



# SEA Statement

**Of the  
Arklow Town and Environs  
Development Plan  
2011 – 2017  
Strategic Environmental Assessment**



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## **Section 1 Introduction**

### **1.1 Terms of Reference**

This is the SEA Statement of the Arklow Town and Environs Development Plan 2011-2017 Strategic Environmental Assessment (SEA).

### **1.2 SEA Definition**

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

### **1.3 Legislative Context**

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27 June 2001, on the assessment of the effects of certain plans and programmes on the environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use planning. The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No.) 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21 July 2004.

The SEA Directive and the instruments transposing it into Irish Law require that after the adoption of a plan or programme, the plan or programme making authority is required to make a Statement available to the public, the competent environmental authorities and, where relevant, neighbouring countries. This Statement is referred to as a SEA Statement (DEHLG, 2004)<sup>1</sup>.

### **1.4 Content of the SEA Statement**

The SEA Statement is required to include information summarising:

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

### **1.5 Implications of SEA for the Plan**

As a result of the aforementioned legislation, the Arklow Town and Environs Development Plan 2011-2017 was required to undergo SEA. The findings of the SEA were expressed in an Environmental Report, which was submitted to the Elected Members alongside the proposed Draft Plan. The purpose of the report was to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in the Arklow Town and Environs area.

Changes made to the proposed Draft Plan were evaluated for their environmental consequences and the Environmental Report was updated to become the final Environmental Report.

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

The Draft Plan and the associated Environmental Report were placed on public display in August 2010. Addendum I to the Environmental Report (which details responses to the submissions on the Environmental Report which were made during the first period of public display of the Draft Plan and the Environmental Report) was included in the Manager's Report circulated to Elected Members. Addendum I proposed updates to the Environmental Report as a result of submissions, as appropriate.

Proposed Amendments to the Draft Plan were evaluated for their environmental consequences and these were placed on public display alongside the Proposed Amendments in January 2011, in the form of Addendum II to the Environmental Report<sup>2</sup>.

On adoption of the Draft Plan, the Addenda were used to update the original Environmental Report into a final Environmental Report, which accompanies the adopted Plan.

At each stage of the process the Elected Members took into account the findings of the Environmental Report and/or the Addenda as appropriate.

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<sup>2</sup> It is noted that Addendum II identified that some Proposed Amendments would potentially conflict with the protection of the environment and that these potential conflicts would be mitigated by environmental protection provisions which had already been integrated into the Plan. The Plan was adopted with a number of the aforementioned Proposed Amendments. It is emphasised that any new development under the Plan will be required to comply with all its provisions including those relating to environmental protection.

## **Section 2 How Environmental Considerations were integrated into the Plan**

### **2.1 Consultations**

The Environmental Protection Agency (EPA), the Department of the Environment, Heritage and Local Government (DEHLG) and the Department of Communications, Energy and Natural Resources (DCENR) were all sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to Wicklow County Council. Written submissions were received on the scope of the SEA from all three consultees. Given the context of the plan area submissions were also invited and received from the HSA and the ERFB. Representatives from the Eastern Regional Fisheries Boards, the National Parks and Wildlife Service, a member of CAAS<sup>1</sup> (in a consultative role) and the forward planning section and members of the environment section of Wicklow County Council attended a SEA Scoping Meeting on 18<sup>th</sup> of January 2010. The information provided at this meeting - including that relating to Appropriate Assessment (AA) – was taken into account during the formulation of the scope of the SEA.

In addition, the EPA and DEHLG made submissions on the Development Plan and Environmental Report while they were on public display. Further information on the aforementioned submissions is provided under Section 3.2.

### **2.2 Environmental Sensitivities**

#### **2.2.1 Mapping and Early Communication**

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

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

The sensitivities considered by the SEA included the following:

- Designated ecological sites;
- Land cover;
- Soil Type;
- Water Framework Directive (WFD) Risk Assessments for Rivers, Lakes, Ground, Coastal and Transitional Waters;
- WFD Register of Protected Areas;
- EPA River Water Quality Monitoring;
- GSI Aquifer Vulnerability and Productivity;
- Flooding Data;
- Waste Water Treatment capacity and demand;
- Drinking water supply;

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<sup>1</sup> CAAS (Environmental Services) Ltd. is a planning and environmental consultancy service dedicated entirely to meeting the needs of Public and Local Authorities, which was engaged by Wicklow County Council to provide advice on the preparation of the Strategic Environmental Assessment for this plan.

- Drinking water quality;
- Archaeological Heritage;
- Architectural Heritage;
- Landscape Character Areas; and,
- Protected Views and Prospects.

### **2.2.2 Overlay mapping**

A Geographical Information System (GIS) was used in order to weight the above sensitivities and map them overlapping each other - this allowed the identification of where most sensitivities occur. Figure 2.4 shows the overlay map of sensitivities that was used by the SEA.

Environmental sensitivities are indicated by colours, which range from extreme vulnerability (red) to high vulnerability (orange) to moderate vulnerability (yellow) and low vulnerability (green). Where the mapping shows a concentration of environmental sensitivities there is an increased likelihood that development will conflict with these sensitivities and cause environmental deterioration.

### **2.3 Early Identification and Evaluation of Alternatives**

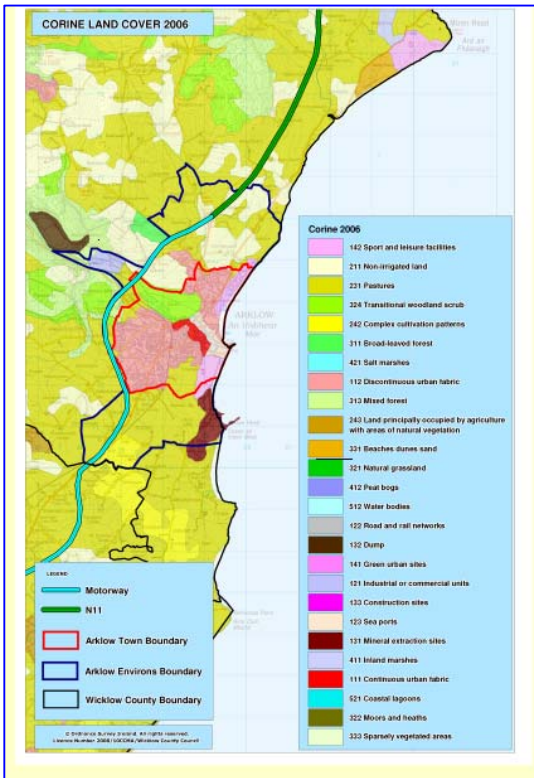
A range of potential alternative scenarios for the future development of the plan area were identified at an early stage in the process and evaluated for their likely significant environmental effects (see sections 6 & 7 of the ER).

The environmental sensitivities and overlay mapping shown in Figures 2.1 to 2.4 were used in order to predict and evaluate the environmental effects of implementing the scenarios.

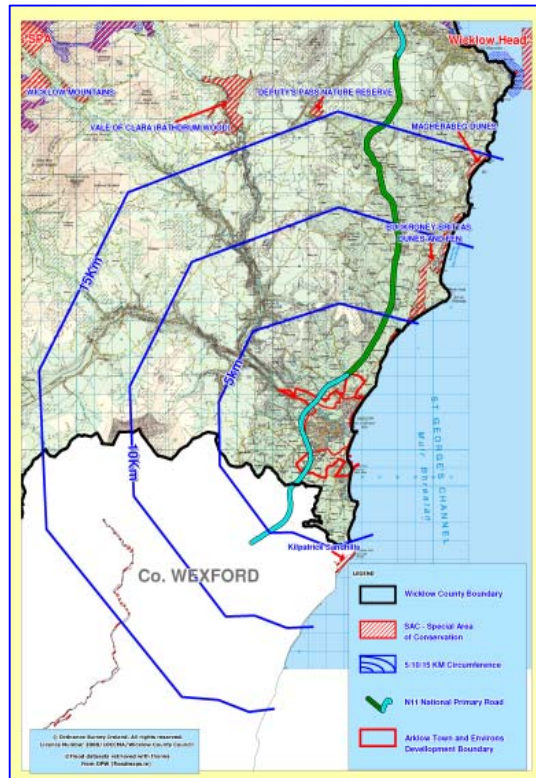
Communication of the findings of this evaluation helped the Plan-making team to make an informed choice as to which alternative was to be put before the Elected Members as the proposed Plan.

Communication of this evaluation to the Elected Members through the Environmental Report helped the Elected Members to make an informed choice with regard to the making of the Development Plan.

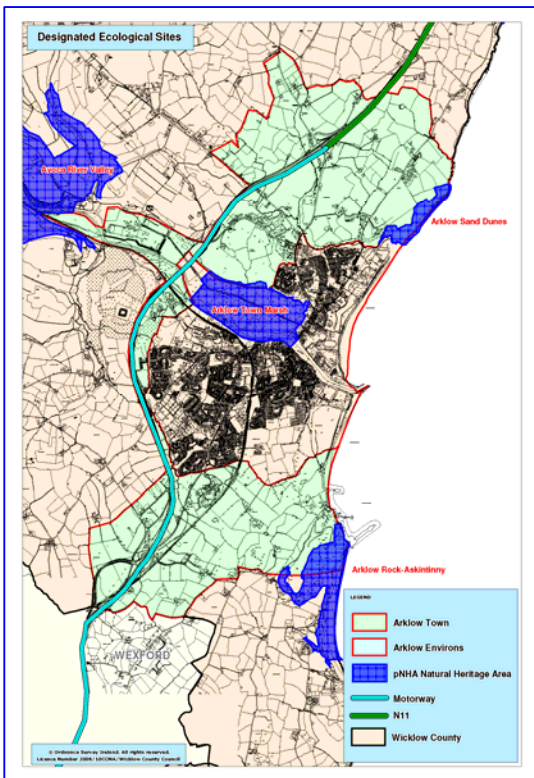
Mitigation measures which arose from the evaluation and which were integrated into the Plan are detailed under Section 2.4 of this report.



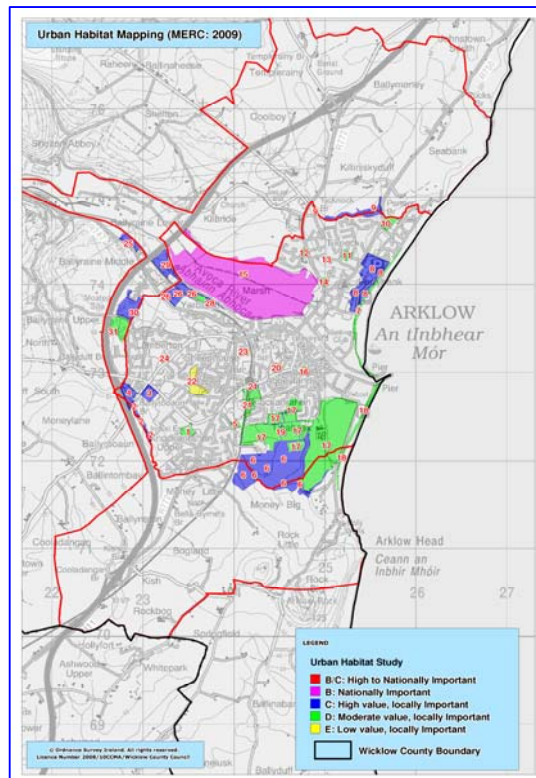
**Corine Land Cover Mapping 2006**



**Designated Ecological Sites**



**NHA's**



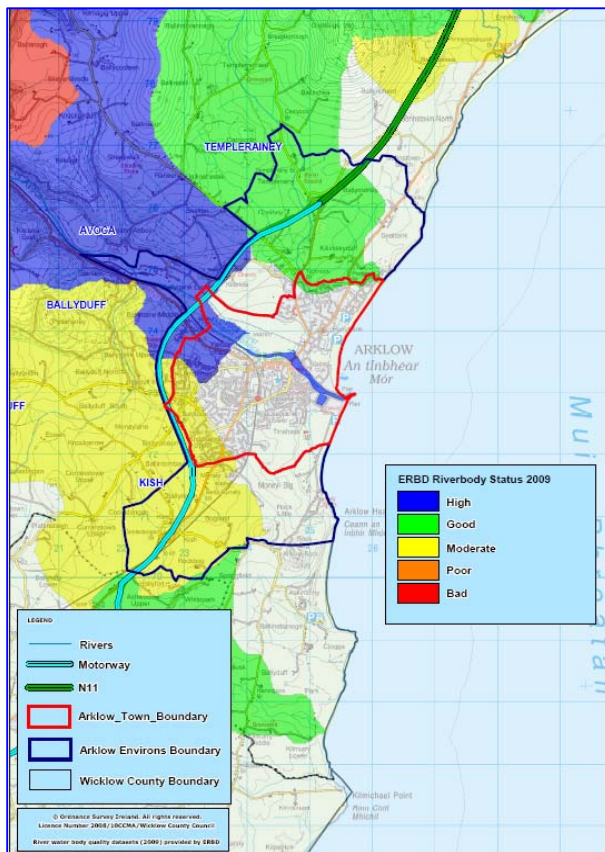
**Urban Habitat Mapping Study**

**Figure 2.1 Environmental Sensitivities - 1**

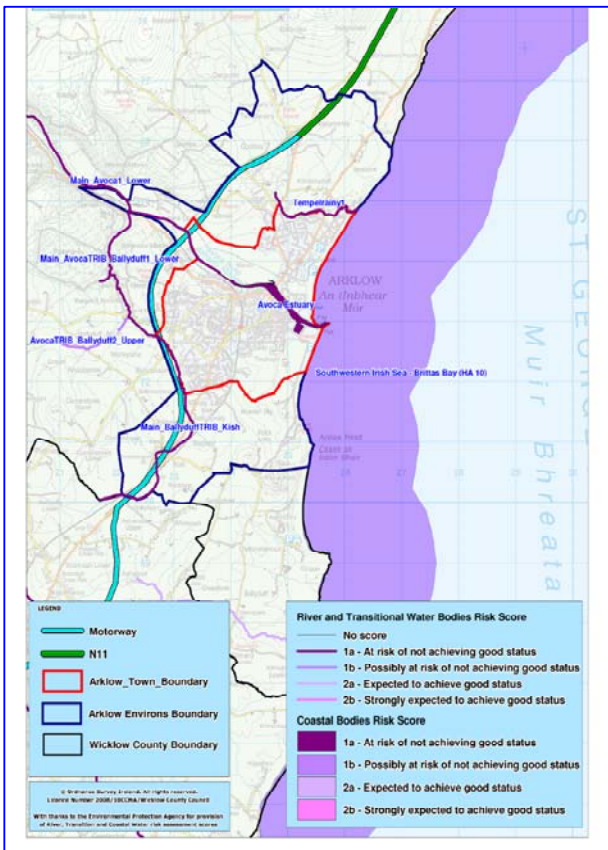




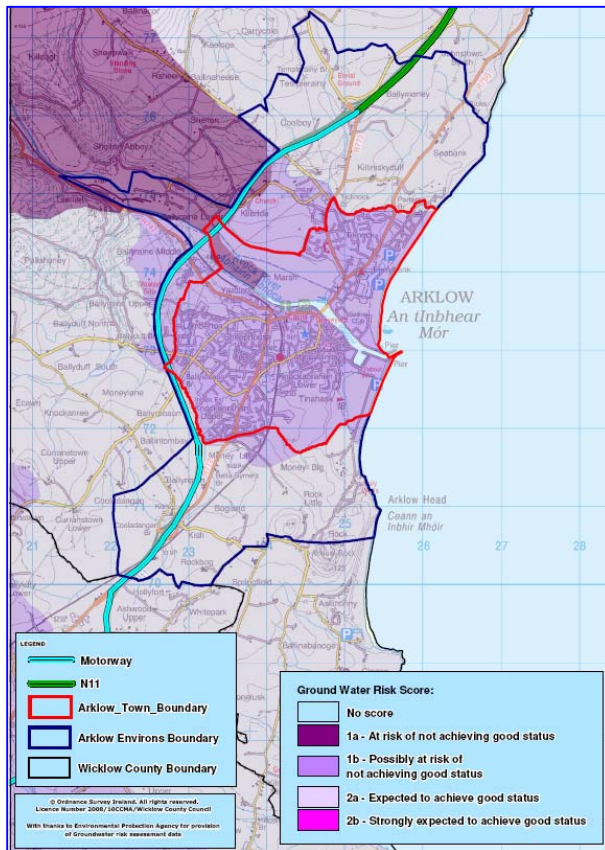
**Soil Types**



**Rivers, Transitional and Coastal Water Quality**

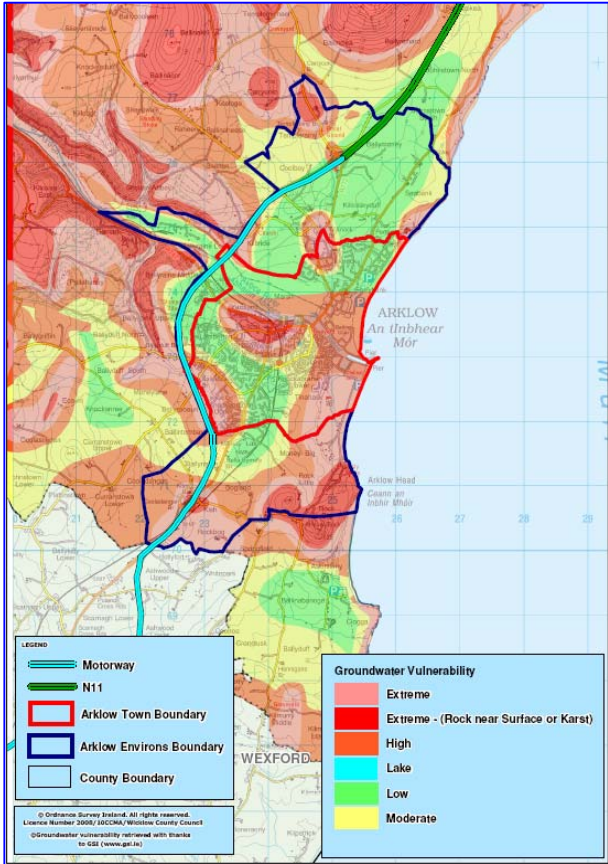


**WFD Risk Assessment for Rivers, Transitional and Coastal Waters risk assessment**

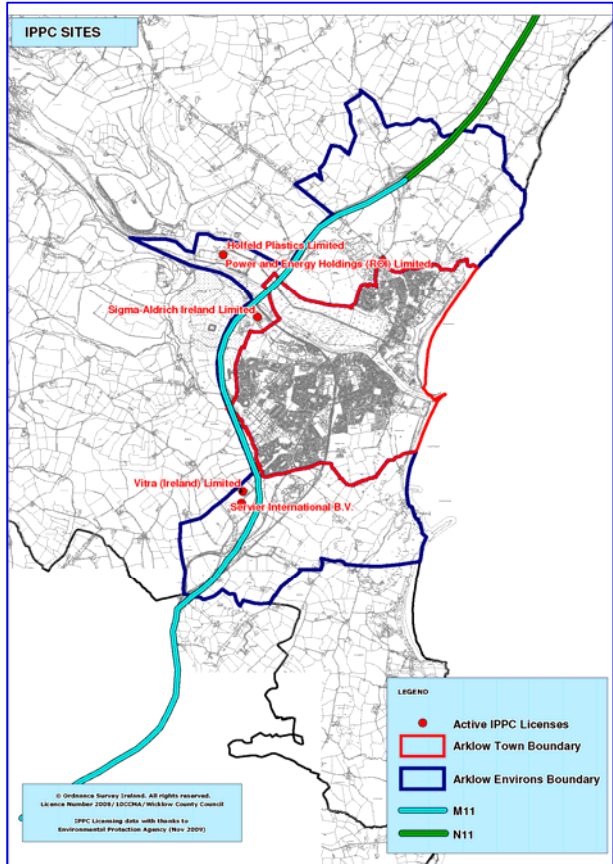


**Groundwater Risk Assessment**

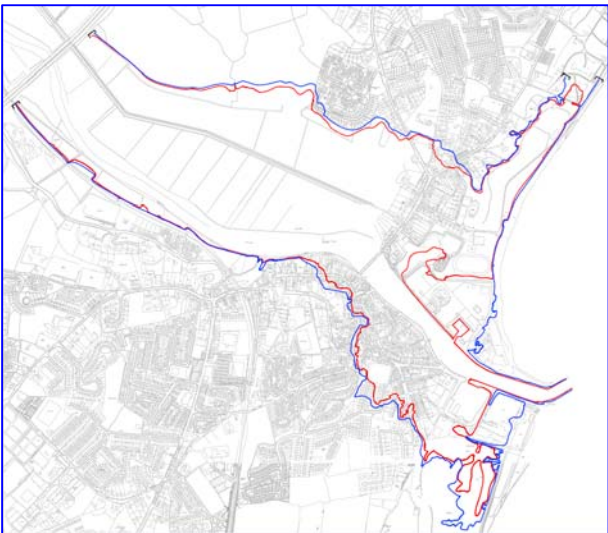
**Figure 2.2 Environmental Sensitivities - 2**



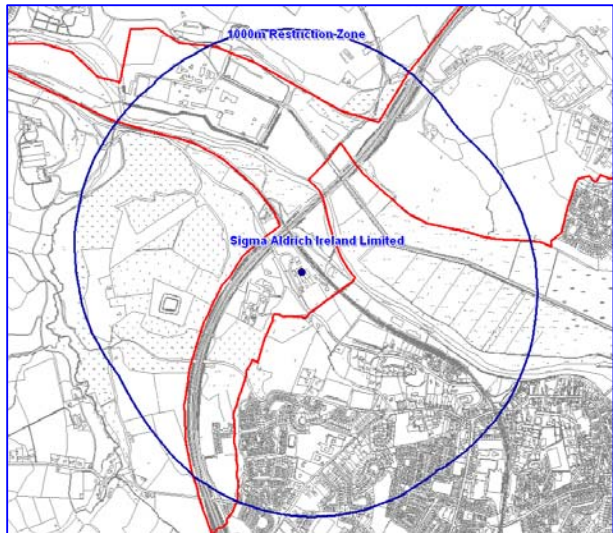
**Groundwater Vulnerability**



**IPPC Licensed Facilities**

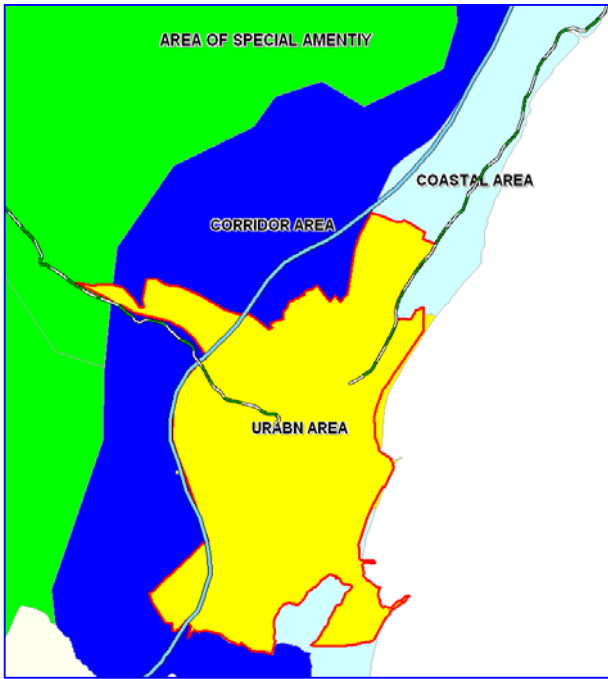


**Flooding**

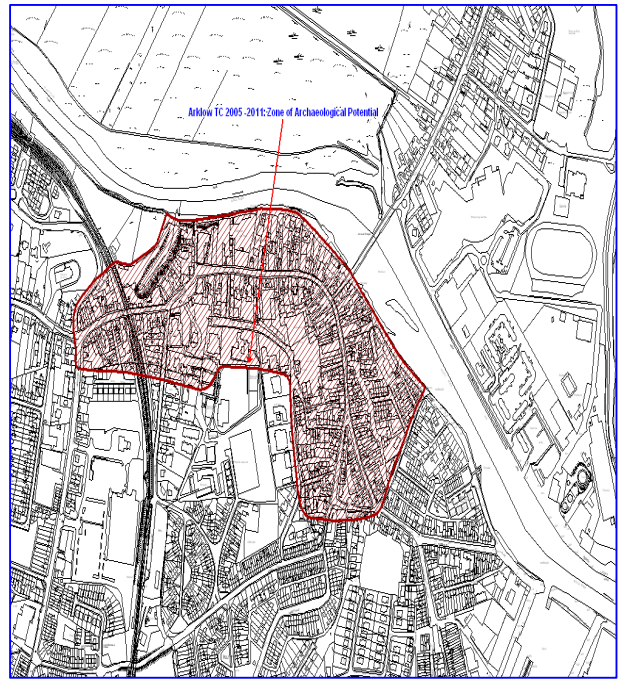


**Seveso Site**

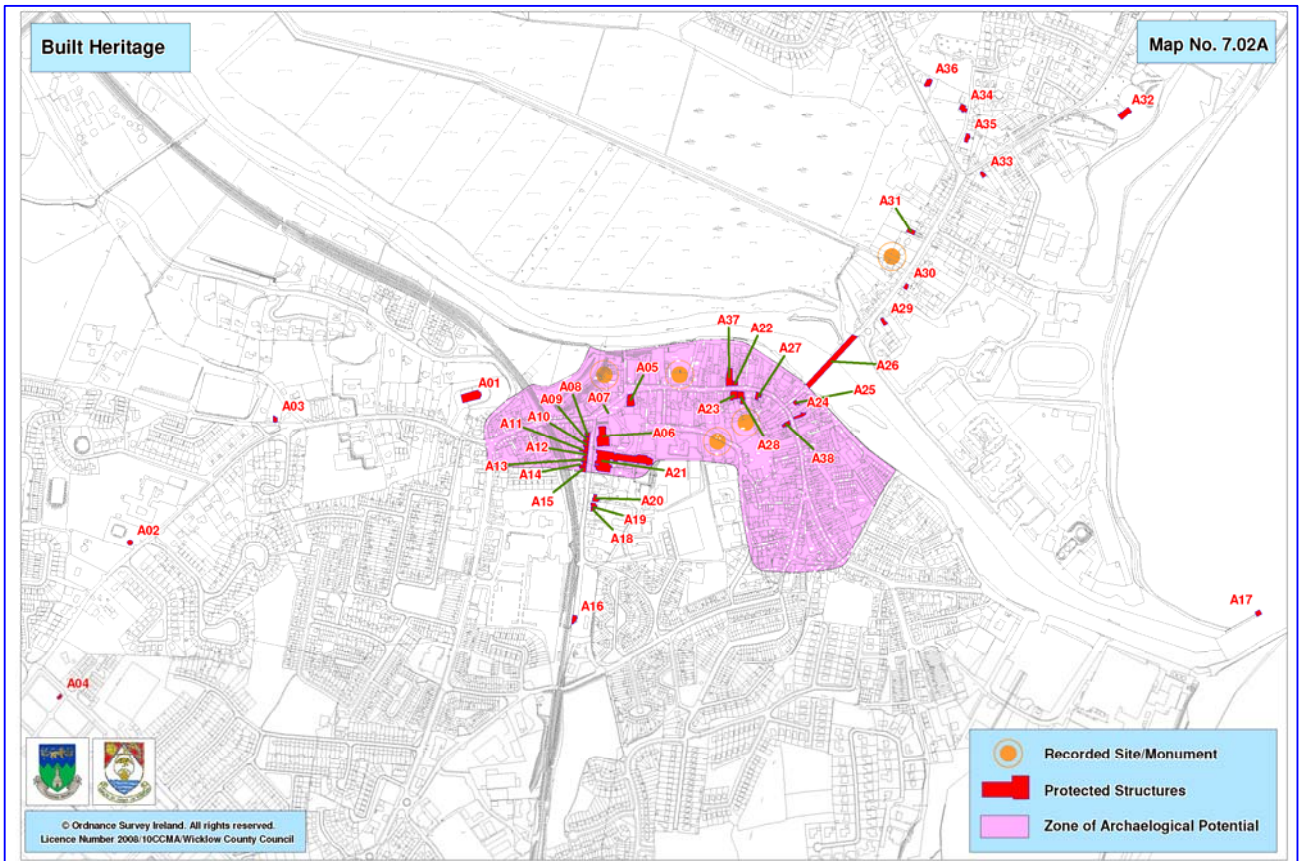
**Figure 2.3 Environmental Sensitivities - 3**



Landscape Character Areas

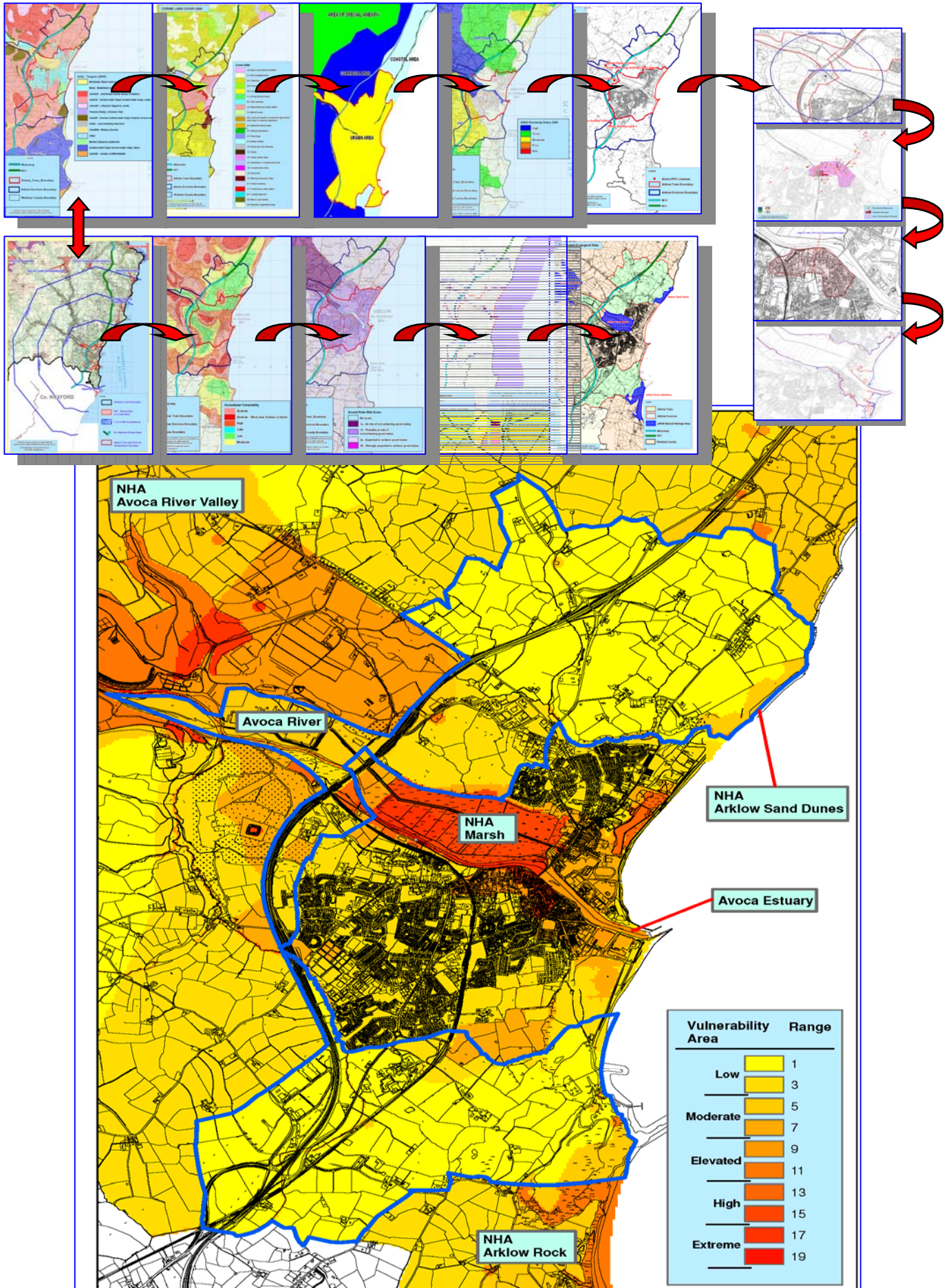


Zone of Archaeological Potential



Recorded Monuments and Structures

Figure 2.4 Environmental Sensitivities - 4



**Figure 2.5 Overlay Mapping to derive overall Environmental sensitivity  
Environmental Sensitivities - 4**

## 2.4 Mitigation

### 2.4.1 Introduction

In order to comply with various statutory requirements and in order to comply with the requirements of the statutory consultees, mitigation measures<sup>2</sup> were recommended to be integrated into the Plan.

The topics which these mitigation measures cover include:

- Designated Ecological Sites
- Ecological Connectivity
- Human Health
- Brownfield Development
- Status of Surface and Groundwaters
- Flooding
- Water Services (Waste Water and Drinking Water)
- Greenhouse gas emissions and car dependency
- Archaeological Heritage
- Architectural Heritage
- Landscape

Mitigation measures generally benefit multiple environmental components i.e. a measure providing for the protection of surface water resources could beneficially impact upon the protection of biodiversity, flora and fauna, drinking water resources, human health and provision of appropriate waste water treatment infrastructure.

The mitigation measures are identified in Section 9 of the Environmental Report and this identification is reproduced in Table 2.1 below. The reference codes identified are those which accompany the relevant measures in both the Plan and Section 8 of the Environmental Report.

**Table 2.1 Mitigation measures and related objectives**

<b>Mitigation Measure Topic</b>	<b>Provisions Integrating Considerations into the Plan</b>
Biodiversity Flora and Fauna	BD3, BD7, WS5, E5, FL7, CP4, AA1, AA2, AA3
Water	WS2, WS3, W8, W1, W4, FL1, FL5,
Soil	WZ1, ED4,
Landscape	VP1,
Air and Climatic Factors	WM6, AE2, NP3, NP4
Archaeological Heritage	AR1, AR2
Architectural Heritage:	AH1, RPS1,
Transport	PT2, PT5
Waste Management	WM3

<sup>2</sup> Mitigation measures are measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing a human action, be it a plan, programme or project. Mitigation measures can be roughly divided into those that: prevent effects; reduce the magnitude or extent, probability and/or severity of effect; repair effects after they have occurred, and; compensate for effects, balancing out negative impacts with other positive ones. Where there are likely to be significant negative effects, consideration should be given in the first instance to preventing these effects or, where this is not possible, to reducing the effects.

## **Section 3 Environmental Report and Submissions & Observations**

### **3.1 Introduction**

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

### **3.2 SEA Scoping Submissions**

The Environmental Protection Agency (EPA), the Department of the Environment, Heritage and Local Government (DEHLG) and the Department of Communications, Energy and Natural Resources (DCENR) were all sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to Wicklow County/Arklow Town Council. A written response was received on the scope of the SEA from all three bodies.

Representatives from the Eastern Regional Fisheries Boards, the National Parks and Wildlife Service, a member of CAAS (in a consultative role) and the forward planning section and members of the environment section of Wicklow County Council attended an SEA Scoping Meeting on 18<sup>th</sup> of January 2010. The information provided at this meeting - including that which related to Appropriate Assessment (AA) - was taken into account during the formulation of the scope of the SEA.

The following written submissions were received from the Environmental Authorities with specific reference to the SEA process and the production of the Environmental Report. The content of these submissions was taken into account in formulating the Draft Scoping report that was issued to the Environmental Authorities for further consideration prior to the formal scoping meeting on the 18<sup>th</sup> of January. These submissions were also included in the pre-Draft Managers Report issued to the council members for their consideration on Friday the 22<sup>nd</sup> of January.

#### **EPA written scoping submission**

This submission related specifically to the requirements of the EPA regarding the preparation of the Environmental Report for the Development Plan. The submission was accompanied by a *SEA Pack*, which comprised a combination of Guidance, Checklists and Abstracts from EPA Publications and a Circular Letter issued by the Department of the Environment Heritage and Local Government on Appropriate Assessment of Land Use Plans. Key topics covered included:

- Drinking Water;
- Urban Waste Water Discharges;
- Wetlands Conservation and Protection; and,
- Appropriate Assessment.

The information contained in the EPA submission – in addition to the information which was provided at the SEA Scoping Meeting was taken into account during the formulation of the scope of the SEA and while undertaking the SEA.

#### **DoEHLG written scoping submission**

The Department made two separate submissions on the proposed development plan. These submissions were dealt with separately and are summarised as follows:

A) Submission 1 concentrated directly on the area of archaeological heritage and stated that the plan should have regard to international and national policy. Particular attention was also placed on the importance of identifying National Monuments located within the plan area.

The submission identified how potential issues for archaeological heritage arising from development pressure can be avoided through adherence to the criteria set out in 'Framework and Principles' for the protection of the archaeological heritage and proposed that such measures be identified in the plan.

B) Submission 2 concentrated solely on issues relating to architectural heritage within the town and environs area and identified the following issues:

- The importance of Strategic Environmental Assessment in considering architectural heritage as a material asset;
- The SEA process should be used to provide increased recognition of existing architectural heritage within the area;
- The need for the inclusion of a vision in the plan aimed at further developing the heritage components of the area within and beyond the lifetime of the plan;
- The potential for the development of a new plan to consolidate the built form of Arklow reinforcing its sense of place and identity within the county which should be carried out through an architectural framework for the future development within the town centre that ensures good quality urban design;
- The submission concludes with an appendix outlining the extent of scoping that is required relating to the material asset of architectural heritage

#### **DCENR written scoping submission**

This submission stated that the Department had no comments to make on the Development Plan or Environmental Report.

***Other relevant submission were invited and received from the ERFB and the HSA in regard to environmental issues and the plan making process. The contents of these submissions is summarised as follows:***

#### **ERFB written scoping submission**

The ERFB submission made reference to the watercourses within the Arklow Town and Environs Plan area with particular reference to the tributaries of the Avoca/Ballyduff River system and the Templerainy River system. The ERFB submission requested the following:

1. The disturbance of riparian habitats should be minimised. An undisturbed buffer zone between development areas and the riverbank should be maximised;
2. The ERFB would welcome the designation of lands along surface waters as areas of open preservation allowing protection / enhancement of biological diversity while providing open space and recreational amenity for river users;
3. Areas of open space/buffers should be provided along the Ballyduff Tributary extending as far as the zonings marked Kish A and Kish B1 in the current plans for the area.

The ERFB submission was accompanied by a map that outlined the proposed extent of wildlife corridors recommended to be included in the Development Plan.

#### **HSA written scoping submission**

The HSA made the following recommendations for future policy in the Arklow Town and Environs Development Plan:

1. Policies relating to the provisions of Article 12 of the Major Accidents Directive 105/2003/EC;
2. The indication of consultation distances in all mapping relating to the plan area in accordance with the requirements of the HSA;

3. A policy relating to the future siting of new major hazard establishments and development in the vicinity of such establishments;
4. The inclusion of the names of existing notified sites i.e. Sigma Aldrich Ltd, Vale Road, Arklow, Co. Wicklow. (Consultation distance 1000m).

The information contained in the above submissions – in addition to the information which was provided at the SEA Scoping Meeting - was taken into account during the formulation of the scope of the SEA and while undertaking the SEA.

### **3.3 Environmental Report Submissions and Observations:**

Addenda I & II of the Environmental Report dealt with issues raised specifically relating to the preparation of the SEA and Appropriate Assessment Screening Report. The submission received from the EPA on the Draft Plan and Environmental Report was the only submission, which raised issues specific to the preparation of the environmental report and AA screening report. The issues contained in this submission were set out in two sections and are listed as follows:

#### **Section 1:**

- Water
- Biodiversity
- Air, Noise and Climatic Factors
- Energy Conservation/Renewable Energy
- Landscape Character Assessment
- Human Health/Quality of Life
- Transportation
- Tourism
- Infrastructure Planning
- Urban Wastewater Discharge Licensing
- Waste Management
- Environmental Impact Assessment (EIA)
- Strategic Environmental Assessment
- Obligation with respect to National Plans and Policies and EU Environmental Legislation
- EPA – Report: Irelands Environment 2008 “Main Environmental Challenges”

#### **Section 2:**

- General comments relating to mapping and influence of zonings
- Aviation infrastructure and implications for plan area
- Consideration of secondary and cumulative impacts on the plan area
- Provision of adequate Waste Water Treatment Infrastructure
- Baseline Environment Description updates
- Strategic Environmental Objectives wording
- Evaluation of alternative plan scenarios
- Mitigation and monitoring measures

The information contained in this submission was taken into account by the SEA as well as the Appropriate Assessment, which was undertaken for the Plan. Following the second public display further submissions were received which resulted in further updates to the Environmental Report. The following updates to the Environmental Reports were identified following these public display periods:



## Section 1      General

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- A) To include the following sentence at the end of the 1<sup>st</sup> paragraph in Section 7.3 of the Environmental Report Strategic Environmental Objectives:**

*The interactions between the SEOs and the alternatives determine the likely significant effects of implementing the Plan. These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.*

- B) To update Section 8.1 of the Environmental Report Strategic Environmental Objectives:**

*This section evaluates the Draft Plan provisions. Strategic Environmental Objectives (SEOs) are used for this purpose as outlined under Section 7.3. Use has also been made of the environmental baseline descriptions and the maps of the individual environmental components and the overlay of environmental sensitivities provided in Section 3.*

*The interactions between the SEOs and the provisions of the Plan determine the likely significant effects of implementing the Plan. These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.*

- C) Update all reference in the Environmental Report to the now “Adopted Regional Planning Guidelines (GDA RPG;2010-2016).**

## Section 2      Specific comments on the Non Technical Summary (NTS)

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- D) Include new sub-section in the Non-Technical Survey relating to “how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the information”, as required in Schedule 2B (h) of S.I. No. 436 of 2004.**

- E) To update Section 3.3.2 of the Environmental Report Baseline Environment Description to include the following:**

Included in the List of Figures (in the Table of Contents) is Figure 3.2 *Corine Land Cover Mapping 2000*; however reference is made in Section 3.3.2 to Corine 2006 Land Classification. This should be updated as appropriate; where time permits this database should be consulted.

- F) To Update Section 3.6.2 of the Environmental Report Risk Assessment as follows:**

The footnote (no.11) relating to the Avoca Estuary should be updated to refer to “...**benthic**...” rather than “...*bottom of the sea*...”

- G) To update Section 3.6.12 of the Environmental Report ‘Future Influences of flood risk’ as follows:**

The footnote (no.11) relating to “OSPAR Nutrients should be updated to refer to “...**benthic**...” rather than “...*bottom of the sea*...”

- H) Under ‘Existing Problems’ in Section 3.6.8 Register of Protected Areas highlights water bodies in the plan area as being (1b) rather than (1a). This should be amended to refer to the correct classification (1a) representing *water bodies at significant risk of not achieving good status by 2015.***

- I) To update Section 7.3 of the Environmental Report ‘Strategic Environmental Objectives’ and add the following sentence:**

*The interactions between the SEOs and the alternatives determine the likely significant effects of implementing the Plan. These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.*

**J) To update Section 8.1 of the Environmental Report 'Summary of Evaluation Of Draft Plan Objectives' by adding the following text:**

*This section evaluates the Draft Plan provisions. Strategic Environmental Objectives (SEOs) are used for this purpose as outlined under Section 7.3. Use has also been made of the environmental baseline descriptions and the maps of the individual environmental components and the overlay of environmental sensitivities provided in Section 3.*

*The interactions between the SEOs and the provisions of the Plan determine the likely significant effects of implementing the Plan. These effects include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects*

**K) To update Section 10.5 of the Environment Report 'Reporting' to include the following sentence:**

*Indicators, targets and corrective and remedial actions will be reviewed during the preparation of the preliminary monitoring evaluation report.*

### **3.4 The Environmental Report:**

The findings of the SEA were expressed in a Draft Environmental Report, which was submitted to the Elected Members alongside the proposed Draft Plan. The purpose of the report was to provide a clear understanding of the likely environmental consequences of decisions regarding the future accommodation of growth in Arklow Town and its Environs.

Changes made to the proposed Draft Plan were evaluated for their environmental consequences and the Draft Environmental Report was updated to become the Environmental Report. The Environmental Report and the Draft Plan were placed on public display in August 2010.

Addendum I to the Environmental Report (which details responses to the submissions on the Environmental Report which were made during the first period of public display of the Draft Plan and the Environmental Report) was included alongside the Manager's Report circulated to Elected Members. Addendum I proposed updates to the Environmental Report as a result of submissions, as appropriate.

Proposed Amendments to the Draft Plan were evaluated for their environmental consequences and these were placed on public display alongside the Proposed Amendments in January 2011 in the form of Addendum II to the Environmental Report.

On adoption of the Draft Plan, the Addenda were used to update the original Environmental Report into a final Environmental Report, which accompanies the adopted Plan.

At each stage of the process the Elected Members took into account the findings of the Environmental Report and/or the Addenda as appropriate.

## Section 4 Alternative Plan Scenarios Considered

### 4.1 Introduction

This section describes the alternative scenarios for the Development Plan, summarises the evaluation for likely significant environmental effects of each scenario which is provided in the Environmental Report and identifies the reasons for choosing the Plan, as adopted, in the light of the other reasonable alternatives dealt with.

### 4.2 Description of the Alternative Scenarios

The environmental consequences of 3 alternative scenarios for the Plan were examined.

#### 4.2.1 Scenario 1 Minimal Development Envelope

Characteristics of this scenario include extensive green buffers along local green corridors, a strong recognition of ecological designations within the plan area, a strong recognition of the 1000m-consultation zone from the designated Seveso site, strict implementation of the Flood Management Guidelines. This scenario places a strong emphasis on the protection of locally important sites as identified in the Urban Habitat Study carried out in the Arklow area and along the coast of the plan area.

The plan also places an emphasis on the development of lands in line with adequate infrastructure and therefore reduces the extent of lands zoned for residential and employment purposes in line with the projected demand arising from existing permissions and uses. This specifically relates to the omission of lands at Tinahask located within the Arklow Development Plan boundary where an action area plan for these lands was previously included to provide for primarily residential development. This action area has been omitted, as the actual potential WWTP capacity of 18,000 would not be able to accommodate the level of potential development in this area alongside other zonings<sup>1</sup> within the overall plan area.

This scenario includes the following local objectives:

- ⇒ **Local Objectives 1 and 7** - Provision of a green buffers and preservation of wildlife corridors.
- ⇒ **Local Objective 2** – Strict compliance with the Flood Management Guidelines.
- ⇒ **Local Objective 3** – provision of a conservation zoning relating to Arklow Marsh.
- ⇒ **Local Objective 4** – Strict monitoring of existing and future quarry activities.
- ⇒ **Local Objective 5** – A strong recognition of the 1000m-restriction zone around the Seveso Site.
- ⇒ **Local Objective 6** – Protection of wildlife corridors in objectives relating to the development of Action Area Plan at Tinahask.
- ⇒ **Local Objective 8** – Strong protection of castle and forest lands to the east of the plan area.

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<sup>1</sup> Lands within the Kilbride Action Area have remained in place in this scenario as these lands are located within the Arklow Environs Local Area Plan area and therefore cannot be removed/down zoned, as there is no statutory process in place for this procedure. Lands at Tinahask have been removed from this scenario as they fall within the jurisdiction of the Arklow Town Development Plan where lands can be down zoned under Part II Section 10(8).

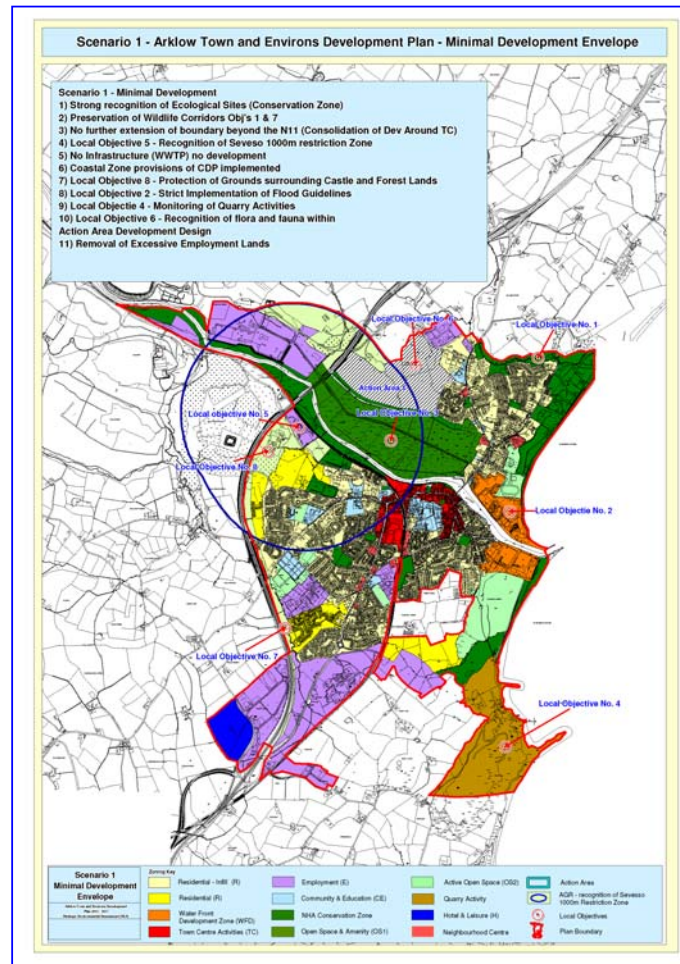


Figure 4.1 – Scenario 1 – Minimal Development Envelope

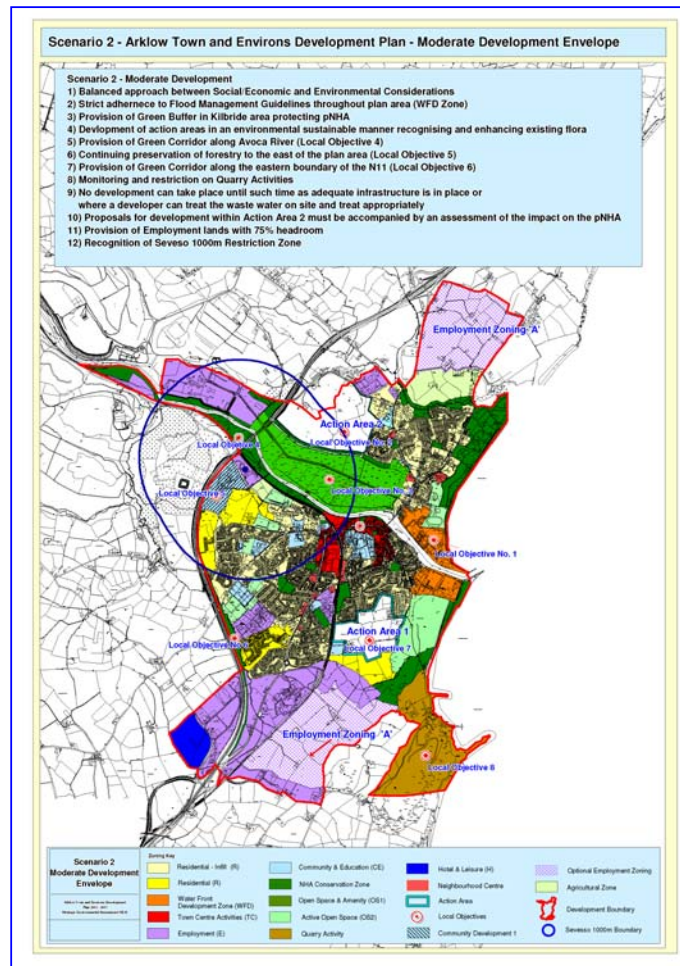
#### 4.2.2 Scenario 2 Moderate Development Envelope

Characteristics of this scenario are similar to scenario 1 with the following exceptions – the employment lands omitted in scenario 1 (located at Sea Bank ? (one word?) to the north and Kish to the south) have been included in the plan area as optional zonings for a stand alone large scale employment development. The plan also includes Action Areas in Tinahask and Kilbride.

The scenario includes the following local objectives:

- ⇒ **Local Objectives 1** - Strict compliance with the Flood Management Guidelines
- ⇒ **Local Objective 2** – Development of an Action Area Plan (Kilbride) in a sensitive manner recognising ecological designations adjoining these lands.
- ⇒ **Local Objective 3** – Provision of a conservation zoning relating to Arklow Marsh.
- ⇒ **Local Objective 4** – Provision of a green amenity corridor along the Avoca River.
- ⇒ **Local Objective 5** – Strong protection of castle and forest lands to the east of the plan area.
- ⇒ **Local Objective 6 & 7** - Protection of wildlife corridors and protection of locally important species and habitats in the objectives set out for the Action Area Plan at Tinahask.

⇒ **Local Objective 8** – Strict monitoring of existing and future quarry activities.



**Figure 4.2 – Scenario 2 – Moderate Development Envelope**

#### 4.2.3 Scenario 3 Maximum Development Envelope

This scenario represents a further intensification of development and associated impacts than those set out in scenario 2 with further encroachment of development onto greenfield lands to the north and south of the plan area. The scenario envisages the development of the coastal zone to the north of the Avoca Estuary at Seabank facilitating residential, hotel and leisure facilities while proposing an extension of the Water Front Development Zone onto the existing golf course lands to the south of the plan area. A high-density zoning is provided for in the Kilbride area bordering the existing Arklow Marsh pNHA. The plan also provides for extensive employment lands with limited restrictions to the north and south of the plan area with low-density development to the northeast at Sea Bank. Limited protection of existing ecological sites is provided with Arklow Marsh being zoned open space.

Further zoning is proposed beyond the N11 with Shelton Abbey being zoned in recognition of its existing use and included in the plan area. Provision is also made for the expansion of the existing quarry activities at Arklow Rock. The scenario includes the following local objectives:

- ⇒ **Local Objectives 1** – Provision of high density development bordering Arklow Marsh
- ⇒ **Local Objective 2** – Provision of Tourism and Leisure development alongside residential development in the coastal area.

- ⇒ **Local Objective 3** – Provision of low-density residential development with individual wastewater treatment facilities.
- ⇒ **Local Objective 4** – Extension of plan boundary and inclusion of Shelton Abbey.
- ⇒ **Local Objective 5 & 8** – Zoning for Integrated Tourism and Leisure Facilities.
- ⇒ **Local Objective 7** – Expansion of Quarry activities at Arklow Rock.

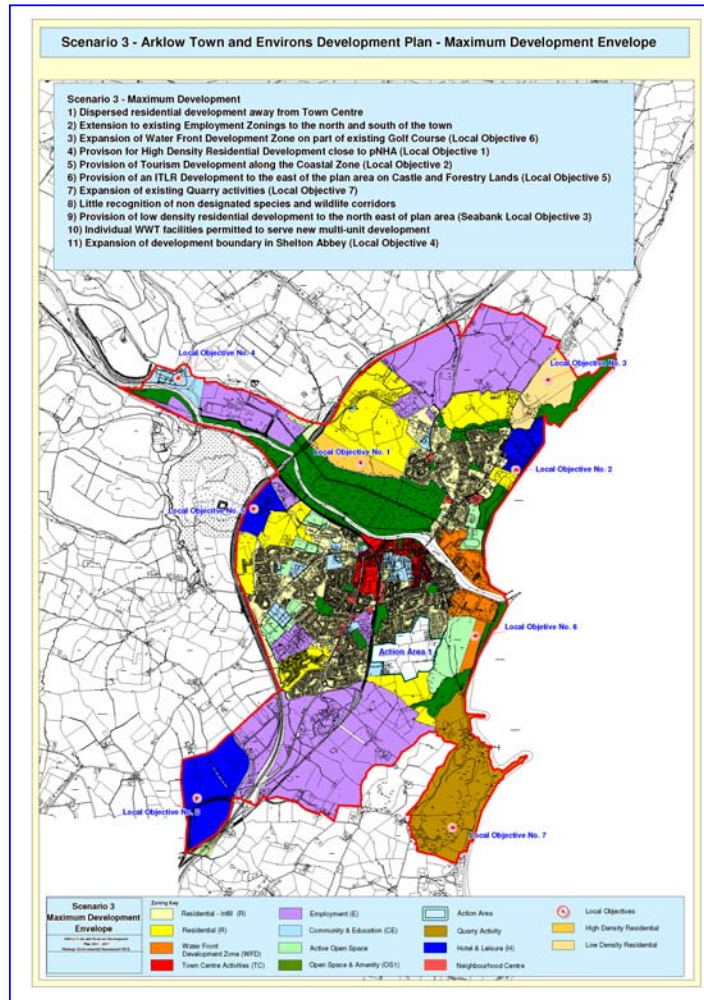


Figure 4.3 –Scenario 3 – Maximum Development Envelope

## 4.3 Evaluation of Alternative Plan Scenarios

### 4.3.1 Methodology

#### 4.3.1.1 Existing Environment and Overlay Mapping

In order to identify the extent to which environmental sensitivities are likely to be impacted upon by implementation of the 3 scenarios, use was made of environmental baseline data and overlay mapping (see Figures 2.1 to 2.4 of this report).

### 4.3.1.2 Strategic Environmental Objectives (SEOs)

Based on an understanding of the existing and emerging environmental conditions in the Arklow and Environs area a series of Strategic Environmental Objectives (SEOs) were identified and developed in order to assess the likely environmental effects which would be caused by implementation of each of the 3 alternative scenarios described above.

The alternatives are evaluated using compatibility criteria (see Table 4.1) in order to determine how they are likely to affect the status of these SEOs.

Table 4.2 brings together all the SEOs, which have been developed from international, national and regional policies, which generally govern environmental protection objectives.

The SEOs and the alternative scenarios are arrayed against each other to identify which interactions - if any - would cause impacts on specific components of the environment. Where the appraisal identifies a likely conflict with the status of an SEO the relevant SEO code is entered into the conflict column - e.g. B1 which stands for SEO likely to be affected - in this instance 'to avoid loss of relevant habitats, geological features, species or their sustaining resources in designated ecological sites'.

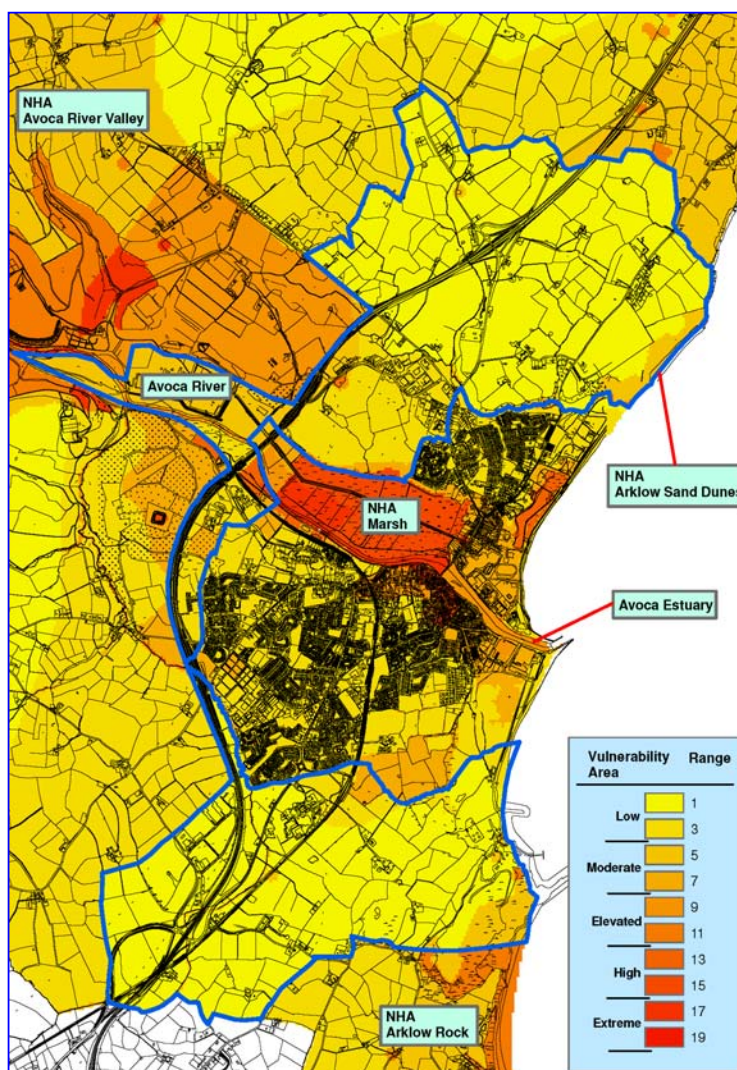
Likely to Improve status of SEOs	Probable Conflict with status of SEOs unlikely to be mitigated	Potential Conflict with status of SEOs- likely to be mitigated	No Likely interaction with status of SEOs
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**Table 4.1 above: Criteria for appraising the effect of Plan provisions on Strategic Environmental Objectives.**

Code	SEO
<b>B1 Biodiversity</b>	To ensure compliance with the Habitats Directive and National Biodiversity Plan with regard to protected species and habitats both within and outside of designated sites in accordance with the provisions of Articles 6 and 10 of the Habitats Directive.
<b>B2</b>	To avoid significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites such as Arklow Marsh, Arklow Rock Askintinny and Arklow Sand Dunnes, by development within or adjacent to these sites
<b>B3</b>	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape – by sustaining, enhancing or - where relevant - preventing the loss of ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity
<b>HH1 Human Health</b>	To protect human health from hazards or nuisances arising from exposure to incompatible land uses in particular from the re-use of brown field lands in areas where previous uses may have contaminated lands such as the Water front Development Zone in Arklow.
<b>R1 Re-use/Regeneration</b>	Maximise the sustainable re-use of brownfield lands, and maximise the use of the existing built environment rather than developing greenfield lands
<b>W-S Water Surface</b>	To maintain and improve, where possible, the quality of Rivers, Lakes and other surface waters
<b>W-G Water Ground</b>	To prevent pollution and contamination of ground water
<b>W-F Water Flooding</b>	To prevent development on lands which pose - or are likely to pose in the future - a significant flood risk
<b>AQ1 Air Quality 1</b>	To reduce travel related greenhouse emissions to air
<b>AQ2 Air Quality 2</b>	To reduce car dependency within the plan area by way of, inter alia, encouraging modal change from car to more sustainable forms of public transport and encouraging development which will not be dependent on private transport
<b>WW Waste Water</b>	To serve new development with appropriate waste water treatment
<b>DW Drinking Water</b>	To serve development within the Plan area with drinking water that is both wholesome and

	clean
<b>AH1</b> <b>Archaeological Heritage</b>	To protect the archaeological heritage of Arklow including entries to the Record of Monuments and Places – including the towns Zone of Archaeological Potential - and the context of the above within the surrounding landscape where relevant
<b>AH2</b> <b>Architectural Heritage</b>	To preserve and protect the special interest and character of Arklow’s architectural heritage including entries to the Record of Protected Structures, and their context within the surrounding landscape where relevant
<b>L1</b>	To protect and avoid significant adverse impacts on the landscape of Arklow, including landscape features such as the coastal region, Arklow Sand Dunes and designated views and prospects within the plan area.

**Table 4.2: Strategic Environmental Objectives<sup>2</sup>**



**Figure 4.4 Environmental Sensitivity mapping**

<sup>2</sup> Strategic Environmental Objectives (SEOs) are methodological measures, which are developed from international and national policies which generally govern environmental protection objectives and against which the environmental effects of the Plan were tested. The SEOs are used as standards against which the provisions of the Plan were evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against.



## Evaluation of Plan Scenarios<sup>3</sup>

### 4.3.1.2 Introduction

This section summarises where each development scenario is likely to give rise to environmental impacts within the plan area. Each scenario as set out above in section 4.2 was overlaid on top of the above baseline sensitivity map above in figure 4.4 in order to identify the most likely environmental impacts each varying scenario would have on the plan areas receiving environment.

### 4.3.2.2 Alternative Scenario 1 – Minimal Development Envelope

#### Likely Environmental Effects

- ⇒ Encouraging walking and public transport use over the use of the private car will help to promote sustainable patterns of mobility – with beneficial effects on energy use and emissions to air<sup>4</sup>.
- ⇒ Encouraging the development of vacant and under-utilised sites in the Town will have beneficial effects of minimising use of undisturbed lands and consequently will contribute to the protection of multiple environmental components<sup>5</sup>.
- ⇒ Consolidation of the existing town centre may increase pressures on concentrations of protected structures and the zone of archaeological potential<sup>6</sup>.
- ⇒ Zoning of Arklow Marsh pNHA as a conservation zone and provision of a green buffer will facilitate appropriate management of this area<sup>7</sup>.
- ⇒ A strong recognition of flood management within the Water Front Development Zone objectives and the maintenance of existing open space to the north of the plan will contribute towards preventing increases in flood risk at a number of sites<sup>8</sup>.
- ⇒ The provision of a strict objective that no new residential development will be permitted without adequate wastewater treatment infrastructure will significantly benefit existing water resources, human health and flora and fauna in the plan area<sup>9</sup>.

### 4.3.2.3 Alternative Scenario 2 – Moderate Development Envelope

#### Likely Environmental Effects

- ⇒ The additional zoning of lands for employment purposes to the north and south will lead to less sustainable patterns of mobility – with attendant increases in energy consumption and emissions to air. This zoning will also lead to an encroachment on undisturbed pastures and this loss of soils will lead to reduction of both species and habitats<sup>10</sup>.
- ⇒ Encouraging the development of vacant and under-utilised sites in the Town will have beneficial effects of minimising use of undisturbed lands and consequently will contribute to the protection of multiple environmental component<sup>11</sup>.
- ⇒ Zoning of Arklow Marsh pNHA as a conservation zone and provision of a green buffer will facilitate appropriate management of this area<sup>12</sup>.
- ⇒ The inclusion of Action Area 1 at Tinahask for development will lead to a reduction in both species and habitats identified in this area through the Urban Habitat Study<sup>13</sup>.
- ⇒ A strong recognition of flood management within the Water Front Development Zone objectives and the maintenance of existing open space to the north of the plan will contribute towards preventing increases in flood risk at a number of sites<sup>14</sup>.

### 4.3.2.4 Alternative Scenario 3 – Maximum Development Envelope

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<sup>3</sup> Footnotes like this are used in this section in order to identify instances where interactions between the relevant Scenario and the relevant SEOs occur. The nature of these interactions is identified on Table 7.2 of the ER.

<sup>4</sup> SEO HH1 AQ1 AQ2

<sup>5</sup> SEO's B1, B2, B3, HH1, R1, W-S, W-G, W-F, AQ1, AQ2, DW, AH1, AH2, L1.

<sup>6</sup> SEO's AH1 & AH2

<sup>7</sup> SEO's B1, B2, B3, W-F,

<sup>8</sup> SEO's HH1, W-F,

<sup>9</sup> SEO's B1,B2,B3, HH1, W-S, W-G, WW, DW, L1.

<sup>10</sup> SEO's HH1, B1, B2, B3, AQ1, AQ2, L1

<sup>11</sup> SEO's B1, B2, B3, HH1, R1, W-S, W-G, W-F, AQ1, AQ2, DW, AH1, AH2, L1.

<sup>12</sup> SEO's B1, B2, B3, W-F,

<sup>13</sup> SEO's B1, B3

<sup>14</sup> SEO's HH1, W-F,

#### Likely Environmental Effects

- ⇒ Zoning of lands resulting in the extension of the urban footprint of the plan area will lead to less sustainable patterns of mobility – with attendant increases in energy consumption and emissions to air<sup>15</sup>, encroachment on undisturbed pastures and loss of soils will lead to a reduction of both species and habitats<sup>16</sup>. This greenfield development will reduce the protection of a number of other environmental components<sup>17</sup>.
- ⇒ The provision of extensive zonings along the coastal area will adversely impact on the coastal landscape<sup>18</sup>.
- ⇒ Provision of individual on site effluent treatment systems to serve development in the absence of adequate WWT infrastructure will cause a significant negative impact on water resources, habitats and species<sup>19</sup>.
- ⇒ The designation of Arklow Marsh pNHA as 'Open Space' will reduce the amount of protection on these lands<sup>20</sup>.

#### 4.3.2.5 Quantification of the impact of each alternative plan scenario on the plan area

The following figures quantify the areas which are likely to be impacted upon by the provision of each plan scenario. Each scenario was over layed on top of the overall sensitivity map in order to decipher what impacts each plan scenario was likely to have on the receiving environment.

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<sup>15</sup> SEO HH1, AQ1, AQ2

<sup>16</sup> SEO B1, B2, B3

<sup>17</sup> SEO's B1, B2, B3, R1, W-S, W-G, AQ1, AQ2, WW, DW, L1

<sup>18</sup> SEO's B1, B2, B3 L1

<sup>19</sup> SEO's B1, B2, B3, HH1, R1, W-S, W-G, WW, DW.

<sup>20</sup> SEO's B1, B2, B3, W-F,

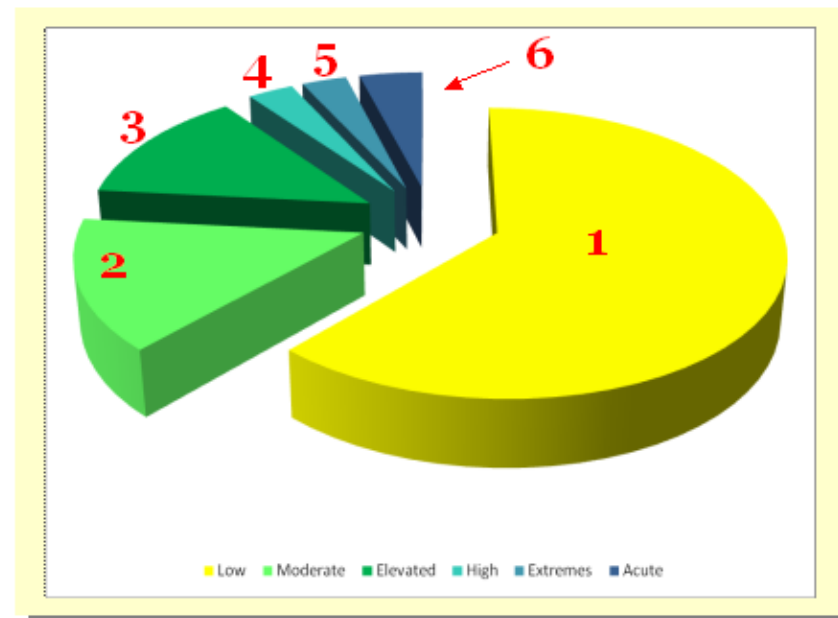
### Scenario 1 – Minimal Development Envelope

Vulnerability Area	Area (Hectare)	% Of Development Pressure Areas covering each Vulnerability Area
<b>1 Low</b>	602.396 Ha	61.8 %
<b>2 Moderate</b>	143.685 Ha	14.74 %
<b>3 Elevated</b>	128.616 Ha	13.19 %
<b>4 High</b>	29.5283 Ha	3.02 %
<b>5 Extremes</b>	29.1836 Ha	2.99 %
<b>6 Acute</b>	40.9497 Ha	4.2 %
<b>Total</b>	974.357 Ha	100%

#### Environmentally vulnerable areas most likely to be affected by scenario 1

**Scenario 1 – (minimal development envelope)** covers a smaller land area than scenarios 2 and 3 with 89.69% or 874.69ha falling within the low to elevated vulnerability area. The main areas of high or extreme vulnerability are situated; in and surrounding the town centre area, due to the existing Zone of Archaeological Potential and flooding amongst other factors; to the south of the plan at Tinahask taking into account the Urban Habitats Mapping study findings and the proposed zoning of these lands as an action area and potential use of these lands. The existing quarry activities at Arklow Rock represent a large area of high-extreme vulnerability.

#### Vulnerability Pie Chart based on land cover area.



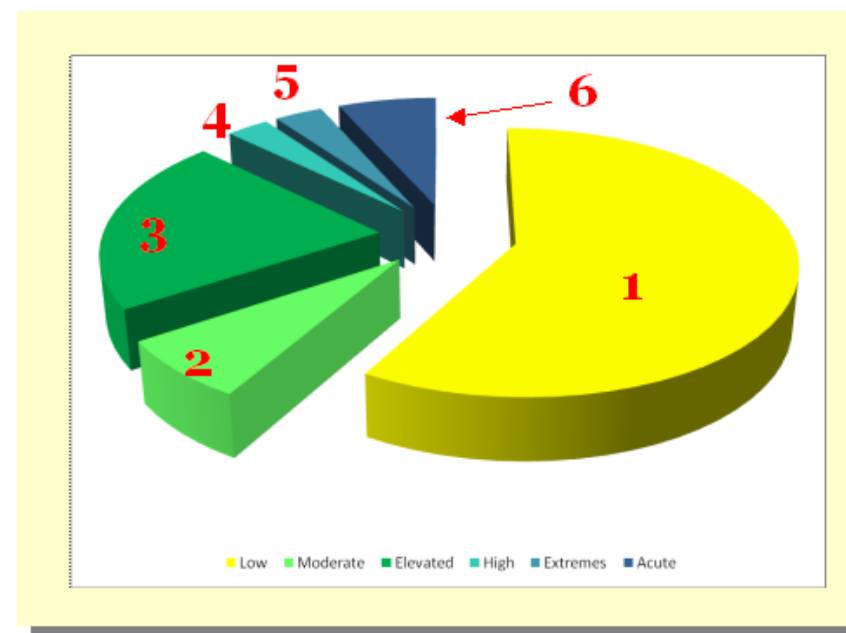
## Scenario 2 – Moderate Development Envelope

Vulnerability Area	Area (Hectare)	% Of Development Pressure Areas covering each Vulnerability Area
<b>1 Low</b>	772.956 Ha	66.24 %
<b>2 Moderate</b>	151.701 Ha	13.00 %
<b>3 Elevated</b>	137.657 Ha	11.79 %
<b>4 High</b>	13.0137 Ha	1.11 %
<b>5 Extremes</b>	31.3854 Ha	2.68 %
<b>6 Acute</b>	60.0967 Ha	5.15 %
<b>Total</b>	1166.81 Ha	100%

### Environmentally vulnerable areas most likely to be affected by scenario 2

**Scenario 2 – (Moderate Development Envelope)** expands into a greater land area, with 1062.3ha or 91.03% of the subject lands falling within the low to elevated vulnerability area or lower. While this represents a slight percentage increase, the increase in development lands should be noted as this plan scenario represents a slight increase in the amount of lands falling between the high-acute zones. The Scenario represents a slight increase in the Extreme vulnerability zone and a significant increase within the Acute vulnerability range indicating that greater environmental consideration is required in these areas.

### Vulnerability Pie Chart based on land cover area.



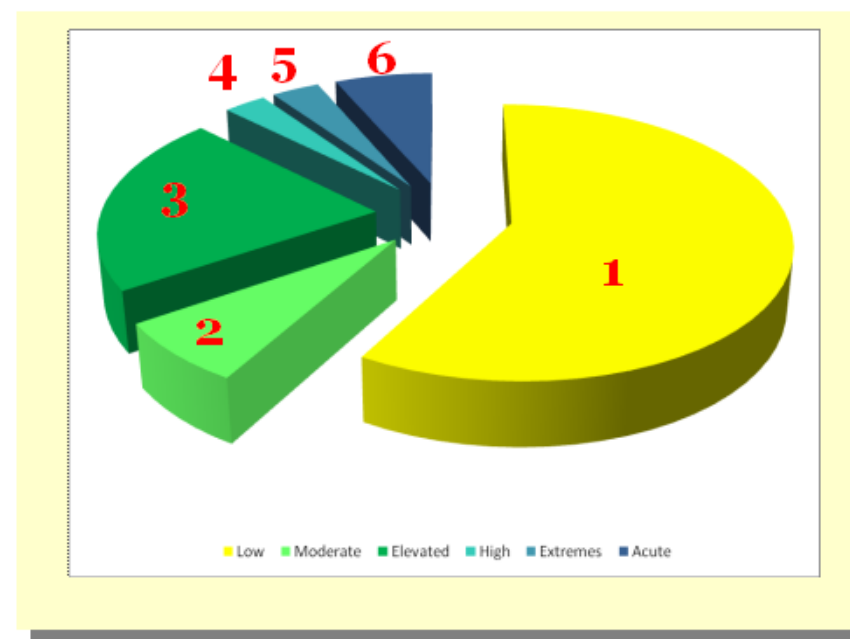
### Scenario 3 – Maximum Development Envelope

Vulnerability Area	Area (Hectare)	% Of Development Pressure Areas covering each Vulnerability Area
<b>1 Low</b>	807.726 Ha	58.37 %
<b>2 Moderate</b>	100.853 Ha	7.28 %
<b>3 Elevated</b>	297.414 Ha	21.49 %
<b>4 High</b>	40.1927 Ha	2.9 %
<b>5 Extremes</b>	45.2518 Ha	3.27 %
<b>6 Acute</b>	92.1382 Ha	6.65 %
<b>Total</b>	1383.58 Ha	100%

#### Environmentally vulnerable areas most likely to be affected by scenario 3

**Scenario 3 – (Maximum Development Envelope)** represents a further increased land take, measuring a total of c. 1383.92ha. This scenario also means a greater amount of land falling within the high-acute vulnerability areas, potentially causing significant adverse impacts on the receiving environment. Scenario 3 also represents a 50% increase in the quantity of land falling within the Acute Vulnerability area compared to Scenario 2. The Dark Blue areas on the above map in figure xx highlight these areas of extreme-acute vulnerability emphasising the significant potential impact this plan scenario would have on the receiving environment.

**Figure 7.5A – Vulnerability Pie Chart based on land cover area.**



#### 4.3.2.6 Evaluation against SEOs

**Table 4.3** below provides an evaluation of each of the alternative development scenarios for the Draft Plan against the Strategic Environmental Objectives (SEOs).

	Likely to <b>Improve</b> status of SEOs	Probable <b>Conflict</b> with status of SEOs unlikely to be mitigated	Potential <b>Conflict</b> with status of SEOs- would be mitigated	<b>No Likely</b> interaction with status of SEOs
<b>Scenario 1</b>	<p><b>B1, B2, B3, HH1, R1, WS, WG, WF, DW, AH1, AH2, L1</b> (Protection of various environmental components resulting from minimising greenfield development).</p> <p><b>AQ1, AQ2</b>, (reducing travel emissions, energy usage and encouraging sustainable mobility)</p> <p><b>WW</b>, (strictly no development unless adequate WWTP in place)</p>		<p><b>AH1, AH2</b> (Consolidation of existing town centre may conflict with Archaeological and Architectural Heritage),</p> <p><b>HH1</b>, (Regeneration of potentially contaminated lands within the WFD zone)</p> <p><b>B1, B2, B3, R1, WS, WG, WF, WW, DW, L1</b> (Conflicts with various environmental components and projects will have to be mitigated)</p>	
<b>Scenario 2</b>	<p><b>B2</b>, (strict protection of pNHA and ecological corridors) <b>HH1</b> (through appropriate designation of lands for development) <b>R1</b> (promotion of regeneration of town centre sites).</p>	<p><b>AQ1, AQ2</b>, (Expansion of development boundary will lead to increases in travel related emissions, energy usage)</p> <p><b>B1, B2, B3, L1</b> (due to direct impacts as a result of limited greenfield development to the north and south of the plan area in Employment Zonings 'A')</p>	<p><b>B1, R1, W-S, W-G, W-F, DW, L1, AH1, AH2</b> (Reduced protection of various environmental components resulting from increasing impingement onto greenfield lands).</p> <p><b>HH1</b>, (Regeneration of potentially contaminated lands within the WFD zone)</p>	
<b>Scenario 3</b>		<p><b>AQ1, AQ2</b>, (Expansion of development boundary will lead to increases in travel related emissions, energy usage)</p> <p><b>B1, B2, B3, L1</b> (reduced protection of pNHA and due to direct impacts as a result of greenfield development)</p> <p><b>WW, HH1, DW</b> (allowance for individual WWTP to serve new developments)</p>	<p><b>R2, WS, WG, WF, DW, AH1, AH2</b>, (Reduced protection of various environmental components resulting from increasing impingement onto greenfield lands).</p> <p><b>HH1</b>, (Regeneration of potentially contaminated lands within the WFD zone)</p>	

#### **4.4. Reasons for choosing the Plan in light of the other reasonable alternatives dealt with**

##### **4.4.1 Analysis of findings**

The measurements set out above indicated the following:

- Scenario three would be likely to result in more adverse environmental impacts than each of the other two Scenarios arising from increases in land take/development of greenfield lands, in air emissions arising from increased car based trips due to the extent of the plan area, loading on infrastructure given the extent of development this scenario provides etc.
- If mitigated, Scenarios 1 and 2 would be likely to result in a lesser frequency and magnitude of impacts than Scenario 3.
- Scenario 3 is the scenario with the greatest amount of high and acute vulnerability areas covered by development pressure areas and the only scenario for which extremely vulnerable areas are covered by development pressure areas.

##### **4.4.2 Comparison of Scenarios 1 and 2**

While Scenarios one and two have very similar attributes, scenario 1 represents a more conservative and consolidated plan format with limited expansion to the existing developed area within the plan boundary. This scenario represents the most environmentally friendly plan format with limited development of greenfield lands, preservation and expansion of green corridors and a strict restriction on development in the absence of adequate infrastructure.

While this may appear to be the ideal plan format to follow, the provisions of this scenario fail to adequately provide for a balanced approach towards the future development of Arklow. Restrictions on the future development of greenfield lands will impose serious implications on the plan being capable of meeting its population requirements as set out in the County Development Plan with the knock on effect of limiting the potential for new community/social infrastructure. Failure to facilitate the projected future population may also have implications for the provision of new or improved infrastructure such as roads and public transport.

Scenario 2 on the other hand, extends the development boundary for the plan area to the north and south quite significantly in order to accommodate stand-alone large-scale employment developments and also provides for a new action area at Tinahask facilitating the development of residential, community and recreational uses. The designation of such lands aims to ensure that the plan area is capable of meeting the needs of the projected population with the knock on effect of facilitating the potential for the expansion of existing infrastructure.

While both scenarios represent 'green ideologies' for Arklow Town and its Environs by facilitating and aiming to enhance existing green corridors, scenario two through the zoning of additional lands to the north and south of the plan area has the potential to conflict with this overarching theme.

In terms of sustainable development however, while scenario 1 represents the least potential environmental impact, scenario 2 provides for a balanced approach in terms of social economic and environmental sustainability for the future development of the plan area while also meeting the higher overarching national/regional planning strategies including the National Spatial Strategy and the Regional Planning Guidelines for the Greater Dublin Area.

##### **4.4.3 The preferred Alternative:**

On the basis of the above analysis Scenario 1 was deemed likely to improve the status of a number of the SEO's and emerged as the most environmentally friendly option. If unmitigated, Scenarios 2 and 3 were deemed likely to result in a number of adverse environmental impacts.

Having regard to planning considerations, Scenario 2 provided a better balance between environmental protection and economic and social development while also meeting the higher overarching national/regional planning strategies including the National Spatial Strategy and the Regional Planning Guidelines for the Greater Dublin Area. Under Scenario 2, potential conflicts with environmental objectives could largely be offset by appropriate mitigation measures and therefore this scenario deemed to be the most sustainable option.

The Draft Development Plan that emerged from the Plan preparation process therefore most closely corresponded to Scenario 2. With the integration of appropriate mitigation measures (including those identified in Section 2.4 of this report) potential adverse environmental effects which could arise as a result of implementing this scenario would be likely to be avoided, reduced or offset.

Scenario 2 was chosen to be developed for the Development Plan by the plan-making team and put on public display and adopted by the Elected Members having regard to both:

- The environmental effects which were identified by the Strategic Environmental Assessment; and,
- Planning - including social and economic - effects.



## **Section 5 Monitoring Measures**

### **5.1 Introduction**

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section and section 10 of the environmental report puts forward proposals for monitoring the development plan, which are adopted alongside the Development Plan. Monitoring enables, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

In addition to this, monitoring can also play an important role in assessing whether the Development Plan is achieving its environmental objectives and targets - measures which the Development Plan can help work towards - whether these need to be re-examined and whether the proposed mitigation measures are being implemented.

### **5.2 Indicators and Targets**

Monitoring is based around the indicators, which were chosen earlier in the process. These indicators allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives used in the evaluation. Focus will be given to indicators, which are relevant to the likely significant environmental effects of implementing the Development Plan and primarily to existing monitoring arrangements in order to monitor the selected indicators. Each indicator to be monitored will be accompanied by the relevant target(s) - measures which the Development Plan can help work towards - which were identified with regard to the relevant legislation. The table below shows the indicators and targets, which have been selected with regard to the monitoring of the plan.

### **5.3 Sources**

In compliance with the SEA Directive and the DEHLG Guidelines, measurements for indicators come from existing monitoring sources and no new monitoring should be required to take place. Existing monitoring sources exist for many of the indicators and include those maintained by Arklow Town Council and Wicklow County Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

The Development Management Process in Arklow Town Council and Wicklow County Council will provide additional monitoring of certain indicators and targets on an application-by-application basis. Where significant adverse effects - including positive, negative, cumulative and indirect - are likely to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances will be identified and recorded and will feed into the monitoring evaluation.

### **5.4 Excluded Indicators and Targets**

As noted on Table 5.1 below, monitoring data on Indicator W2 (Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC) may not be available for the preliminary monitoring evaluation as the groundwater threshold values to which this indicator relates have not yet been identified by the EPA.

In addition, future-monitoring data for Indicators AQ1 (Percentage of population within the County travelling to work or school by public transport or non-mechanical means) and AQ2 (Average distance travelled to work or school by the population of the County) will not be available until the results of the next CSO Census are made available. It is recommended that data for these indicators be sourced for the SEA of the next review of the Plan.

## **5.5 Reporting**

A preliminary monitoring evaluation report on the effects of implementing the Development Plan will be prepared to coincide with the Manager's report to the elected members on the progress achieved in securing Development Plan objectives within two years of the making of the plan (this Manager's report is required under section 15 of the 2000 Planning Act).

## **5.6 Responsibility**

Arklow Town Council and Wicklow County Council are responsible for collating existing relevant monitored data, the preparation of a monitoring report, the publication of this report and, if necessary, the carrying out of corrective action.

## **5.7 Thresholds**

Thresholds at which corrective action will be considered are as follows:

- ⇒ Boil notices on drinking water;
- ⇒ Fish kills;
- ⇒ Court cases taken by the DEHLG regarding impacts upon archaeological heritage including entries to the Record of Monuments and Places; and,
- ⇒ Complaints received from statutory consultees regarding avoidable impacts resulting from development, which is granted permission under the plan.

**Table 5.1 Monitoring Measures**

<b>Environmental Component</b>	<b>Selected Indicator(s)</b>	<b>Selected Target(s)</b>	<b>Sources</b>
<b>Biodiversity Flora and Fauna</b>	<p><b>B1:</b> Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive</p> <p><b>B2:</b> Number of significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites as a result of implementation of the DP</p> <p><b>B3:</b> Percentage of relevant habitats and designated ecological sites lost as a result of implementation of the DP</p>	<p><b>B1:</b> Maintenance of favourable conservation status for all habitats and species protected under national and international legislation</p> <p><b>B2:</b> No significant adverse impacts, including direct, cumulative and indirect impacts, to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites as a result of implementation of the DP</p> <p><b>B3:</b> No losses of relevant habitats, species or their sustaining resources in designated ecological sites as a result of implementation of the DP</p>	<p>Designated ecological sites mapping, CORINE Mapping, National Parks and Wildlife Service Records &amp; Development Management Process in Arklow TC and Wicklow CoCo.</p> <p>Designated ecological sites mapping, Development Management Process in ATC &amp; WW County Council &amp; Consultation with the National Parks and Wildlife Service.</p> <p>Primary ecological corridors mapping, CORINE mapping and Development Management Process in Arklow TC and Wicklow CoCo.</p>
<b>Population and Human Health</b>	<p><b>HH1:</b> Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors as identified by the Health Service Executive (HSE) and Environmental Protection Agency (EPA)</p>	<p><b>HH1:</b> No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan</p>	<p>Arklow TC and Wicklow County Council, EPA<sup>1</sup>, HSA</p>

<sup>1</sup> Environmental Protection Agency

	<b>R1:</b> Area of brownfield lands developed over the Development Plan's lifespan	<b>R1:</b> Reduced availability of brownfield land (subject to availability on the open market, the demand for such land and the ability for such lands to be sustainably re-used) at the end of the Development Plan lifespan	Development Management Process of Arklow TC and Wicklow County Council.
<b>Water</b>	<p><b>WS1:</b> Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)</p> <p><b>WS2:</b> Poor, Sufficient, Good and Excellent classifications of bathing water as set by Directive 2006/7/EC</p> <p><b>WG1:</b> Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p> <p><b>WF:</b> Number of developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p><b>WS1:</b> To achieve 'good status'<sup>2</sup> in all bodies of surface waters by 2015 and to not knowingly allow deterioration in the status of any surface water</p> <p><b>WS2:</b> To achieve - as a minimum - the 'Sufficient' classification as set by Directive 2006/7/EC, and where possible to achieve the 'Good' or 'Excellent' classifications</p> <p><b>WG1:</b> Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p> <p><b>WF:</b> Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with <i>The Planning System and Flood Risk Management Guidelines</i> for Planning Authorities</p>	<p>EPA</p> <p>EPA</p> <p>Data may not be available for this indicator when the monitoring evaluation is being prepared.</p> <p>Development Management Process of Arklow TC and Wicklow County Council.</p>

<sup>2</sup> Good status as defined by the WFD equates to approximately the following in the current national schemes of classification as set out by the EPA

- Q4 in the biological classification of *rivers*;
- *Mesotrophic* in the classification of *lakes*; and,
- *Unpolluted* status in the Assessment of Trophic Status of *Estuaries and Bays* in Ireland (ATSEBI).

<p><b>Material Assets</b></p>	<p><b>Waste Water Infrastructure</b></p> <p><b>WW1:</b> Number of new developments granted permission which can be adequately served with waste water treatment over the lifetime of the Plan</p> <p><b>WW2:</b> Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for Arklow and its Environs</p> <p><b>Drinking Water Quality</b></p> <p><b>DW1:</b> Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health</p> <p><b>DW2:</b> Preparation of a Water Services Strategic Plan - in compliance with the Water Services Act - for the functional area of the Council</p>	<p><b>WW1:</b> All new developments granted permission to be connected to and adequately served by waste water treatment over the lifetime of the Plan</p> <p><b>WW2:</b> For the Council to prepare a Water Services Strategic Plan in compliance with the Water Services Act</p> <p><b>DW1:</b> No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan</p> <p><b>DW2:</b> For the Council to prepare a Water Services Strategic Plan in compliance with the Water Services Act</p>	<p>Development Management Process of Arklow TC and Wicklow County Council.</p> <p>Wicklow County Council</p> <p>EPA, EPA Remedial Action List and the Council.</p> <p>Wicklow County Council</p>
<p><b>Air and Climatic Factors</b></p>	<p><b>AQ1:</b> Percentage of population within the Town travelling to work or school by public transport or non-mechanical means</p> <p><b>AQ2:</b> Average distance travelled to work or school by the population of the Town</p>	<p><b>AQ1:</b> An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means</p> <p><b>AQ2:</b> A decrease in the average distance travelled to work or school by the population of the Town</p>	<p>Central Statistics Office</p>
<p><b>Cultural Heritage</b></p>	<p><b>Archaeological Heritage</b></p> <p><b>AH1:</b> Percentage of entries to the Record of</p>	<p><b>AH1:</b> Protect entries to the Record of</p>	

	<p>Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant) protected</p> <p><b>Architectural Heritage</b></p> <p><b>AH2:</b> Percentage of entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant) protected</p> <p><b>AH2B:</b> Number of additions to the Record of Protected Structures and the number of additional ACA's</p>	<p>Monuments and Places - including Zones of Archaeological Potential - (and their context of the above within the surrounding landscape where relevant)</p> <p><b>AH2:</b> Protect entries to the Record of Protected Structures (and/or their context within the surrounding landscape where relevant)</p> <p><b>AH2B:</b> Make Additions to the Record of Protected Structures and make additional ACA's, where appropriate</p>	<p>Development Management/ Enforcement Process in the Council; Complaints from statutory consultees.</p> <p>Arklow Town Council and Wicklow County Council.</p>
<b>Landscape</b>	<p><b>L1:</b> Number of complaints received from statutory consultees regarding avoidable impacts on the landscape resulting from development which is granted permission under the Plan</p>	<p><b>L1:</b> No developments permitted which result in avoidable impacts on the landscape resulting from development which is granted permission under the Plan</p>	<p>Development Management/ Enforcement Process in the Council; Complaints from statutory consultees</p>