

SEA STATEMENT

FOR

VARIATION No. 2 (A)

TO THE

GALWAY COUNTY DEVELOPMENT PLAN 2015-2021

BEARNA PLAN

for: Galway County Council

Áras an Chontae
Prospect Hill
Galway



by: CAAS Ltd.

1st Floor
24-26 Ormond Quay Upper
Dublin 7



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Section 1 Introduction

1.1 Introduction and Legislative Context

This is the Strategic Environmental Assessment (SEA) Statement for Variation 2 (a) to the Galway County Development Plan 2015-2021.

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.

Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use. The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 and the Planning and Development (Strategic Environmental Assessment) Regulations 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 and the Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011.

1.2 Content of the SEA Statement

Where SEA is undertaken, the Regulations require that a Statement is made available to the public and the competent environmental authorities after the making of the Variation.

This Statement is referred to as an SEA Statement.

The SEA Statement is required to include information summarising:

- a) how environmental considerations have been integrated into the Variation;
- b) how the following have been taken into account during the preparation of the Variation:
 - the environmental report,
 - submissions and observations made to the planning authority on the Proposed Variation and Environmental Report, and
 - any transboundary consultations (these are not relevant to this SEA).
- c) the reasons for choosing the Variation 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 Variation.

1.3 Implications of SEA for the Variation

SEA has been undertaken on the Variation and the findings of the SEA are expressed in an Environmental Report, the first published version of which accompanied the Proposed Variation on public display. The Environmental Report was updated in order to take account of:

- Recommendations contained in submissions; and
- Changes to the Proposed Variation that were made on foot of submissions.

Galway County Council have been provided with the findings of SEA output during their consideration of the Proposed Variation and before the Variation was adopted.

Section 2 How Environmental Considerations were integrated into the Variation

2.1 Introduction

Environmental considerations were presented to the Council for its consideration through:

1. Consultations;
2. Communication of environmental sensitivities throughout the SEA process;
3. Appropriate Assessment;
4. Strategic Flood Risk Assessment;
5. Consideration of alternatives;
6. Integration of environmental considerations; and
7. Integration of individual SEA and AA provisions into the Variation.

2.2 Consultations

As environmental authorities identified under the Planning and Development (SEA) Regulations, as amended, the following authorities were sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Galway County Council: Environmental Protection Agency, Department of Communications, Climate Action and Environment, Department of Agriculture, Food and the Marine, Department of Housing, Planning and Local Government, Department of Culture, Heritage and the Gaeltacht and all adjoining planning authorities.

Detail on submissions made on foot of the SEA scoping notice is provided under Section 4.2.

Further detail is provided on submissions that were made on the Proposed Variation and the SEA Environmental Report while they were on public display (see Section 4.3).

2.3 Communication of environmental sensitivities throughout the SEA process

Environmental considerations were integrated into the Variation before it was placed on public display. Individual sensitivities that were considered by the Planning Team preparing the Variation included the following:

- European Sites (Special Areas of Conservation and Special Protection Areas);
- Natural Heritage Areas, proposed Natural Heritage Areas and Margaritifera Sensitive Areas;
- Soil type sensitivities;
- Status of Surface and Ground Waters;
- Various entries to the Water Framework Directive's Register of Protected Areas;
- Groundwater Vulnerability;
- Water Services Capacity, Performance and Demand;
- Landscape sensitivity and Focal Points and Views; and
- Cultural heritage (archaeological and architectural) sensitivities.

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

2.4 Appropriate Assessment

Appropriate Assessment (AA) has been undertaken alongside the preparation of the Variation 2 (a).

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

The preparation of the Variation, SEA and AA has taken place concurrently and the findings of the AA have informed both the Variation

and the SEA. All recommendations made by the AA were integrated into the Variation.

The conclusion of the Stage 2 AA is that Variation 2 (a) is not foreseen to give rise to any significant adverse effects on designated European Sites, alone or in combination with other plans or projects. Specific mitigation measures had to be integrated into the Variation in order to avoid potential effects arising from zoning within floodplains.

2.5 Strategic Flood Risk Assessment

2.5.1 Overview

A Strategic Flood Risk Assessment (SFRA) has been undertaken alongside the preparation of the Variation. The requirement for SFRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

The SFRA provides an appropriately strategic assessment of flood risk within the town of Bearna and has been undertaken in full compliance with the 2009 Flood Guidelines and subsequent circular PL2/2014. The SFRA has been undertaken with the aim of protecting existing and future properties and populations from the adverse effects of flooding.

2.5.2 Submissions received on Flood Zones and Zoning

The SFRA includes the delineation of flood zones. Various submissions were received during the Variation-preparation/adoption process that requested reductions to these flood zones, however in all instances insufficient evidence was provided to justify any reductions to the extents of the flood zones and therefore changes on this basis would be contrary to the Flood Guidelines. Zoning of these lands as requested, for residential and/or village centre development, would be inappropriate and contrary to the Guidelines.

Allowing inappropriate land use zoning in flood zones would also be contrary to the correct approach followed in the 2012 Bearna Plan – where the Flood Guidelines were adhered to.

Submissions have failed to demonstrate awareness of the evidence of historical flooding in this area in 1977, 2015 and 2017. Photos and videos have been submitted on two occasions during the Variation-preparation process, January 2018 and May 2018, which relate to lands adjoining the Trusky Stream.

A number of submissions identify that flood risk arising from zoning for incompatible uses in within Flood Zones A/B can be adequately managed by structural and non-structural flood risk management measures however this would not be in compliance with the Flood Risk Management Guidelines¹.

Furthermore, where channel clearance works have been undertaken, the Office of Public Works (OPW) have advised (February 2018) that it would be contrary to the precautionary principle to assume that rivers will be maintained in their improved state by a private land-owner. There is no statutory duty on or budget for the OPW to maintain river schemes in Bearna. The OPW have identified that it would not actively condone private clearance for the purpose of achieving a re-zoning of land. Is it therefore unreasonable to identify flood zones based on the non-equilibrium depth of the channel.

On foot of a number of submissions from Bearna residents that contained video and photographic evidence of historic flooding in the Cnoc Fraoigh area on lands adjoining the Trusky Stream in 2015 and 2017, Flood Zone A at Cnoc Fraoigh was extended. It is also noted that evidence was provided of a flood event in the vicinity of the R336, the Twelve Pins Hotel and Pier Road, when a number of houses in the Pier Road area were flooded as

¹ Page 21 "Chapter 3 Principles and Key Messages", "Key Messages": *"Only when both avoidance and substitution cannot take place should consideration be given to mitigation and management of risks."*

Lands proposed by submissions to be zoned for inappropriate uses are within Flood Zone A, an area at elevated risk of flooding. The Guidelines require a sequential approach involving firstly to avoid inappropriate development in this area. Exceptions to the restriction of development are only allowed where a detailed Justification Test (taking into account flood risk management measures) is passed. A Justification Test would not be passed in this instance as there are more alternative lands available for village centre/residential uses in Bearna. As a Justification Test would not be passed consideration cannot be given to the mitigation and management of risk.

well as undeveloped land that is now developed.

A Flood Study for the Cnoc Fraoigh lands that was included as part of a separate submission did not provide any contrary evidence that these photos were incorrect or that there was any rationale for flooding on these lands on two occasions. In review of this submission, reference was made to a previous planning application (09-1278) that referenced "Other Natural Lake/Flooding" to lands to the east of Cnoc Fraoigh Housing Estate.

Given the issues that presented during the Variation-preparation/adoption process as summarised above and combined with the significant number of recent floods in the County, it was identified that it would be irresponsible and reckless to zone lands for vulnerable uses in these areas.

2.5.3 Compliance of Variation 2 (a) with the Flood Guidelines

The preparation of the Variation, SEA and SFRA has taken place concurrently and the findings of the SFRA have informed the SEA. The SFRA has facilitated the integration of certain flood risk management considerations into the Variation. However, certain Material Alterations were made to the Proposed Variation and adopted by the Elected Members as part of the adopted Variation. These Material Alterations provide for a range of incompatible uses within areas that are at elevated risk of flooding and are contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*. Consequently the Variation is contrary to these Guidelines and associated Circular.

2.6 Consideration of Alternatives

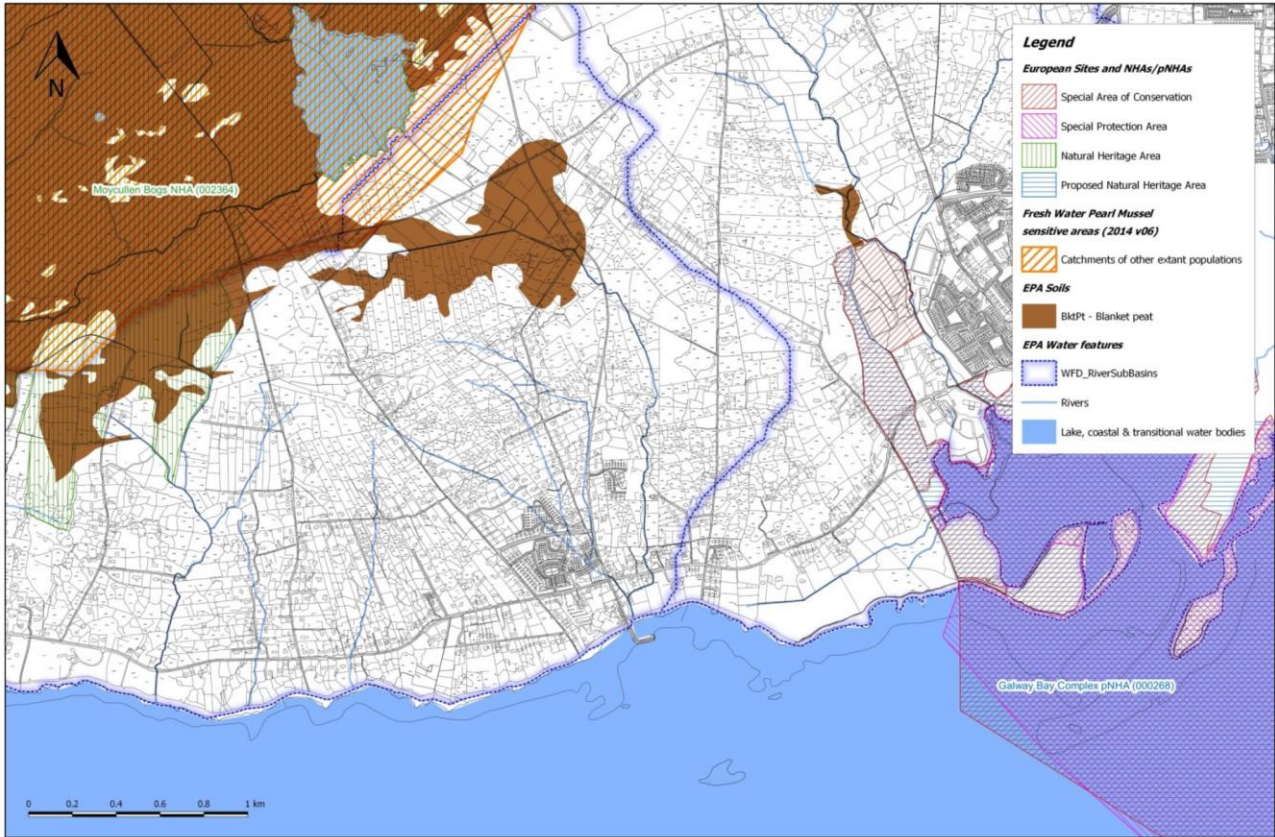
Consideration of the environmental effects arising from a variety of different alternatives for the Variation (see Section 5 and Section 6) has contributed towards the protection and management of the environment in the overall strategy for the Variation. However, the recommended alternative with respect to zoning in flood plains was not selected.

2.7 Integration of individual SEA and AA provisions into the Variation

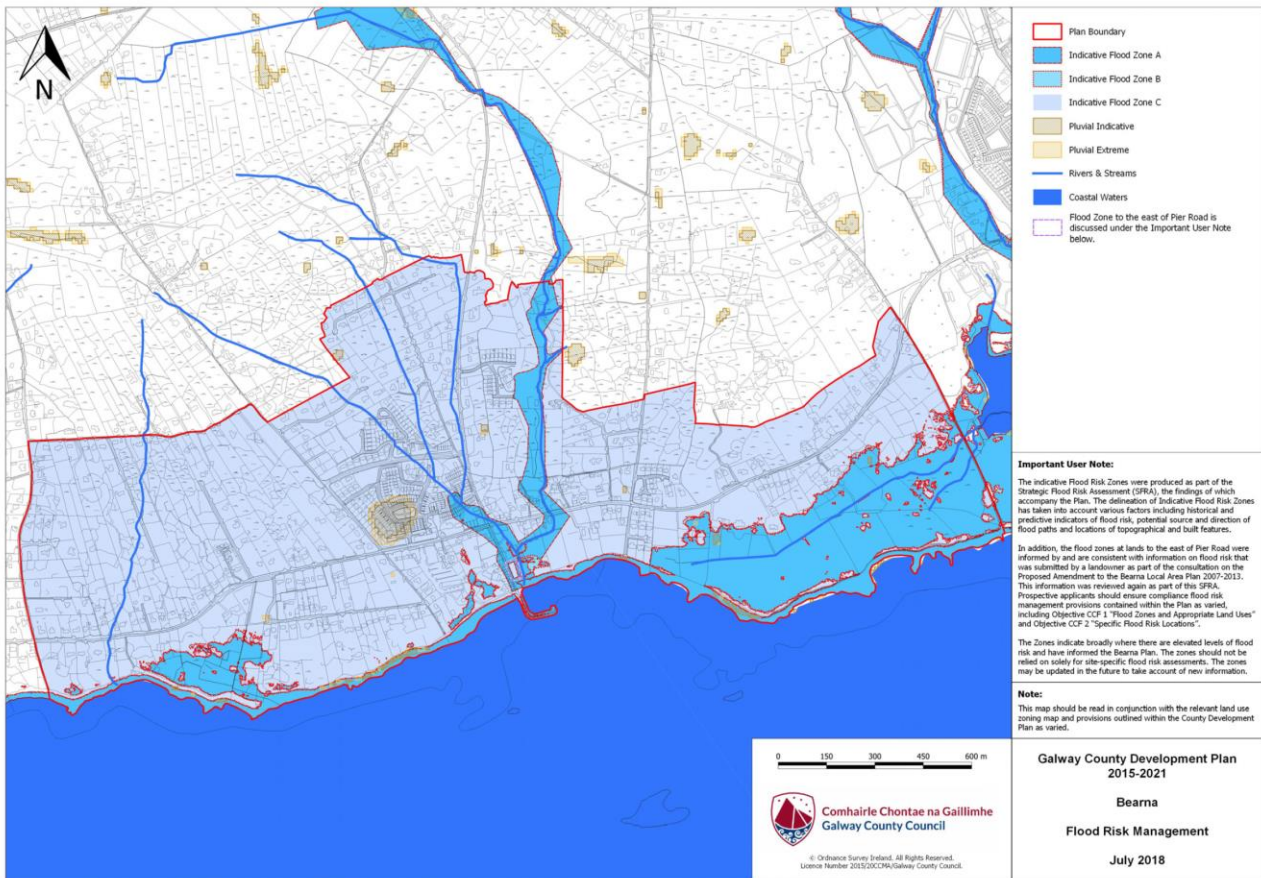
Table 2.1 links key mitigation measure(s) - which have been integrated into the Plan (as varied) and the Variation - to the likely significant effects of implementing the Variation, if unmitigated. The integration of these measures into the Variation occurred over a number of iterations and was informed by, inter alia, various communications through the SEA, AA and SFRA processes.

The measures generally benefit multiple environmental components i.e. a measure providing for the protection of biodiversity, flora and fauna could beneficially impact upon the minimisation of flood risk and the protection of human health, for example.

The reference codes are those that accompany the relevant measures in the Plan (as varied) and Variation 2 (a).



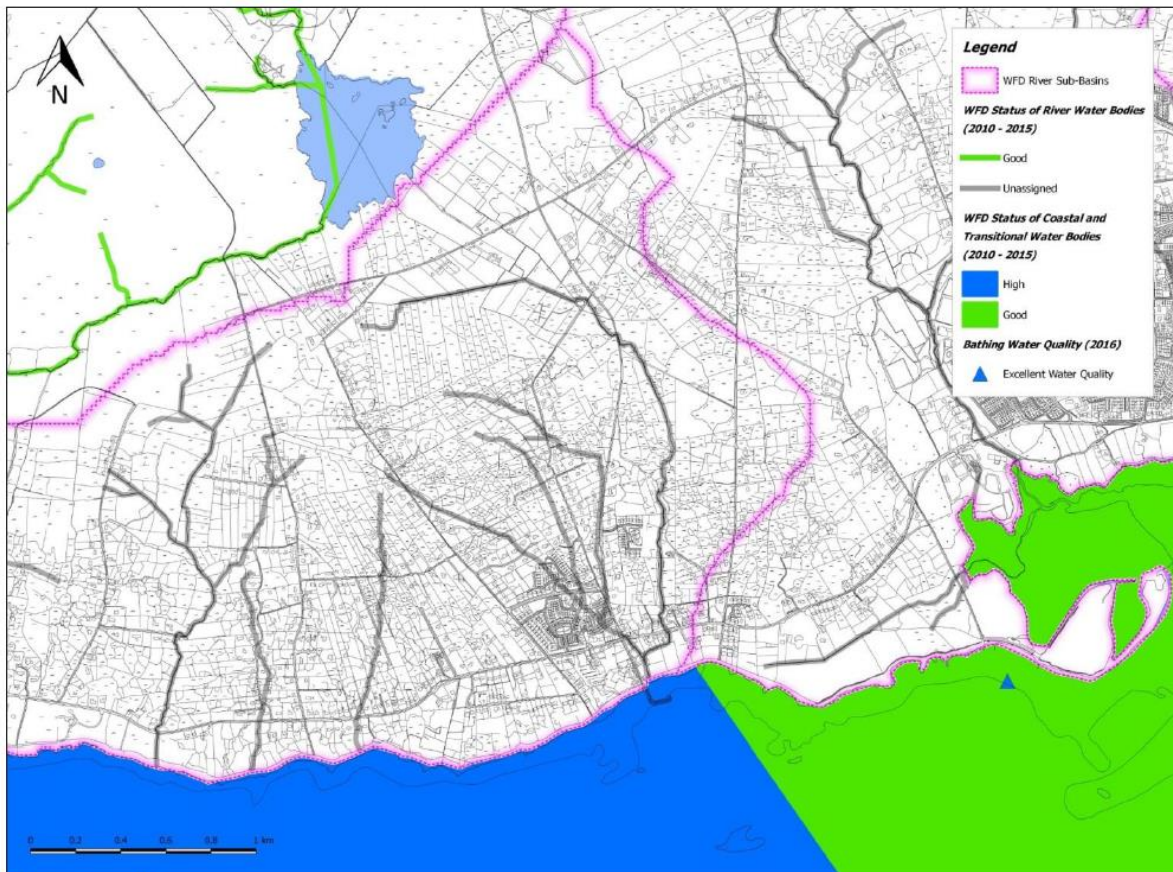
Biodiversity and Flora and Fauna



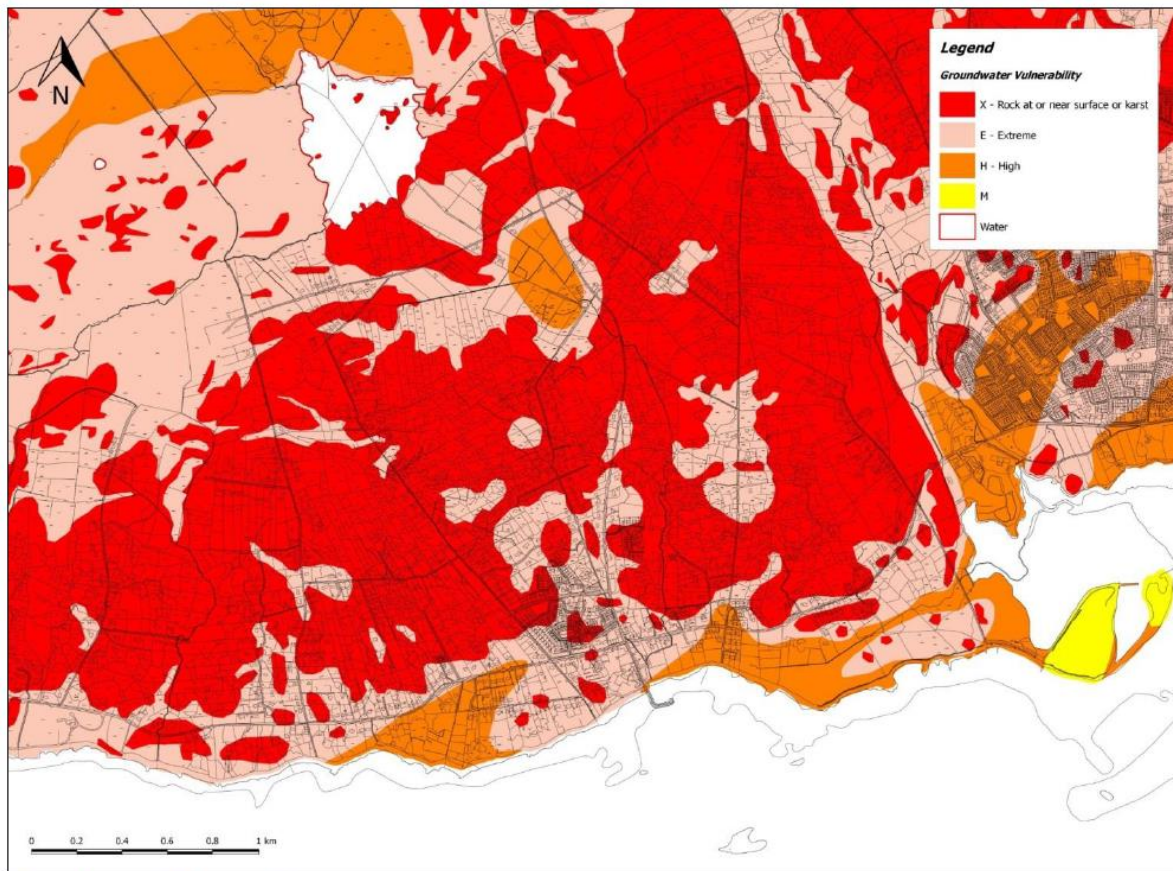
Flood Zones (Fluvial and Coastal)

Figure 2.1 Selection of Individual Environmental Sensitivities taken into account (1 of 3)²

² Certain land use zoning is provided for that is contrary to the Flood Risk Management Guidelines – please refer to Sections 2.5 and 3.

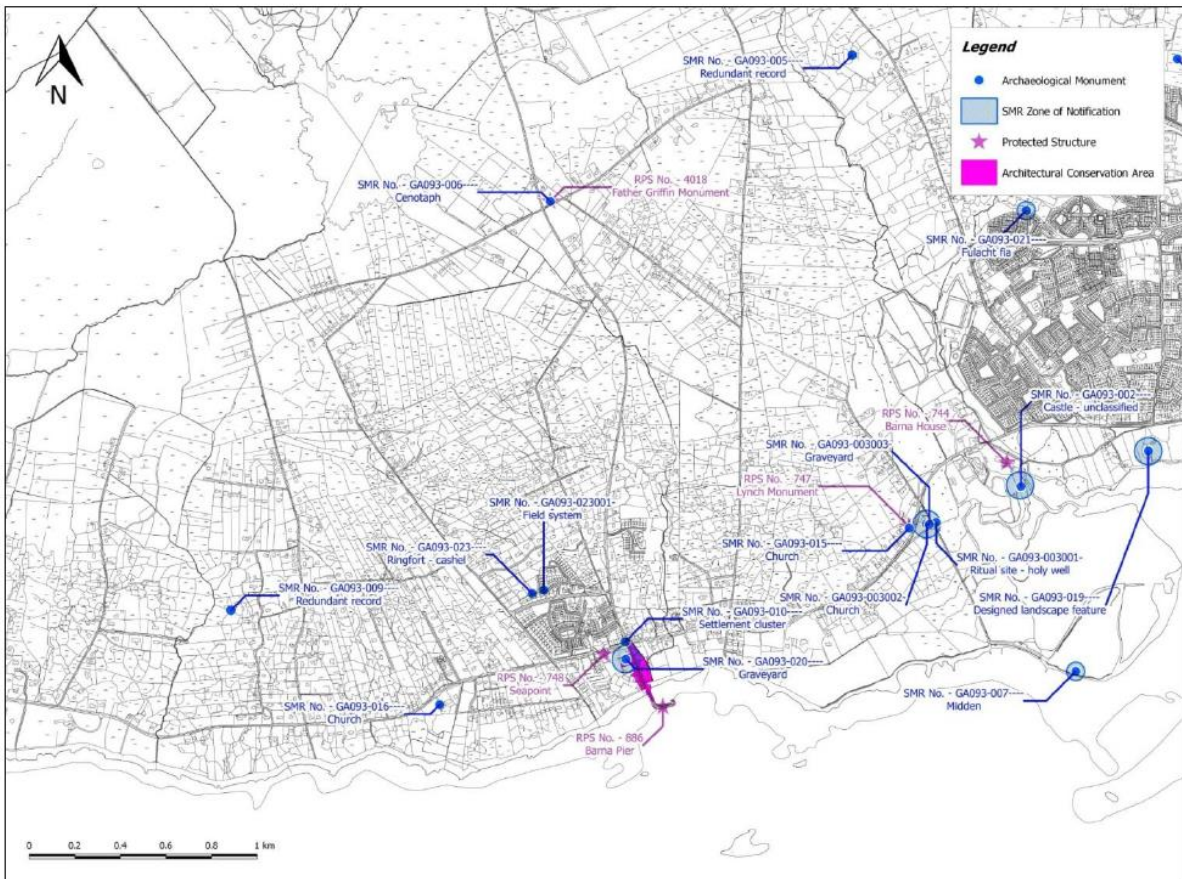


Water Quality

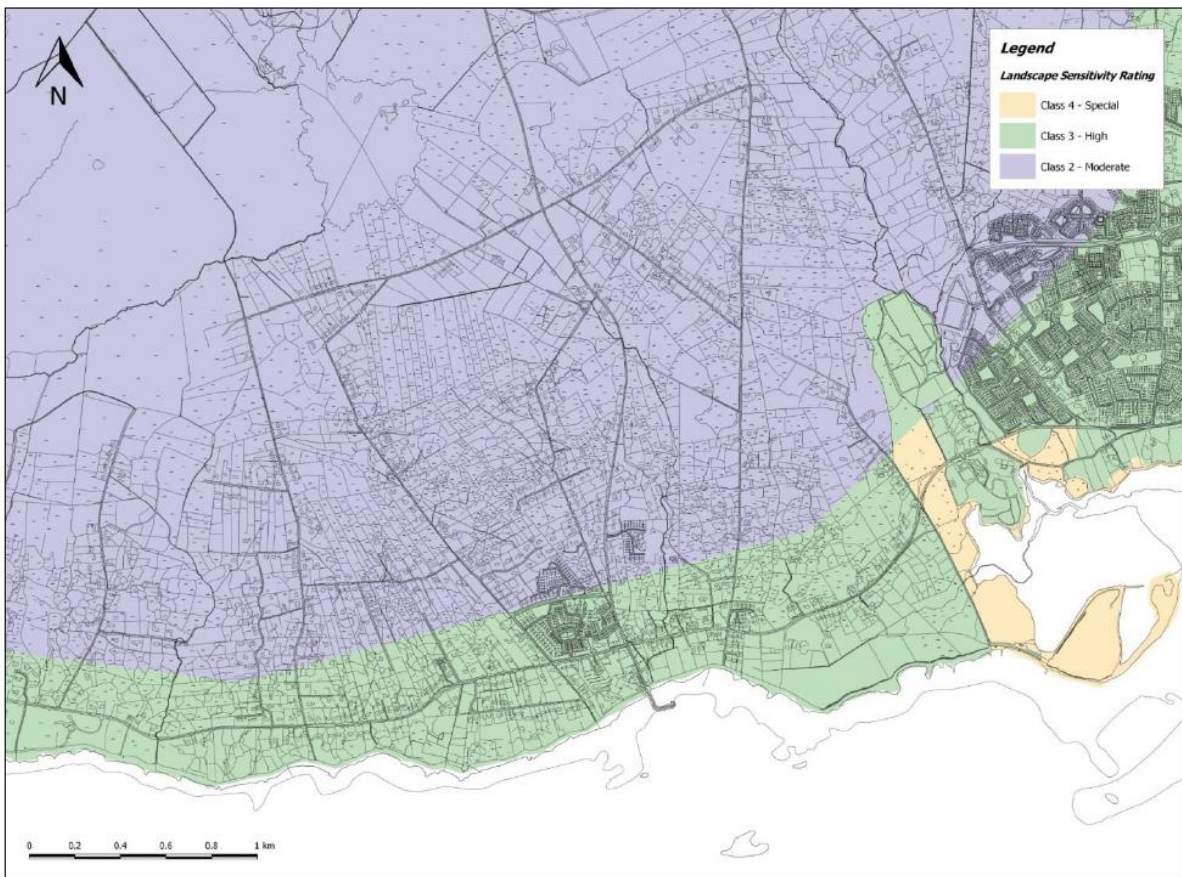


Groundwater Vulnerability

Figure 2.2 Selection of Individual Environmental Sensitivities taken into account (2 of 3)



Cultural Heritage



Landscape Sensitivity

Figure 2.3 Selection of Individual Environmental Sensitivities taken into account (3 of 3)

Table 2.1 Integration of Environmental Considerations

Likely Significant Effect, if unmitigated	Mitigation Measures, including:
<p>Arising from both construction and operation of development and associated infrastructure:</p> <ul style="list-style-type: none"> • Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; • Habitat loss, fragmentation and deterioration, including patch size and edge effects; and • Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species. 	<p>Measures from the Variation</p> <ul style="list-style-type: none"> • Objective CF 4 - Coastal Amenity Park • Objective CF 6 - Jetty/Marina Development • Objective CF 7 - Coastal Setback • Objective BNH 2 - Natural Heritage Areas and Proposed Natural Heritage Areas • Objective BNH 3 - European Environmental Compliance • Objective RT3 - Public Footpath & Lighting Network • Objective CCF6 - Inappropriate Development on Flood Zones <p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Policies NHB 1, NHB 2, NHB 3, NHB 5, NHB 6, NHB 7 and NHB 8 • Objectives DS 6, DS 9, EQ1, EQ 4, ICT 1, NHB 1, NHB 2, NHB 4, NHB 5, NHB 6, NHB 7, NHB 8, NHB 10, NHB 11, NHB 13, AFF 6 and DS10 • Also see various measures providing for populations in rural and supporting areas.
<p>Potential interactions if effects upon environmental vectors such as water and air are not mitigated</p>	<p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Policy CC 8 • Objectives TI 12 and EQ 2 • Also see measures related to soil, water quality, flooding, waste water treatment and drinking water supply and quality.
<p>Damage to the hydrogeological and ecological function of the soil resource</p>	<p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Objective NHB12 • Also see measures related to water quality and waste water treatment.
<p>Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology</p> <p>Increase in the risk of flooding</p>	<p>Measures from the Variation</p> <ul style="list-style-type: none"> • Objective BNH 4 - Local Streams • Objective CCF1 - Flood Zones and Appropriate Land Uses • Objective CCF2 - Coastal Flooding • Objective CCF3 - Structural and Non-Structural Risk Management Measures in Flood Vulnerable Zones • Objective CCF4 - Water Bodies and Watercourses • Objective CCF5 - Coastal Protection • Objective LU9 - Constrained Land Use Zone (CL) • DM Guideline FL1 – Flood Zones and Appropriate Land Uses <p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Policies NHB 4, AFF 5, FL 1, FL 2, FL 3, FL 4 and FL 5 • Objectives NHB 3, NHB 8, NHB 10, NHB12, EQ1, AFF 5, AFF 6, AFF9, CS 4, WS 1, WS 2, WS 7, WS 9, WS 11, WW 1, FL 1, FL 2, FL 3, FL 4, FL 5, FL 6, DS 7, DS 8 and DS 9 and RA 1
<p>Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts)</p> <p>Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts)</p> <p>Increases in waste levels</p>	<p>Measures from the Variation</p> <ul style="list-style-type: none"> • Objective IS1 - Wastewater Treatment Plant <p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Policies WS 1 WS 2 WS 3 WS 4 WS 5 WS 6 WW 1 WM1 WM2 • Objectives WS 1, WS 2, WS 3, WS 4, WS 5, WS 6, WS 7, WS 8, WS 9, WS 10, WS 11, WS 12, WS 13, WS 14, WS 15, WW 1, WW 2, WW 3, WW 4, WW 5, WW 6, WW 7, WW 8, WW 10, WM 1, WM 2, WM 3, WM 4, WM 5, WM 6, CS 4, RHO -5 and EDT 5

Likely Significant Effect, if unmitigated	Mitigation Measures, including:
<p>Emissions to air including greenhouse gas emissions and other emissions.</p> <p>Climate adaptation interactions</p>	<p>Measures from the Variation</p> <ul style="list-style-type: none"> • Objective RT1 - Transport Network • Objective RT3 - Public Footpath & Lighting Network • Objective RT5 - Bus Services, Stops and Shelters • Objective LU7 - Transport Infrastructure (TI) • DM Guideline DM1 – Development Densities <p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Strategic Aims 6, 7 and 11 • Policies CC 1, CC2, CC3, CC4, CC5, CC6, CC 7, TI 1, TI 2, TI 3 and TI 4 • Objectives DS 1, DS 2, DS 3, DS 8, CS 3, CS 5, TI 1, TI 2, TI 3, TI 4, TI 16, TI 17, TI 18, TI 19, TI 20, TI 21, DS 8, CC1, CC 2, CC3, CC 4 and CC5
<p>Effects on entries to the Record of Monuments and Places and other archaeological heritage</p> <p>Effects on entries to the Records of Protected Structures, Architectural Conservation Areas and other architectural heritage</p>	<p>Measures from the Variation</p> <ul style="list-style-type: none"> • Objective BNH 1 – ACA Appraisal and Management Plan <p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Policies AH 1, AH 2, ARC 1, ARC 2, ARC 3, ARC 4 and ARC 5 • Objectives AH 1, AH 2, AH 3, AH 4, AH 5, AH 6, AH 7, AH 8, AH 9, AH 10, AH 11, ARC 1, ARC 2, ARC 3, ARC 4, ARC 5, ARC 6 and ARC 7
<p>Occurrence of adverse visual impacts</p>	<p>Measures from the Variation</p> <ul style="list-style-type: none"> • Objective UD3 - Coastal Views • Objective CF 7 - Coastal Setback <p>Measures from the Plan as varied</p> <ul style="list-style-type: none"> • Policy LCM 1 • Objectives LCM 1, LCM 2, LCM 3, FPV 1 and WH 1

Section 3 Instances whereby Environmental Considerations were not integrated into the Variation

3.1 Material Alterations to the Proposed Variation that was placed on public display

16 Material Alterations were proposed after public display of the Proposed Variation. Proposed Material Alterations No. 1-7 were determined as requiring full SEA. Full SEA (and Stage 2 AA) was undertaken on these Material Alterations and the findings of the SEA were placed on public display alongside the Material Alterations. The Elected Members were also informed of the findings.

Material Alteration No. 7 proposed the rezoning of lands from Open Space/Recreation and Amenity Zoning to Residential Phase 1.

The SEA found that, among other things:

- Material Alterations No. 1-6 provide for a range of incompatible uses within areas that are at elevated risk of flooding (these areas were identified by the Strategic Flood Risk Assessment);
- Material Alterations No. 1-6 provide incompatible uses that are contrary to proper and sustainable flood risk management and contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*;
- If any of the lands subject to Proposed Material Alterations No. 1-6 that are located within Flood Zones A or B were developed, there would be a heightened risk of flooding and associated adverse effects on people and their assets. Such effects are identified on Table 3.1 and range from loss of life, to damage to property, to loss of income;
- Material Alterations No. 1-6 would result in elevated potential for water quality to be adversely affected (as a result of flooding of water treatment systems and collection networks and flooding of unknown substances stored onsite). Polluted or contaminated waters would have the potential to adversely affect human health and biodiversity and flora and fauna (including designated European Sites); and
- Taking into account the considerable extent of lands involved, cumulative adverse effects would be likely to arise on all environmental components as a result of the provision of unnecessary zoning (for which there is no established planning need) under Material Alterations No. 1-7³.

Table 3.1 Selection of Adverse Effects (on People and Property) that occur as a result of Flooding

Tangible Effects	Intangible Human and Other Effects
Damage to buildings (houses)	Loss of life
Damage to contents of buildings	Physical injury
Damage to new infrastructure e.g. roads	Increased stress
Loss of income	Physical and psychological trauma
Disruption of flow of employees to work causing knock on effects	Increase in flood related suicide
Enhanced rate of property deterioration and decay	Increase in ill health
Long term rot and damp	Homelessness
	Loss of uninsured possessions

³ Note that MA7 is located within Flood Zone C.

In order to be consistent with the need to contribute towards proper planning and sustainable development and in order to comply with the Flood Risk Management Guidelines, it was recommended by the SEA that zoning as proposed by Proposed Variation 2 (a) and not zoning as proposed by the Material Alterations was selected.

Elected Members decided to select zoning as proposed by the Material Alterations. This zoning is contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*.

Please also refer to Section 2.5 "Strategic Flood Risk Assessment".

Section 4 Environmental Report and Submissions/ Observations

4.1 Introduction

This section details how both the Environmental Report and submissions and observations made to Galway County Council on the Environmental Report and SEA process have been taken into account during the preparation of the Variation and the SEA.

4.2 SEA Scoping Submissions

As part of the scoping process for preparation of the Variation, environmental authorities⁴ were notified that a submission or observation in relation to the scope and level of detail of the information to be included in the Environmental Report could be made to the Council.

SEA scoping submissions were made by the Environmental Protection Agency (EPA) and the Department of Culture, Heritage and Gaeltacht. These submissions influenced the scope of the assessments and were taken into account during the undertaking of the SEA, Strategic Flood Risk Assessment (SFRA) and Appropriate Assessment (AA).

The submission from the EPA provided specific comments and advice covering the following issues:

- EPA's State of the Environment report - Ireland's Environment – An Assessment 2016;
- Critical Service Infrastructure;
- Water Related Considerations;
- Flooding;
- SUDS;
- Biodiversity;
- Fisheries;
- Green Infrastructure/Habitat Mapping;
- Landscape;

⁴ The following authorities were notified: Environmental Protection Agency, Department of Communications, Climate Action and Environment, Department of Agriculture, Food and the Marine, Department of Housing, Planning and Local Government, Department of Culture, Heritage and the Gaeltacht and all adjoining planning authorities.

- Relationship with Key Plans/Programmes;
- Climate Adaptation / Climate Mitigation;
- Scoping Process Guidance;
- SEA WebGIS Search and Reporting Tool; and
- Environmental Authorities.

The submission from the Department of Culture, Heritage and Gaeltacht provided specific comments and advice covering the following issues:

- Archaeology - compliance with the National Monuments Acts, and amendments, 1930 to 2004;
- Archaeology - references to national archaeological legislation and policy documents; and
- Archaeology - General Guidance.

4.3 Submissions on the Environmental Reports for the Proposed Variation and Proposed Material Alterations

Various submissions were made on the Proposed Variation, Proposed Material Alterations and associated environmental assessment documents while these documents were on public display. Certain submissions resulted in updates being made to the Variation, SEA and AA documents.

On foot of a submission from the EPA, Appendix I to the SEA Environmental Report was updated to include the following:

- Maritime Spatial Planning Directive
- National Adaptation Framework
- National Planning Framework – Ireland 2040
- National Water Resources Plan
- National River Basin Management Plan for Ireland
- Forestry and Freshwater Pearl Mussel Plan
- Fáilte Ireland plans

- Action Plan for Rural Development
- Dublin to Galway Greenway Plan

On foot of a submission from the Department of Culture, Heritage and the Gaeltacht, the AA Natura Impact Report was updated to provide further detail on the rational and scientific literature used to produce the content.

On foot of a number of submissions from a number of Bearna residents, Flood Zone A at Cnoc Fraoigh was expanded to take in a larger area. These submissions contained video and photographic evidence of historic flooding in the Cnoc Fraoigh area on lands adjoining the Trusky Stream in 2015 and 2017. Evidence was also provided of a flood event in the vicinity of the R336, the Twelve Pins Hotel and Pier Road, when a number of houses in the Pier Road area were flooded as well as undeveloped land that is now developed. For further details on submissions on flood issues please refer to Section 2.5.

On foot of a submission from a landowner with respect to flood risk, the following text was inserted into the SEA Environmental Report with respect to Material Alteration No. 7 lands: "Located within Flood Zone C".

4.4 SEA documents including SEA Environmental Report

The Proposed Variation and accompanying documents (including SEA Environmental Report and AA and SFRA documents) were placed on public display in December 2017, having integrated all recommendations arising from the SEA, AA and SFRA processes. Responses to submissions made on the SEA Environmental Report and AA and SFRA documents during the period of public display of Proposed Variation 2 (a) were integrated into a Chief Executive's Report and considered by Galway County Council.

16 Material Alterations were proposed after public display of the Proposed Variation. Proposed Material Alterations No. 1-7 were determined as requiring full SEA. Full SEA (and Stage 2 AA) was undertaken on these Material Alterations and the findings of the SEA were placed on public display alongside the Material Alterations. The Elected Members were also informed of the findings. Responses to

submissions made on the SEA Environmental Report and AA and SFRA documents during the period of public display of the Proposed Material Alterations were integrated into a Chief Executive's Report and considered by Galway County Council.

In order to be consistent with the need to contribute towards proper planning and sustainable development and in order to comply with the Flood Risk Management Guidelines, it was recommended by the SEA of the Proposed Material Alterations that zoning as proposed by Proposed Variation 2 (a) and not zoning as proposed by the Material Alterations was selected.

Elected Members decided to select zoning as proposed by the Material Alterations. This zoning is contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*.

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

Section 5 Description of Alternatives considered

5.1 Introduction

As per the requirements of the SEA Directive, the SEA considered reasonable alternatives, which are capable of being implemented for both Proposed Variation 2 (a) and, subsequently, the Proposed Material Alterations, taking into account the objectives and the geographical scope of the Plan (as varied).

5.2 Alternatives considered for Proposed Variation 2 (a)

Galway County Council in preparing Proposed Variation 2 (a) for public display, developed three alternatives for Bearna as detailed below. An evaluation of alternatives is provided at Section 6.

Alternative 1: Even (Refinement and Consolidation) Development

- Achieving the population targets: Bearna to reach the population targets by 2021, resulting in balanced orderly development and implementation of the core strategy as contained in Chapter 2 of the Galway County Development Plan 2015-2021.
- This alternative provides Village Centre/Mixed Uses/Brownfield Development within and around the existing centre.
- Phase I Residential Expansion Areas are provided at two discrete areas, at lands to the west of Creagán and at lands around Cnoc Fraoigh.
- The infrastructure required to be in place to achieve the growth targets is already in place.
- Residential Development to take place on R1 lands in the lifetime of the Bearna Plan, unless a comprehensive justification is provided for alternative residential lands.
- Community development facilities to be developed in tandem with the targeted growth of the settlement.
- Village Centre developments would be developed in a planned and coordinated manner.
- Opportunity sites identified with clear design and proposed uses identified.
- Open Space and Recreational Lands would be preserved.

Alternative 2: Sporadic Development

- Achieving the population targets: Bearna to reach the population targets by 2021, resulting in the implementation of the core strategy as contained in Chapter 2 of the Galway County Development Plan 2015-2021.
- This alternative provides Village Centre/Mixed Uses/Brownfield Development within and around the existing centre.
- Phase I Residential Expansion Areas are provided:
 - Across lands including those provided for under Alternative 1 (at lands to the west of Creagán and at lands around Cnoc Fraoigh)
 - Along lands stretching westwards from the town, along the R336, to the west of Creagán.
 - Along lands stretching eastwards from the town, along the R336, to the east of Carraig an Iolar.
- Additional infrastructure would be required to accommodate sporadic development, more than would be required for Alternative 1 'Even (Refinement and Consolidation) Development'.
- Residential Development to take place on R1 and R2 lands in the lifetime of the Bearna Plan, unless an evidence based justification is provided for alternative residential lands.
- Village centre development would be sporadic and uncoordinated around the village centre zonings.
- Opportunity sites are identified but no clear guidance on the design parameters or uses identified.

Alternative 3: Haphazard Development

- Achieving the population targets - Bearna to reach the population targets by 2021, resulting in the implementation of the core strategy as contained in Chapter 2 of the Galway County Development Plan.
- Additional infrastructure would be required to accommodate sporadic development, more than would be required for Alternative 1 'Even (Refinement and Consolidation) Development' or Alternative 2 'Sporadic Development', development would have to be serviced by private waste water treatment systems which would have to be properly maintained.
- Residential development would occur on a piecemeal and haphazard basis within the three settlements.
- Ribbon and backland development would be a dominant feature within the settlement.
- Village centre development would be permitted on a number of different zonings and not concentrated on the village centre.
- No opportunity sites identified-laissez faire attitude in relation to development.
- Each application would be considered on its own merits and no land use zoning is provided for.

5.3 Alternatives considered for Proposed Material Alterations

16 Material Alterations were proposed after public display of the Proposed Variation. Proposed Material Alterations No. 1-7 were determined as requiring full SEA.

Material Alterations No. 1-6 proposed inappropriate development within areas that are at elevated risk of flooding. There is no established planning need to zone these lands. The alternative for each of these Alterations was to retain appropriate zoning as it was included within the Proposed Variation.

Proposed Material Alteration No. 7 proposed the rezoning of lands from Open Space/Recreation and Amenity Zoning to Residential Phase 1. There is no established planning need to zone these lands. A final alternative to Proposed Material Alterations 1-7 combined is included that involves retaining the zoning for all sites as it is included in the Proposed Variation.

The alternatives for the Proposed Material Alterations are arrayed on the table below.

Table 5.1 Alternatives considered for Proposed Material Alterations

Proposed Material Alteration No.	Alternative A: Zoning as proposed by Proposed Variation 2 (a)	Alternative B: Zoning as proposed by Material Alteration(s)
MA1	Business and Enterprise Opportunity Site No. 3 Open Space/Recreation and Amenity	Village Centre
MA2	Opportunity Site No. 2 Open Space/Recreation and Amenity	Village Centre
MA3	a) Open Space/Recreation and Amenity b) Residential Phase 1	a) Residential Phase 1 b) Residential Phase 2
MA4	Open Space/Recreation and Amenity	Village Centre
MA5	Open Space/ Recreation and Amenity	Village Centre
MA6	Open Space/ Recreation and Amenity	Village Centre
MA7 ⁵	Open Space/ Recreation and Amenity	Residential Phase 1
MA1-7	Open Space/Recreation and Amenity Business and Enterprise Opportunity Sites No. 2 and 3 Residential Phase 1	Village Centre Residential Phase 1 Residential Phase 2

⁵ Note that MA7 is located within Flood Zone C.

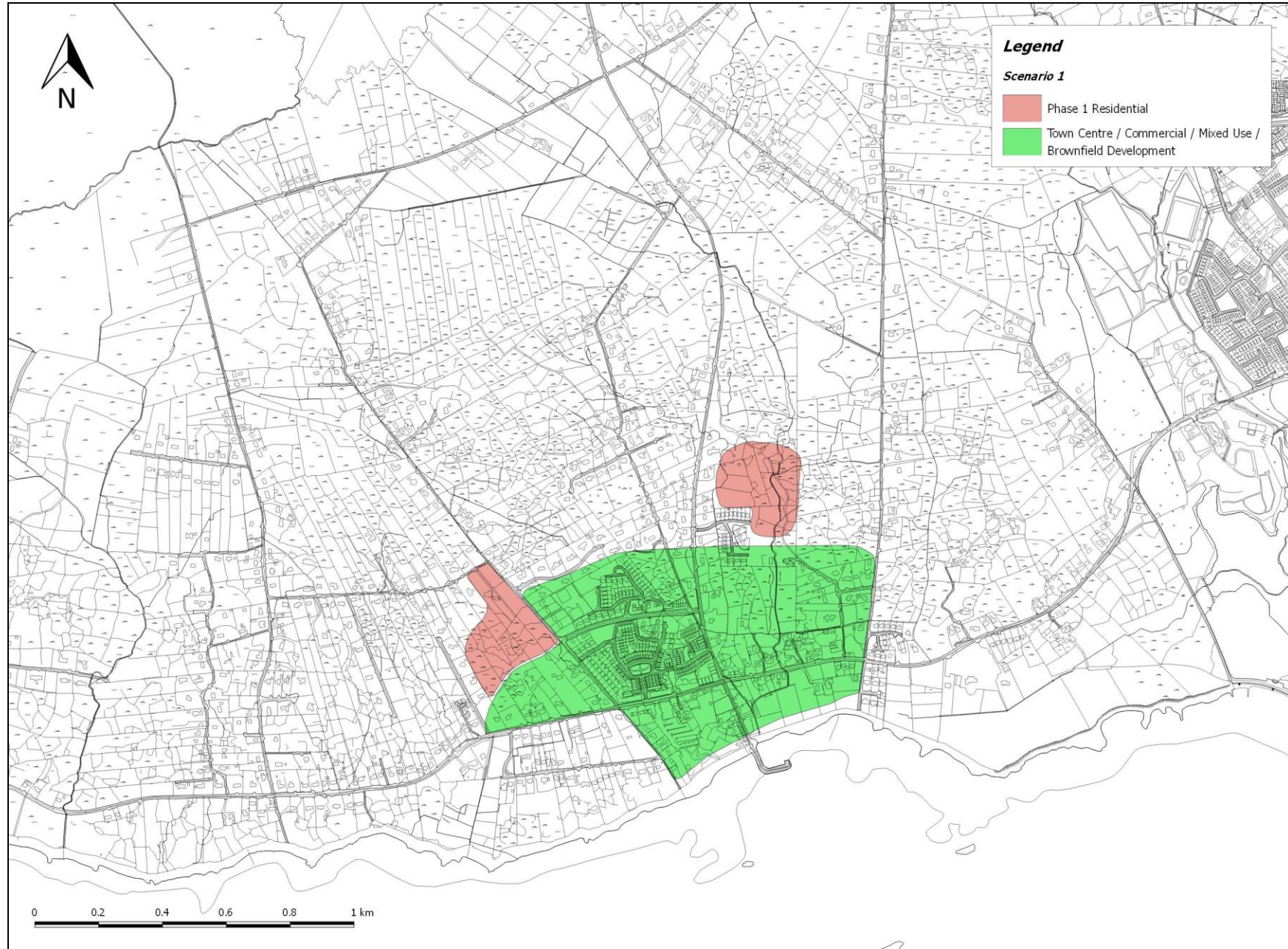


Figure 5.1 Bearna Alternative 1 considered for Proposed Variation 2 (a) in advance of public display

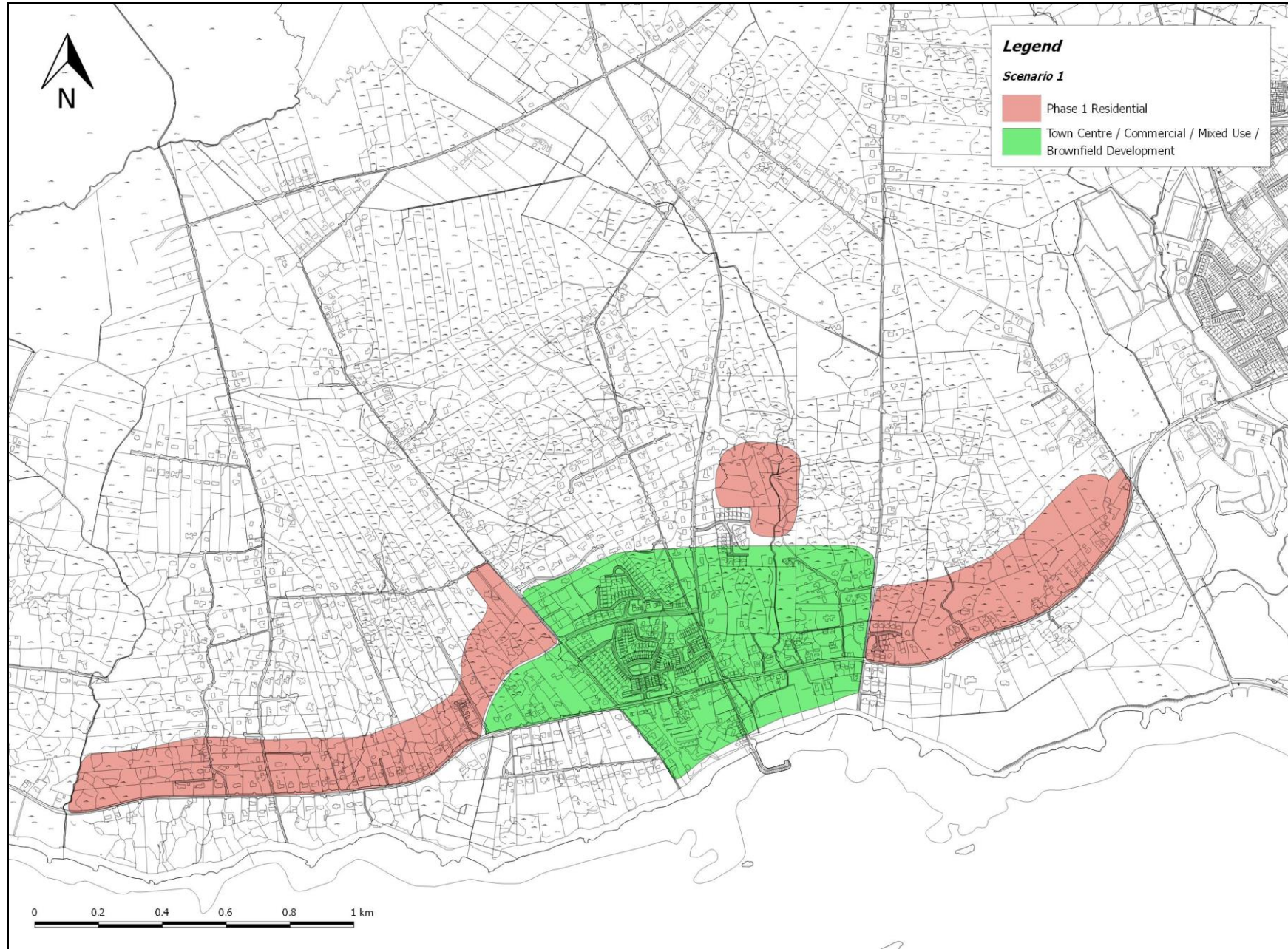


Figure 5.2 Bearna Alternative 2 considered for Proposed Variation 2 (a) in advance of public display

Section 6 Evaluation of Alternatives

This section provides an evaluation of the environmental effects of implementing the alternatives including the taking into account of cumulative effects.

The relevant aspects of the current state of the environment and the Strategic Environmental Objectives⁶ (see Table 6.1) were used in the evaluation of alternatives that is summarised in this section.

Table 6.1 Strategic Environmental Objectives

Environmental Component	SEO Code	SEO
Biodiversity, Flora and Fauna	B1	To ensure compliance with the Habitats and Birds Directives with regard to the protection of European Sites and Annexed habitats and species ⁷
	B2	To ensure compliance with Article 10 of the Habitats Directive with regard to the management of features of the landscape which - by virtue of their linear and continuous structure or their function act as stepping stones (designated or not) - are of major importance for wild fauna and flora and essential for the migration, dispersal and genetic exchange of wild species
	B3	To avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites ⁸ and to ensure compliance with the Wildlife Acts 1976-2010 with regard to the protection of species listed on Schedule 5 of the principal Act
	B4	To sustain existing sustainable rural management practices - and the communities who support them - to ensure the continuation of long established managed landscapes and the flora and fauna that they contain
Population and Human Health	PHH1	To protect populations and human health from exposure to incompatible landuses
Soil	S1	To avoid damage to the hydrogeological and ecological function of the soil resource in County Galway
Water	W1	To maintain and improve, where possible, the quality and status of surface waters
	W2	To prevent pollution and contamination of ground water
	W3	To comply as appropriate with the provisions of the Planning System and Flood Risk Management: Guidelines for Planning Authorities (DEHLG and OPW, 2009)
Material Assets	M1	To serve new development with adequate and appropriate waste water treatment
	M2	To serve new development with adequate drinking water that is both wholesome and clean
	M3	To reduce waste volumes, minimise waste to landfill and increase recycling and reuse.
Air and Climatic Factors	C1	To reduce travel related emissions to air and to encourage modal change from car to more sustainable forms of transport
Cultural Heritage	CH1	To protect archaeological heritage including entries to the Record of Monuments and Places and/or their context
	CH2	To protect architectural heritage including entries to the Record of Protected Structures and Architectural Conservation Areas and their context
Landscape	L1	To avoid significant adverse impacts on the landscape - especially with regard to the County's landscapes which are most valuable and most sensitive to change and protected focal points and views.

⁶ Strategic Environmental Objectives (SEOs) are methodological measures developed from policies that generally govern environmental protection objectives established at international, Community or Member State level e.g. the environmental protection objectives of various European Directives which have been transposed into Irish law and which are required to be implemented.

⁷ 'Annexed habitats and species' refer to those listed under Annex I, II & IV of the EU Habitats Directive and Annex I of the EU Birds Directive.

⁸ The Planning and Development Act 2000 as amended defines a 'wildlife site'.

6.1 Evaluation of Alternatives considered for Proposed Variation 2 (a)

By:

- Concentrating Village Centre/Mixed Uses/Brownfield Development within and around the existing village centre and
- Providing for new Residential Expansion Areas over two discrete sites that are already or most easily served by infrastructure and could serve demand for new development

Alternative 1 'Even (Refinement and Consolidation) Development' would result in the greatest degree of significant positive environmental effects and least degree of potential conflicts. Development would be most likely to occur within or closest to the existing settlement centre on serviced sites.

By:

- Concentrating Village Centre/Mixed Uses/Brownfield Development within and around the existing village centre and
- Providing for new Residential Expansion Areas over a greater number of sites that could serve demand for new development

Alternative 2 'Sporadic Development' would result in a relatively moderate degree of significant positive environmental effects and a relatively moderate degree of potential conflicts. In comparison to Alternative 2, development would be spread out over a greater number of sites, some not currently serviced and some further from the settlement centre.

Additional infrastructure would be required to accommodate sporadic development, more than would be required for Alternative 1 'Even (Refinement and Consolidation) Development'.

By:

- Not identifying opportunity sites; and
- Following a 'laissez faire' approach in relation to development, with each application considered on its own merits and no land use zoning would be provided for

Alternative 3 'Haphazard Development' would result in the least degree of significant positive environmental effects and greatest degree of potential conflicts. Development would be spread out over the entire area associated with the settlement, with ribbon and backland development a dominant feature within the settlement. Although existing Plan provisions – including those relating to environmental protection/management and sustainable development – would have to be complied with, the potential for cumulative adverse effects would be significantly higher with this alternative.

All of the alternatives are consistent with approach provided by the existing Plan, to sustain existing sustainable rural management practices - and the communities who support them - to ensure the continuation of long established managed landscapes and the flora and fauna that they contain.

6.2 The reasons for choosing the alternative for the Proposed Variation that was placed on public display in the light of the other reasonable alternatives dealt with

The Selected Alternative that emerged from the planning/SEA process and was placed on public display as "Proposed Variation No. 2 (a)" was Alternative 1: Even (Refinement and Consolidation) Development. This alternative was selected and developed by the Planning Team and placed on public display by the Council having regard to both:

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

The land use zoning map for the town that evolved from the selection of Alternative 1 'Even (Refinement and Consolidation) Development' and that was placed on public display as Proposed Variation No. 2 (a) is provided at Figure 6.1.

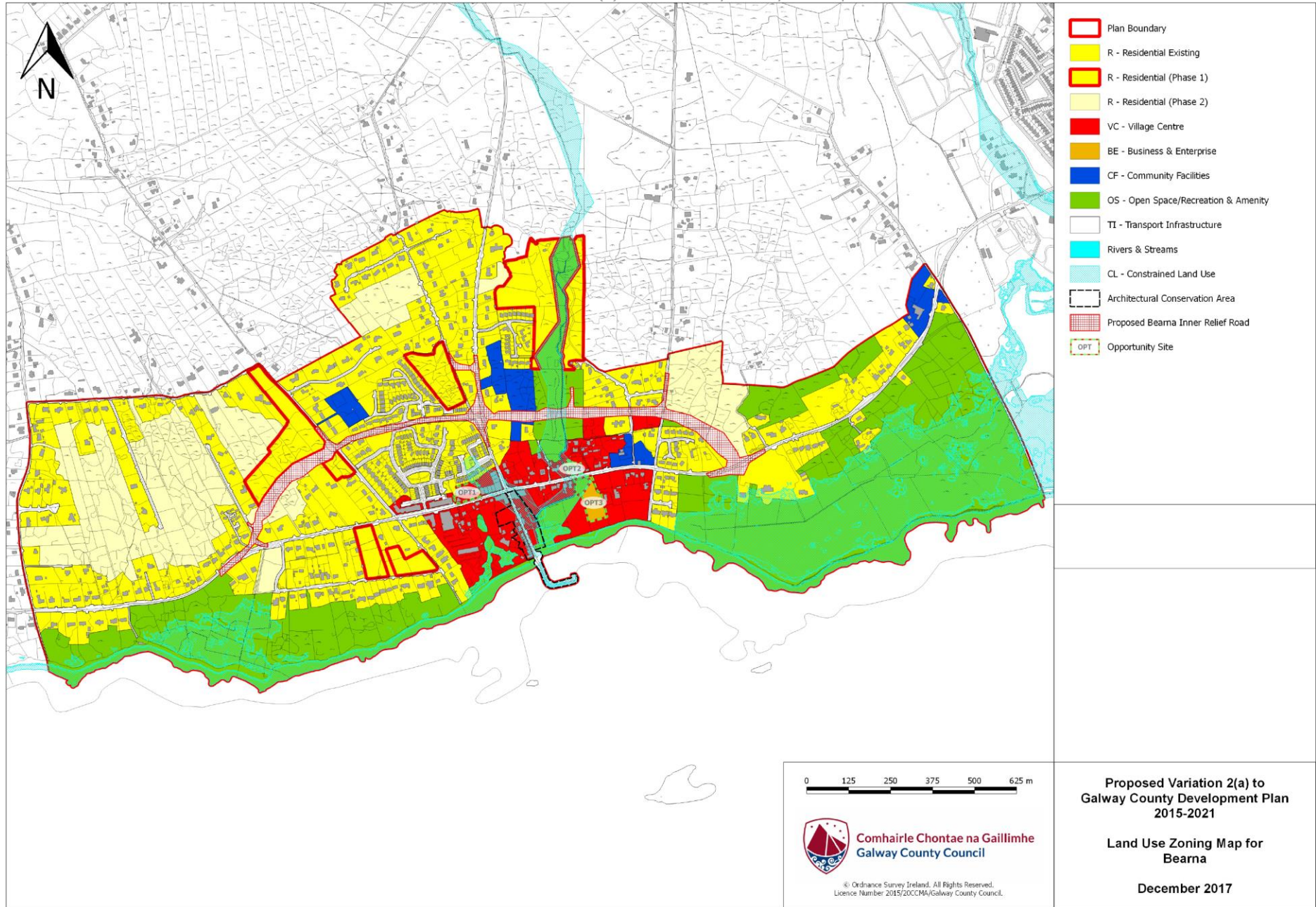


Figure 6.1 Land Use Zoning Map that was placed on public display as Proposed Variation 2 (a)

6.3 Evaluation of Alternatives considered for Proposed Material Alterations

16 Material Alterations were proposed after public display of the Proposed Variation. Proposed Material Alterations No. 1-7 were determined as requiring full SEA.

Material Alterations No. 1-6 proposed inappropriate development within areas that are at elevated risk of flooding. There is no established planning need to zone these lands. The alternative for each of these Alterations was to retain appropriate zoning as it was included within the Proposed Variation.

Proposed Material Alteration No. 7⁹ proposed the rezoning of lands from Open Space/Recreation and Amenity Zoning to Residential Phase 1. There is no established planning need to zone these lands. A final alternative to Proposed Material Alterations 1-7 combined is included that involves retaining the zoning for all sites as it is included in the Proposed Variation.

As detailed under Section 5.3, alternatives considered for Proposed Material Alterations are as follows: Alternative A: Zoning as proposed by Proposed Variation 2 (a); and Alternative B: Zoning as proposed by Material Alteration(s).

6.3.1 Alternative A for Individual Proposed Material Alterations

Alternatives that provide for Zoning as proposed by Proposed Variation 2 (a) that was placed on public display (these alternatives are referred to as **Alternative A**, see Table 5.1) would be likely to contribute towards flood risk management in compliance with the Flood Risk Management Guidelines and as a result would contribute towards the protection of human health. As these alternatives provide for various types of built development they would have the potential to conflict with all environmental components. Potentially significant adverse environmental effects arising from this conflict are described on Table 6.2.

Table 6.2 Potentially Significant Adverse Environmental Effects, if unmitigated, common to all alternatives

Environmental Component	Potentially Significant Adverse Environmental Effects, if unmitigated
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> o Arising from both construction and operation of development and associated infrastructure: <ul style="list-style-type: none"> o Loss of/damage to biodiversity in designated sites (including European Sites and Wildlife Sites) and Annexed habitats and species, listed species, ecological connectivity and non-designated habitats; and disturbance to biodiversity and flora and fauna; o Habitat loss, fragmentation and deterioration, including patch size and edge effects; and o Disturbance (e.g. due to noise and lighting along transport corridors) and displacement of protected species.
Population and Human Health	<ul style="list-style-type: none"> o Potential interactions if effects upon environmental vectors such as water and air are not mitigated.
Soil	<ul style="list-style-type: none"> o Damage to the hydrogeological and ecological function of the soil resource.
Water	<ul style="list-style-type: none"> o Adverse impacts upon the status of water bodies arising from changes in quality, flow and/or morphology. o Increase in the risk of flooding.
Material Assets	<ul style="list-style-type: none"> o Failure to provide adequate and appropriate waste water treatment (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). o Failure to comply with drinking water regulations and serve new development with adequate drinking water that is both wholesome and clean (water services infrastructure and capacity is needed to ensure the mitigation of potential conflicts). o Increases in waste levels.
Air and Climatic Factors	<ul style="list-style-type: none"> o Emissions to air including greenhouse gas emissions and other emissions.
Cultural Heritage	<ul style="list-style-type: none"> o Potential effects on protected and unknown archaeology and protected architecture arising from construction and operation activities.
Landscape	<ul style="list-style-type: none"> o Occurrence of adverse visual impacts and conflicts with the appropriate protection of designations relating to the landscape, especially with regard to the County's landscapes which are most valuable and most sensitive to change and protected focal points and views.

⁹ Note that MA7 is located within Flood Zone C.

For all interactions under Alternative A, these effects would be mitigated by both provisions integrated into the Variation and existing provisions already in force through the County Development Plan – see Table 2.1.

6.3.2 Alternative B for Individual Proposed Material Alterations

Alternatives that provide for zoning as proposed by Material Alterations to Proposed Variation 2 (a) that was placed on public display (these alternatives are referred to as **Alternative B**, see Table 5.1) provide a range of incompatible uses within areas that are at elevated risk of flooding. The areas that are at elevated risk of flooding have been identified by the Strategic Flood Risk Assessment.

Providing incompatible uses in these areas is contrary to proper and sustainable flood risk management and contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14* recently issued by the Department of the Environment, Heritage & Local Government.

If any of the lands subject to these Proposed Material Alterations that are located within Flood Zones A or B were developed, there would be a heightened risk of flooding and associated adverse effects on people and their assets. Such effects are identified on Table 6.3 and range from loss of life, to damage to property, to loss of income.

Table 6.3 Selection of Adverse Effects (on People and Property) that occur as a result of Flooding

Tangible Effects	Intangible Human and Other Effects
Damage to buildings (houses)	Loss of life
Damage to contents of buildings	Physical injury
Damage to new infrastructure e.g. roads	Increased stress
Loss of income	Physical and psychological trauma
Disruption of flow of employees to work causing knock on effects	Increase in flood related suicide
Enhanced rate of property deterioration and decay	Increase in ill health
Long term rot and damp	Homelessness
	Loss of uninsured possessions

In addition to these effects on people and property, there would be elevated potential for water quality to be adversely affected (as a result of flooding of water treatment systems and collection networks and flooding of unknown substances stored onsite). Polluted or contaminated waters would have the potential to adversely affect human health and biodiversity and flora and fauna (including designated European Sites).

Furthermore, as these Alternatives provide for various types of built development they would have the potential to conflict with other environmental components. Potentially significant adverse environmental effects arising from this conflict are described on Table 6.2.

6.3.3 Alternative A for Combined Proposed Material Alterations

Alternatives that provide for Zoning as proposed by Proposed Variation 2 (a) that was placed on public display (these alternatives are referred to as **Alternative A**, see Table 5.1) would be likely to cumulatively contribute towards flood risk management in compliance with the Flood Risk Management Guidelines and as a result would contribute towards the protection of human health.

As these alternatives provide for various types of built development they would have the potential to cumulatively conflict with all environmental components. Potentially significant adverse environmental effects arising from this conflict are described on Table 6.2.

The extent of potentially significant adverse environmental effects arising under Alternative A would be of a lesser degree than the extent of potentially significant adverse environmental effects arising under Alternative B.

6.3.4 Alternative B for Combined Proposed Material Alterations

Alternatives that provide for zoning as proposed by the Material Alterations that were placed on public display (these alternatives are referred to as **Alternative B**, see Table 5.1) provide a range of incompatible uses within areas that are at elevated risk of flooding. These alternatives would have the potential to cumulatively, adversely and significantly affect human health, new and existing property, the status of waters and ecology.

Taking into account the considerable extent of lands involved, cumulative adverse effects would be likely to arise on all environmental components as a result of the provision of unnecessary zoning (for which there is no established planning need) at Proposed Material Alterations No. 1-7 lands. The extent of potentially significant adverse environmental effects arising under Alternative B would be of a greater degree than the extent of potentially significant adverse environmental effects arising under Alternative A.

6.4 The reasons for choosing the alternative for the Material Alterations that were adopted as part of the Variation

In order to be consistent with the need to contribute towards proper planning and sustainable development and in order to comply with the Flood Risk Management Guidelines, it was recommended by the SEA and the Planning Department that Alternative A (zoning as proposed by Proposed Variation 2 (a) and not zoning as proposed by the Material Alterations) was selected in each instance by the Elected Members.

Elected Members decided to select zoning as proposed by the Material Alterations (Alternative B). This zoning is contrary to *The Planning System and Flood Risk Management Guidelines for Planning Authorities* (2009) and *Circular PL2/14*.

In making their decision, the Elected Members referred to submissions made by landowners who requested their lands to be zoned for development (see Section 2.5 and Section 3).

Section 7 Monitoring Measures

7.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This section details the measures that will be used in order to monitor the likely significant effects of implementing the Plan, as varied.

Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

7.2 Indicators and Targets

Monitoring is based around indicators that allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified on Table 6.1 and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) that were identified with regard to the relevant strategic actions.

Table 7.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Plan, as varied, if unmitigated.

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

7.3 Sources

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

Internal monitoring of the environmental effects of grants of permission in the Council will provide monitoring of various indicators and targets on a *grant of permission* basis. The likely significant effects of development

proposals on environmental sensitivities are further determined during the development management process. By documenting this determination - e.g. whether a proposed development will impact upon a Protected Structure, for example - while granting permissions, or at a later date, the requirement to monitor the effects of implementing the Plan, as varied can be achieved.

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

7.4 Reporting

Article 10 of the SEA Directive requires Member States to monitor the significant environmental effects of the implementation of plans "*in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.*" Existing monitoring arrangements may be used if appropriate, to avoid duplication of monitoring¹⁰.

A stand-alone Monitoring Report on the significant environmental effects of implementing the County Development Plan (as varied), including Variation 2 (a), will be prepared in advance of the review of the County Development Plan.

¹⁰ Chapter 7 Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment Guidelines for Regional Authorities and Planning Authorities. DoEHLG 2004

7.5 Thresholds

Thresholds at which corrective action will be considered include:

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

Table 7.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Plan (as varied) ¹¹	<ul style="list-style-type: none"> • Internal monitoring of environmental likely significant effects of grants of permission (grant by grant). • Department of Culture, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). • National Monitoring Report under Article 12 of the Birds Directive. • Consultations with the NPWS (at monitoring evaluation - see Section 7.4).
	B2: Percentage loss of functional connectivity without remediation resulting from development provided for by the Plan (as varied)	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development provided for in the Plan (as varied)	<ul style="list-style-type: none"> • Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • CORINE mapping resurvey (every c. 5 years).
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan (as varied)	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources in designated sites including Wildlife Sites resulting from development provided for by the Plan (as varied)	<ul style="list-style-type: none"> • Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Consultations with the NPWS (at monitoring evaluation - see Section 7.4).
	B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976.	B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	
	B4: Population of the county involved in land management	B4: Sustain the population of the county involved in land management	<ul style="list-style-type: none"> • CSO Population Data (every c. 5 years).
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development provided for by the Plan, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Plan (as varied)	<ul style="list-style-type: none"> • Consultations with EPA and Health Service Executive (at monitoring evaluation - see Section 7.4).
Soil	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	<ul style="list-style-type: none"> • Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).

¹¹ 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.

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Water	W1i: 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) W1ii: Mandatory and Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	W1i: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve <i>good status</i> ¹² W1ii: To achieve - as a minimum - Mandatory values and, where possible, to achieve Guide values as set by the EU Bathing Water Directive and transposing Bathing Water Quality Regulations (SI No. 79 of 2008)	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland. EPA Quality of Bathing Water in Ireland reports.
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk in compliance with <i>The Planning System and Flood Risk Management Guidelines for Planning Authorities</i>	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment over the lifetime of the Plan (as varied)	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment over the lifetime of the Plan (as varied)	<ul style="list-style-type: none"> Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan (as varied)	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Plan (as varied)	<ul style="list-style-type: none"> EPA The Provision and Quality of Drinking Water in Ireland reports (multi-annual). EPA Remedial Action List (every quarter).
	M3i: Total collected and brought household waste M3ii: Packaging recovered (t) by self-complying packagers	M3i: Minimise increases in and, where possible, reduce household waste generation M3ii: Maximise increases in packaging recovered (t) by self-complying packagers	<ul style="list-style-type: none"> EPA National Waste Reports EPA Ireland's Environment Reports
Air and Climatic Factors	C1: Percentage of population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the population travelling to work, school or college by public transport or non-mechanical means	<ul style="list-style-type: none"> CSO Population Data (every c. 5 years).

¹² 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).

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Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and the context of the above within the surrounding landscape where relevant) – protected from adverse effects resulting from development which is granted permission under the Plan (as varied)	CH1: Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and their context of the above within the surrounding landscape where relevant) from adverse effects resulting from development which is granted permission under the Plan (as varied)	<ul style="list-style-type: none"> • Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Consultation with Department of Culture, Heritage and the Gaeltacht (at monitoring evaluation - see Section 7.4).
	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from adverse effects resulting from development which is granted permission under the Plan (as varied)	CH2: Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from adverse effects resulting from development which is granted permission under the Plan (as varied)	<ul style="list-style-type: none"> • Internal monitoring of likely significant environmental effects of grants of permission (grant by grant). • Consultation with Department of Culture, Heritage and the Gaeltacht (at monitoring evaluation - see Section 7.4).
Landscape	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape - especially with regard to the County's landscapes which are most valuable and most sensitive to change and protected focal points and views - resulting from development which is granted permission under the Plan (as varied)	L1: No developments permitted which result in avoidable impacts on the landscape - especially with regard to the County's landscapes which are most valuable and most sensitive to change and protected focal points and views - resulting from development which is granted permission under the Plan (as varied)	<ul style="list-style-type: none"> • Internal monitoring of likely significant environmental effects of grants of permission (grant by grant).