangement with their customers though charging methods may vary. Private waste operators are not obliged to dispose of waste at Munignaminane Landfill. Due to the number of waste collectors operating in the town it is difficult to gain any insight into the volumes of waste produced by individual households and businesses. Thus it is difficult to evaluate the effectiveness of waste awareness campaigns to date.

Currently there are no 'civic amenity centres' /recycling centres in the town thought there are a number of bottle banks in place at strategic locations. An application for planning permission for a materials recovery facility (MRF) by a private operator is currently with An Bord Pleanála. There is currently no separate collection of biowaste from households. A pilot scheme was run by the Local Authority Council in the past but was found not to be commercially viable.

A waste transfer centre, recycling facility and green composting centre was identified for Tralee in the previous waste management plan. None of these facilities have been built to date. There is a distinct lack of infrastructure within the town to facilitate or encourage waste reuse or recycling.

Significant effort will be needed to implement waste management systems/infrastructure within the town to ensure that the targets set in the Regional Waste Management Plan for 2010 and 2013 are achieved.

5.7.4 Telecommunications

All telecommunications services are available in the Tralee area. Tralee has a major digital exchange, which is well supported and serviced by secure fibre optic cables. Towns and villages in the area are supported by satellite exchanges from Tralee and other transmission systems. In rural areas, new technology is being deployed.

At present, broadband services are being rolled out in Ireland by private broadband internet service providers such as telecom companies, cable TV companies, wireless and satellite operators and internet service providers (ISPs).

Very significant progress is being achieved by the South West Regional Authority in the roll out of the County and Group Broadband Scheme, which was funded by the Department of Communications Marine and Natural Resources in 2006. However, there are still significant areas of the South West Region without broadband and the Regional Authority continues to lobby for a planned programme to combat this important issue

Since the introduction of the scheme in early 2005, the Regional Authority has secured broadband services in many towns and communities. Under the National Development Plan, Chorus received funding for the development of the Kerry Broadband Communications Corridor to upgrade the microwave backbone between Limerick and Cork and to provide broadband services in the area. Broadband is now available in Tralee in a number of formats including:

- Wireless: Broadband services can be delivered by radiowave to a receiver inside or outside the customer's home or premises.
- Satellite: Broadband services are delivered via an orbiting satellite to a customer's satellite dish.
- DSL: DSL, or digital subscriber line, allows broadband access across the ordinary telephone line.
- Fibre Optic: A very high-speed broadband service is delivered along a fibreoptic line to a customer's home or premises.

The Kerry Regional Broadband Metropolitan Area Networks (MANs) tender is part of the second phase of the Regional Broadband Strategy call from the DCMNR and is grant aided by the Government under the National Development Plan 2000-2006, and co-funded by the EU under the European Regional Development Fund.

Six Kerry Towns are included in Phase 2 of the Regional Broadband Programme: Tralee, Killarney, Listowel, Castleisland, Dingle and Kenmare.

MANs will provide world class broadband with a view to encouraging new business to the region as well as stimulating growth and competition in the communications market.

A design and management company was selected to work with Kerry County Council to finalise routes and develop a strategic plan for the implementation of the Broadband routes in the 6 selected Kerry Towns.

Three towns (Tralee, Killarney and Listowel) will be provided with a fibre based broadband network whilst the other towns (Dingle, Kenmare and Castleisland) will benefit from a Wireless Local Access solution.

O'Connor Utilities were awarded the tender for the construction of the fibre based MANs and contracts were signed on 2nd May 2007. The initial construction phase involved laying of ducts in approximately 24 Kilometres of trenching in the towns of Tralee, Killarney and Listowel.

5.7.5 Energy

There is a relatively poor network of power lines throughout the county as 110KV power lines service all the main urban areas. Most modern large-scale industries require a 220KV line as a minimum requirement for site selection and this may present some difficulties for Tralee in attracting the larger industries with high-energy requirements.

The Kerry Energy Agency was established in 1996 with the aim of promoting energy awareness amongst the public of Kerry and SME's plus the promotion of renewable energy systems in Kerry. The Agency's offices are located at Áras an Chontae, Rathass in Tralee. As a result of the energy agencies existence, an energy efficiency mindset/attitude has developed within local authorities within Kerry that has lead to a number of successful and innovative energy efficiency projects to date.

The projects in question include the Motor Tax offices which included many sustainable design features also the Lough Guitane Hydro Power project which will mean Kerry County Council will be generating its own electricity for its own consumption. The Motor Tax Office building in Tralee was designed with sustainable energy in mind. The building itself was insulated to a high specification which eases the load on the heating system. A ground source heat pump was installed and draws heat from the ground to provide space heating in winter, and deposit excess heat to assist cooling in summer months. It relies on 5,100 metres of underground coil providing for a 2,000 m^2 collector area. In addition to the ground source heat pump, roof-mounted 15m^2 solar collectors provides hotwater for washrooms. Other energy efficient features include an automated natural ventilation system, highly energy efficient lighting and an energy management system.

An independent energy survey of the Motor Tax Building was carried out from September 2000 to May 2001 and from this it was estimated that the annual running cost of the Tralee Motor Tax Office for space heating and cooling and hot water production are about €1,905 lower than a '*good practice'* building of similar type, and €2,984 lower than a *'typical'* building of similar type.

A major energy efficient housing project in Rathass, Tralee, developed by Tralee Town Council and supported by Sustainable Energy Ireland (SEI) was opened in January 2006. With an overall budget cost of just over €9 million, the Ráth Óraigh Housing Estate project consists of 64 new local authority houses and a community/crèche facility. The houses range from one-bed wheelchair-accessible bungalows to a two storey 10–person house. The crèche will serve local residents and possibly staff from adjoining offices. A waste recycling collection area adjacent to a green space also forms part of the development.

The scheme contains a variety of innovative energy features to reduce running costs for tenants. Fifty-seven of the houses are fitted with efficient gas condensing boilers run on liquefied petroleum gas (LPG) which is purchased in bulk by Tralee Town Council to reduce costs and stored in a communal underground tank. To aid household budgeting, the arrangement includes smart card fuel metering and prepayment systems for each individual home. High levels of insulation and draught lobbies front and back are designed to reduce heat loss. In addition, the 7 bungalows and crèche have under floor heating supplied by ground source heat pumps. Solar water heating panels have been provided.

It is estimated that these features will yield energy savings of 40% relative to current Building Regulations specification, making the homes more affordable and sustainable for the

occupants and reducing the levels of CO_2 emissions to the environment. This will likely be reflected in better energy ratings under the new EU Directive on Energy Performance of Buildings.

The Ráth Óraigh development was designed and project managed by the National Building Agency, which provides a range of services to local authorities nationwide, and marked the first such partnership by Tralee Town Council with the Agency. Tralee Town Council will monitor and record the energy performance of the houses over a number of years.

There is anecdotal evidence to suggest that there is a relatively poor network of power lines serving the Tralee areas as 110KV power lines service all the main urban areas. Most modern large-scale industries require a 220KV line as a minimum requirement for site selection and this may present some difficulties for Tralee in attracting the larger industries with high-energy requirements. Kerry County Council recently met with the ESB regarding these concerns and were assured that energy capacity and its supply would not be an issue in the location of large industries with high energy requirements to the County.

5.7.5.1 Gas

Kerry is not served by gas infrastructure at present. Shannon Development has announced plans for a €400m liquefied natural gas (LNG) terminal on land between Tarbert and Ballylongford, Co. Kerry. The project could make a real difference to longterm energy costs and deliver significant environmental and employment benefits to the region.

5.7.5.2 Renewable energy

Kerry County Council opened a hydroelectric station in early 2001 at Lough Guitane. There is a second privately owned hydroelectric station at Glencar. Given the potential for both these types of clean electricity generation it is likely that a number of other similar schemes will occur. This is due to the Governments commitment to achieve EU targets for pollution emissions and greenhouse gases and to reduce dependence on imported fuel sources.

Ireland has the most favourable wind regime in Europe suitable for the production of electricity. It is not surprising, therefore, that in recent years there has been growing interest in the development of windfarms to harness this resource. It is in response to the number of planning applications and also pre-planning enquiries for such developments that Kerry County Council adopted a wind energy policy for County Kerry in 2002.

At a local level the policy document was prepared to provide for proper planning of the county in a sustainable and consistent manner. It will assist both the Planning Department of Kerry County Council and applicants in a number of ways. It will provide clear guidelines and policies to applicants. It will identify zones suitable for such development and it will streamline the planning process by removing the current uncertainty with regard to windfarms. Finally, the policy was adopted to resolve a current difficulty that exists at present in dealing with windfarm applications. This difficulty arises from the fact that by their scale, bulk and height these developments constitute a visually obtrusive element on the landscape. This is further increased by the fact that in an effort to attain higher windspeeds, most applications are located at elevated locations.

The areas suitable and unsuitable for wind energy throughout the County were identified under a number of categories. Preferred areas and areas open to consideration are located to the northeast, east and southeast of Tralee. Wind energy developments shall not be permitted within *'no-go zones'* as identified in the policy document. These areas are generally located to the southwest and northwest of Tralee, i.e. lower lying lands. Within the County there are currently 5 operational wind farm developments (www.sei.ie). These are Tursillagh (22MW), Beenageeha (3.96MW), Mount Eagle (5.1 MW), Glanlee (29.8 MW) and Coomagearlahy (42.5MW). In terms of proximity to Tralee, the wind farm development at

Tursillagh and Beenageeha are located approximately 7-12 km in a north eastern direction from the town.

5.7.6 Industry

Tralee has a good history of industrial employment with many indigenous and overseas companies located in the town employing over 1500 people. Kerry Group PLC the world's largest supplier of food ingredients employing 13,500 people worldwide operates this global business from its headquarters in Princes Street, Tralee.

Kerry Technology Park is the flagship location for knowledge-based enterprise in County Kerry. The Park is situated on a 113 acre parkland campus, which it shares with the Institute of Technology, Tralee. Kerry Technology Park brings together a number of distinctive elements, which combine to create a unique environment for modern enterprise:

- An outstanding scenic location with a view of the mountains and Tralee Bay
- A physical development concept, which seamlessly integrates the Institute of Technology's Campus and the enterprise facilities at the Technology Park
- The availability of highly qualified and experienced graduates from the Institute of Technology.
- An advanced telecommunications infrastructure.
- Strict business eligibility and design guidelines to ensure the high quality physical and amenity environment for technology and knowledge-intensive enterprises.
- InnovationWorks – a technologically advanced Incubation facility for new knowledge-based enterprises
- A range of flexible business accommodation options from managed start-up space to large floor-plate office suites and serviced sites

InnovationWorks is a 2,500 sq. m. state of the art business incubation facility located in Kerry Technology Park, designed specifically to support the development of new technology-based start-ups. Office units range from 30 to 90 square metres. Each self-contained office includes extensive electrical points and structured cabling, linked to a central communications room. Resident companies have access to an extensive range of services including advanced telecommunications facilities, high speed internet access at competitive rates, meeting & conference facilities as well as a range of business advice and support services. InnovationWorks is positioned as a premier location for technology based companies with significant growth potential.

5.7.7 Transportation

The development and maintenance of the urban road network in Tralee is the responsibility of Tralee Town Council, while Kerry County Council has responsibility for the national and regional roads traversing the town. Tralee Town Council, in conjunction with Kerry County Council, commissioned a Land Use and Transportation Study (LUTS) to:

- Co-ordinate the development of Tralee in line with the strategies outlined in the emerging National Spatial Strategy
- Ensure that the benefits from any redistribution of growth are harnessed by developing economic, retailing, service, industrial and tourism activities in a well managed and sustainable way
- To facilitate and co-ordinate the integration of landuse planning and transportation
- Focus on alternative modes of transport to the private car and to devise a transportation model to manage the traffic issue

The Town Council recognises that in urban areas widescale demolition and environmental disruption to accommodate all the demands of traffic is not acceptable or sustainable. A policy of maintaining and improving transport choice makes sense in economic and environmental terms, as the alternatives to car travel require fewer resources and cause less damage to the environment. While addressing the negative environmental and road safety impacts associated with current traffic levels, careful consideration will be paid to improving access into the town centre. A key element of the LUTS strategy has been reducing the attractiveness of the private car for commuting to work while facilitating shopping, business and leisure trips in the interests of reducing congestion and environmental degradation. It has been well documented that the failure to develop the role of public transport in conjunction with walking and cycling facilities has resulted in severe traffic congestion and environmental stresses in other towns and cities around the country. LUTS highlights the need to minimise the detrimental impacts of congestion and environmental degradation brought about by the decentralisation of population and increasing separation of home and work, coupled with increased car ownership. These factors combined result in:

- increased car usage;
- unsustainable consumption of land on the urban fringe;
- dereliction of central areas;
- increased air pollution; and
- reduction in the quality of life.

The pattern of roads in Tralee is the National Routes, N21 to Castleisland/ Limerick, N22 to Killarney/ Cork, N86 to Dingle, N70 to Kenmare/ Caherciveen, and the N69 to Listowel, radiating from the town with regional routes linking the smaller towns. The pivotal location of Tralee within the South West region means that improvements to the road network within the greater Tralee area are of critical importance to the economic development of the region. The National Development Plan (NDP) has identified the need to significantly improve accessibility to, and within, the region, by developing the national roads network. . Specific projects within the NDP are major improvement works to the national primary routes; the N21 (Tralee - Limerick), and N22 (Tralee - Killarney - Cork). In addition, further improvement works to the national secondary routes of the N69 (Tralee - Listowel), the N86 (Tralee - Dingle) and the N70 route (Tralee – Caherciveen - Kenmare) are also envisaged.

Workers living in the town or its hinterland have easy access to and from their employment. People living within a 10-mile radius of the town could expect to be at their place of work within 15 minutes. However, localised congestion in the town centre can significant increase journey times.

Strategically located, Tralee is highly accessible by road rail air and sea. A good road system connects the town with Limerick, 65 miles to the northeast and Killarney and Cork, 20 and 73 miles respectively to the southeast. By rail Tralee is linked to the countries principal ports, towns and cities and the rail system provides special services for container, transportation and bulk traffic.

Kerry Airport situated at Farranfore provides both a strategic and pivotal role in the efficient operation and functioning of the hub – situated, as it is mid-way between the two hub towns – with improving rail and road access to Tralee and Killarney. The airport is an important infrastructural element in the Hub, particularly in an age of increased mobility, when air travel continues to grow at unprecedented rates. In promoting the area for both tourists and business executives, it is a vital ingredient. The airport offers daily scheduled flights to Dublin, London and Liverpool with onward connections to all major European destinations. There are also a number of direct flights to Frankfurt (Hahn, Germany) providing a greater range of potential international connections. A summer season air service was also provided to Lorient, France in 2006 and is likely to be continued in subsequent summer seasons.

With new flight destinations being developed on a continuous basis, passenger numbers are increasing by approximately 50% per annum and it is projected that passenger growth will expand from circa 400,000 in 2006 to 1,000,000 by 2010, requiring the redevelopment of the existing terminal buildings, with additional passenger, freight and handling facilities. Work has

recently taken place in relation to expanded car parking; provision of taxi ranks and bus bays for passenger set-down.

There are plans however to address this issue through the construction of an outer relief road that will connect the N21 (Castleisland Road) to the N69 (Listowel Road), and from the N96 to the R556 (Abbeydorney Road). Recently, the town saw the completion of a connecting route from the R556 to the R551 (Ardfert Road) near Mounthawk. There are also plans to develop a western route that would connect the R558 (Fenit Road) south to Blennerville. The implementation of each of these routes will be critical, reducing congestion in the town centre by removing traffic that has no requirement to use the centre.

Tralee is serviced by rail lines to Dublin, Cork and Limerick. The Casement Railway Station is located on the John Joe Sheehy Road and directly adjacent to the study area of the Boherbee Action Area Plan (AAP)

Iarnród Éireann currently operates a passenger rail service between Tralee, Killarney and Mallow (100 km) where it combines/connects with the Cork – Dublin line, thence to Limerick Junction (connections for Limerick/Ennis northbound and Rosslare southbound) and on to Dublin.

There is an intermediate station at Farranfore between Tralee and Killarney, as well as intermediate stations at Rathmore, Millstreet and Banteer between Killarney and Mallow. The stations are generally well maintained and have won several prizes in national competitions. The track has been upgraded between Tralee and Mallow to enable the speed of operation to be raised to 100 km/hr. An active freight yard is adjacent to the Tralee passenger terminal to the north-east. Principal traffic includes palletised cement, containers, Guinness, fertiliser and parcels service (Fastrack) from Tralee and Killarney.

5.8 CULTURAL HERITAGE

5.8.1 Archaeology

Tralee has a history going back over 800 years. It appears that Tralee was an Anglo- Norman construction and built on a virgin site, with no evidence of a settlement prior to the thirteenth century. Little is known about the establishment and early history of the town but it is believed that the town was founded in circa AD1200. A Dominican Friary is thought to have been constructed in 1234.

In medieval times, Tralee was laid out along a main street called Burgess Street, which may represent the present High Street. Smith's map of Tralee in 1756 is typical of an Anglo-Norman town layout running from the west side of High Street via Bridge Street and the Mall to Castle Street. In Tralee, the layout along the Mall and Castle Street would appear to reflect the medieval narrow burgage plots facing onto the main street. The southern half of Rock Street and Pembroke Street appear to have formed the old core of Tralee. The principal layout and buildings of medieval Tralee are identified in Smith's map of 1756 and the Urban Archaeological Survey map. Tralee's town centre is currently zoned as an area of archaeological potential. During the 18thcentury, a network of streets was constructed including Dominic Street, Mary Street and Abbey Street. Many of the current streets on the western side of the Abbey Car Park were also constructed at this time including Day Place (1805), Stoughton's Row and Godfrey Place. During the late 18th century, commercial buildings began to be constructed around The Square.

The face of modern Tralee originates from the era of the Victorian market town, with three storey terrace houses packed in a small town centre. Unfortunately, due to destruction in the seventeenth century of the urban fabric and the rebuilding in the eighteenth and nineteenth centuries, much of the medieval fabric of the town was destroyed or buried.

Tralee's town centre is zoned as an area of archaeological potential meaning that ground disturbance in the area must be monitored, given the possibility of locating subsurface medieval or earlier deposits. The Record of Monuments and Places (RMP) identified thirty individual sites located outside the area of archaeological potential and which are of archaeological significance (see **Map 4 of the Tralee Town Draft Development Plan 2009-2015**).

Table 6.1 Record of Monuments and Places

Monument Number	Townland	Classification
KE029 – 7901	Lisloose	Enclosure
KE029 – 7902	Lisloose	Building
KE029 – 8201	Lisloose	Holy Well
KE029 - 8202	Lisloose	Architectural Fragment
KE029 – 93	Muing West	Enclosure
KE020 - 112	Knockanacuig/ Lohercannon	Ringfort
KE029 - 113	Mounthawk	Enclosure
KE029 – 114	Carrigeendaniel	Enclosure
KE029 - 11401	Carrigeendaniel	Hut Site
KE029 – 115	Carrigeendaniel	Enclosure
KE029 - 11501	Carrigeendaniel	Hut Site
KE029 - 116	Carrigeendaniel	Standing Stone
KE029 – 117	Ballyvelly	Enclosure
KE029 - 118	Tralee	Souterrain
KE029 - 119	Balloonagh	Town
	Tralee	Town
	Cloon Beg	Town
	Cloon More	Town
KE029 - 120	Cloonalour	Ringfort
KE029 – 125	Cloonalour	Ringfort
KE029 – 12601	Cloonalour	Ringfort
KE029 – 12602	Cloonalour	Burial
KE029 - 153	Lohercannon	Enclosure Site
KE029 – 155	Cloghers	Rath
KE029 – 156	Clahane	Enclosure
KE029 – 157	Ratass	Ecclesiastical Remains
KE029 – 15701	Ratass	Church
KE029 – 15702	Ratass	Ogham Stone
KE029 – 15703	Ratass	Armorial Stone
KE029 – 15704	Ratass	Cross-Slab
KE029 – 15705	Ratass	Graveyard
KE029 – 163	Ballymullen	Castle
KE029 - 164	Manor West	Enclosure
KE029 - 165	Manor West	Enclosure
KE029 – 177	Cloghers	Inscribed Stone
KE029 – 206	Clash East	Enclosure

5.8.2 Architectural Heritage

Tralee's mercantile character coupled with its judicial and political role have influenced the town's growth and morphological development in terms of layout, buildings, urban renewal and investment by the town's wealthy urban class. Tralee is predominantly characterised by Victorian architecture laid out along a meandering medieval street pattern, interspersed with

fine examples of Georgian architecture, such as Day place and Denny Street, laid out on simple classical lines with elegant buildings; a notable contrast to the remainder of Tralee.

The importance of the town's architecture cannot be undermined as the town's architectural heritage fulfils many roles: the historic built environment provides a sense of place and uniqueness; a visually aesthetic public domain can attract inward investment and tourism, and the built heritage can provide an invaluable link with Tralee's history and evolution while fostering a sense of ownership and pride.

To ensure the protection of the built environment, Tralee Town Council has compiled a Record of Protected Structures (RPS), afforded statutory protection under Part IV of the Planning and Development Act, 2000 (see **Map 5 and 5(A) of the Tralee Town Draft Development Plan 2009-2015**). This list identifies the buildings, shopfronts, monuments, gates, plaques, facades and features that are protected by the Council. The RPS lists structures that are protected for architectural, historical, technical, scientific, artistic or social interest. The unique opportunity afforded to owners and occupiers of protected structures should not be undervalued. To facilitate owners and occupiers of protected structures, the Council offers extensive advice and guidance to aid the conservation of the town's built heritage.

5.8.3 Architectural Conservation Area

Apart from increased public awareness of the built heritage there is an increasing growth in cultural tourism. Tralee Town Council has designated a number of Architectural Conservation Areas (ACAs) in its current Development Plan (see **Map 6 of the Tralee Town Draft Development Plan 2009-2015**).

Tralee contains a number of distinctive areas and environments which in terms of scale and composition, buildings types and layout of streets and spaces, merit consideration for designation as Architectural Conservation Areas. These are:

1. Town Park/ Denny Street/ St. John's Church Area, The Square and Precinct
2. Dominican's Church/ Day Place Area
3. Blennerville Village Area
4. Rock Street
5. Castle Street/The Mall/Milk Market Lane/ Barrack Lane & Ashe Street and Edward Street

5.9 LANDSCAPE

5.9.1 Introduction

The landscape is an essential element in the support of plants, animals and people. It is a great economic asset and is of amenity value to the people. The preservation of this asset is therefore of great significance in developing the potential of the area. It is a resource to be used wisely with a sustainable approach.

5.9.2 Townscape

The town is centred at the intersection of the N21, N69 and N70 and is a shopping, tourism, commercial, educational, retail, industrial and services centre, the seat of local government, and a regional transport hub. The centre of town contains a mixture of commercial and residential properties. The majority of land use in the north, west and eastern peripheries of the town are used for residential purposes. A larger portion of the eastern area of town is used for industrial and municipal purposes. There is one IPPC licensed site the Amann

Industries Corporation, Clash Industrial Estate (P0509-01). There are no licensed waste facilities in the town.

Industrial expansion is provided for in the area of Monavalley. This will facilitate further industrial development in the northwest of the town. There is also provision for a new mixed-use zone (a new urban quarter) between Rathass and Ballinagowan which is located to the east of Tralee town and at Manor East to provide a variety of services including commercial, offices, hotels, medical centres, bars, restaurants, leisure and recreational uses.

Various residential zones have been identified at a range of locations around Tralee town to provide low density housing and also to consolidate ribbon developments in the area. An area adjacent to Manor East and an area to the east of the racecourse have been identified as potentially suitable sites for a neighbourhood centre in the future.

The Council has recently completed the pedestrianisation project in the Square which has improved the environmental domain of the town centre. The recent Irish Planning Institute *Urban Design Award* for The Square has shown the Council's commitment to ensuring that the town centre is a dynamic, cultural, economic and social place in which to work, visit and live. Works also completed on Ashe Street have also greatly improved the public domain. In addition, a large number of housing units have been constructed in the town centre area since the adoption of the 2003-2009 Plan supporting the policy objective to provide sustainable residential accommodation within the town

5.9.3 Natural Landscape

Tralee is located between the foothills of the Slieve Mish Mountains to the south and the Stack Mountains to the northwest.

The town of Tralee supports a rich cultural and natural heritage including the following:

- The Dominican Stature, Dominic Street
- The Pikeman Memorial, Denny Street
- The Ashe Memorial Hall, Denny Street
- The Courthouse, Ashe Street
- Blennerville Windmill – the old port of Tralee, 1 mile west of the town
- St John's Church, Castle Street
- The Town Park (75 acres)
- Lee Valley
- Nun's Wood
- Ship Canal (runs through the town centre to Blennerville)
- River Lee and Big River
- Tralee Bay

The Town Park is situated at the southern edge of the town centre and provides a peaceful and relaxing environment away from the bustle of town centre. It also provides an important connection between the built-up urban area and its wider rural hinterland, linking the centre with the undeveloped natural habitats of the Lee Valley and the canal.

The River Lee is in hydrometric area 23 and rises in the Stack Mountains and flows to the south of Tralee town before entering Tralee Bay near Blennerville Bridge. The Big River rises near the Stack Mountains and flows through Tralee town in a southwesterly direction where it joins the River Lee before it flows into the bay.

Tralee Bay is situated approximately 2km west of Tralee town. The bay is situated on the north side of the Dingle Peninsula and forms a nature reserve 754.53 hectares in size. It is also a Special Area of Conservation (SAC 002070) *'Tralee Bay & Magharees Peninsula, West To Cloghane'* and a Special Protection Area, SPA 004018. SACs are prime wildlife

conservation areas, considered to be important on a European as well as Irish level. The legal basis on which SACs are selected and designated is the EU Habitats Directive, transposed into Irish law in the European Union (Natural Habitats) Regulations, 1997 as amended in 1998 and 2005. SPAs are selected and designated under the EU Birds Directive which provides for a network of sites in all Member States to protect birds at their breeding, feeding, roosting and wintering areas. It identifies species which are rare, in danger of extinction or vulnerable to changes in habitat and which need protection. The bay is of international importance for waterfowl, in particular, the wintering populations of Brent geese. Birds of the bay include Turnstone, Ringed Plover, Dunlin, Redshank, Bar-tailed Godwit, Golden Plover and Curlew.

Other SACs include Ballyseedy Woods (SAC 002112) to the south east of the town and Slieve Mish Mountains (SAC 002185) to the south west.

6.0 CURRENT ENVIRONMENTAL ISSUES

Following a review of the existing baseline data, the following current environmental issues have been highlighted for Tralee Town.

6.1 POPULATION

6.1.1 Impact of Settlement Strategy

The Draft Tralee town Development Plan 2009-2015 sets out the indicative population projections to the year 2020. It is anticipated that the population will reach 25,372 in 2020 an increase over the present population of approximately 5000 people. These figures are calculated based on the slowest rate of growth and show that Tralee town will need to accommodate 400 people per year over the lifetime of the Development Plan. At this growth rate it is estimated that an additional 180 dwellings per year will be required within the area over the lifetime of the Plan. Sustaining and increasing employment growth in Tralee during the lifetime of the Plan will be an important factor in achieving critical mass.

If the current pattern of development is allowed to continue it will lead to an increased demand for town services with an increase in traffic congestion and commute times, loss of quality of life and unsustainable patterns of low density sprawl in the outskirts of the town.

Polices/objectives should be included to prevent urban sprawl and to consolidate the town centre. Policies should ensure that the provision of good quality housing especially in the town centre and outer town centre areas, coupled with improvements in public amenity and environmental quality of the town is actively pursued by the Council.

6.1.2 Impact of Tourism Policy

Tourism is of major significance for the economy of Tralee and the town has developed a highly successful tourism business, albeit partly due to its pivotal position in relation to tourist movements between Killarney and the Dingle peninsula. However, tourism can exert considerable pressure on the environment in terms of placing demands on existing services, new tourism developments and the inappropriate exploitation of sensitive area of natural and cultural heritage.

The implications of the Council's tourism policy must be considered in relation to its potential impact on the quality of the environment of the town and surrounding area. The Council should consider promoting the principles of responsible tourism to minimise the negative aspects of conventional tourism on the environment. An integral part of responsible tourism is the promotion of recycling, energy efficiency, water conservation, and the creation of economic opportunities for the local communities.

6.2 BIODIVERSITY, FLORA & FAUNA

Unplanned/unsustainable development both within the town and around its boundaries poses a significant threat to biodiversity in the Tralee area.

Habitat loss can come about due to a number of factors including direct encroachment by poorly planned development, loss of hedgerows and tree lines by construction works or field modifications and indirect impacts such as fragmentation of wildlife corridors or changes in the quality and hydraulic characteristics of water courses and wetlands due to discharges and

run-off from developments. Over-use or inappropriate use of sensitive habitats can result in loss of biodiversity due to trampling and disturbance.

Given the largely urban nature of the Town Council's administrative area, it is important to protect and appropriately manage existing areas within the town which support diverse habitats.

Development needs to proceed in a sustainable and planned way so as to safeguard vulnerable ecosystems such as the Lee River valley and estuary, the Ship Canal, town parks and Tralee Bay SAC. Development around these areas should not lead to deterioration in the quality of the ecosystem and the design of structures should be sympathetic to nearby natural environments.

Only a very small area of Tralee Bay SAC lies within the area covered by the Development Plan however, discharges from the towns wastewater system could impact on the quality of water in the Bay if poorly managed (see **Section 6.3.1**). While Ballyseedy Wood SAC is not within the administrative area of Tralee Town Council, urban generated rural housing has the potential to impact on the biodiversity of this area.

6.3 MATERIAL ASSETS

6.3.1 Wastewater Infrastructure

While the town is served by a modern treatment plant that has the capacity to treat the biological and hydraulic load from the population growth project for the life span of the new plan, its capacity, efficiency and cost effectiveness is compromised by inadequacies in the collection system. The combined collection system in the town is subject to infiltration and leakages which result in an "elevated" hydraulic load being conveyed to the plant for treatment and frequent over flows of storm and foul effluent to surface waters courses in the town.

Unnecessary frequent spills of foul effluent to surface water courses will result in a reduction in the quality of their waters which discharge to the Tralee Bay SAC and the designated shell fish waters of the Bay.

Leakage from the collection system also has the potential to impact on the regionally important aquifer underlying the town. While the aquifer is not currently used to supply water to the town, it may be used by those in the environs of the town that are not currently on mains supply. The aquifer may also be required to augment the town supply sometime in the future.

A policy/objective should be included in the development plan to prioritise remedial work on the system to minimise infiltration and leakage. An additional policy should be included to ensure that separate collection systems are included in new developments where appropriate to reduce the hydraulic load to the treatment plant. The use of "appropriate SUDS facilities" should be included as an objective.

The implementation of the recommendations of the Tralee Sewerage Scheme Nutrient Reduction Preliminary Report should be included as a "mitigation measure" and as a method of monitoring the impact of the plant.

6.3.2 Surface Water Drainage

Surface water drainage collected in the combined drainage system is contributing to the hydraulic loading on the treatment plant and unnecessary frequent overflows to surface water

courses with implications on water quality. Surface water from paved areas may also be contributing to recurring flooding in the town.

A policy/objective should be included in the development plan to ensure that separate collection systems are included in new developments where feasible. The use of *'appropriate'* SUDS facilities should be included as an objective to minimise the impact of surface water drainage on the quality of water in surface water courses and on potential flooding issues (keeping in mind the potential vulnerability of the underlying aquifer). Run-off from new development sites should be limited to that equivalent to run-off from a green field site.

The implementation of SUDS in new developments should be included as a *'mitigation measure'* and as a method of monitoring the impact of the plan.

6.3.3 Water Supply

The ability of the current Regional Water Supply to meet the supply demands of Tralee Town is compromised by significant leakage in the distribution network and the quality of the water supplied may be affected by the age of the pipes making up the network.

A policy/objective should be included in the Development Plan to prioritise the rehabilitation of the pipe network within TTC's functional area in line with the recommendations of the Central Regional Water Supply Preliminary Report. A further objective should be included to promote water conservation measures among the general public, implement water metering for all commercial activities and to require the use of water conservation measures (such as dual flush systems, rain water collection systems, etc) in new developments.

6.3.4 Flooding

Areas of the town are susceptible to flooding and significant development has occurred within the flood plain of the Rivers Big and Lee since maximum flood levels were predicted in 1986. While ground floor levels of new developments in these areas have been set to minimise flood risk, the overall volume of development may have impacted on the storage capacity and conveyance of the flood plain of these rivers.

The Council should consider including an objective of reviewing the flood level predictions made in 1986 in view of recent development on flood plains and the more extreme rainfall event now predicted due to climate change.

6.3.5 Waste Management

There is currently a lack of information on the type and volume of waste generated within the Tralee Town Council's functional area partly due to the number of waste collectors operating in the town. There is also a lack of waste infrastructure in the town. Awareness campaigns to increase waste prevention reuse and recycling will be less effective if required facilities are not in place to facilitate participation by the public in waste management initiatives.

An objective should be included in the development plan to implement the policies and achieve the targets identified for Tralee and the region in the Regional Waste Management Plan including an analysis of waste arisings in the town to facilitate targeted waste reduction campaigns.

In view of the potential growth in the town with corresponding construction activities, development policies should include measures to require the sustainable management of construction and demolition wastes including the requirement to prepare Integrated

Construction Waste Management Plan for large-scale developments within the town, prior to the commencement of construction.

The achievement of targets set in the Regional Waste Management Plan within the life span of the new development plan should be included as measures to monitor the impact of the plan.

6.3.6 Traffic Management

The issue of traffic congestion and lack of adequate road infrastructure and public transport is one of the greatest constraints to development throughout the town and has a significant impact on the environmental quality of the town in terms of air quality, noise, safety and mobility.

In the period since the adoption of the Tralee Development Plan 2003 – 2009 the town has experienced unprecedented economic growth. Increased car ownership and usage has impacted on the road network and has given rise to a significant increase in traffic impact in terms of increased traffic flows on the roads in the town and increased traffic congestion in the town centre area and resultant loss of pedestrian and cyclist safety

An efficient transport system, both public and private is essential for environmental sustainability, sustainable economic growth and an equitable inclusive society. At present Tralee is largely dependent on private car transport with little use of public transport. Future planning should endeavour to promote development in a manner more suited to providing public transport. The Development Plan has a role in promoting permeable neighbourhoods throughout the town to facilitate the provision of public transport networks, quality bus corridors and routes throughout the neighbourhoods and between areas of employment, education and leisure and recreational facilities.

Improved pedestrian and cycle facilities throughout the town should be considered in order to encourage more sustainable modal choices. Such facilities should be considered, within proposed new routes, as appropriate, including the development of a coherent network of routes and facilities for pedestrians and cyclists with consideration for disabled access. In addition, the application of a “Green Transport Initiative” should be considered. In addition, good quality public transport needs to be provided in Tralee to provide an alternative to the private car so that reliance on the private car is minimised. The transport system should permit the efficient movement of goods and services in the interest of commerce and enterprise.

6.3.7 Energy

The promotion of renewable energy throughout Tralee is important for economic and environmental reasons. Renewable energy projects offer opportunities for the reduction of greenhouse gases to the environment and offer a long-term sustainable energy source.

Policies which encourage the use of renewable energy resources such as wind, solar, geo-thermal and energy from bio-mass and which encourage sustainable design initiatives to limit emissions from development should be included in the Development Plan

6.4 VISUAL AND LANDSCAPE IMPACT

Visual and landscape impacts will arise from the implementation of the review of the Tralee Development Plan. Visual impact is considered an impact of significance, which it may not be possible to mitigate to the extent that there are no significant residual visual impacts.

The landscapes of County Kerry are renowned throughout the world for their beauty. However it seems that the potential of the natural landscape and vistas of the town of Tralee has not been recognised or developed fully. This may be explained by the fact that Tralee, located between Killarney and the scenic Ring of Kerry, fades into the background, its scenic qualities lost in the context of other areas of the county. Notwithstanding, the setting and landscape of Tralee is a major underdeveloped environmental asset.

Land use planning can support the protection of and enhancement of the natural environment, including unique or outstanding features and landscapes.

The current Plan has policy objectives in relation to the protection and preservation of views of the rural environs of the town considered to be of special visual amenity. It is intended that these policy objectives will continue into the new Plan.

The effects of developing the lands zoned in the Tralee Development Plan on existing landscape forms and features and on scenic views and vistas should be considered at the planning stage to ensure such views/features are protected from inappropriate development.

6.5 CULTURAL HERITAGE

6.5.1 Impact on Archaeology

Developments in recent years, while putting pressure on some sites of known archaeological potential within the town, have also afforded the opportunity for greater investigation of archaeological sites. Since the adoption of the current Development Plan in 2003 there have been a number of legislative changes, including the National Monuments (Amendment) Act 2004. The review of the Development Plan affords the opportunity to assess current policies and consider the level of protection afforded to our archaeological heritage and can be reviewed in the context of the new County Kerry Heritage and Biodiversity Plan adopted on 24th September 2007.

Development control policies should acknowledge the potential for discovering the presence of hitherto unknown sub-surface archaeological remains and their resolution, especially in the context of development management.

6.5.2 Architectural Heritage

Tralee has an extensive and unique built heritage which constitutes an important element of its culture and character. Due recognition should be given to the physical form of the locality and the elements of architectural heritage within the Development Plan area.

Development policies should take into account the implication of the scale, type and location of significant development envisaged in the vicinity of structures of architectural heritage merit and the perceived effect of development envisaged on those elements of the architectural heritage. It should be recognised that structures of architectural heritage merit can help give a sense of identity, character and association to a locality for both the visitor and local alike.

Table Summarising Environmental Baseline and Significant Environmental Issues

Environmental Aspect	Baseline	Current Issues	Policy Area
Biodiversity, Flora and Fauna	Tralee Bay SAC (Lee Estuary Upper) Ballyseedy Wood SAC (near by) Lee River Valley Big River Flyte (Kearney's) River Fisheries resources in rivers and Tralee Bay including Shell Fish Water Designation Trees and hedgerows Town parks	Potential Impact on Tralee Bay SAC from WwTP. Potential impact on Big and Lee Rivers from CSOs (Combined Storm Overflows) and urban drainage. Loss of biodiversity (hedgerows, agricultural land and trees) due to rezoning of agricultural lands. Loss of trees and hedgerows due to development in the town. Loss of biodiversity due to urban sprawl. Potential impact of wastewater/urban drainage.	Natural Environment Landuse zoning objectives Environmental Management
Population and Human Health	Population within town stable/ falling slightly Ageing population and household size decreasing. Number of school going children declining Low density suburbs - some resistance to increased densities in the past – probably due to poor urban design. Population in Tralee Environs expanding significantly resulting in urban sprawl. Traditional market town serving hinterland. Now Tourism is a major economic asset.	Urban sprawl due to increasing population in environs resulting in increased commuter traffic and traffic congestion, loss of rural landscape features and biodiversity. Need to consolidate the town centre. Option to increase density while maintaining unit size mix. Need public transport and safe and attractive walking and cycling routes Need to ensure vitality and viability of the town. Need to facilitate sustainable economic	Land use Zoning Objectives Action Area Plans Transport Development management guidelines Enterprise Economy and Employment Social Infrastructure and amenity Housing

Environmental Aspect	Baseline	Current Issues	Policy Area
	There are a number of industrial and retail parks. Community and amenity facilities present within the town – e.g. Lee Valley Park. Note Tralee Environs subject to its own LAP.	growth. Need sustainable communities with good quality urban design and neighbourhood centres Need to keep amenity and sports facilities in the town.	
Water (Groundwater, surface water, drinking water)	Regionally important underlying aquifer, vulnerable to pollution near karst features and rock outcrops. Water bodies include; River Lee and Big River Flyte (Kearney's) River Lee River estuary and Tralee Bay Upper Lee Estuary – "Sensitive Water" Poor water quality in rivers but water quality unpolluted in estuary and bay	Generally deep overburden protecting the underlying aquifer although potential risk to quality of ground water from surface pollution near karst features and outcropping rock Poor water quality in rivers relating to; -agriculture upstream -impact of CSOs and urban drainage Potential impact on Tralee Bay due to nutrient/bacteriological loading from rivers and urban waste water.	Environmental Management Natural Environment Land use Zoning Objectives.
Air and Climate	Current air quality satisfactory There are a number of energy efficiency and renewable energy initiative in place in the town to minimise greenhouse gas emissions.	Emissions from traffic are a major source of air pollutants in the area and a major emitter of greenhouse gases. Initiatives required to effect modal shift from private car dependency to public transport in order to reduce greenhouse gas emissions	Transportation Environmental Management
Soil and Geology	Town area underlain with limestone bedrocks, karstified in areas These are overlain by limestone till sub-	Deep soils affording protection to underlying bedrock aquifer. No information available on contaminated soil.	

Environmental Aspect	Baseline	Current Issues	Policy Area
	soils on the north side of the River Lee, undifferentiated alluvium soils along river channels and sandstone tills to the south of the River Lee. Soils present include made ground, deep poorly drained and well drained gleys and podzols and mineral alluvium soils along water courses.		
Cultural Heritage	Originally a medieval town, now a traditional market town Architectural Conservation Area Zone of Archaeological Potential Public interest in town's heritage	Pace of recent development putting pressure on architectural character of town Loss of architectural features Inappropriate repairs a problem Erosion of town centre character giving way to homogeneity Threat to existing street pattern due to new traffic management and roads	Built Environment and Urban Design
Material Assets	Regional Water Supply to town from Lough Guitane managed by Kerry Co. Co. Occasional wells on town outskirts and environs. Modern Waste Water Treatment Plant serving town, discharging to upper Lee Estuary. Adequate capacity to cater for planned growth. Issue with hydraulic load due to infiltration and leakage from collection system History of flooding in the 1980s along the River Lee and Big River	Regional water supply currently adequate for town –but under pressure from significant leakage. Some quality issues relating to pipe network. Upgrade of regional water supply planned to cater for future development. Phosphorus removal planned for treatment plant. Upgrade of collection system required to minimise hydraulic and impact of CSO on river and estuary SuDS possible solution in relation to management of urban drainage (quality and	Environmental Management Landuse Zoning Objectives Built Environment and Urban Design

Environmental Aspect	Baseline	Current Issues	Policy Area
	Current stipulation on minimum floor levels in areas identified as at risk from flooding. Modern landfill near the town but little waste infrastructure within the town to encourage sustainable waste management. Town well served by road, rail and air transport infrastructure. Medieval/traditional street layout not conducive to modern traffic circulation resulting in congestion in centre of town.	quantity) but aquifer vulnerability needs to be checked before recommending. Sea level rise and more frequent extreme rainfall events due to climate change may have an impact on flooding in the area. Significant infrastructure and management measures needed to meet objectives and targets of Regional Waste Management Plan. High dependency on private car transport within the town and environs leading to traffic congestion in the centre of the town with associated safety, environmental and quality of life issues.	
Landscape	Views from the town to surrounding vistas including Blennerville and Tralee Bay Lee Valley and shipping canal Views to town parks and urban landscaping Low density urban design and traditional streetscapes surrounded by rural agricultural environment Architectural Conservation Area	Urban Sprawl Increasing density and poor urban design Loss of existing architectural integrity and features Potential loss of water quality from urban drainage impacting on rivers and Bay	Natural Environment Environmental Management Built Environment and Urban Design Action Area Plans Landuse Zoning Objectives

7.0 ASSESSMENT OF ALTERNATIVES

Article 5 of the SEA Directive requires the Environmental Report to consider "*reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*". The guidelines state that the significant environmental effects of the alternatives selected also need to be considered.

Four alternative strategies were considered and are outlined below:

Scenario 1: "*Do Nothing*" Scenario

The *"Do-Nothing"* scenario is the scenario which would occur in the event of non-implementation of the new Development Plan 2009-2015 and the continuation with the previous Development Plan 2003-2009. The environmental implications of this scenario have been dealt with for each environmental aspect in **Section 5** Current State of the Environment.

Scenario 2: Unplanned or Unregulated Growth

This growth scenario envisaged growth without planning or at least planning on an ad hoc basis. Population and economic growth would occur in the absence of planning guidance on the location of development.

The status of Tralee as a linked hub with Killarney as designated under the NSS would not be recognised and both towns would be competing against each other. Critical mass envisaged by the NSS may not be achieved in either town and economic and population growth could leak outside the urban settlements.

Market forces would determine where housing and places of employment would be located. Brownfield sites would not be developed in the event of unplanned and unregulated growth. Greenfield sites would be developed solely as market forces dictate without recourse to planning policy. The sequential approach to development would not be applied and therefore there would be no correlation between settlement patterns and proximity to areas of employment or recreation. Development proposals would not be governed by development management guidelines and little consideration would be given to the historic character of Tralee.

Impacts

Unplanned and unregulated growth or growth with a weak planning strategy would have several implications. Development would occur on greenfield sites dictated by market forces and land owners. As such, the sequential approach to development would not be followed with the following infrastructural consequences: these include increased demand on infrastructural resources such as wastewater treatment, water supply, energy provision, telecommunications access and so on.

In addition, unregulated growth would lead to increased traffic congestion as developments would not be governed by proximity to existing centres (such as neighbourhood centres or social infrastructure such as schools). The carrying capacity of the road network would be undermined if unregulated growth were permitted.

It is possible that the density of housing development could have environmental effects. While market forces until recently have demanded a higher density of development than that was traditionally the norm in Tralee (primarily characterised by low density suburban development in the region of 5/acre), unplanned growth could lead to densities of development outside levels needed to accommodate more sustainable development patterns. Density that is too high could lead to loss of amenities for residents. Density that is too low could lead to urban sprawl. The development of sites for housing in an unregulated scenario

would not take cognisance of amenities of either existing neighbourhoods or future occupiers and could lead to conflict between land uses (i.e. housing adjacent to industrial park).

Lack of development of brownfield sites would continue dereliction and/or vacancies. As these brownfield areas are normally within the built-up area, continuing neglect would further cement the incidence of vacancies and again, would lead to demands for development outside these areas.

Unregulated growth would not allow for linkages between areas of employment, housing, social facilities and the town centre.

Comparison retail development could proceed outside the town centre which would lead to increased vacancies, unsustainable transport patterns and would lessen demand for town centre sites. The mercantile vibrant character of the town centre would be undermined.

As noted in **Section 6**, unplanned development both within the town and around its boundaries poses a significant threat to biodiversity in the Tralee area. Development needs to proceed in a sustainable and planned way so as to safeguard vulnerable ecosystems such as the River Lee, Tralee Bay, Ship Canal and Town Park. Development around these areas should not lead to deterioration in the quality of the ecosystem and the design of structures should be sympathetic to nearby natural environments.

Scenario 3: Over-Restrictive Planning Policy

In this scenario there would be very tight controls on development and growth with a large emphasis on the sequential approach to settlement patterns. Development would be permitted only on lands adjacent to the historic core of the town and lands on the outskirts of the town would not be zoned for development.

Retail and commercial development could only take place in the town centre with no other forms of retailing permitted anywhere else in the town. Industrial development and related proposals would be located solely within the two industrial estates.

Proposals which do not connect into separate systems would not be permitted. As such, development could only proceed where the foul and surface water are separated until disposal into the wastewater treatment plants. The use of Sustainable Urban Drainage Systems would on its own, not be considered appropriate. Historical use of combined systems would continue in the absence of development.

Impacts

Developments of area in the outer suburbs of the town would not be permitted. This would have the repercussion of increased demand for the development of lands in these areas. In the absence of lands coming on stream for development, there could be a restriction on the supply of development land in the even that landowners do not wish to develop their landholdings. This could have economic implications as well as social issues surrounding social inclusion and poverty.

Restrictions on the location of retail, commercial and industrial development could limit supply of land and consequently, restrict economic growth. This would have implications for achievement of economic growth to support the critical mass of population envisaged by the NSS.

Increased control on sustainable connections into the public sewer or water supply network, could lead to an increased rate of refusals of planning permission, further reducing capacity of supply.

The application of the sequential test to development proposals would result in some areas of the town suffering from population decline, loss of facilities and amenities. Although lands

zoned for development would be in close proximity to existing facilities, investment in infrastructure and the development and growth of new communities would not proceed.

As development land coupled with infrastructural restrictions would mean that there would be less development land available, there would be an increased emphasis on housing densities. This could lead to demand for greater densities of development and could in turn lead to an increased demand for urban generated rural housing.

Scenario 4: Sustainable Planning Policy

A sustainable planning policy is guided by the NSS, RPGS and other plans and policies. To this end, the development of Tralee is governed by a hierarchical approach to planning and development where all aspects of growth are integrated into the Development Plan. In this scenario, there is a compromise between environmental protection and growth where by strict controls in relation to environmental impact are relaxed.

There are increased lands zoned for development which would allow for increased capacity of supply. Density of development is also controlled with density guidelines employed for all housing land.

It is envisaged that infrastructural restrictions would be overcome through the use of Sustainable Urban Drainage Systems and minimum floor levels would also be employed to ensure that flooding is not an issue. Carrying capacity of the sewer network would in the short-term be affected by surface water which has not yet been separated from the combined system. However, continuing separation where feasible, including for all new developments will eventually result in full separation of systems.

Impacts

It is envisaged that this growth scenario would allow for a more balanced approach to development. Given the fact that there are more lands zoned for development than strictly required, capacity of supply would not be an issue in the release of development lands. Growth could therefore happen in a planned manner, with population increases coupled with infrastructural development and the provision of facilities and amenities.

The development of brownfield sites is encouraged with an emphasis on more sustainable development patterns. This would lead to reduced demand for greenfield sites with subsequent reductions in urban sprawl and use of previously undeveloped lands.

Densities of development would be monitored to ensure that housing density and development would be commensurate with the range of facilities and amenities in the vicinity of the site. Design guidelines would also be employed to ensure that quality of life issues along with urban design would be addressed at the planning stage of development proposals.

Sustainable settlement patterns such as proximity of population centres to places of employment, schools and other community facilities, would mean that the Council could address the issue of social inclusion and poverty, in addition to the principles of sustainable development.

A balanced approach to sustainable development would enable Tralee to fully realise the potential of the town's linked hub status. Policies would be adopted which would complement the combined strengths of both Tralee and Killarney. Critical mass of population and economic growth could be facilitated and planned for in an orderly and coherent fashion.

"*Preferred Strategy*"

The four alternative strategies as outlined above were considered in light of the significant environmental issues for the Town as concluded in **Section 6**. As a result of these considerations, Scenario Four: Sustainable Planning Policy was determined the '*preferred strategy*'.

8.0 ENVIRONMENTAL PROTECTION OBJECTIVES RELEVANT TO THE PLAN

8.1 INTRODUCTION

The Environmental Protection Objectives are distinct from the Tralee Town Draft Development Plan objectives and provide a standard against which the goals, policies and objectives of the Draft Development Plan can be assessed in order to highlight those policies and objectives that have the potential to adversely impact on the environment.

Environmental Protection Objectives are used as a tool to cross check the policies of the Draft Development Plan in order to maximise the environmental sustainability of the Plan. The cross checking process will help identify policies that will be likely to result in significant adverse impacts, so that alternatives may be considered or mitigation measures may be put in place.

The Environmental Protection Objectives for the Tralee Town Draft Development Plan have been selected from European, National and Regional Environmental Policy and Guidance. The scoping and public consultation processes for the Draft Development Plan and SEA informed the selection of appropriate objectives. The objectives are set out below, under the range of environmental aspects specified in the relevant SEA Regulations and in the DoEHLG and EPA guidelines.

In addition, these Environmental Protection Objectives are largely consistent with the Environmental Protection Objectives used in the SEA of the current Draft Kerry County Development Plan.

8.2 ENVIRONMENTAL PROTECTION OBJECTIVES

The key Environmental Protection Objectives for the Plan are outlined in the sub-sections below.

8.2.1 Biodiversity, Flora & Fauna

B1 Designated Habitat and Species
BO 1.1 Conserve protected habitats and species.
BO 1.2 Protect Natura 2000 (SAC) sites in planning process using Habitats Directive Article 6 assessment methodology.

B2 Species and Habitats in Non-Designated Sites
BO2.1 Conserve the diversity of habitats and species in non-designated sites.
BO2.2 Conserve non-designated sites.

8.2.2 Population and Human Health

P1 Population
PO1.1 Improve people's quality of life based on high quality living environments, working and recreational facilities

P2 Human Health
PO2.1 Ensure the health of the people living and working in Tralee Town by providing a healthy environment and adequate health services.

8.2.3 Water (Including Ground & Surface)

W1 Surface Water
WO1.1 Maintain or improve the quality of surface water to meet the requirements of the South Western River Basin Management Plan (SW RBMP) and Programme of Measures (POMs).
WO1.2 Maintain or improve the Biotic Quality Rating (Q Value) of surface waters.
WO1.3 Utilise Sustainable Urban Drainage Systems (SUDS) to manage run-off from new developments and to minimise the impact of urban drainage on water courses
WO1.4 Quantify drainage contribution from urban development to surface water courses

W2 Ground Water
WO2.1 Prevent pollution of groundwater by adhering to aquifer protection plans when complete.

W3 Drinking Water
WO3.1 Maintain and improve the quality of drinking water supplies.

W4 Water Supply
WO4.1 Promote sustainable water use based on long term protection of resources.

W5 Flooding
WO5.1 Minimise the risk of flooding by avoidance of development in flood plains and the provision of appropriate drainage systems.
WO5.2 Mitigate flood risk through appropriate building control and the maintenance of an adequate drainage system.

W6 Surface Water Morphology
WO6.1 Prevent interference with surface water course morphology by developments/ land use changes.

W7 Transitional Water
WO7.1 Meet the requirements of the South Western River Basin Management Plan (SW RBMP) and Programme of Measures.

8.2.4 Soil

SG1 Soils
SGO1.1 Maximise the sustainable re-use of brownfield sites and maximise the use of the existing built environment.

SG2 Unregulated Landfill
SGO2.1 Identify any unregulated landfill sites.

SG3 Aquifer Protection
SGO3.1 Prevent pollution of groundwater by adhering to aquifer protection plans when complete.

8.2.5 Cultural Heritage (Including Architectural and Archaeological Heritage)

CH1 Heritage
CHO1.1 Promote best practice in heritage conservation and management.

CH2 Architectural Features
CHO2.1 Protection of individual sites and complexes.

CH3 Archaeology
CHO3.1 Identification and protection of archaeological features.

CH4 Social Cultural Assets
CH04.1 Support and encourage the development of the Irish Language.
CH04.2 Support and encourage the development of literary & artistic initiatives

8.2.6 Air and Climatic Factors

AC1 Climate
ACO1.1 Minimise greenhouse gas emissions to meet National and International standards.
ACO1.2 Implement Building Energy Regulations.

AC2 Air Quality
ACO2.1 Improve ambient air quality.

8.2.7 Material Assets

MA1 Transportation
MAO1.1 Develop sustainable transportation infrastructure and reduce the need for travel and journey length through appropriate planning strategies.

MA2 Waste Management
MAO2.1 Minimise waste production and introduce sustainable waste management practices.

MA3 Wastewater Infrastructure
MA3.1 Minimise the impact of wastewater collection and treatment system on surface and ground waters.

MA4 Renewable Energy
MA4.1 Use renewable energy technology for projected power requirements over the lifetime of the Plan where appropriate.

8.2.8 Landscape

L1 Natural Landscape
LO1.1 Protect scenic landscapes, views, routes, and landscape features of local value.

L2 Urban Landscape
LO2.1 Protect streetscapes.

8.3 USE OF ENVIRONMENTAL PROTECTION OBJECTIVES

The above Environmental Protection Objectives provide the standard against which the policies and objectives of the Draft Development Plan were assessed in terms of their environmental sustainability. This assessment is detailed in the following **Section 9**.

9.0 ENVIRONMENTAL ASSESSMENT OF DRAFT PLAN

9.1 ASSESSMENT METHODLOGY

Compatibility matrices were used to assess the Tralee Town Draft Development Plan objectives and policies against the Environmental Protection Objectives so that policies/objectives with the potential for significant adverse environmental impacts could be highlighted. The compatibility matrices are provided in **Appendix 2**.

Each strategic objective and group of policies proposed for inclusion in the Draft Development Plan was assessed against each of the Environmental Protection Objectives. This assessment was carried out during the preparation of the Draft Development Plan and changes were made as issues arose to make the Draft Development Plan more environmentally sustainable.

The Draft Plan polices and objectives were formally assessed using the matrix in **Appendix 2**. The assessment of each was assigned a symbol;

- Potentially Significant Positive Environmental Effect (+),
- Potentially Significant Negative Environmental Effect (-),
- No Significant Environmental Effect or Insignificant Impact (/),
- Uncertain Effect (?) ($?^{+}$) potentially positive; ($?^{-}$) potentially negative.

9.2 SUMMARY OF THE KEY LIKELY ENVIRONMENTAL IMPACTS OF IMPLEMENTING THE PLAN

Key environmental impacts likely to arise from the implementation of the review of the Tralee Town Development Plan are summarised below.

BIODIVERSITY, FLORA AND FAUNA

The area covered by the Draft Development Plan is largely urbanised with only small areas of natural and semi-natural habitat remaining. There are also a number of man-made “habitats” (e.g. the ship canal, town parks etc.) within the Development Plan area and a small number of designated conservation areas are located in close proximity to Tralee Town (Tralee Bay and Ballyseedy Wood).

Any development policies that would result in the removal of natural, semi-natural or man-made habitats have the potential to negatively impact on the biodiversity potential of the town. Policies that have the potential to increase manmade habitats or enhance the protection of natural/semi-natural habitats would have the potential to positively impact on biodiversity. Any policies that result in a negative direct or indirect impact on designated conservation areas would have significant adverse impacts on the biodiversity of the Town, the County and indeed at national level.

A number of policies included in the Draft Plan could potentially result in a significant negative impact on biodiversity, flora and fauna. These include the provision of undeveloped land for new development (e.g. EP03 ensuring adequate land for economic development and infrastructure, RDPO2 Support the construction of the Tralee Eastern Bypass and associated routes in conjunction with Kerry County Council).

Lands in the west of the development plan area, in the vicinity of Ballyvelly, Lohercannan, which were previously zoned for agriculture, are zoned as "Unformulated "in the Draft Development Plan (see **Map 1 of the Tralee Town Draft Development Plan 2009-2015**). This area will be subject to the preparation of an Action Area Plan and is likely to be significantly developed in the future with the loss/fragmentation of the semi-natural habit currently present in this area. This has the potential to impact negatively on the biodiversity; flora and fauna of the area. However, the Draft Plan includes policies to protect the natural environment, for example, HBP09 "Resist development proposals which would have an unacceptable negative impact on habitats and the environment" and HBP01 "Encourage and protect bio-diversity through habitat protection and nature conversation". An assessment of the quality of the habitat present should be carried out during the preparation of the Action Area Plan and the above policies implemented should "valuable" habitat be identified.

Policies to put telecommunications infrastructure underground (TLP02 Promote the undergrounding of existing and all future telecommunications networks) have the potential to negatively impact on biodiversity should this infrastructure be routed through undeveloped or green areas.

Where possible, new development should be located on brown field sites to minimise impacts on biodiversity as per policies HPO14 "Encourage residential development with special attention focused on the reuse of protected structures and suitable redundant or obsolete structures" and IPO2 "Continue to support the manufacturing and industrial base and seek the reuse and/or redevelopment of vacant factory buildings".

There are a significant number of policies in the Draft Plan to promote tourism in Tralee including the provision of new tourist facilities and the promotion of natural environments as tourist attractions. A number of these policies have the potential to negatively impact on biodiversity should the new facilities be located inappropriately or should natural attractions be exploited to an unsustainable extent.

There are also a number of Recreational and Amenity policies that promote the use of the natural environment for leisure activities and propose the development of walkways and other recreational uses in natural areas such as the Lee River Valley and Ballyseedy Wood. These policies have the potential to negatively impact on the biodiversity of the area through direct impact on habitats and indirect impacts such as the disturbance of fauna by significant numbers of the population using these recreational facilities.

However, the Draft Plan also includes a significant number of policies to protect the natural and manmade environments that support the biodiversity of the area (*i.e.*, policies in Chapter 9 Natural Environment of the Draft Development Plan.) These policies provide for the protection of the natural environment and the enhancement of manmade environments.

In summary, the Draft Development Plan includes policies that have the potential to impact adversely on the biodiversity of the area. However, it also includes polices that would ensure the protection and enhancement of natural and manmade habitats. It is essential that at least equal weight is given to environmental protection policies as to "development policies" to ensure the protection of biodiversity, flora and fauna in the Development Plan area.

POPULATION AND HUMAN HEALTH

All the policies included in the Draft Development Plan were assessed as either potentially positive or neutral in terms of population and human health.

Polices are included to promote adequate housing employment, amenity, social inclusion and social services. Policies which have the potential to reduce traffic generated air pollutants are included as are policies to reduce the dependency of carbon emitting fuels. These policies will promote positive effects on human health in the area. The promotion of safe pedestrian and cycle routes will potentially have a positive impact on health as will the provision of outdoor amenity areas and sports facilities.

WATER

The most significant potential threats to the surface and groundwater environments of Tralee are from wastewater discharges, urban drainage, unattenuated discharges to ground and landuse activities and discharges upstream of the town.

The estuary and bay are designated areas of conservation. An Appropriate Assessment of the impact of the Draft Development Plan is required (under the Habitats Regulations) if the plan is likely to have significant impacts on the SAC. A screening assessment is being carried out in conjunction with the SEA of the Draft Development Plan to determine if the Plan is likely to have a significant impact on the SAC.

Polices which promote/facilitate development growth in the Development Plan area will place additional demand on the wastewater and drainage infrastructure of the town. Urban drainage from the town discharges to the Lee Estuary and ultimately to Tralee Bay. The Draft Development Plan includes a policy to (DWTPO1) promote the improvement of water quality in the rivers and watercourses in conjunction with relevant bodies. There is existing capacity available at the wastewater treatment plant to cater for sewage from planned development without adversely impacting the environment, based on the design capacity of the plant which received planning approval to discharge to the Lee Estuary in 1998. However, it has been identified that upgrading of the drainage network is required to minimise untreated discharges of wastewater to surface and ground waters.

The Development Plan includes policies on the inclusion of separate drainage collection systems and Sustainable Drainage Systems (SUDS) in new developments to minimise loading on the treatment plant and unplanned discharges to the water environment; (DWTPO2 “Ensure that all new developments have separate drainage systems and that existing developments have adequate drainage systems”, DWTPO3 “Require surface water attenuation storage on site and ensure that the rate of discharge into the public surface water system is restricted in line with stormwater management policy” and WRPO13 “Minimise culverting, encourage native waterside vegetation and promote the use of reed beds to absorb pollutants and regularise increased runoff through the implementation of the Council’s Sustainable Urban Drainage Systems (SUDS)”).

The Draft Development Plan also includes a policy to study the impact of urbanisation on the quality and hydrology of river corridors in the town (WRPO10 Undertake to carry out a River Corridor Management Study in conjunction with the Regional Fisheries Board and other relevant bodies). This will comprise an assessment of impacts on hydrology by increased urbanisation and provide an assessment of existing land conditions, specific area protection requirements, potential impacts from various usage and guidelines on extent of land use changes and impact control thus addressing, to an extent, potential flood risk in the town. Policies on SUDS and separate collection systems also address this issue. However, it is considered that a dedicated study of current flood risk to the town should also be considered by the Council.

A significant number of policies are included in Draft Development Plan in relation to maximising river corridors within the town as amenity areas. Inappropriate uses or over use of these areas may have the potential to impact on water quality.

In summary, the most significant potential impact of implementing the Plan would be from the discharge of urban drainage to surface waters due to increased development in the town. There are a number of policies included in the Draft Plan to minimise this potential impact. A screening assessment is being carried out to determine the potential for the Plan to impact on the Tralee Bay SAC.

SOIL AND GEOLOGY

Policies included in the Draft Development Plan were assessed generally as having a neutral effect on soil and geology in the area.

It would be advisable for the Council to have a record of the karst features in the area available for reference at pre-planning and planning stages of development in terms of protecting underlying groundwater and structural integrity of developments. The Council should also investigate the heritage value of such features.

CULTURAL HERITAGE (Including Archaeology & Architectural Heritage)

The greatest threat to Cultural Heritage in the Town is from the potential impact of new development on unknown (buried) archaeological features, impairment of the architectural character of the town through inappropriate development/urban design, unsympathetic modifications and lack of maintenance of protected structures.

The centre of the town is designated as a zone of archaeological potential with recorded monuments dotted around the town. Developments in recent years, while putting pressure on some of these sites have also afforded the opportunity for greater investigation of archaeological sites.

The majority of policies included in the Draft Development Plan have a potentially neutral or positive impact on cultural heritage in the town. Policies are included (AHPO1 & AHP04) to preserve, protect and enhance protected structures and their settings through ensuring appropriate maintenance, alteration, extension etc. of any significant features, elements. Developments within the vicinity of protected structures shall not distract from the character of the protected structure and its setting.

A number of polices in the Draft Development Plan promote the conversion of buildings for new uses and the reuse of existing sites for new developments. These policies have the potential to negatively impact on architectural heritage if the policies pertaining to architectural protection are not implemented.

Policies are included to protect and enhance archaeological monuments (AGP01) and their settings and (AGP02) to promote the appropriate and timely engagement with the County Archaeologist and the DoEHLG when assessing development proposals which could include archaeological investigation prior to the commencement of any new development works.

In summary, policies that promote new development within the town have the potential to impact on cultural heritage. However, significant policies have been included to protect and enhance archaeological and architectural heritage in the Town.

AIR AND CLIMATIC FACTORS

The main policy areas influencing Air and Climatic Factors are Transportation and Energy. Population and economic growth is likely to result in additional energy usage and transportation demand generating air pollutants and greenhouse gasses. Policies that reduce the emission of air pollutants and greenhouse gases will have a potentially positive impact on air quality and climate change factors.

The focus of the transportation policies in the Draft Development Plan are towards a modal shift from private to public transport which will be positive in terms of reducing air pollutants and greenhouse gases.

Policies in relation to road improvements may potentially have a negative impact in terms of encouraging private transport by providing improved road facilities. However, such facilities will improve the free flow of traffic thus reducing emissions from vehicles.

There are a number of policies relating to the promotion of “renewable energy” as an alternative to fossil fuels. These policies will have a positive impact on Air and Climatic Factors though the reduction of greenhouse gases.

In summary, a significant number of policies have been included to promote the reduction of air pollutant and greenhouse gases which should impact positively on air and climate.

MATERIAL ASSETS

Any potential growth in the town has the potential to exert demand pressure on existing material assets including, water and wastewater infrastructure, transportation infrastructure, energy and communications infrastructure.

Tralee WwTP has the capacity to cater for the potential increase in biological load from population and industrial growth forecast within the timescale of the new Tralee Town Development Plan. However, the hydraulic capacity of the plant is affected by infiltration into the collection system. This infiltration needs to be minimised to provide hydraulic capacity at the plant to cater for planned domestic and industrial growth. It has been identified that significant upgrading of the drainage network is required to minimise untreated discharges of wastewater to surface and ground waters. A policy relating to upgrading the town drainage system should be included in the plan. Policies are included in relation to the inclusion of separate collection systems and SUDS in the Draft Development Plan.

The town is currently adequately served by the Central Regional Water Supply Scheme (CRWSS). However, this supply will need to be upgraded in the near future to cater for planned growth and a policy (WP01) is included to ensure an adequate supply of potable water to the town. Policies on water conservation are identified in the Draft Plan including (WP02 & WPO3) the implementation of a water conservation programme and the promotion of public awareness to reduce water usage.

There is currently a lack of waste management facilities in the town and policies have been included in the Draft Plan to implement the provisions of the Regional Waste Management Plan and programmes to increase public awareness of waste prevention, minimisation and reduction (WMP01, WMP02 & WMP03).

Policies to improve public transport service provision and sustainable land use and transportation planning policies in general are included in the Draft Plan and will impact positively by reducing

the need to travel by private car, improving access to services for people from all sectors of society and reducing air pollution.

In summary, planned growth will place additional demand on current infrastructure. However, policies have been included in the Draft Plan to augment existing capacity.

LANDSCAPE AND VISUAL

Most new development, including infrastructure, will have the potential to impact on the visual amenity of the town and whether this impact is positive or negative can be subjective.

The Draft Development Plan includes a policy to prepare, adopt and implement a Landscape Plan for the town in order to provide for a long term planting and management programme (UFP01).

It also includes policies to ensure a high standard of urban design for new development (UDP02 & UDP07) and to protect views to and from landmark buildings (UDP06). The Plan also includes policies on the inclusion and management of open spaces within urban areas (RAOSP01) and policies to enhance the biodiversity of the town which are likely to enhance the landscape and visual amenity of the town.

Urban generated rural housing has the potential to impact on the landscape character of the environs of Tralee Town. The overall development strategy of the Town Plan is to consolidate the development of the town by concentrating future development over the plan period on lands closer to the town centre which should be positive in terms of limiting the proliferation of one-off single houses generated by the Town.

As noted in the assessment of impact on Biodiversity, it is proposed to change the zoning of agricultural lands in the Ballyvelly, Lohercannan area. Proposed development in the area will be subject to the preparation of an Action Area Plan but it is likely that significant development will take place that will potentially significantly change the landscape character of the area. A policy or development objective should be included in the Draft Plan to ensure that appropriate urban design and landscape guidelines are incorporated in the Action Area Plan to ensure that the development in the area does not have a negative impact on the landscape character and visual amenity of the area.

ZONING

The zoning proposed in the Draft Development Plan is consistent with the zoning in the current Development Plan with the exception of a significant area of land in Ballyvelly, Lohercanan (see **Map 1 of the Tralee Town Draft Development Plan 2009-2015).** This area is currently zoned for agriculture but would be subject to the preparation of an Action Area Plan by Tralee Town Council in conjunction with Kerry Co. Co.

The rezoning of this land removes all the remaining land zoned for agriculture within the functional area of the Town Council. The implications of this rezoning are assessed throughout **Section 9**.

10.0 MITIGATION MEASURES

10.1 INTRODUCTION

Section 9 has identified the potential significant environmental effects (positive and negative) that may arise from the implementation of the Draft Plan. This section describes the measures to prevent, reduce and as fully as possible offset any significant adverse environmental effects of the Development Plan.

The Draft Plan incorporates aims, objectives and policies that are founded on the principle of sustainable development. In particular the Draft Plan has been formulated with a view to the protection of the environment and avoiding potentially adverse impacts.

A significant number of policies and objectives which protect the environment of Tralee are included in the Draft Development Plan. It is essential that these polices are given at least equal weight as "development policies" to ensure that the Development Plan is implemented in an environmental sustainable manner.

Mitigation measures in respect of the potential conflicts with the environment are outlined in **Table 10.1** below.

Biodiversity Flora & Fauna
The Draft Development Plan includes policies that have the potential to impact adversely on the biodiversity of the area. However, it also includes polices (HBP01-HBP012) that would ensure the protection and enhancement of natural and manmade habitats. It is essential that the environmental protection policies are implemented to ensure the protection of the natural heritage and biodiversity, flora and fauna in the Development Plan area. It is proposed to re-zone lands at Ballyvelly, Lohercannan from agricultural use to an alternative landuse, for example, industrial or residential development. An assessment of the quality of the habitat present should be carried out during the preparation of the Action Area Plan and policies HBP09 ("Resist development proposals which would have an unacceptable negative impact on habitats and the environment") and HBP01 ("Encourage and protect bio-diversity through habitat protection and nature conversation") should be implemented if "valuable" habitat is identified. Where possible, new development should be located on brown field sites to minimise impacts on biodiversity as per policies HPO15 "Encourage residential development with special attention focused on the reuse of protected structures and suitable redundant or obsolete structures" and IPO2 "Continue to support the manufacturing and industrial base and seek the reuse and/or redevelopment of vacant factory buildings". The Council should prepare an Inventory of (current) Biodiversity/Habitats within their administrative area based on existing documentation such as the Lee Valley Master Plan, Local Area/Action Area Plans, recent EISs, information from the their Parks Department and any inventories resulting from the implementation of the County Heritage and Biodiversity Plan. The inventory should include trees (particularly protected trees) and hedgerows. Recent aerial photography of the Town should be included as a pictorial representation of the current situation. This inventory should be updated on a regular basis and should be used as a means of monitoring the protection of biodiversity in Tralee Town.

Biodiversity Flora & Fauna

An ecological assessment should be required to be submitted with planning applications where appropriate on sites where significant areas of habitat will be destroyed due to the development.

Soil & Geology

It would be advisable for the Council to have a record of the karst features present in the area available for reference at pre-planning and planning stages of development in terms of protecting underlying groundwater and structural integrity of developments.

The Council should also investigate the heritage value of such features.

Water

Groundwater

A policy should be included in the Plan regarding the assessment of development proposals in relation to the potential for causing any significant negative impact on groundwater resources within the Town and its surrounding environment. The Council should promote the completion of the aquifer vulnerability mapping for the Tralee area which would highlight the existence of vulnerable areas.

Cognisance should be taken of groundwater vulnerability when assessing the suitability of SUDS proposals for new developments

Protection of Water Resources

Specifically in relation to the protection of water resources in the town, the Town Council should undertake the following in line with the requirements of the Water Framework Directive:

- Encourage and promote compliance with the recommendations contained in the River Basin Management Plans and liaise and cooperate with the Shannon River Basin District project.
- Protect and enhance surface water and groundwater resources which are essential as part of an integrated approach to the management of water resources, necessary to ensure the highest water quality into the future, as set out in the Water Framework Directive (Directive 2000/60/EC establishing a framework for Community action in the field of water policy).
- Preserve an undisturbed edge or buffer zone between new developments and river corridors and other water bodies in order to maintain the natural functions of existing ecosystems.

Cultural Heritage(Including Archaeology & Architectural Heritage)

The Council should require the appropriate and timely engagement of developers with the County Archaeologist and the DoEHLG at pre-planning stage in areas of archaeological potential particularly in the Primary Archaeological Zone (historic core) of the town.

Archaeological investigation may be required prior to the commencement of any new development works. Developers should be required to supply an archaeological assessment and method statement outlining construction procedures. Archaeological assessment should be carried out by a suitably qualified archaeologist.

Material Assets

General

In order to facilitate the monitoring of current and future demands on the infrastructure of the town the Council should maintain a record of all planning consents detailing demands on infrastructure e.g. type of development, area, wastewater discharges (p.e), water demand, traffic generation etc.

Water Infrastructure

The Town Council should ensure that the planned upgrade of the water supply infrastructure distribution network and urban drainage systems of the town are completed in order to cater for planned growth.

The recommendations of the Tralee Sewerage Scheme Nutrient Reduction Preliminary Report 2006 should be implemented by Kerry Co. Co. as a method of monitoring the impact of the treatment plant.

Flooding

The Tralee Flood Relief Scheme was completed in 1997 to address flood issues within the town. The scheme included the construction of trunk sewers and culverts to relieve flooding and extend the drainage network and provide capacity to cater for new developments in and around Tralee. Significant development has taken place in the town since flood levels were predicted in 1986. A review of the flood level predictions made in 1986 in view of recent development on flood plains and the more extreme rainfall event now predicted due to climate change should be carried out.

Landscape & Visual

Provision should be made to ensure that the impact of zoning land for development on existing landscape forms and features and on scenic views and vistas be considered during the preparation of relevant land use plan and the assessment of planning applications for individual developments with the intention of ensuring such views/features are protected from inappropriate development.

The Council should ensure that urban sprawl is minimised through ensuring that the principles of the LUTS and Draft Plan policy LUTSP04 "*Plan compact rather than dispersed settlement patterns and make provision for high density where appropriate*" are implemented in order to ensure that landscape character and views are protected from urban generated housing in the rural environs of the town.

11.0 MONITORING

11.1 INTRODUCTION

Article 10 of the SEA Directive requires that monitoring should be carried out in order to identify at an early stage any unforeseen adverse effects due to implementation of the Plan, and to be able to take remedial action. Monitoring is carried out by reporting on a set of indicators, which enable positive and negative impacts on the environment to be measured. They have been developed to show changes that would be attributable to implementation of the Plan. These indicators will be refined and included in the SEA Statement as part of the monitoring programme.

Monitoring is often based on *indicators* which measure changes in the environment, especially changes which are critical in terms of environmental quality. Indicators aim at simplifying complex inter-relationships and providing information about environmental issues which are relatively easy to understand. They provide a means of measuring the progress towards achieving the environmental objective over time.

A number of *targets* have been proposed for each objective and these refer to the desirable state in relation to each objective in quantifiable terms.

The following indicators and targets are proposed as part of this SEA process, to monitor the effects on the environment of implementing the Draft Plan. As measurements for indicators should come from existing monitoring sources and no new monitoring should be required to take place, all monitoring sources are maintained by Kerry County Council (KCC) and Tralee Town Council (TTC) and relevant authorities e.g. EPA.

Table 11.1 below outlines the selected indicators, targets and monitoring sources with regard to each environmental aspect.

Table 11.1 Environmental Indicators & Targets

Biodiversity Aspect (B)	Objective (BO)	Targets	Indicators (BI)	Indicators information Source
B1 Designated habitat and species	**BO1.1** Conserve protected habitats and species	No loss of protected habitats and species during the lifetime of the Plan	**BI1.1** Percentage of unique habitats and species lost in designated sites through trending of annual/ bi-annual habitat surveys	KCC DoEHLG
	BO1.2 Protect Natura 2000 (SAC) sites in planning process using Habitats Directive Article 6 assessment methodology	Protection of Natura 2000 (SAC) sites in study area from significant effects of proposed developments	**BI1.2** Provision of Article 6 assessments with developments proposed for sites overlying or potentially impacting Natura 2000 sites in study area	KCC DoEHLG

Biodiversity Aspect (B)	Objective (BO)	Targets	Indicators (BI)	Indicators information Source
B2 Species and habitats in non-designated sites.	**BO2.1** Conserve the diversity of habitats and species in non-designated sites	No significant loss of habitat diversity and species in non-designated sites Identification and inclusion of important non-designated sites in KCC biodiversity study	**BI2.1** Percentage of unique habitats and species lost in non-designated sites through trending of annual/ bi-annual habitat surveys Additions and losses to Council's Inventory of Biodiversity/Habitats in their administrative area	KCC DoEHLG TCC
	BO2.2 Conserve non-designated sites	No significant loss of non-designated sites Inclusion of ecological assessment with planning applications where appropriate	**BI2.2** Additions and losses to Council's Inventory of Biodiversity/Habitats in their administrative area No. of bio-diversity plans submitted with planning applications	KCC/TTC

Population and Human Health Aspects (P)	Objectives (PO)	Targets	Indicators (PI)	Indicators Information Source
P1 Population	**PO1.1** Improve people's quality of life based on high quality living environments, working and recreational facilities	Increase in public amenities Increase in the number of new civic amenity sites provided during the lifetime of the Plan Increase in the number of green spaces and amenities available to the public Provision of suitable accommodation for the increased population under the lifetime of this Plan	**PI1.1** Provision of new civic amenity sites Increase in the number of green spaces and amenities available to the public Availability of public transport Employment rates over the lifetime of the Plan Provision of new accommodation relative to housing needs identified in the Plan	KCC/TTC
P2 Human health	**PO2.1** Ensure the health of the people living and working in Tralee Town by providing a healthy environment and adequate health services	No significant deterioration in human health as a result of environmental factors No Remedial Action List (RAL) from the EPA notices Maintain or improve levels of ambient SO_2, NO_x, and Particulate Matter as indicated by EPA monitoring	**PI2.1** Occurrence of any decline in human health in the town or surrounding area Drinking water quality and number of RAL's and 'boil notices' Maintaining or improving air quality in the town	KCC/EPA/ TCC/HSE

Water Aspect (W)	Objective (WO)	Targets	Indicators (WI)	Indicator Information Source
W1 Surface Water	**WO1.1** Maintain or improve the quality of surface water to meet the requirements of the South Western River Basin Management Plan (SW RBMP) and Programme of Measures (POMs)	Achieve "Good Status" in water bodies by 2015	**WI1.1** Changes in receiving water quality as identified during water quality monitoring for the SW RBMP conducted by KCC and the EPA	EPA KCC
	WO1.2 Maintain or improve the Biotic Quality Rating (Q Value) of surface waters	Achieve a Q Rating of 4 as per the WFD 'good' quality status by 2015	**WI1.2** Biotic quality rating of river waters at EPA monitoring locations	EPA KCC
	WO1.3 Utilise Sustainable Urban Drainage Systems (SUDS) to manage run-off from new developments and to minimise the impact of urban drainage on water courses	Drainage systems to be compliant with SUDS	**WI1.3** Number of SUDS compliant drainage plans for proposed developments	KCC/TTC
	WO1.4 Quantify drainage contribution from urban development to surface water courses	Updated data on surface water generation within the study area	**WI1.4** Quantified surface water flows from proposed developments as part of planning process Measured river levels	KCC/TTC OPW
W2 Groundwater	**WO2.1** Prevent pollution of groundwater by adhering to aquifer protection plans when complete	Improvement or at least no deterioration in groundwater quality as per the requirements of the SW RBMP	**WI2.1** Changes in groundwater quality as identified in monitoring programmes conducted by KCC and the EPA under the SW RBMP	EPA KCC/TTC
W3 Drinking water	**WO3.1** Maintain and improve the quality of drinking water supplies	Decrease in the number of occurrences in the EPA's Remedial Action List (RALs) for drinking water notices issued over lifetime of the Plan	**WI3.1** Drinking water quality and bacterial counts and frequency of 'boil water' notices and RAL's notices from the EPA	EPA KCC

Water Aspect (W)	Objective (WO)	Targets	Indicators (WI)	Indicator Information Source
W4 Water Supply	**WO4.1** Promote sustainable water use based on long term protection of resources	Decrease in the number of 'water shortage' notices issued	**WI4.1** Frequency of 'water shortage' notices	KCC Services Dept.
	WO4.2 Upgrade infrastructure to meet future water supply needs	Implement the Water Supply Plan as per the Water Services National Investment Programme		TTC/KCC Water Services Section
W5 Flooding	**WO5.1** Minimise the risk of flooding by avoidance of development in flood plains and provision of appropriate drainage systems	Prevention of flood damage to land and properties Adherence to the OPW's Guidelines on Flood Risk (2005)	**WI5.1** No. and type of developments in the recognised flooding area Number of SUDS compliant drainage plans for proposed developments	KCC/TTC OPW
	WO5.2 Mitigate flood risk through appropriate building control and the maintenance of an adequate drainage system	Adherence to Flood Policy Review Group report "Flood Policy Review, Final Report" 2004	**WI5.2** Provision of flood risk evaluations with proposed developments/ changes to land zoning with emphasis on flood risk management	KCC/TTC OPW
W6 Surface Water Morphology	**WO6.1** Prevent interference with surface water course morphology from developments/ land use changes	No surface water diversions or alterations allowed without prior assessments by qualified hydrologists	**WO6.1.1** No. of proposed surface water diversions supplied with hydrological assessments	KCC/TTC
W8 Transitional	**WO8.1** Meet the requirements of the South Western River Basin Management Plan (SW RBMP) and Programme of Measures	Improve or at least no deterioration in water quality	**WO8.1.1** Compliance with the requirements of the SW RBMP	EPA KCC/TTC

Soils and Geology Aspects (SG)	Objectives (SGO)	Targets	Indicators (SGI)	Indicator Information Status
SG1 Soils	**SGO1.1** Maximise the sustainable re-use of brownfield sites and maximise the use of the existing built environment	Specified percentage of new applications granted to be on brownfield sites	**SGI1.1** Percentage of new developments on brownfield sites	TTC
SG2 Unregulated Landfill	**SGO2.1** To identify any unregulated landfill sites	Preparation of a report on contaminated/unregulated sites throughout the town	**SGI2.1** Number of sites identified and remediated	KCC
SG3 Aquifer Protection	**SGO3.1** Prevent pollution of groundwater by adhering to aquifer protection plans when complete	Groundwater quality to remain or improve during the lifetime of the Plan	**SGI3.1** Groundwater quality monitoring in aquifers	KCC GSI

Cultural Heritage Aspect (CH)	Objectives (CHO)	Targets	Indicators (CHI)	Indicator information Source
CH1 Heritage	**CHO1.1** Promote best practice in heritage conservation and management	No developments permitted over the lifetime of the Plan which will result in the loss or partial loss of protected structures or sites of archaeological importance Ensure that all planning applications that might have an impact on heritage are referred to the DoEHLG for comment and that their recommendations are adhered to Use of guidelines given in the Kerry County Council Heritage and Biodiversity Plan 2008-2012	**CHI1.1** Number of developments permitted over the lifetime of the Plan which resulted in the loss or partial loss of protected structures or sites of archaeological status	KCC /TTC Heritage Section Kerry Heritage Forum DoEHLG

Cultural Heritage Aspect (CH)	Objectives (CHO)	Targets	Indicators (CHI)	Indicator information Source
CH2 Architectural Features	**CHO2.1** Protection of individual sites and complexes	No inappropriate developments in protected sites and complexes	**CHI2.1** Number of inappropriate developments in protected sites and complexes	KCC/TTC Heritage Section Kerry Heritage Forum DoEHLG
CH3 Archaeology	**CHO3.1** Identification and protection of archaeological features	No developments permitted during the lifetime of the Plan which could result in damage to archaeological features Review of the annual Excavations Bulletin for archaeological potential in study area Use of "Framework and Principles for the Protection of Archaeological Heritage" Department of Arts Heritage Gaeltacht and the Islands	**CHI3.1** Number of developments permitted which result in the loss or damage to archaeological features	KCC/TTC Heritage Section Kerry Heritage Forum DoEHLG
CH4 Social Cultural Assets	**CH04.1** Support and encourage the development of the Irish Language **CH04.2** Support and encourage the development of literary & artistic initiatives	Bilingual name plaques on all relevant new developments Provide funding as per the Kerry Arts Plan 2007-2012	No. of new developments with Irish names Number of literary and artistic events provided during the lifetime of the Plan	TTC KCC

Air and Climate Aspects (AC)	Objectives (ACO)	Targets	Indicators (ACI)	Indicator information Source
AC1 Climate	**ACO1.1** Minimise greenhouse gas emissions to meet National and International standards	Increased use of public transport Increase numbers of cycle lanes and pedestrian routes in the town Increase number of permissions granted for renewable energy projects	**ACI1.1** No. of "LUTS" Traffic Management Measures implemented Expansion in bus services in the town No. of new cycle lanes and walking routes Number of permissions granted for renewable energy projects	KCC/TTC
	ACO1.2 Implement Building Energy Regulation	Increase in number of energy audits conducted on existing facilities and new homes	**ACI1.2** Number of energy audits conducted	KCC
AC2 Air Quality	**ACO2.1** Improve ambient air quality	Maintain or improve ambient air quality through reduction of private vehicle usage	**ACI2.1** Air quality indicators	KCC EPA

Material Assets Aspects (MA)	Objectives (MAO)	Targets	Indicators (MAI)	Indicator information Source
MA1 Transportation	**MAO1.1** Develop sustainable transportation infrastructure and reduce the need for travel and journey length through appropriate planning strategies	Reduce the number of private vehicles on the road Provision of an adequate public transport system Increase use of public transport. Increase number of bicycle journeys	**MAI1.1** No. of "LUTS" Traffic Management Measures implemented Expansion in bus services in the town Number of private cars on road as a percentage of AADT No. of new cycle lanes and walking routes	TCC/KCC KCC/NRA

Material Assets Aspects (MA)	Objectives (MAO)	Targets	Indicators (MAI)	Indicator information Source
MA2 Waste Management	**MAO2.1** Minimise waste production and introduce sustainable waste management practices	Reduce in the quantities of waste produced Reduce in the % of waste sent to landfill Increase the quantities of waste sent for recycling Increase the number of bring banks provided for in the Town	**MAI2.1** The quantity of household waste produced The % of waste sent to landfill Quantity of household waste sent for recycling The number of bring banks provided in the town	KCC/TTC EPA
MA3 Wastewater Infrastructure	**MA3.1** Minimise the impact of wastewater collection and treatment system on surface and ground waters	Ensure that that wastewater collection systems and treatment plant are adequate to cater for projected growth Ensure planned upgrades to these systems are carried out	**MA3.1** Completion of WwTP and collection system upgrades	KCC EPA
MA4 **Renewable Energy**	**MA4.1** Use of renewable energy technology for projected power requirements over the lifetime of the Plan	Encourage use of renewable energy for domestic and small businesses. Use of renewable energy to supply National Grid where applicable	**MA4.1** Number and type of renewable energy technologies employed in new developments	KCC/TTC

Landscape Aspect (L)	Objective (LO)	Targets	Indicators (LI)	Indicator Information Source
L1 Natural Landscape	**LO1.1** Protect designated scenic landscapes, views, routes, and landscape features of local value	No significant interruption of important views and prospects	**LI1.1** Number of developments interrupting important views and prospects	KCC/TTC
L2 Urban Landscape	**LO2.1** Protect streetscapes	No developments that will impact significantly on the existing character of the town	**LI2.1** Number of developments that impact significantly on existing character of the town	KCC/TTC