

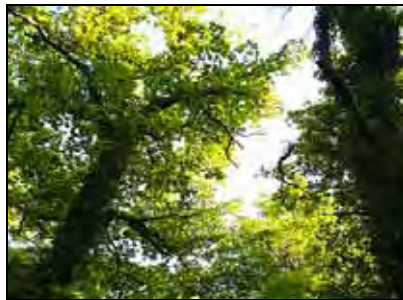
# SEA STATEMENT

---

OF THE

## BRAY ENVIRONS LOCAL AREA PLAN 2009-2015

### STRATEGIC ENVIRONMENTAL ASSESSMENT



**For: Wicklow County Council**

Station Road  
Wicklow Town  
County Wicklow



**By: CAAS (Environmental Services)**

4<sup>th</sup> Floor, 7 Red Cow Lane  
Smithfield  
Dublin 7



**MAY 2009**

## Table of Contents

<b>Section 1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Terms of Reference .....	1
1.2	SEA Definition .....	1
1.3	Legislative Context.....	1
1.4	Content of the SEA Statement .....	1
1.5	Implications of SEA for the Plan .....	1
<b>Section 2</b>	<b>How Environmental Considerations were integrated into the Local Area Plan</b>	<b>3</b>
2.1	Consultations .....	3
2.2	Environmental Sensitivities .....	3
2.3	Early Identification and Evaluation of Alternatives.....	4
2.4	Mitigation.....	7
<b>Section 3</b>	<b>Environmental Report and Submissions &amp; Observations.....</b>	<b>15</b>
3.1	Introduction .....	15
3.2	SEA Scoping Consultations .....	15
3.3	Submissions and Observations.....	15
3.4	Environmental Report .....	16
<b>Section 4</b>	<b>Alternatives and the Plan .....</b>	<b>17</b>
4.1	Introduction .....	17
4.2	Summary Description of Alternative Scenarios .....	17
4.3	Summary Evaluation of Alternative Scenarios .....	23
<b>Section 5</b>	<b>Monitoring Measures .....</b>	<b>33</b>
5.1	Introduction .....	33
5.2	Indicators and Targets .....	33
5.3	Sources .....	33
5.4	Reporting.....	33
5.5	Responsibility .....	33
5.6	Thresholds .....	34

# Section 1 Introduction

## 1.1 Terms of Reference

This is the SEA Statement of the Wicklow Environs Local Area Plan (LAP) 2009-2015 Strategic Environmental Assessment (SEA).

## 1.2 SEA Definition

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

## 1.3 Legislative Context

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

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (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 an SEA Statement (DEHLG, 2004)<sup>1</sup>.

---

<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.

## 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 review of the Bray Environs Development Plan was required to undergo SEA.

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 certain areas of Bray 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 November 2008.

Proposals to amend the Draft Plan at each stage of the process which followed this period of public display were evaluated for their environmental consequences and these were presented to the Elected Members in the form of Addenda. On adoption of the Draft Plan, these Addenda were used to update the original Environmental Report into a final Environmental Report which accompanies the adopted Plan.

These amendments included alterations of, additions to and removal of Draft Plan provisions.

At each stage of the process the Elected Members were required by the legislation to take into account the findings of the Environmental Report.

## Section 2 How Environmental Considerations were integrated into the Local Area Plan

### 2.1 Consultations

The Environmental Protection Agency (EPA), the Department of the Environment, Heritage and Local Government (DEHLG) and the Department of Communications, Marine and Natural Resources (DCMNR)<sup>2</sup> 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. SEA Scoping submissions were received from the EPA, the DEHLG and the DCMNR which were taken into account in the formulation of the scope of the SEA.

Further submissions were made by the EPA, DCMNR, the Department of Transport, the Eastern Regional Fisheries Board and the Geological Survey of Ireland on environmental issues and/or the Draft Plan and the Environmental Report when they were on public display. Some of these submissions resulted in updating a number of parts of the Environmental Report.

Further information on how the outputs of scoping consultations informed the process 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 - through both land use zoning and policy objectives - before it was placed on public display for the first time.

Environmental sensitivities were mapped in order to identify which areas of Bray Environs

would be most sensitive to development and would suffer the most adverse effects if growth was to be accommodated in those areas unmitigated.

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

The sensitivities considered by the SEA included the following:

- CORINE Land Cover 1990 and 2000;
- CORINE Land Cover Changes 1990-2000;
- CORINE Land Cover Categories which indicate lands which are likely to be most valuable to biodiversity;
- Designated Ecological Sites;
- Trees Considered for Preservation;
- Geology;
- Soil Type;
- Areas of Geological and Geomorphological Interest;
- Old Landfill Sites;
- Q Values (Biotic Index Rating) for Points on River Water Bodies;
- Quality of Bathing Waters;
- GSI Groundwater Vulnerability and Productivity;
- Water Framework Directive (WFD) Risk Assessments for River Water Bodies, Coastal Waters and Groundwaters;
- WFD Register of Protected Areas;
- Waste Licences, IPPC Licences and Air Quality Monitoring Locations;
- Existing Waste Water Collection Infrastructure;
- Waste Water Treatment Infrastructure/Capacity Needs;
- Existing Water Distribution Infrastructure;
- Archaeological Heritage: Entries to the Record of Monuments and Places;
- Architectural Heritage: Entries to the National Inventory of Architectural Heritage and Entries to the Record of Protected Structures;
- Landscape Characterisation; and,

---

<sup>2</sup> Note: Following the 2007 general election the Marine function of the Department of Communications, Marine and Natural Resources was transferred to the Department of Agriculture Food and Fisheries.

- Views and Prospects of Special Amenity Value or Interest.

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

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

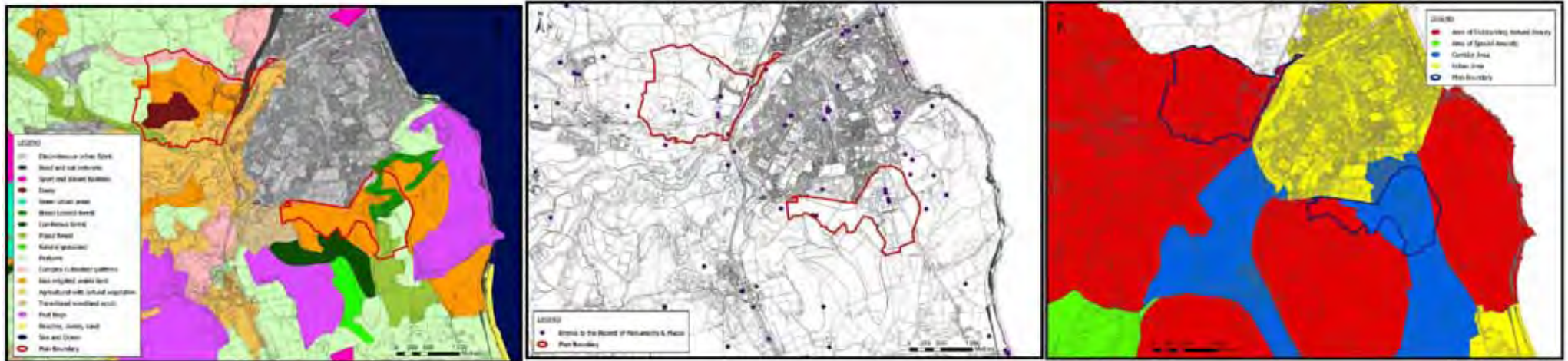
A range of potential alternative scenarios for the types of planning strategies adopted for the Bray Environs Local Area Plan were identified at an early stage in the process and evaluated for their likely significant environmental effects (see Section 4).

The environmental sensitivities mapping shown on Figure 2.1 and Figure 2.2 was 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 Local Area Plan.

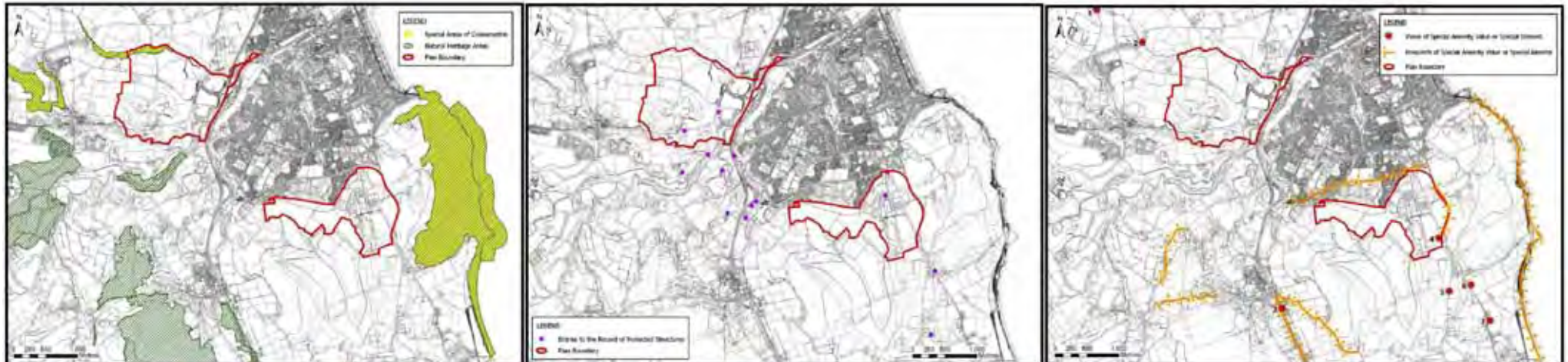
Mitigation measures which arose from the evaluation and which were recommended for integration into the Plan are detailed under Section 2.4 of this report.



**CORINE Land Cover**

**Archaeological Heritage**

**Landscape Characterisation**



**Designated Ecological Sites**

**Architectural Heritage**

**Protected Views and Prospects**

**Figure 2.1 Environmental Sensitivities - Plate 1**

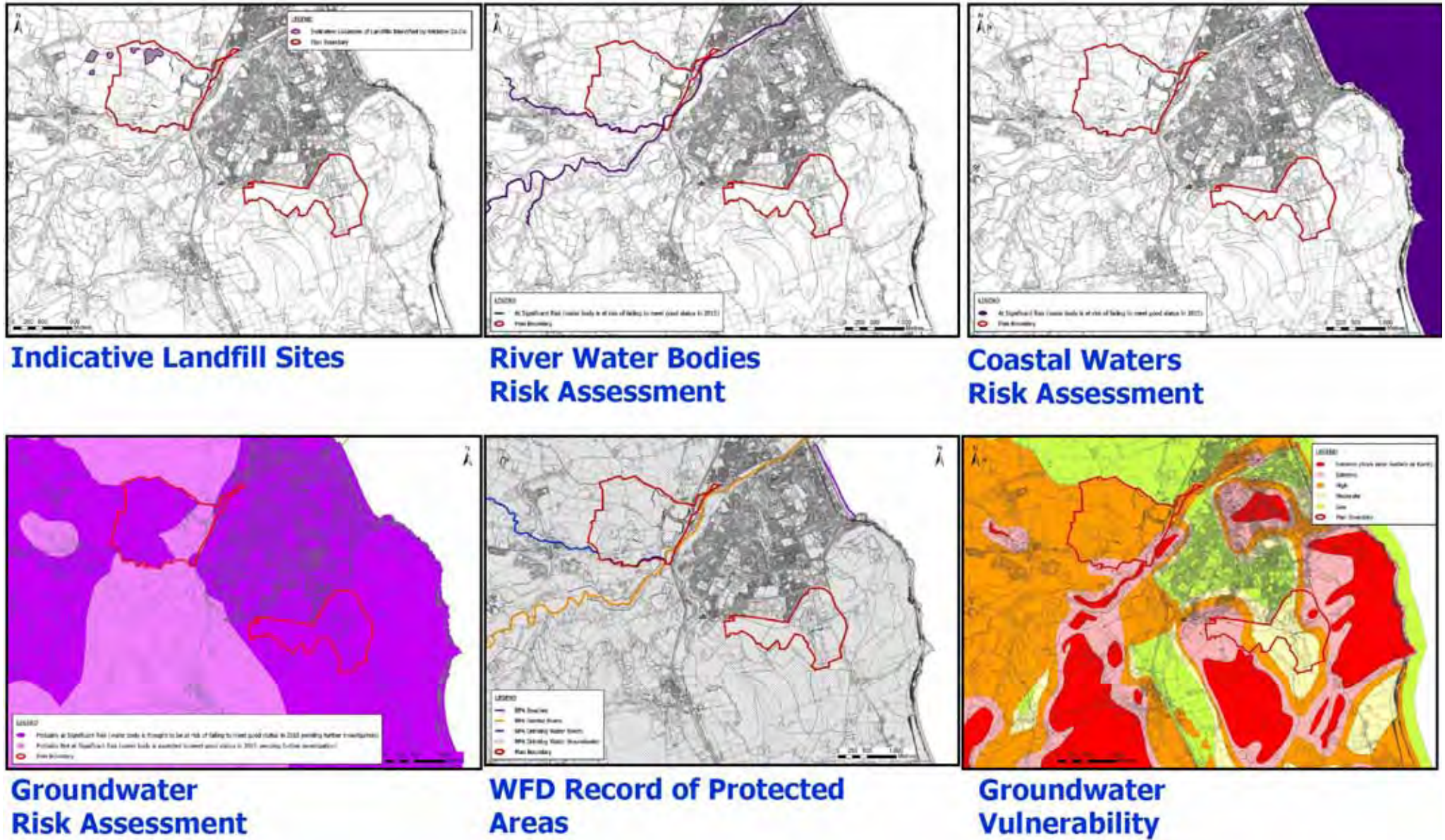


Figure 2.2 Environmental Sensitivities - Plate 2



## 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>3</sup> were recommended to be integrated into the Plan.

The topics which these mitigation measures cover are as follows:

- Biodiversity and Flora and Fauna
- Water Protection
- Waste Water
- Drinking Water
- Flooding
- Old Landfills
- Cultural Heritage
- Air and Climatic Factors
- Transportation
- Waste Management
- Energy/ Energy Conservation
- Amendments to Wording of Policies Required - Landscape

The mitigation measures are detailed in Section 9 of the Environmental Report and are reproduced on the following tables with details on how they have been integrated into the LAP.

---

<sup>3</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.

Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Biodiversity and Flora and Fauna I</i></p> <p>No projects giving rise to significant adverse direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans or projects)<sup>4</sup>.</p>	<p>Compliance with Habitats Directive</p>	<p>The purpose of measure has been indirectly and partially integrated through:</p> <ul style="list-style-type: none"> <li>• The application of Open Space land use zoning objective as a buffer adjacent to the Ballyman Glen cSAC. This buffer will constrict new development.</li> <li>• Plan Provisions including a Policy to 'Protect the value and amenity of designated areas' and other policies which protect the landscape and water resources.</li> <li>• Wicklow County Council shall ensure the protection of existing ecological corridors including rivers, streams, hedgerows, trees, wooded areas, scrub and traditional stone walls. All proposals for development shall be required to identify all ecological corridors, assess the impact of the proposal on these and set out detailed mitigation measures to offset any negative impact.</li> <li>• Buffer zones shall be put in place along watercourses to conserve the ecological value of these areas and to enhance their role as green corridors. Where open space zoning is proposed along watercourses masterplan criteria shall actively strive to conserve and enhance biodiversity.</li> </ul> <p>Projects arising from this Plan are required to comply with the provisions of the Habitats Directive.</p>
<p><i>Biodiversity and Flora and Fauna II</i></p> <p>Where required, land use plans and projects arising from this plan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive.</p>	<p>Compliance with Habitats Directive</p>	<p>Not directly integrated into the Plan.</p> <p>Land use plans and projects arising from this Plan are required to comply with the provisions of the Habitats Directive.</p>
<p><i>Biodiversity and Flora and Fauna III</i></p> <p>Wicklow County Council shall ensure the protection of existing ecological corridors including rivers, streams, hedgerows, trees, wooded areas, scrub and traditional stone walls. All proposals for development shall be required to identify all ecological corridors, assess the impact of the proposal on these and set out detailed mitigation measures to offset any negative impact.</p>	<p>Protection of ecological connectivity</p>	<p>Integrated into the Plan as a Policy.</p>
<p><i>Biodiversity and Flora and Fauna III</i></p> <p>Any road project which involves crossing a Natura 2000 site will:</p> <ul style="list-style-type: none"> <li>• Demonstrate the need for the project in light of a 'do nothing' context;</li> <li>• Examine the potential for intensifying/upgrading existing roads and routes as an alternative to carrying out new road development affecting a Natura 2000 site;</li> <li>• Develop and evaluate a comprehensive series of plausible alternative routes and design strategies (the latter to include long span and tunnel options);</li> <li>• Demonstrate how each route has been taken due account of, and accommodated, ecological considerations and legislative requirements; and,</li> <li>• Demonstrate that the chosen route will not cause any incursions onto or significant adverse effects on these habitats.</li> </ul>	<p>Compliance with Habitats Directive</p>	<p>Not required - no road project crossing a Natura 2000 site is provided for by the Plan.</p>

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

Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Water Protection I</i></p> <p>When published, the relevant policies and objectives of the Eastern River Basin Management Plan and associated Programme of Measures shall be integrated into the Plan through amendment or otherwise.</p>	<p>Compliance with Water Framework Directive</p>	<p>Not directly integrated into the Plan.</p> <p>Wicklow County Council is required coordinate its policies and operations so as to maintain the good status of water bodies which are currently unpolluted; and improve polluted water bodies to good status by 2015.</p>
<p><i>Water Protection II</i></p> <p>Developments provided for by the Plan shall be undertaken in such a way so as not to compromise the quality of surface water (and associated habitats and species) and groundwater within the zones of influence of the Plan area.</p>	<p>Compliance with Water Framework Directive</p>	<p>Partially integrated into the Plan through the following Policies:</p> <ul style="list-style-type: none"> <li>• Implement strict surface water discharge allowances from proposed development sites and encourage the use of attenuation measures to reduce surface water run off from proposed development sites to reduce the cumulative loading on the surface water network</li> <li>• Development will not be permitted unless collection and treatment capacity can be provided.</li> <li>• Ensure the implementation of Sustainable Urban Drainage Networks (SUDS) and compliance with the Greater Dublin Strategic Drainage Study (GSDSDS) within developments.</li> </ul>
<p><i>Water Protection III</i></p> <p>Landuses shall not give rise to the pollution of ground or surface waters during the construction or operation of developments. This shall be achieved through the adherence to best practice in the design, installation and management of systems for the interception, collection and appropriate disposal or treatment of all surface waters and effluents.</p>	<p>Compliance with Water Framework Directive</p>	<p>Partially integrated into the Plan through the following Policies:</p> <ul style="list-style-type: none"> <li>• 'Implement strict surface water discharge allowances from proposed development sites and encourage the use of attenuation measures to reduce surface water run off from proposed development sites to reduce the cumulative loading on the surface water network'</li> <li>• Development will not be permitted unless collection and treatment capacity can be provided.</li> <li>• Ensure the implementation of Sustainable Urban Drainage Networks (SUDS) and compliance with the Greater Dublin Strategic Drainage Study (GSDSDS) within developments.</li> </ul>
<p><i>Waste Water I</i></p> <p>Public wastewater collection and treatment infrastructure - which fully complies with requirements of the Urban Waste Water Treatment Directive (Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment) (amended by Directive 98/15/EEC) including the need to provide secondary treatment - shall be operational and with adequate capacity to accommodate waste water arising from the development, prior to developments being occupied. Discharges arising from this collection and treatment shall also comply with the requirements of the Directive.</p>	<p>Compliance with Water Framework Directive and Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC)</p>	<p>Partially integrated into the Plan through the following Policy:</p> <ul style="list-style-type: none"> <li>• Development will not be permitted unless collection and treatment capacity can be provided.</li> </ul>
<p><i>Waste Water II</i></p> <p>Wicklow County Council shall work alongside Dún Laoghaire-Rathdown County Council to help ensure that the relevant recommendations set out in Urban Waste Water Discharges in Ireland for Population Equivalents Greater than 500 Persons – A Report for the Years 2004 and 2005 (Office of Environment Enforcement - EPA, 2007) are implemented.</p>	<p>Compliance with Water Framework Directive and Urban Waste Water Treatment Directive (91/271/EEC) (amended by Directive 98/15/EEC)</p>	<p>Partially integrated into the Plan through the following Policy:</p> <ul style="list-style-type: none"> <li>• Development will not be permitted unless collection and treatment capacity can be provided.</li> </ul>

Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Waste Water III</i></p> <p>The feasibility of connecting of unsewered, areas including individual properties/ premises, serviced by septic tanks to existing and planned sewer networks shall be examined.</p>	<p>Compliance with Water Framework Directive</p>	<p>Not integrated into the Plan.</p>
<p><i>Drinking Water I</i></p> <p>Conformity with the relevant recommendations set out in The Provision and Quality of Drinking Water in Ireland – A Report for the Years 2006-2007 (Office of Environment Enforcement- EPA, 2007) shall be achieved.</p>	<p>Protection of Human Health &amp; Compliance with European Communities (Drinking Water) Regulations (No.2), 2007.</p>	<p>Partially integrated into the Plan through the following Policy:</p> <ul style="list-style-type: none"> <li>• Development will not be permitted unless collection and treatment capacity can be provided.</li> </ul>
<p><i>Drinking Water II</i></p> <p>Existing and new populations under the LAP shall be served with clean and wholesome drinking water.</p>	<p>Protection of Human Health &amp; Compliance with European Communities (Drinking Water) Regulations (No.2), 2007.</p>	<p>Partially integrated into the Plan through the following Policy:</p> <ul style="list-style-type: none"> <li>• Development will not be permitted unless adequate water supply can be provided.</li> <li>• Investigate the possibility of constructing and source a location for a new high level reservoir to serve the Kilruddery area and provide additional supply to the Bray Town area.</li> </ul>
<p><i>Drinking Water III</i></p> <p>Compliance shall be achieved with the 48 parameters set out under the European Communities (Drinking Water) Regulations (No. 2) 2007.</p>	<p>Protection of Human Health &amp; Compliance with European Communities (Drinking Water) Regulations (No.2), 2007.</p>	<p>Partially integrated into the Plan through the following Policy:</p> <ul style="list-style-type: none"> <li>• Development will not be permitted unless adequate water supply can be provided.</li> <li>• Investigate the possibility of constructing and source a location for a new high level reservoir to serve the Kilruddery area and provide additional supply to the Bray Town area.</li> </ul>
<p><i>Flooding I</i></p> <p>Proposals for development shall be required, where relevant, to integrate adequate and appropriate Sustainable Urban Drainage Systems (SUDS) and comply with the provisions of the Greater Dublin Strategic Drainage Study.</p>	<p>Minimisation of flood risk</p>	<p>Integrated into the Plan as a Policy.</p>
<p><i>Flooding II</i></p> <p>Development in areas at risk of flooding, particularly floodplains, shall be avoided by not permitting development in flood risk areas unless: it is fully justified that there are wider sustainability grounds for appropriate development; unless the flood risk can be managed to an acceptable level without increasing flood risk elsewhere; and, where possible, it reduces flood risk overall.</p>	<p>Minimisation of flood risk &amp; Compliance with DEHLG "The Planning System and Flood Risk Management" Guidelines when adopted</p>	<p>Partially integrated into the Plan through the following policies:</p> <ul style="list-style-type: none"> <li>• It is the policy of the Council that a Flood Risk Assessment shall form part of the overall master plans for both Fassaroe &amp; Kilruddery, to ensure that the development does not increase the flood risk in the relevant catchment. Any works required as a result of such assessment shall be carried out before any other development commences. For small developments less than 0.25 hectares, a certificate from an appropriately qualified specialist stating that the development will not contribute to flooding within the relevant catchment must accompany applications for planning permission. A Flood Impact Assessment shall identify potential loss of floodplain storage and how it would be offset in order to minimise impact on the river flood regime. It shall also take account of the possible effect on the natural resources of the river.</li> <li>• All applications for development should have regard for the draft guidelines for managing flood risk as published by the Department of Environment, Heritage and Local Government ('The Planning System and Flood Risk Management') and the adopted guidelines as and when appropriate.</li> </ul>

Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Flooding III</i></p> <p>A sequential approach to flood risk management based on avoidance, reduction and then mitigation of flood risk as the overall framework for assessing the location of new development shall be adopted.</p>	<p>Minimisation of flood risk &amp; Compliance with DEHLG "The Planning System and Flood Risk Management" Guidelines when adopted</p>	<p>Partially integrated into the Plan through the following policies:</p> <ul style="list-style-type: none"> <li>• It is the policy of the Council that a Flood Risk Assessment shall form part of the overall master plans for both Fassaroe &amp; Kilruddery, to ensure that the development does not increase the flood risk in the relevant catchment. Any works required as a result of such assessment shall be carried out before any other development commences. For small developments less than 0.25 hectares, a certificate from an appropriately qualified specialist stating that the development will not contribute to flooding within the relevant catchment must accompany applications for planning permission. A Flood Impact Assessment shall identify potential loss of floodplain storage and how it would be offset in order to minimise impact on the river flood regime. It shall also take account of the possible effect on the natural resources of the river.</li> <li>• All applications for development should have regard for the draft guidelines for managing flood risk as published by the Department of Environment, Heritage and Local Government ('The Planning System and Flood Risk Management') and the adopted guidelines as and when appropriate.</li> </ul>
<p><i>Flooding IV</i></p> <p>Flood risk assessments shall accompany planning applications and these assessments shall be incorporated into the process of making decisions on planning applications and planning appeals.</p>	<p>Minimisation of flood risk</p>	<p>Purpose of this measure has been integrated into the Plan through the following Policy:</p> <ul style="list-style-type: none"> <li>• It is the policy of the Council that a Flood Risk Assessment shall form part of the overall master plans for both Fassaroe &amp; Kilruddery, to ensure that the development does not increase the flood risk in the relevant catchment. Any works required as a result of such assessment shall be carried out before any other development commences. For small developments less than 0.25 hectares, a certificate from an appropriately qualified specialist stating that the development will not contribute to flooding within the relevant catchment must accompany applications for planning permission. A Flood Impact Assessment shall identify potential loss of floodplain storage and how it would be offset in order to minimise impact on the river flood regime. It shall also take account of the possible effect on the natural resources of the river.</li> </ul>
<p><i>Old Landfills I</i></p> <p>Wicklow County Council shall ensure that adequate and appropriate investigations are carried out into the nature and extent of old landfills, the nature and extent of soil and groundwater contamination arising and the risks associated with site development work or proximate development. These risks shall be mitigated by Wicklow County Council by order or otherwise before development takes place.</p>	<p>Protection of Human Health and Quality of Environmental Receptors</p>	<p>Purpose of this measure has been integrated into the Plan through the following Policy:</p> <ul style="list-style-type: none"> <li>• Planning applications for development on or adjoining disused landfill sites must be accompanied by a comprehensive report outlining the content of the sites and any mitigation measures where appropriate to be implemented to ensure the protection of human and environmental health during the construction and operation of the proposed development</li> </ul>

Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Archaeological Heritage I</i></p> <p>Landuses shall not give rise to significant losses of the integrity, quality or context of archaeological material - except as may be conditioned or directed by the appropriate heritage agencies. This shall be achieved by the application of appropriate design standards and criteria.</p>	<p>Compliance with Valletta Convention 1992 and National Monuments Acts</p>	<p>Partially integrated into the Plan through the following Policies:</p> <ul style="list-style-type: none"> <li>• Protect the built and cultural heritage of Kilruddery Demesne.</li> <li>• At masterplan stage all recorded monuments in the study area shall be listed and mapped, including St. Valery's Cross and Fassaroe Castle. Pre-development archaeological testing surveying, monitoring and recording shall be carried out as appropriate, where proposals for development occur in the vicinity of known Archaeological sites.</li> </ul>
<p><i>Architectural Heritage I</i></p> <p>New developments shall not result in any significant loss in the architectural integrity, quality or character of the area, where appropriate. Planning applications may be required to be accompanied by an assessment undertaken by an accredited conservation architect, where appropriate, detailing the impacts of the relevant development upon the special interest and character of the surrounding architectural heritage. Wicklow County Council shall be consulted at an early stage in this regard in order to determine whether there is a need for such an assessment or for specific mitigation measures.</p>	<p>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Purpose of this measure has been partially integrated into the Plan through the following:</p> <ul style="list-style-type: none"> <li>• Policy to 'Protect the built and cultural heritage of Kilruddery Demesne'.</li> <li>• The protection of certain structures as Protected Structures</li> <li>• The application of a buffer free between the Kilruddery Tourism zone and the Swanbrook and Hollybrook housing developments which will positively impact upon the protection of the context of Kilruddery Demesne.</li> <li>• The Tourism (T) land use zoning objective for Kilruddery provides for new developments only as appropriate within the context of the surrounding Demesne environment.</li> </ul>
<p><i>Architectural Heritage II</i></p> <p>In order to protect, strengthen and improve the presentation and the general character of the Plan area, alterations and interventions to Protected Structures shall be executed to the highest conservation standards (Venice Charter and subsequent ICOMOS Charters), and shall not detract from their significance or value.</p>	<p>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Purpose of this measure has been partially integrated into the Plan through the following:</p> <ul style="list-style-type: none"> <li>• Policy to 'Protect the built and cultural heritage of Kilruddery Demesne'.</li> <li>• The protection of certain structures as Protected Structures</li> <li>• The application of a buffer free between the Kilruddery Tourism zone and the Swanbrook and Hollybrook housing developments which will positively impact upon the protection of the context of Kilruddery Demesne.</li> <li>• The Tourism (T) land use zoning objective for Kilruddery provides for new developments only as appropriate within the context of the surrounding Demesne environment.</li> </ul>
<p><i>Architectural Heritage III</i></p> <p>Planning applications for developments in sensitive areas shall be accompanied by an assessment undertaken by an accredited conservation architect, where appropriate, detailing the impacts of the proposed development upon the special interest and character of the surrounding architectural heritage. The relevant Planning Authority shall be consulted at an early stage in this regard in order to determine whether there is a need for such an assessment or for specific mitigation measures.</p>	<p>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Not directly integrated.</p> <p>Purpose of this measure has been partially integrated through the following:</p> <ul style="list-style-type: none"> <li>• Policy to 'Protect the built and cultural heritage of Kilruddery Demesne'.</li> <li>• The protection of certain structures as Protected Structures</li> <li>• The application of a buffer free between the Kilruddery Tourism zone and the Swanbrook and Hollybrook housing developments which will positively impact upon the protection of the context of Kilruddery Demesne.</li> <li>• The Tourism (T) land use zoning objective for Kilruddery provides for new developments only as appropriate within the context of the surrounding Demesne environment.</li> </ul>

Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Architectural Heritage IV</i></p> <p>The Record of Protected Structures shall be extended on a phased basis, as appropriate, in order to incorporate any recommendations from the National Inventory of Architectural Heritage.</p>	<p>Compliance with Planning and Development Act 2000 and Architectural Heritage and Historic Monuments Act 1999</p>	<p>Not integrated into the Plan.</p>
<p><i>Air and Climatic Factors I</i></p> <p>Wicklow County Council shall protect air quality in the Bray Environs areas zoned for increased urban development and transport related development.</p>	<p>Protection of Human Health</p>	<p>Partially integrated into the Plan though the following Policy:</p> <ul style="list-style-type: none"> <li>• Planning applications that are deemed to be significant in terms of traffic generation are required to include a Traffic &amp; Transport Assessment, and a Road Safety Audit.</li> </ul>
<p><i>Transportation I</i></p> <p>Traffic management measures to reduce the potential for traffic congestion and associated vehicular emissions within and emanating from the Plan areas where issues relating to traffic congestion and associated vehicular emissions arise will be implemented.</p>	<p>Management of Traffic</p>	<p>Purpose of measure has been integrated into the Plan though the following Policies:</p> <ul style="list-style-type: none"> <li>• Promote sustainable travel patterns from new development through appropriate land use mixes and providing high levels of accessibility, by ensuring good permeability within the development and connectivity to surrounding areas.</li> <li>• Ensure traffic calming principles are adopted as a design dynamic of new developments.</li> <li>• Development proposals will be delivered in such a manner that sustainable transport principles can be supported. This will require consideration of public transport requirements, local road, pedestrian and cycle connections, and the need to protect the carrying capacity of the N11/M11 as a strategic road through the area.</li> <li>• Planning applications that are deemed to be significant in terms of traffic generation are required to include a Traffic &amp; Transport Assessment, and a Road Safety Audit.</li> <li>• Planning applications that are deemed to be significant in terms of traffic generation are required to have consideration for the Environmental Noise Regulations, published by the Department of Environment, Heritage and Local Government (S.I. No. 140 of 2006</li> <li>• Facilitate and support the Railway Procurement Agency (RPA) in works relating to the provision of LUAS services in Fassaroe.</li> <li>• Encourage and promote cycling and walking</li> <li>• Walking and cycling routes, along rivers and through all green space areas, shall be provided throughout the areas designated for development to ensure permeability within both Fassaroe and Kilruddery.</li> <li>• Improve pedestrian facilities on existing and proposed linkages through the provision of formal pedestrian crossings that are suitable for mobility impaired road users.</li> </ul>

Mitigation measure	Reason for inclusion	Integration into Plan
<p><i>Waste Management I</i></p> <p>An integrated approach to waste management for proposed developments - to include wastes generated during the construction, operation and maintenance phases - shall be implemented, having particular regard to Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (DEHLG, July 2006).</p>	<p>Management of waste</p>	<p>Not integrated into the Plan.</p>
<p><i>Energy/ Energy Conservation I</i></p> <p>Energy conservation measures shall be promoted and the use of renewable energy systems in new developments which are provided for by the LAP.</p>	<p>Minimisation of Greenhouse Gas emissions</p>	<p>Purpose of measure has been integrated into the Plan though the following Policy:</p> <p>In order to adhere to the energy conservation policies outlined in the Bray Town Development Plan, and improve the energy performance of new developments within the Plan area, the Council will:</p> <ul style="list-style-type: none"> <li>• Encourage responsible environmental management in construction</li> <li>• Promote sustainable approaches to housing developments through spatial planning, layout, design and detailed specification</li> <li>• Ensure high standards of energy efficiency in all housing developments under its remit, and encourage developers, owners, and tenants to improve the environmental performance of the building stock, including the deployment of renewable energy</li> <li>• For all developments, apply an improvement of either of 40% or 60% (depending on certain criteria) relative to prevailing norms as represented by the Building Regulations Part L</li> </ul>
<p><i>Amendments to Wording of Policies Required - Landscape</i></p> <p>Change the wording of the following policy:</p> <p>Development proposals shall be accompanied by a visual impact assessment demonstrating that landscape impacts have been anticipated to a level consistent with the sensitivity of the landscape.</p> <p>To:</p> <p>Development proposals shall be accompanied by a visual impact assessment demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape.</p>	<p>Protection of the landscape</p>	<p>Wording not changed however Section 14 <i>Phasing and implementation</i> includes the following provisions for restricting development in visually sensitive areas of Kilruddery which would positively impact upon the protection of the landscape:</p> <ul style="list-style-type: none"> <li>• The elevation of the residential development shall be confined to a contour of no higher than 65 metres. A 30 metre mixed deciduous and evergreen tree planted buffer zone shall be provided between the Kilruddery T zone and the Swanbrook and Hollybrook housing developments. The buffer will be extended west where it adjoins the southern boundary of the Hollybrook houses. The existing mound to the rear of Hollybrook shall be continued where it is absent, subject to this not exacerbating flooding.</li> </ul>



## 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 Consultations

The EPA, DEHLG and DCMNR 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.

SEA Scoping submissions were received from the EPA, the DEHLG and the DCMNR which were taken into account in the formulation of the scope of the SEA.

The EPA's submission consisted of an 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 include:

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

The DEHLG made three submissions which dealt with topics including the following:

- Natural Heritage
  - Identification of Bray Head cSAC as a conservation sites near Bray Environs;
  - Identification of likely significant effects in the environmental report;
  - DEHLG Circular on Appropriate Assessment;

- Archaeological Heritage
  - Archaeological heritage legislation and international strategic actions to which the SEA must have regard;
  - Development issues with regard to archaeological heritage;
  - Assessment of the impact of the Plan on archaeological heritage;

#### Architectural Heritage

- How to define architectural heritage;
- The level of detail at which architectural heritage should be considered;
- Data gaps with regard to architectural heritage;
- Scoping of Baseline information to be included in the Environmental Report;
- How to deal with the 'do-nothing' scenario; and,
- Monitoring and Cumulative Effects.

The DCMNR submission provided a reference to their generic guidelines as to what should be contained in the preparation of any Environmental Report.

All of these submissions were taken into account while determining the scope of the SEA and while undertaking the SEA.

### 3.3 Submissions and Observations

Submissions were made by the EPA, DEHLG, the Department of Transport, the Eastern Regional Fisheries Board (ERFB) and the Geological Survey of Ireland (GSI) on environmental issues and/or the Draft Plan and the Environmental Report when they were on public display.

The submission from the EPA raised a number of points with regard to the following topics:

- Integration of SEA and Plan
- Appropriate Assessment
- Environmental Report Consultation
- Existing Environment

- Environmental Objectives
- Assessment of Environmental Effects
- Mitigation Measures
- Monitoring Measures

This submission did not result in any changes to the Environmental Report however a recommendation was made to integrate certain mitigation measures into the Plan.

The submission from the DEHLG provided comments on the following:

- Appropriate Assessment
- Integration of Mitigation Measures into the Draft Plan

This submission did not result in any changes to the Environmental Report however a recommendation was made to integrate certain mitigation measures into the Plan.

The ERFB's submission identified 'the River Dargle Catchment (including the Countybrook, Cookstown and other tributaries) as one of the key salmonid systems on the east coast'. The Environmental Report was updated in order to take account of this submission.

The submissions from the Department of Transport and the GSI raised a number of environmental/planning issues which were considered in the undertaking of the SEA and Plan-making process.

### **3.4 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 certain parts of Bray 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 November 2008.

Proposals to amend the Draft Plan at each stage of the process which followed this period of public display were evaluated for their environmental consequences and these were presented to the Elected Members in the form of Addenda. On adoption of the Draft Plan, these Addenda were used to update the original Environmental Report into a final Environmental Report which accompanies the adopted Plan.

These amendments included alterations of, additions to and removal of Draft Plan provisions.

At each stage of the process the Elected Members were required by the legislation to take into account the findings of the Environmental Report.

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

## **Section 4 Alternatives and the Plan**

### **4.1 Introduction**

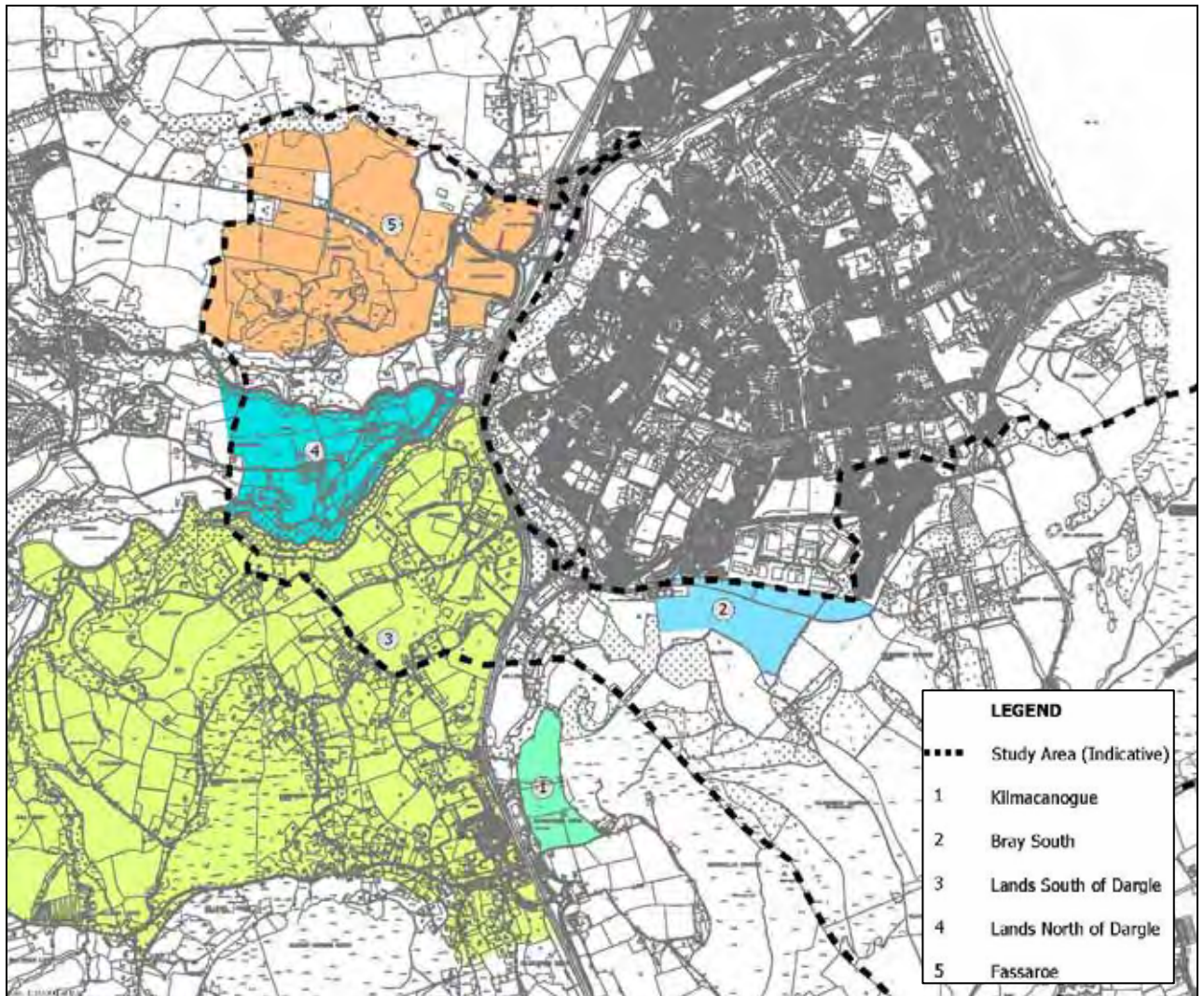
This section summarises the alternative scenarios for the Local Area Plan which were identified and evaluated for likely environmental and planning effects as part of the SEA process and identifies the reasons for choosing the Plan, as adopted, in the light of the other reasonable alternatives dealt with.

### **4.2 Summary Description of Alternative Scenarios**

#### **4.2.1 Alternative Locations which could be subject to an LAP**

Once the method of meeting the need was determined, and prior to the scoping of the SEA, environmental constraints were identified and four alternatives relating locations where development could be provided for by the Plan were explored. These alternatives are evaluated for their likely environmental and planning effects in Section 4.3.1 and are as follows:

1. Lands at Kilmacanogue East, to the south of Bray located off the N11 National Primary Road (see Number 1 on Figure 4.1);
2. Lands to the South of Bray including those at Kilruddery (see Number 2 on Figure 4.1);
3. Lands to the north and south of the River Dargle, between Dargle Glen and the Cookstown River - to the west of Bray and the N11 road (see Numbers 3 and 4 on Figure 4.1); and,
4. Lands at Fassaroe, located to the west of Bray and the N11 road (see Number 5 on Figure 4.1).



**Figure 4.1 Alternative Locations for providing for the Local Area Plan**

As lands at Fassaroe and Kilruddery were determined to be the locations at which development is to be provided for by the LAP, alternatives were explored for the land use zoning of each of these areas as follows.

### 4.2.2 Alternatives for Fassaroe



Figure 4.2 Fassaroe Land Use Alternative A

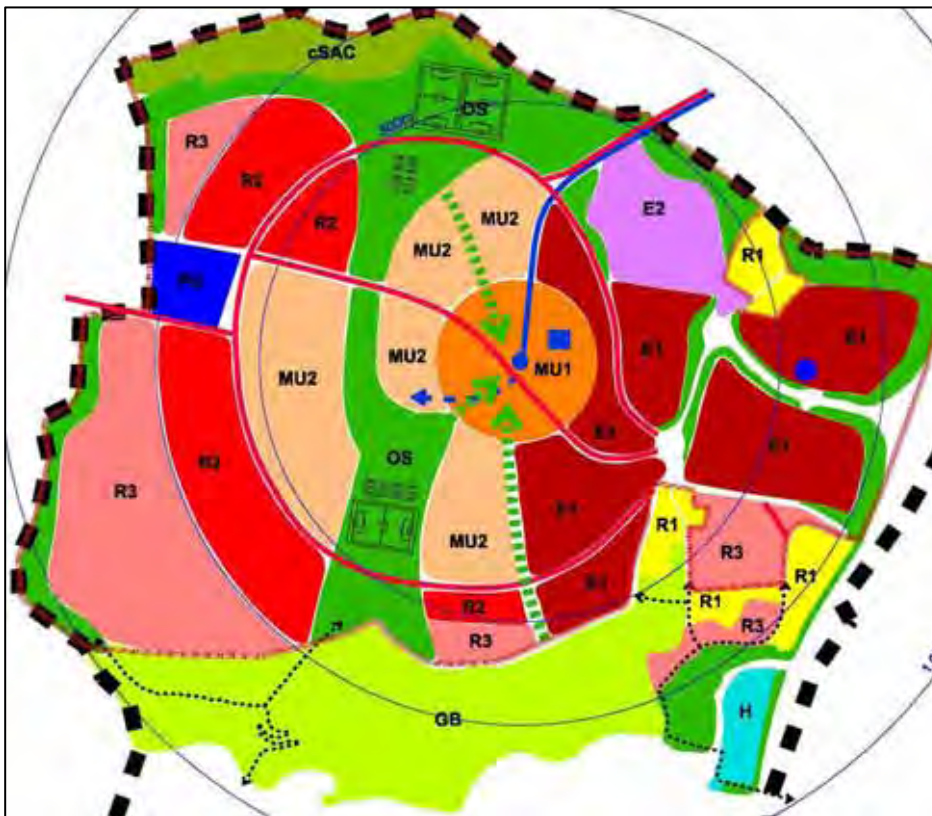


Figure 4.3 Fassaroe Land Use Alternative B

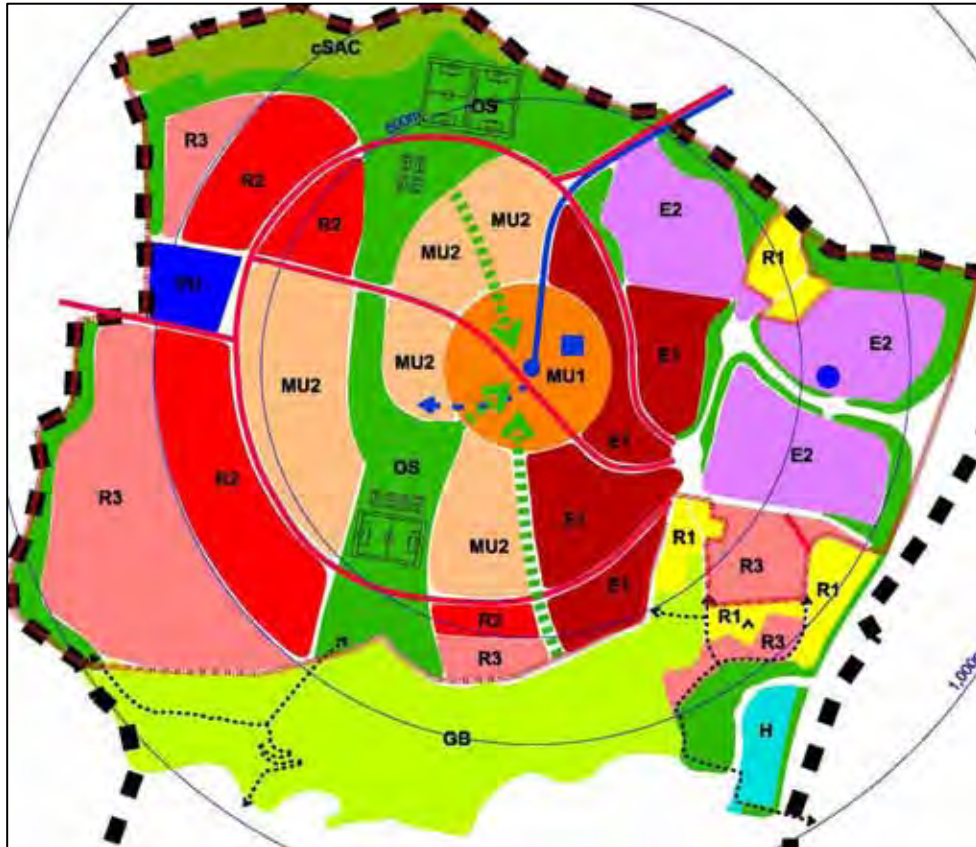


Figure 4.4 Fassaroe Land Use Alternative C

### 4.2.3 Alternatives for Kilruddery

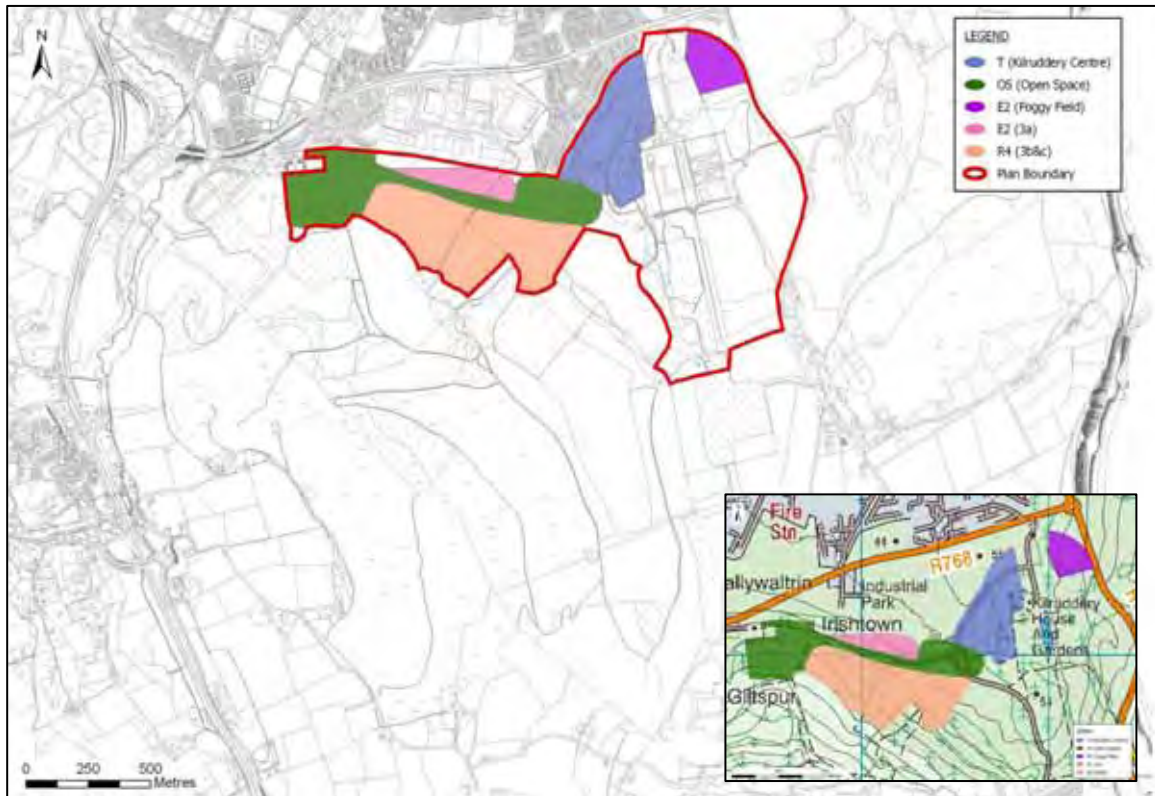


Figure 4.5 Kilruddery Land Use Alternative 1

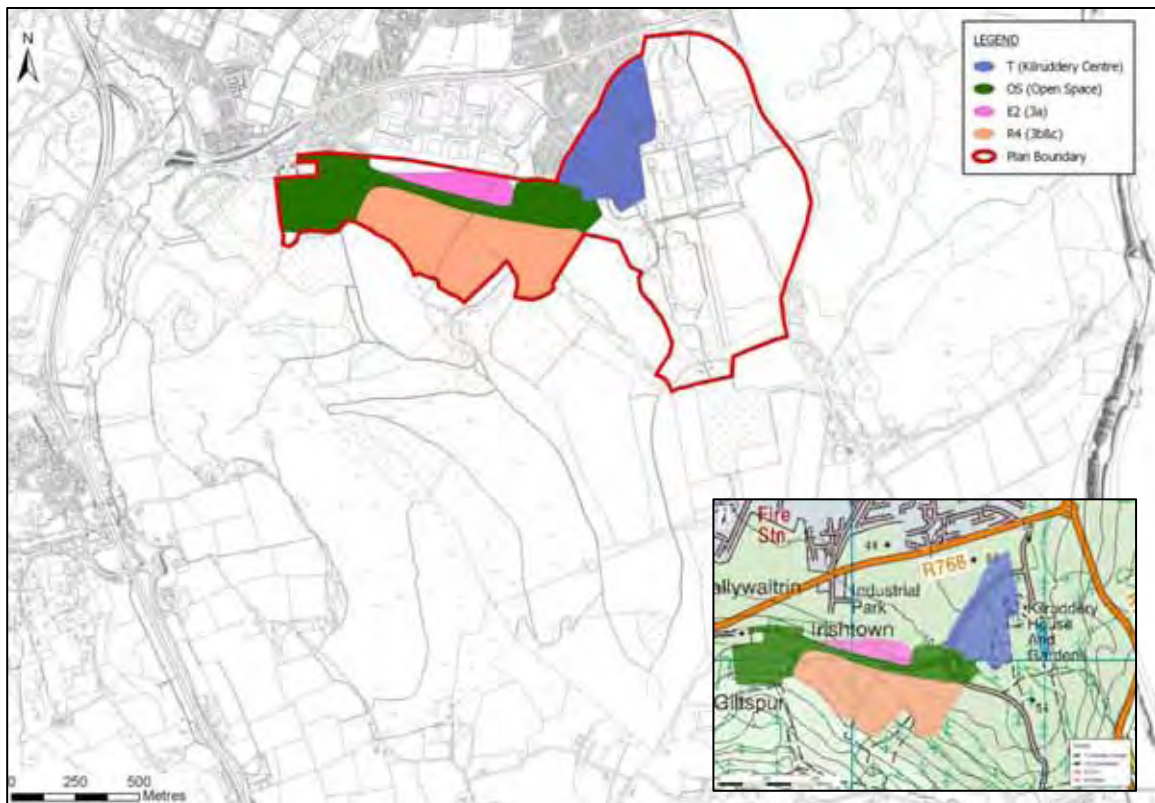


Figure 4.6 Kilruddery Land Use Alternative 2

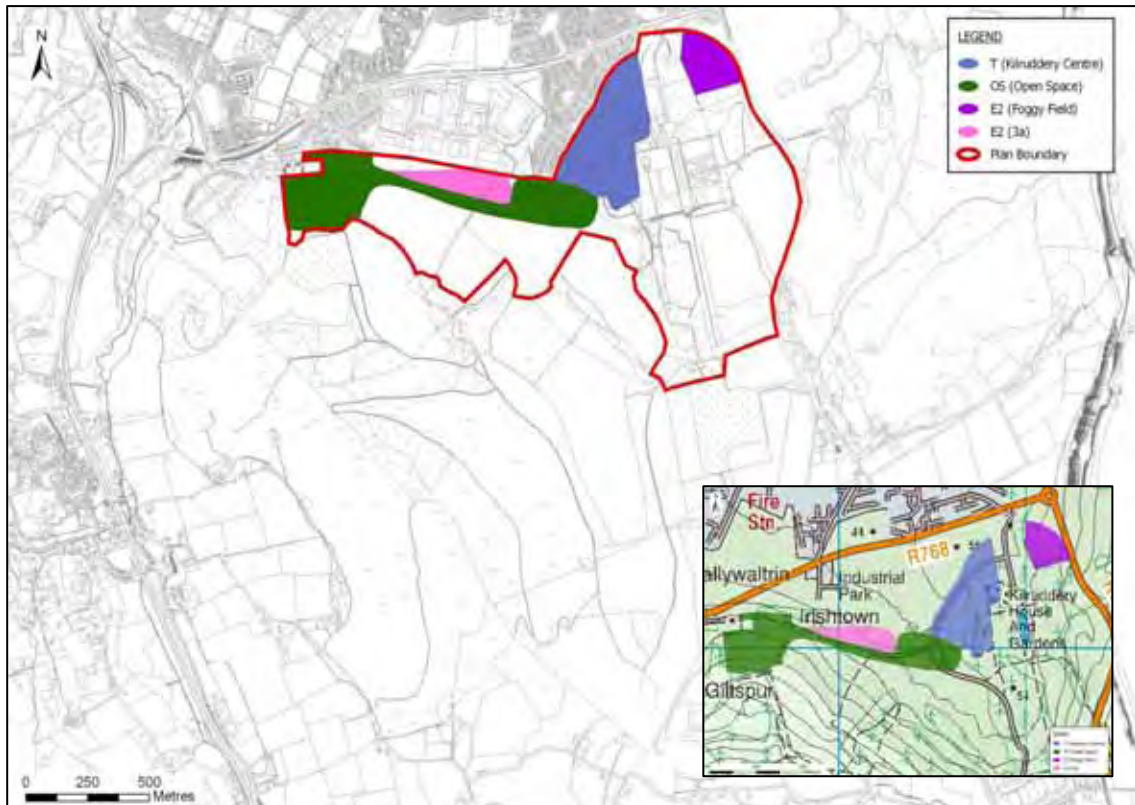


Figure 4.7 Kilruddery Land Use Alternative 3

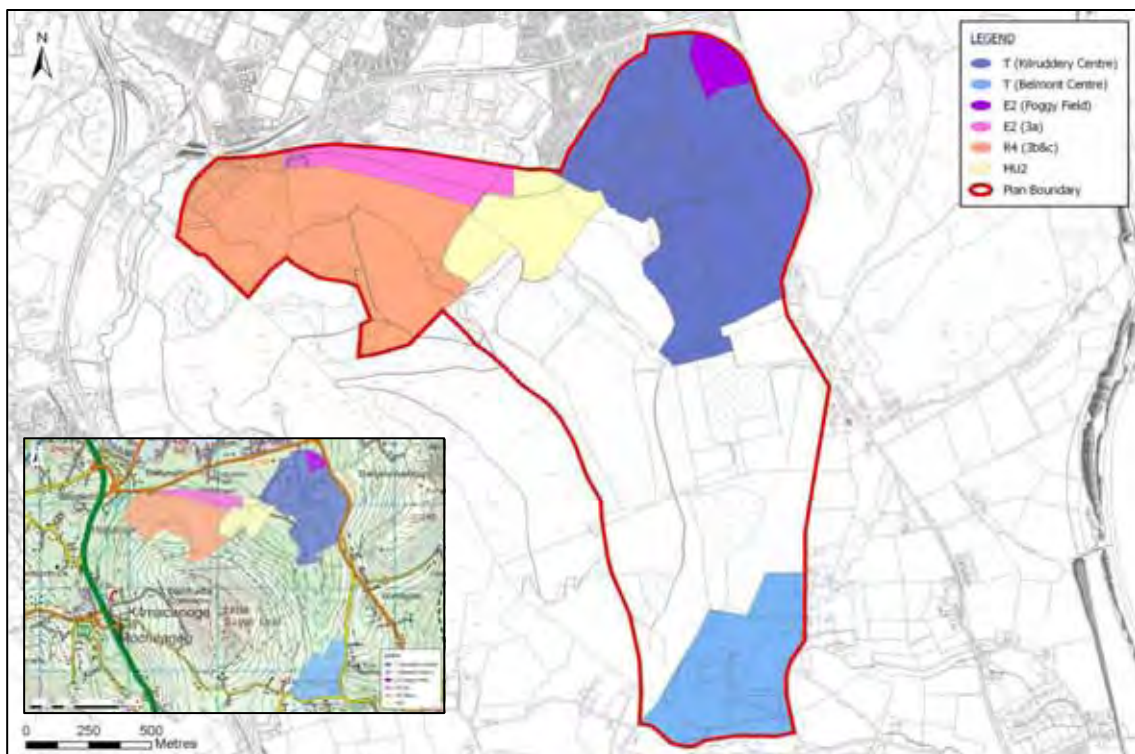


Figure 4.8 Kilruddery Land Use Alternative 4



## 4.3 Summary Evaluation of Alternative Scenarios

### 4.3.1 Alternative Locations for the Local Area Plan

#### 4.3.1.1 Overview of Evaluation

- All alternatives provide for greenfield development as it is not possible for brownfield development to cater for the population provided for by the Plan. Greenfield development would be likely to present a number of conflicts with environmental components.
- Impacts upon ecological connectivity could be mitigated by offsetting any losses in ecological corridors.
- All alternatives would be required to be accompanied by mitigation measures to avoid significantly increasing the risk of flooding.
- Waste water from the Bray area currently undergoes primary treatment before being pumped into the sea through a long sea outfall. Waste water arising from the Bray area will undergo secondary treatment at Shanganagh beginning from 2011-2012. Should new development be permitted before this upgrade is operational with sufficient capacity then it is likely that waste water would not be treated in compliance with the Urban Waste Water Treatment Directive (Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment) (amended by Directive 98/15/EEC). Increased volumes of primary treated waste water discharges into the sea which would arise from increases in population would be likely to reduce the ability of the coastal water body off the coast of Bray to meet the *high status* objective of the Water Framework Directive. Such increases in the volume of discharges could also impact upon the ability of bathing water at Bray to comply with EU Mandatory Values (Acceptable Quality) which could affect human health.
- The groundwater bodies underlying each of the Alternatives are classified as being either *at significant risk* of meeting the objectives of the Water Framework Directive or *probably at significant risk* of meeting the objectives of the Water Framework Directive. Diffuse sources of pollution are attributed to this classification. Groundwater beneath each of the Alternatives is listed on the Water Framework Directive Register of Protected Areas for Drinking Water (Ground Water). Changes in the characteristics of run-off and groundwater recharge associated with the replacement of semi natural surfaces with artificial surfaces could - if unmitigated - impact upon the ability of Wicklow County Council to achieve its requirements under the Water Framework Directive.

The area which would be developed under Alternative 1 - *Lands at Kilmacanogue East* - is located to east and outside of Kilmacanogue which is designated a Small Growth Town II settlement under higher level land use strategic actions. In accordance with the Wicklow County Development Plan, residential development here is required to be predominantly restricted to local need. Impacts upon protected Prospects and Views as a result of implementation of this alternative would be unavoidable.

With regard to Alternative 2 - *Lands to the South of Bray (including those at Kilruddery)* - only a limited extent of low density development would be considered viable on lands within the Kilruddery Demesne. Such development would have to be at a sufficient distance from the Estate House - in order to avoid impacts on the curtilage of the House - and in close proximity to existing employment and residential development. If accompanied by mitigation measures, tourism uses associated with the heritage of the Kilruddery Estate on Demesne lands located to the edge of the Demesne could also be viable.

The land south of the Dargle Glen and between the Dargle and Cookstown River included in Alternative 3 - *Lands to the North and South of the River Dargle* - is not recommended for future development owing to the sensitivity of the landscape, inappropriate access to the N11 across the Dargle Bridge, inadequate access along small country lanes, and the lack of quality public transport infrastructure. The majority of

the lands to the north of the Dargle Glen are not identified for substantial development owing to the sensitivity and high amenity of the landscape indicated by environmental designations, the rural character and remoteness from the built-up area and the lack of existing or proposed efficient public transport.

With regard to Alternative 4, lands at Fassaroe have been zoned for development purposes in both the 1999 and 2004 County Development Plans, in recognition that the lands are suitable to accommodate the necessary expansion of Bray Town; and, are located within the Metropolitan Area as designated by the RPGs. Moreover, the direct access to the N11 and the M11 motorway, the planned extension of the LUAS to Bray and Fassaroe, and its locational advantage within the Greater Dublin Area, afford the area a strategic advantage by ensuring the sustainability of a greater residential and working population.

#### **4.3.1.2 Reasons for choosing the location for the Local Area Plan, in light of the other reasonable alternative locations dealt with**

In conclusion, both Alternative 4 - Lands at Fassaroe - and part of Alternative 2 - Lands to the South of Bray (specifically lands at Kilruddery) were selected, having regard to a broader consideration of available areas around the perimeter of Bray that was carried by Tíros Resources Ltd.

The selected locations were identified as the optimum balance between likely environmental effects, the potential to restore former landfill sites and the potential to connect with high-capacity public transportation routes.

**Lands at Fassaroe and Kilruddery were determined to be the locations at which development is to be provided for by the LAP.**

### **4.3.2 Alternatives for Fassaroe**

#### **4.3.2.1 Overview of Evaluation**

##### **Biodiversity and Flora and Fauna**

Although there is a potential conflict between the implementation of a Plan for Fassaroe and the protection of the Ballyman Glen cSAC and pNHA ecologically designated site, the application of buffers to development by Alternatives A, B and C together with the integration of measures detailed in the Environmental Report would mitigate this conflict. Adverse effects upon ecological connectivity would be likely as a result of the greenfield development provided by the alternatives however each of the alternatives would mitigate against these effects by integrating greenbelt zoning and a number of linear open spaces and parks into the Plan. Development at Fassaroe could have a potential conflicting interaction with the protection of human health due to presence of lands which were used as landfills in the past and which have not been fully defined or remediated.

##### **Greenhouse Gas Emissions and Car Dependency**

Alternatives A, B and C would, by providing for significant increases in the residential and employment populations of Fassaroe close to the proposed high quality public transport link of the Luas and by accompanying new development with other improvements in public transport infrastructure and services before developments take place, would help to reduce the likely dependency on private transport which would otherwise occur as a result of alternative, uncoordinated greenfield development in the wider northern County Wicklow area. The new population provided by the alternatives would contribute to a critical mass which would make the provision of Luas public transport link and other public transport services more economically viable than would be the case if population increased in ad-hoc areas across the wider northern Wicklow area. As a result - and providing that development is preceded by public transport infrastructure and services - the extent of both future car generated traffic and future transport related greenhouse gas emissions which would be caused by accommodating this population in the wider northern County Wicklow area would be significantly reduced.

It is likely that implementation of each Alternative would have effects upon traffic levels, air quality and noise levels within and emanating from the plan area however it is noted that adherence to measures integrated into the Plan and measures for the construction and management of projects arising out of development management and EIA processes would mitigate such effects. Having regard to the population of residents and employees which would result from each of the scenarios, Alternative B would be likely to generate most traffic, followed by Alternative C with Alternative A likely to generate the least amount of traffic.

### **Architectural and Archaeological Heritage**

There are 5 entries to the Record of Monuments and Places (RMP) within the Fassaroe lands. Due to the presence of Fassaroe Castle (RMP Ref. WI 007-027) it is likely that there is subterranean archaeological heritage beneath the subject lands which has not been identified to date. In order to prevent unnecessary impacts on archaeological heritage it will be necessary to list and map the extent of all monuments in the area and carry out pre-development archaeological testing surveying, monitoring and recording.

By providing for development in the vicinity of Protected Structures and other structures of architectural interest within the Fassaroe lands, potential conflicts could arise between new development and the protection of these structures, including their curtilage (the parcel of ground immediately associated with the structure or in use for the purposes of the structure).

### **Landscape**

The area including Fassaroe is classified under the Wicklow County Development Plan 2004-2010 County Landscape Characterisation as being within an *Area of Outstanding Natural Beauty*. This classification indicates that the lands are of a high sensitivity and value on a County level however it is noted that the validity of the designation in the Fassaroe area has largely been eroded in the past by the existing sand and gravel pit as well as more recent development close to the N11. Notwithstanding this, implementation of Alternatives A, B or C would be likely to significantly change the landscape which is found at Fassaroe by replacing greenfield areas with development thereby eroding further the *Area of Outstanding Natural Beauty* designation.

Lands in Fassaroe which rise up to the south towards the central MU2 (Mixed Use 2 - Predominantly Residential) zones are visually sensitive. This has been addressed by the designation of open space for much of the area visible from below. Development on these lands zoned for mixed use will be likely to be visible from below, however, one of the measures recommended within the Environmental Report would mitigate against effects arising from this; *development proposals shall be accompanied by a visual impact assessment demonstrating that landscape impacts have been anticipated and avoided to a level consistent with the sensitivity of the landscape.*

#### **4.3.2.2 Reasons for choosing the Fassaroe component of the Plan, as adopted, in light of the other reasonable alternatives dealt with**

The selection of the Fassaroe component of the LAP was carried out taking into account the evaluation of the alternatives, which is summarised above, as well as planning considerations.

The implementation of each of the land use alternatives for the part of the LAP which is concerned with Fassaroe would be likely to have similar environmental effects. There would be potential conflicts and associated potential adverse effects with most of the environmental components.

The adverse effects would be likely to be avoided or reduced by complying with various aspects of the land use zoning objectives of the LAP and mitigation measures including those which are recommended to be integrated into the Plan (provided in Section 9 of the Environmental Report).

The Alternatives that were examined were produced and evaluated at an earlier - more embryonic - stage to facilitate evaluation and selection of a plan. Consequently there are a number of differences between Alternative A and the Fassaroe component of the LAP. These differences are indicated on Figure

4.9 and Figure 4.10 Fassaroe Land Use Zoning Map from the LAP (differences between the LAP and Alternative A are identified). The differences are identified and discussed below.

#### **Difference 1**

The residential area to the south of the mixed use area which surrounds the core is of a lower density in the LAP. This difference does not change the assessment summarised above for Alternative A.

#### **Difference 2**

The proposed residential area in the north west of the Fassaroe area is of a higher density in the LAP than it is in Alternative A. This difference does not change the assessment summarised above for Alternative A.

#### **Difference 3**

The LAP provides for an additional area of *New Residential Development* in comparison with Alternative A. This difference would be likely to have significant adverse effects on non-designated biodiversity and flora and fauna and ecological connectivity which could be mitigated however residual effects would remain as a result of the greenfield development.

#### **Difference 4**

There is an additional area of zoning provided for an area of land to the east of the M11 motorway. The LAP provides for *New Residential* and *Existing Commercial* zoning objectives in this area.

The area contains a number of buildings as well as areas of grass and tree cover. There are no ecologically designations sites within this area. The Dargle forms the eastern boundary of this area and the western boundary is confined by the County Brook Stream (information on the status of the Dargle is provided in previous sections however there is no Water Framework Directive information available for the County Brook Stream). According to Wicklow County Council's Landscape Characterisation (2004), this section lies within an Area of Outstanding Natural Beauty. To the east of the area there is one monument listed on the Record of Monuments and Places. This area has been identified in the Bray Flood Emergency Plan (2008) as lying within an *Outline Area likely to be affected by flood* though properties in the area are not classed as being of high or medium risk.

Although the lands are already developed, the potential provision of new or replacement development of these lands would be likely to conflict with minimising increases in flood risk, if unmitigated. Measures which have been integrated into the Plan would be likely to mitigate effects arising from this conflict.

#### **Difference 5**

The Fassaroe component of the LAP will provide for a residential population of approximately 6,659 persons, compared with the population of 7,200 persons provided for by Alternative Scenario A. Consequently the extent of loadings upon infrastructure and services as a result of implementing the LAP would be likely to be less than those resulting from implementation of Alternative A. This difference however does not change the assessment summarised above for Alternative A.

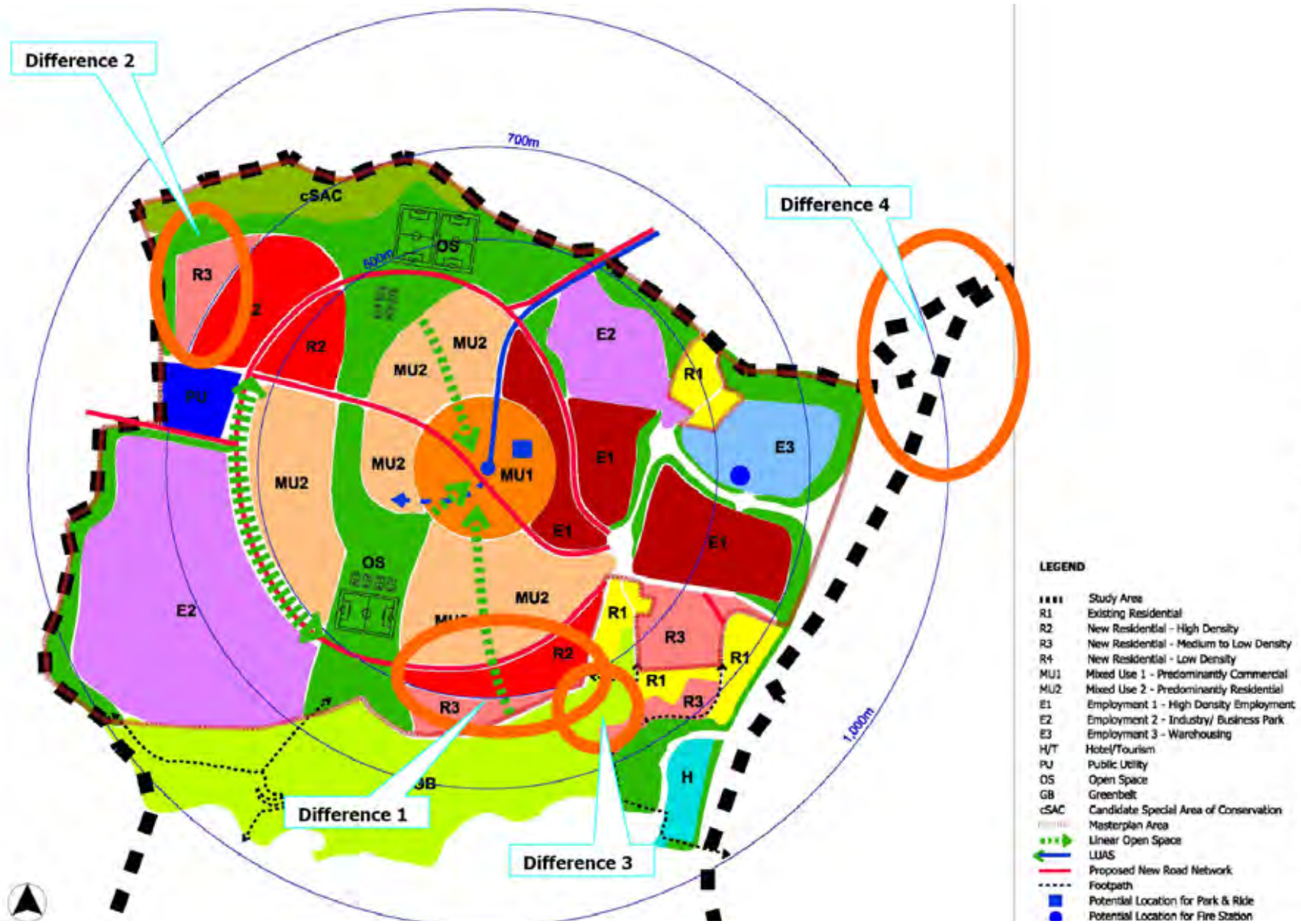


Figure 4.9 Fassaroe Land Use Alternative A (Differences between this Alternative and the LAP are identified)

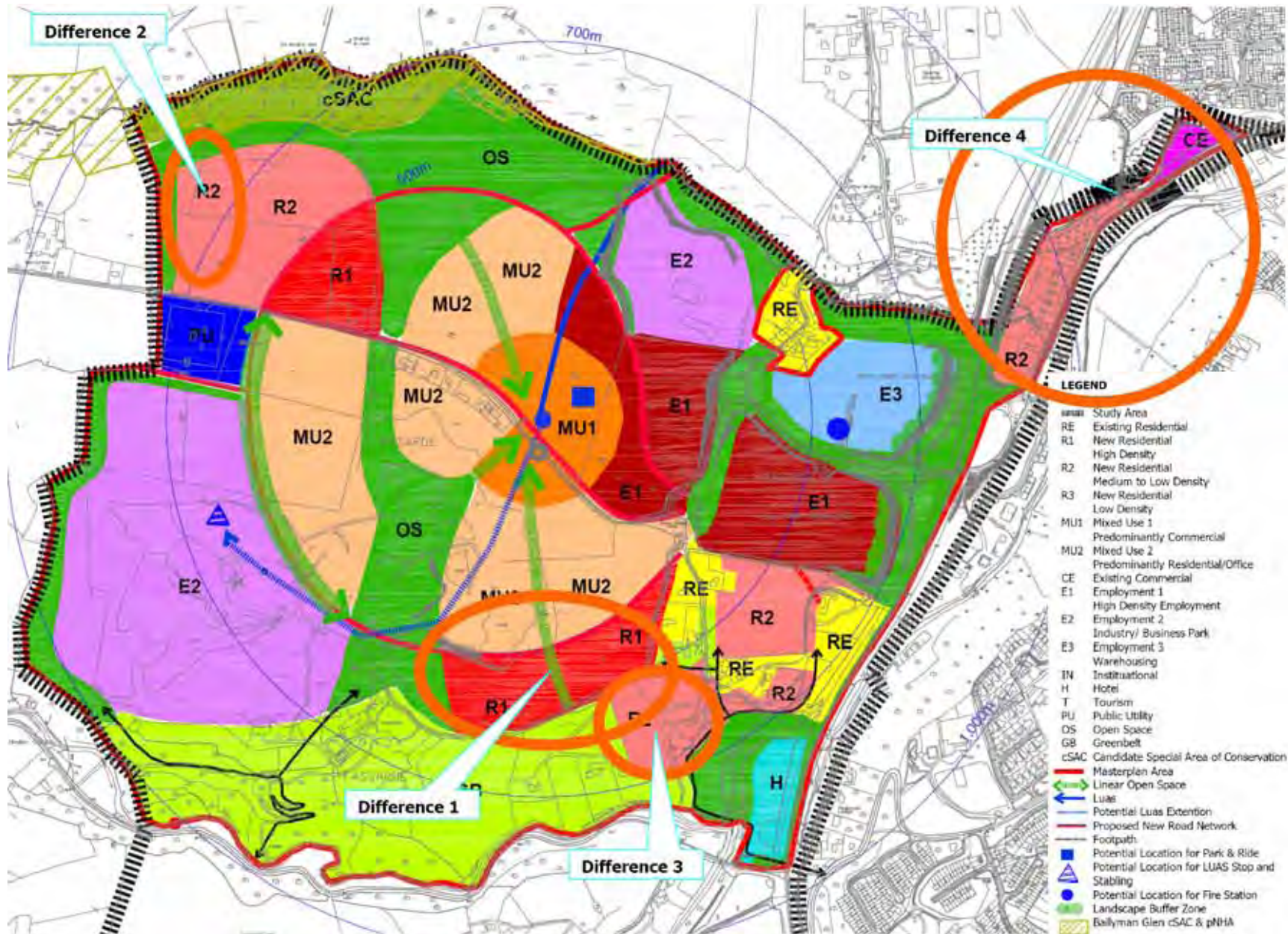


Figure 4.10 Fassaroe Land Use Zoning Map from the LAP (differences between the LAP and Alternative A are identified)

### 4.3.3 Alternatives for Kilruddery

#### 4.3.3.1 Overview of Evaluation

##### **Brownfield vs. Greenfield Development**

All four alternatives provide for growth by way of greenfield development. Alternative 3 provides a balance between brownfield/infill development while Alternatives 1, 2 and 4 provide for greater extents of greenfield development. Alternatives 1, 3 and 4 provide for E2 Employment uses at the Foggy Field to the immediate north east of the Kilruddery Estate. This provision could encourage ribbon development south of the roundabout in the direction of Greystones.

##### **Greenhouse Gas Emissions and Car Dependency**

The interaction between all 4 Alternatives and the reduction of greenhouse gas emissions and the minimisation of car dependency is uncertain. It would be important that a sufficient public transport service is provided to all lands which are zoned for residential and employment development by the LAP.

##### **Architectural and Archaeological Heritage**

There are 6 entries to the Record of Monuments and Places (RMP) within the Kilruddery lands including a *possible burial ground*, *Kilruddery House* and 2 *Fulacht Fias*. It is possible that there is subterranean archaeological heritage beneath the subject lands which has not been identified to date. In order to prevent unnecessary impacts on archaeological heritage it will be necessary to carry out pre-development archaeological testing surveying, monitoring and recording.

By providing for development in the vicinity of the Protected Structure of Kilruddery House potential conflicts could arise between new development and the protection of this structure, including its curtilage (the parcel of ground immediately associated with the structure or in use for the purposes of the structure). The cultural heritage and historic importance of Kilruddery Estate could be cumulatively diminished by the continual selling of land facilitated by rezoning. Consequently, the form of any proposed development within Kilruddery Demesne should be informed by the protected status of the Kilruddery House and its curtilage and the consequent need to uphold the heritage value of the estate.

##### **Landscape**

The eastern lands at Kilruddery are classified under the Wicklow County Development Plan 2004-2010 County Landscape Characterisation as being within a *Corridor Area* while the western lands are classified as being within an *Area of Outstanding Natural Beauty*. The *Area of Outstanding Natural Beauty* classification indicates that the western lands are of a high sensitivity and value on a County level. In addition, the eastern lands in Kilruddery are adjacent to an area under consideration for a Special Amenity Area Order.

All alternatives propose E2 Employment uses to the south of the existing business park. These lands are particularly visually prominent and sensitive due to the elevated and sloping character of the lands which are located in the vicinity of the Little Sugar Loaf. This land is highly visible from the Southern Cross Road and from other parts of Bray. Development of these lands should have regard to existing topography and minimise visual encroachment on the lower slopes of the Great Sugar Loaf.

Alternatives 1, 2 and 4 propose R4 low density residential development on the slopes of the Little Sugar Loaf. This development would be likely to significantly and adversely affect the landscape and would not be likely to be fully mitigated.

#### **4.3.3.2 Reasons for choosing the Kilruddery component of the Plan, as adopted, in light of the other reasonable alternatives dealt with**

The selection of the Kilruddery component of the LAP was carried out taking into account the evaluation of the alternatives, which is summarised above, as well as planning considerations.

Implementation of Alternative 3 for Kilruddery would be likely to result in the least amount and least severity of adverse effects on the environment while implementation of Alternative 4 for Kilruddery would be likely to result in the most amount and most severity of effects on the environment.

The potential conflicts and associated adverse effects of Alternative 3 would be likely to be avoided or reduced by complying with various aspects of the land use zoning objectives of the LAP and mitigation measures including those which are recommended to be integrated into the Plan (provided in Section 9 of the Environmental Report).

The Alternatives that were examined were produced and evaluated at an earlier - more embryonic - stage to facilitate evaluation and selection of a plan. Consequently there are a number of differences between Alternative 3 and the Kilruddery component of the LAP. These differences are indicated on Figure 4.9 and Figure 4.10 Fassaroe Land Use Zoning Map from the LAP (differences between the LAP and Alternative A are identified). The differences are identified and discussed below.

##### **Difference 1**

Lands zoned by Alternative 3 to the immediate south of the existing business park as *Employment (E2)* are zoned R3 *New Residential Low Density* by the LAP. These lands together with the adjacent lands zoned Open Space (OS) are not configured in the same way in the LAP as they are in Alternative 3 - the lands zoned *New Residential Low Density* in the LAP cover a greater area than those zoned Employment in Alternative 3.

Although this difference does not change the assessment provided for Alternative A above, it is noted that the LAP provides that *the elevation of the residential development shall be confined to a contour of no higher than 65 metres*. This provision will positively impact upon the protection of the landscape.

##### **Difference 2**

The LAP provides for a buffer between the Kilruddery Tourism zone and the Swanbrook and Hollybrook housing developments that is not provided for by Alternative 3. This buffer will positively impact upon the protection of the context of Kilruddery Demesne and the protection of ecological connectivity.

##### **Difference 3**

The E2 Employment - Industry/Business Park zoning of the Foggy Field area in Alternative 3 is zoned T - Tourism in the LAP. This difference does not change the assessment summarised above for Alternative 3.

##### **Difference 4**

The majority of lands within the Plan boundary of Alternative 3 are not attributed a zoning. The LAP attributes a Green Belt zoning objective to these lands. As this Green Belt zoning will significantly restrict new built development, this difference would be likely to have significantly beneficial impacts upon the protection of the landscape, architectural heritage, archaeological heritage, ecological connectivity and non-designated flora and fauna.



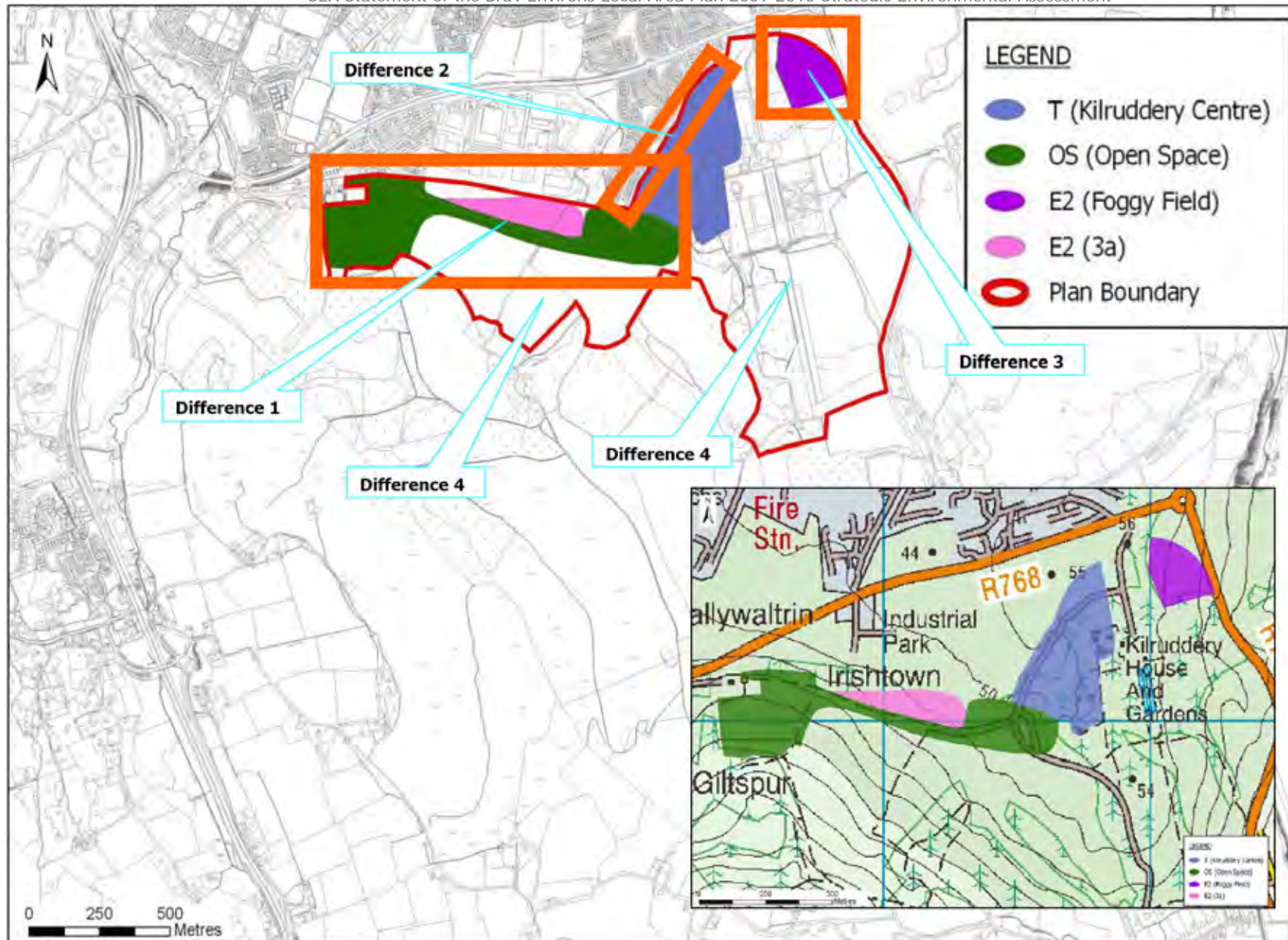


Figure 4.11 Kilruddery Land Use Alternative 3 (Differences between this Alternative and the LAP are identified)

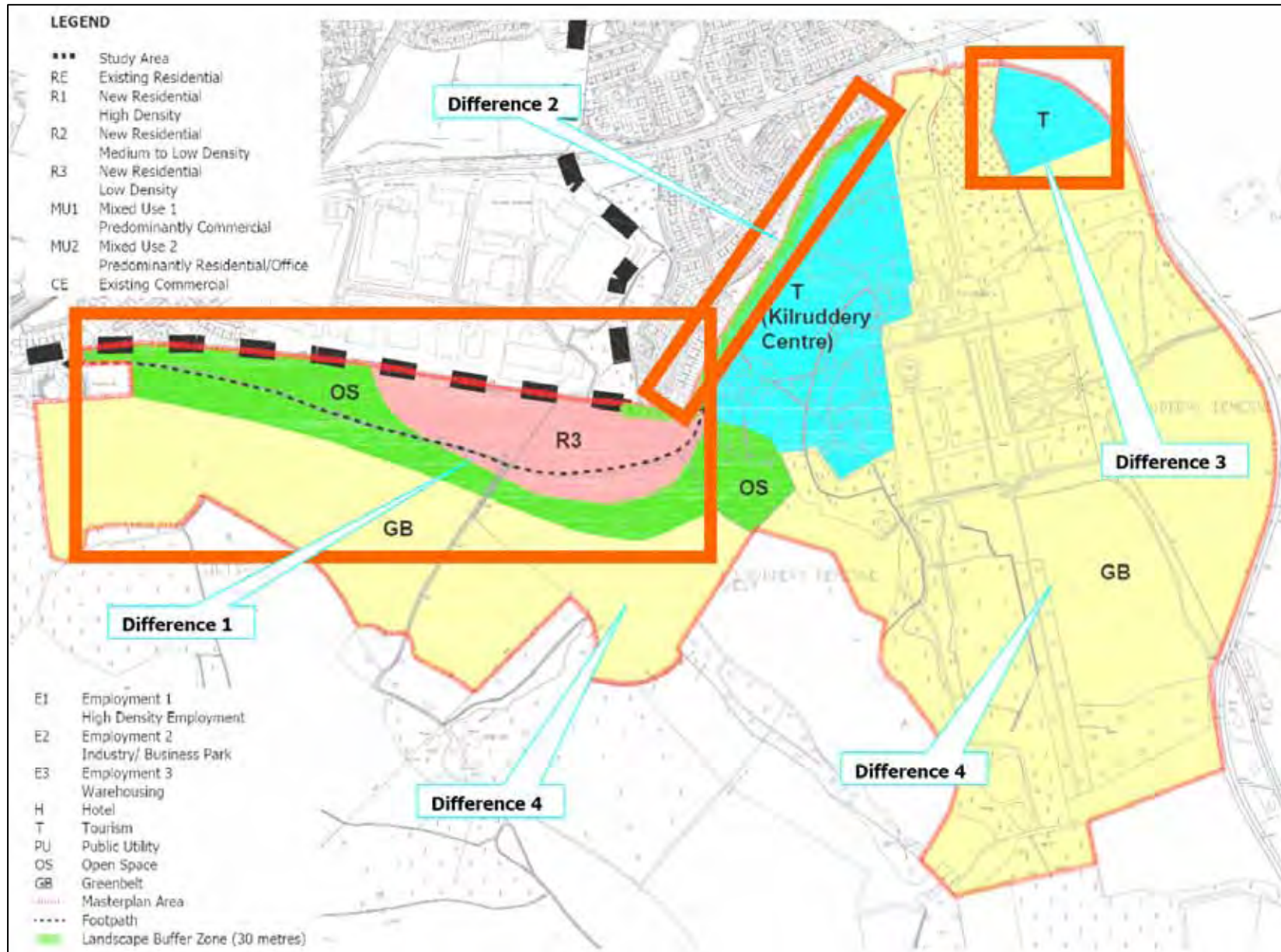


Figure 4.12 Kilruddery Land Use Zoning Map from the LAP (differences between the LAP and Alternative 3 are identified)

## 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. The Environmental Report puts forward proposals for monitoring the likely significant environmental effects of implementing the Local Area Plan (LAP) which are detailed below.

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 LAP is achieving its environmental objectives and targets - measures which the LAP can help work towards - whether these need to be reexamined 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 is given to indicators which are relevant to the likely significant environmental effects of implementing the LAP and existing monitoring arrangements will be used in order to monitor the selected indicators. Each indicator to be monitored will be accompanied by the relevant target(s) which were identified with regard to the relevant legislation.

Table 5.1 overleaf shows the indicators and targets which have been selected with regard to the monitoring of the Plan.

### 5.3 Sources

Measurements for indicators should come from existing monitoring sources and no new monitoring should be required to take place. Existing monitoring sources exist for each of the indicators and include those maintained by 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 Wicklow County Council will provide passive monitoring of various 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 should be identified and recorded and should feed into the monitoring evaluation.

#### 5.3.1 Excluded Indicators and Targets

As noted on Table 5.1 overleaf, monitoring data on Indicator W3 (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 C1i (Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means) and C1ii (Average distance travelled to work or school by the population of the LAP area) 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.

### 5.4 Reporting

A preliminary monitoring evaluation report on the effects of implementing the LAP will be prepared within two years of the making of the plan.

### 5.5 Responsibility

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.

It is recommended that a Steering Committee be established to oversee the monitoring process.

## **5.6 Thresholds**

Appropriate thresholds will be set for the monitoring programme before the Plan and Environmental Report are adopted. These may include, for example:

- boil notices on drinking water;
- fish kills;
- complaints received from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the LAP; and,
- court cases taken by the DEHLG regarding impacts upon archaeological heritage including entries to the Record of Monuments and Places.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source
<b>Biodiversity, Flora and Fauna</b>	<p>B1: Percentage of relevant habitats and designated ecological sites lost as a result of implementation of the LAP</p> <p>B2: 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 LAP</p> <p>B3: Percentage loss of connectivity between areas of local biodiversity as a result of implementation of the LAP - as evidenced from a resurvey of CORINE mapping</p>	<p>B1: No losses of relevant habitats, species or their sustaining resources in designated ecological sites as a result of implementation of the LAP</p> <p>B2: 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 LAP</p> <p>B3: No ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity to be lost without remediation as a result of implementation of the LAP</p>	<p>CORINE Mapping, NPWS Records &amp; Development Management Process in Wicklow County Council</p> <p>Development Management Process in Wicklow County Council &amp; Consultation with the National Parks and Wildlife Service</p> <p>CORINE mapping</p>
<b>Population and Human Health</b>	HH1: Occurrence (any) of a spatially concentrated deterioration in human health	HH1: No spatial concentrations of health problems arising from environmental factors	Wicklow County Council, EPA, Health and Safety Authority
<b>Soil</b>	S1: Area of brownfield land developed over the plan period.	S1: 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 within the provisions of the LAP) at the end of the LAP lifespan	Development Management Process in Wicklow County Council

Environmental Component	Selected Indicator(s)	Selected Target(s)	Sources
<b>Water</b>	<p>Indicator W1i: Biotic Quality Rating (Q Value)</p> <p>W1ii: Trophic Status (ATSEBI)</p> <p>W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p> <p>W3: Number of developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p>W1ia: To maintain a biotic quality rating of Q4, in line with the requirement to achieve good water status under the Water Framework Directive, by 2015</p> <p>W1ib: To improve biotic quality ratings, where possible, to Q5</p> <p>W1ii: To maintain or to improve trophic status, where relevant, to unpolluted in line with the requirement to achieve good water status under the Water Framework Directive, by 2015</p> <p>W2: Compliance with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC</p> <p>W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk</p>	<p>Environmental Protection Agency</p> <p>Environmental Protection Agency</p> <p>As noted under Section 5.3.1, monitoring data may not be available for this indicator when the monitoring evaluation is being prepared.</p> <p>Environmental Protection Agency</p> <p>Development Management Process in Wicklow County Council</p>
<b>Air and Climatic Factors</b>	<p>C1i: Percentage of population within the plan area travelling to work or school by public transport or non-mechanical means</p> <p>C1ii: Average distance travelled to work or school by the population of the LAP area</p>	<p>C1i: An increase in the percentage of the population travelling to work or school by public transport or non-mechanical means</p> <p>C1ii: A decrease in the average distance travelled to work or school by the population of the LAP area</p>	<p>Central Statistics Office:</p> <p>As noted under Section 5.3.1, future monitoring data may not be available for these indicators until results from the next Census are made available.</p>

<b>Environmental Component</b>	<b>Selected Indicator(s)</b>	<b>Selected Target(s)</b>	<b>Sources</b>
<b>Material Assets</b>	M1: Number of new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the LAP	M1: No new developments granted permission which cannot be adequately served by a public waste water treatment plant over the lifetime of the LAP	Development Management Process in Wicklow County Council
<b>Cultural Heritage</b>	<p>CH1: Number of unauthorised developments occurring which result in full or partial loss to archaeological heritage - including entries to the Record of Monuments and Places and unknown archaeology - and the context of the above within the surrounding landscape where relevant</p> <p>CH2i: Number of unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant</p> <p>CH2ii: Number of additions to the Record of Protected Structures and the number of additional ACAs and comparison with the NIAH</p>	<p>CH1: No unauthorised developments occurring which result in full or partial loss to archaeological heritage - including entries to the Record of Monuments and Places and unknown archaeology - and the context of the above within the surrounding landscape where relevant</p> <p>CH2i: No unauthorised developments occurring which result in physical loss or loss entries to the Record of Protected Structures and/or their context within the surrounding landscape where relevant</p> <p>CH2ii: Make Additions to the Record of Protected Structures and make additional ACAs, where appropriate</p>	<p>Development Management Process in Wicklow County Council</p> <p>Development Management Process in Wicklow County Council</p> <p>Development Management Process in Wicklow County Council</p>
<b>Landscape</b>	L1: Number of complaints received from statutory consultees regarding avoidable impacts resulting from development which is granted permission under the LAP	L1: No developments permitted which result in avoidable impacts on visually prominent landscapes and protected focal points and views	Development Management Process in Wicklow County Council

Table 5.1 Selected Indicators, Targets and Monitoring Sources