



Strategic Environmental Assessment for Draft Lusk Variation



**Environmental Report
November 2008**



Fingal Development Plan 2005-2011

**Strategic Environmental Assessment
for
Draft Lusk Variation**

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Non Technical Summary of Environmental Report

Introduction

This is a non-technical summary of the Environmental Report for the Draft Lusk Variation (W1) - for lands to the South and West of Lusk.

The EU Directive 2001/42/EC on Strategic Environmental Assessment was passed into Irish Law by means of the Planning and Development (SEA) Regulations 2004. The Directive requires all European Union member states to systematically evaluate the likely significant environmental effects of implementing certain plans or programmes before a decision is made to adopt the plan or programme.

Strategic Environmental Assessment (SEA) provides for more sustainable development through the methodical appraisal of policy options, considering alternative means of developing an area, by raising awareness of the environmental impacts of plans and the inclusion of quantifiable targets and indicators.

The Environmental Report documents the application of SEA to the Proposed Variation for Lusk. The purpose of the Non-Technical Summary is to ensure that the key issues and findings of the Environmental Report will be readily understood by decision-makers and by the general public.

In relation to Lusk, the Variation is considered the appropriate framework for managing future development. The Variation sets out local objectives and guidelines for the development of the Lusk area, and the Environmental Report assesses the impacts of the proposed development at a strategic level.

Methodology

The Environmental Report describes the environmental assessment process as applied to the Draft Variation. The main steps taken in the process involved the carrying out of a baseline study, the consideration of alternatives, and the assessment of the environmental impacts of the objectives of the Variation.

The SEA process commenced in July 2008 and involved consultation with the relevant statutory agencies – Dept. of the Environment, Heritage and Local Government, Dept. of Communications, Marine and Natural Resources, and the Environmental Protection Agency.

The methodology utilised consisted of a number of sequential steps summarised as follows:

1. Consideration of relevant plans and programmes at regional, national and international level.
2. Collation of baseline information.
3. Establishment of sustainable objectives, targets and indicators.
4. Consideration of alternatives.
5. Assessment of preferred option.
6. Identification of mitigation measures.
7. Identification of a monitoring programme.

Baseline Information

The baseline data collection stage involved research into environmental indicators. Some indicators were combined to avoid unnecessary duplication. These encompassed the following issues:

Population and Human Health, Biodiversity, Flora and Fauna, Soil, Water, Air Quality and Climate Factors, Material Assets, Cultural Heritage and Landscape.

The Environmental Report indicates that existing data sources were used in the collection of data, where available. Such sources included CSO statistics, EPA data and internal departmental reports. Additional studies were carried out on behalf of Fingal County Council regarding biodiversity, archaeology and urban design. As required by the SEA Directive the report also comments on the likely evolution of the various indicators in the absence of the implementation of the plan.

The Environmental Report identifies the Key Environmental issues in the areas of water, biodiversity, population and human health and cultural heritage – architectural and archaeological.

Consideration of Alternatives

As part of the Variation preparation process a range of alternatives were considered for the development of Lusk, and are detailed in the Environmental Report. These are as follows:

Option 1: High Population Growth

Option 1 proposes a total rezoning of approximately 19 hectares. This consists of 2ha of land to be reserved for a school site with the remainder to be zoned residential. The key element of this option is to actively facilitate the provision of a primary school in the southern portion of the town. In addition Option 1 proposes the development of approximately 17ha of land as high density residential development.

Option 2: Low/ Medium Population Growth

Similar to Option 1, Option 2 proposes a total rezoning of approximately 19 hectares. This consists of approximately 2ha of land to be reserved for a school site with the remainder to be zoned residential. While Option 1 proposed a high density development option for the residential lands Option 2 would see these lands developed at a more moderate scale.

Option 3: Balanced Moderate Growth

Similar to Option 1 and 2, Option 3 proposes a total rezoning of 19 hectares. This comprises of 8.36ha of residentially zoned land, 2ha of land to be reserved for a school site, 3.24 ha of open space and the remaining 5.49ha of land would be designated for the provision of science and technology opportunities. As with Option 2, Option 3 would see the development of residential land at a more moderate scale.

Each option was considered and assessed against the Sustainable Environmental Objectives to provide an insight into possible impacts.

Environmental Assessment of Preferred Option

Option 3 presented the most favourable scenario of managing future expansion of the town. This option was elaborated further and was subject to additional analysis to highlight any potential impacts on the environment. The local objectives put forward under the Variation were then assessed against the sustainable environmental

objectives. This exercise illustrated that almost all of the objectives identified in the Variation were found to have either positive or neutral impact when assessed.

The exercise also provided an overview of where potential problems could result from the implementation of Option 3, and allowed objectives to be revised where necessary. It highlighted the requirement for mitigation measures in relation to some of the objectives where negative impacts were identified.

Mitigation Measures

The SEA process indicates that a number of mitigation measures are required in order to ensure that the Proposed Variation provides for sustainable development. These measures include mitigation in the following areas:

- Biodiversity
- Water – Surface Water and Foul Drainage
- Archaeology
- Landscape

Monitoring

Article 10 of the SEA Directive requires that monitoring be carried out in order to identify at an early stage any unforeseen adverse effects due to the implementation of the Plan, and to be able to take remedial action. In this context Fingal County Council has identified a monitoring programme to ensure successful implementation of the Variation. The programme identifies issues of when monitoring will initially take place and where responsibility for monitoring lies.

It is intended that a monitoring report on the implementation of the Variation will be prepared every two years in conjunction with monitoring of the Local Area Plan and Variation 25.

Conclusion

The application of the Strategic Environmental Assessment exercise to the Proposed Variation at Lusk has ensured that the Plan will provide the optimal strategic framework for the future sustainable development of Lusk.

1.0 INTRODUCTION

1.1 OVERVIEW OF THE PROPOSED VARIATION

The Proposed Variation of the Fingal Development Plan 2005-2011 that is the subject of this Environmental Report, relates to lands located to the South and West of Lusk, Fingal (Figure 1). The tracts of land for which changes are proposed comprise a total of approximately 19 hectares and are currently zoned a mix of RU and OS in the Development Plan:

- RU *“To protect and provide for the development of agriculture and rural amenity”*
- OS *“To preserve and provide for open space and recreational amenities”*

The rezonings proposed are summarised below and detailed on the Proposed Variation map attached to this Report, a more detailed description of the proposals, along with development and local objectives, can be found in Chapter 3.

- (a) Rezone the area marked M on the attached map from zoning objective OS to zoning objective RU.
- (b) Rezone the area marked N on the attached map from zoning objective RU to zoning objective OS.
- (c) Rezone the area marked O on the attached map from zoning objective RU to zoning objective RS1.
- (d) Rezone the area marked P on the attached map from zoning objective RU to zoning objective ST1.
- (e) Rezone the area marked Q on the attached map from zoning objective RU to zoning objective RS1.
- (f) Rezone the area marked R on the attached map from zoning objective RU to zoning objective OS.
- (g) Rezone the area marked S on the attached map from zoning objective RU to zoning objective RS1.

The procedures set out under Section 13 of the Planning and Development Act 2000 (hereafter referred to as the Act) in respect of making a Variation of a Development Plan, and under Article 13K of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (hereafter referred to as the Regulations) in respect of the SEA process for a Variation of a Development Plan have been adhered to.

1.2 OVERVIEW OF THE SUBJECT LANDS

The subject lands of the Proposed Variation are located in Lusk, in the north-eastern region of the administrative area of Fingal County. The lands are located on the periphery of the town, mainly to the south and west (Figure 2).

Lusk is located approximately 18km north of Dublin city centre, 3.5km west of the coastal village of Rush, 8km north of Swords and 10km south of Balbriggan (Figure 2). The village is located within the designated Hinterland of the Greater Dublin Area and is surrounded by agriculturally zoned lands. It is situated between the old National Route N1 (R132) (replaced by the new M1 motorway located to the west of this) and the Dublin /Belfast Rail Corridor and is accessed from the south along the Regional Route (R127), a spur off the R132 which links Lusk to Skerries to the north. This Regional Route is intersected with the R128, which links Lusk to Rush to the east.

1.3 STRATEGIC ENVIRONMENTAL ASSESSMENT REQUIREMENT

The SEA Regulations transposed the *European Union Directive 2001/42/EC* (more commonly referred to as the Strategic Environmental Assessment (SEA) Directive) into Irish planning law. The SEA Directive and SEA Regulations require that planning authorities determine whether the implementation of landuse plans, or modifications thereof, will be likely to have significant effects on the environment. This determination process is referred to as an environmental assessment and defined as:

...the preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision...¹

The Regulations impose a mandatory requirement for SEA to be undertaken for certain landuse plans such as Regional Planning Guidelines, County/ City Development Plans and Local Area Plans with populations in excess of 10,000 persons. However, with regard to Variations to Development Plans, there is no mandatory requirement to undertake SEA; instead a proposed Variation is required to be screened to determine if its implementation would be likely to have significant effects on the environment and, therefore, require SEA. However, the legislation does allow a planning authority to determine a prima facia case for SEA for a proposed Variation and thus to avoid the Screening process.

1.3.1 Requirement for SEA for the Proposed Variation

Lusk has experienced unprecedented growth in the order of about 113% increase in its residential population since the last Action Area Plan, adopted in 2000. Major new residential developments include Chapel Farm, Dun Emer and Lusk Village, however facilities and services have not improved apace to cater for this growth nor did the Action Area Plan provide for significant levels of employment generation.

Work is being carried out on the Lusk Local Area Plan for which a Strategic Environmental Assessment is being prepared and as a result it was deemed necessary to produce an SEA for the Variation. When addressing the Proposed Variation it was considered that the proposed rezoning would have an effect on the receiving population and the environment of Lusk itself, the extent of which would require further investigation. There are numerous

¹*Directive 2001/42/EC, European Union, Article 2b, page 8, 2001; Planning and Development (Strategic Environmental Assessment) Regulations 2004, Article 5a, page 2, 2004.*

constraints to the growth of Lusk including heritage, the capacity of the foul sewer network and sewage treatment constraints.

With regard to foul drainage there is no capacity in the existing network or temporary treatment facilities to support further development pending the construction of the new plant at Portrane and the associated upgrading to the pipe network in Lusk. Plans for a new Wastewater Treatment Plant at Portrane to serve the Donabate, Portrane, Rush and Lusk areas are at tender stage. This plant together with the upgraded collection network will not be operational until mid 2011.

Archaeological monuments, sites, features and finds are a crucial component of our heritage resource. All parties involved in development must regard all archaeological sites as finite and non-renewable resource. Archaeological remains and the integrity of their setting should be regarded as an element of the existing environment that is to be rigorously protected and managed, whilst at the same time, if clearly defined and mitigated, enabling sustainable future development for Lusk. Due to the sensitive nature of heritage in Lusk it was seen as essential to assess, through the SEA process, the proposed Variation in order to ensure that its plans and policies do not pose a threat to the history and character of Lusk.

The above mentioned factors all affect the potential for expansion in Lusk and as a result of these constraints it was decided that the Proposed Variation should be subject to SEA in order to ensure that the constraints are considered and incorporated into the decision making process.

1.4 PURPOSE OF THE ENVIRONMENTAL REPORT

Fingal County Council has determined that the making of the Proposed Variation will be subject to undertaking a SEA to assess the likely significant effects on the environment of its implementation. The SEA process comprises a number of distinct stages.

The preparation of the Environmental Report, which is the principal document produced during the SEA process, is one of the most important of these stages. The Environmental Report presents the environmental assessment of the Proposed Variation involving the identification, where relevant and possible, of mitigation measures against significant effects on the environment of implementing the Proposed Variation.

Through the SEA process, the Proposed Variation will be assessed in order to evaluate the strategic environmental implications of developing residential, employment and open space uses at the subject sites. The Environmental Report will outline the alternatives considered for the rezoning of the lands. With regard to the different components of the environment, it is considered that there are a small number of aspects of the environment that require detailed consideration and analysis within the Environmental Report.

Chapter 2 of this Report outlines the procedural methodology employed in undertaking a SEA of a Variation to a Development Plan.

1.5 APPROPRIATE ASSESSMENT FOR THE PROPOSED VARIATION

An appropriate assessment is required under the EC Habitats Directive (92/43/EEC) for any plan or project likely to have significant effects on a Natura 2000 site. European and National legislation places a collective obligation on Ireland and its citizens to maintain, at favourable conservation status, areas designated as Natura 2000 sites. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites.

The lands associated with the Proposed Variation do not form part of any natural heritage designations (SACs, SPAs or NHAs). Lusk is however, located approximately 1.5kms, at its closest point, from Rogerstown Estuary. Rogerstown Estuary is a designated Special Area of Conservation (SPA) for birds and a candidate Special Area of Conservation (cSAC).

In conjunction with the SEA for Lusk a full Appropriate Assessment was carried out to ensure that the Plan would not adversely impact on the integrity of the Natura 2000 site. The Appropriate Assessment concluded that the Proposed Variation will not have significant adverse effect on the Rogerstown Estuary Natura 2000 site, and the integrity of that site will not be adversely affected by implementation of the plan.

This SEA for the Draft LAP should be read in conjunction with the Appropriate Assessment in addition to the LAP document and map.

2.0 SEA METHODOLOGY

2.1 INTRODUCTION

The legislative requirement for making a Variation to a Development Plan and the associated SEA process involves a number of stages. These are as follows:

STAGE	ACTION IN SEA PROCESS
1	Screening the proposed variation to determine whether a SEA is required to be undertaken.
2	Where SEA is required, scope for the nature and detail of information to be contained within the Environmental Report.
3	Preparation of the Environmental Report.
4	Public consultation on the proposed Variation and the Environmental Report.
5	The modification of the proposed Variation, where appropriate, on the basis of the inputs from the consultation stage.
6	Decision making on adopting the proposed Variation.
7	Following adoption of the Variation, preparation of the SEA Statement incorporating conditions for monitoring of the significant environmental effects.
8	Monitoring of the plan and preparation of a Monitoring Report

The lands subject to the Proposed Variation are located on the periphery of the town. As already discussed in Chapter 1.3.1, there are a number of constraints which affect Lusk's potential for growth, such as heritage and water treatment. This, combined with the large increase in population, meant that the Proposed Variation would warrant a SEA to study the potential effects of the plan on the local environment and ensure that they are incorporated into the decision-making process. For this reason a screening process was not carried out for the Lusk Variation (W1) and the process proceeded to the scoping stage. This procedure is allowed for under Article 13K(2) of the SEA

Regulations where, when a Planning Authority determines that the implementation of a proposed Variation would be likely to have significant effects on the environment, the screening process can be bypassed and scoping for the Environmental Report can commence.

In addition to complying with the procedures set out in the relevant planning legislation, the methodology used in preparing this Environmental Report is in accordance with the guidelines issued by the Department of the Environment, Heritage and Local Government in November 2004 entitled *Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment, Guidelines for Regional and Planning Authorities*.

2.2 SCOPING STAGE

The purpose of scoping is to determine the nature and level of detail of information to be included in the Environmental Report. The scoping process develops an understanding of the potential impact on the different aspects of the environment, if any, and ensures that the relevant environmental issues are highlighted and addressed appropriately in the Environmental Report. Scoping should also ensure that the Planning Authority remains focussed upon the important issues when undertaking the environmental assessment.

2.2.1 Scoping Report prepared by Planning Department

The Council prepared a Scoping Report for the Proposed Variation in July 2008 (Appendix 1). It provided information on the location and nature of the subject sites; an overview of the current knowledge and methods of assessment and an initial assessment of the different components of the environment.

The Scoping Report identified certain categories of the environment that were considered to require further investigation in order to establish whether the implementation of the Proposed Variation would have significant effects. The

categories of the environment that were identified and the issues requiring more detailed assessment are detailed in Table 2.1.

Table 2.1: Further investigation identified as being required in the Scoping Report

ENVIRONMENTAL CATEGORY	FURTHER INVESTIGATION REQUIRED
Population and Human Health	Assess the effects of implementing the proposed Variation on the adjacent land uses, on the local population, and on future residents.
Biodiversity, Flora and Fauna	Assess the effects of implementing the proposed Variation on the receiving environment and the adjacent lands.
Water	Assess the effects of implementing the proposed Variation on the existing and proposed network and its implication for the system.
Landscape	Assess the effects of implementing the proposed Variation on the rural character and valued landscape of Lusk.
Cultural Heritage – Architecture and Archaeology	Assess the effects of implementing the proposed Variation on the monuments, sites, features and finds important to the history of Lusk

Significant environmental effects were not anticipated for the remaining categories of the environment, soil, air quality and climate factors, but these will be looked at in Chapter 5 of this report. These issues have been determined to be more appropriately assessed at higher levels in the land use and environmental protection hierarchies.

2.2.2 Submission from the Prescribed Bodies on the Scoping Report

The SEA Regulations require Planning Authorities to initiate consultation with the prescribed Environmental Authorities on the scope and level of detail to be included in the Environmental Report. The Environmental Authorities are

the Environmental Protection Agency (EPA), the Department of the Environment, Heritage and Local Government (DoEHLG) and the Department of Communications, the Marine and Natural Resources (DoCENR).

The Scoping Report and associated documentation was sent to the relevant authorities on 7th July 2008. The recommendations received are as follows:

The **Environmental Protection Agency** responded on August 4th and recommended that the following issues be addressed:

- The availability of sufficient wastewater treatment infrastructure and capacity.
- Effects on designated areas. The findings of the Appropriate Assessment should be incorporated into the SEA as early as possible in the process.
- Cumulative effects. The possibility of cumulative effects should be examined in detail.
- Impact on archaeology. The Proposed Variation must ensure that archaeological heritage is protected.

A number of GIS and web based mapping tools as well as relevant documents are also mentioned for consultation.

The Department of Communications, Energy and Natural Resources responded on August 8th and stated that they had no comment to make on the matter at this time.

The Department of Environment, Heritage and Local Government did not comment on the Variation at this time but did comment on the Variation lands as part of the SEA process for the Lusk LAP.

2.3 SOURCES OF BASELINE INFORMATION INCLUDED IN THE ENVIRONMENTAL REPORT

There are a range of information sources included in this Environmental

Report that have been used to provide an insight into the different components of the environment and the potential effects of implementing the Proposed Variation.

Baseline data was collected based on the indicators described in the SEA Directive, namely biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship of these factors. Some of the indicators were combined to avoid duplication, and in some instances indicators were combined where the environmental impacts of the plan are considered to be minimal to an indicator. Existing data sources were utilised where available, with additional primary studies also carried out. An Archaeological Assessment and Urban Design Study were carried out on behalf of Fingal County Council to enable the formulation of a more informed development strategy. There was a data gap in relation to Biodiversity, Flora and Fauna in Lusk so an ecological study and mammal survey was also carried out on behalf of Fingal County Council.

2.4 LAYOUT OF THE ENVIRONMENTAL REPORT

The layout of this Environmental Report follows the format recommended in the Guidelines on SEA prepared by the DoEHLG². This is as follows:

Table 2.2: Layout for an Environmental Report

SEA GUIDELINES RECOMMENDED LAYOUT FOR AN ENVIRONMENTAL REPORT	LAYOUT OF THIS ENVIRONMENTAL REPORT
i. Non-technical summary (may also be provided separately)	Non-Technical Summary
ii. Introduction (brief description of the plan and the area; purpose of report)	1.0 Introduction
iii. SEA methodology (including authors, methods used, technical difficulties encountered, list of environmental authorities consulted, etc.)	2.0 SEA Methodology
iv. Summary of the key objectives of the plan	3.0 Summary of Key

²Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment, Guidelines for Regional and Planning Authorities, page 39, Department of the Environment, Heritage and Local Government, November 2004.

	Objectives of the Variation
v. Relationship of the plan with other relevant plans and programmes	4.0 Relationship of the Variation with other relevant Plans and Programmes
vi. Summary of the baseline environment	5.0 Characteristics of the Existing Environment
vii. SEA Objectives and indicators	6.0 SEA Objectives and Indicators
viii. Assessment of alternatives, and selection of preferred alternative	7.0 Consideration of Alternatives / 8.0 Assessment of Preferred Alternative
ix. Incorporation of mitigation measures and assessment results into the plan	9.0 Mitigation Measures
x. Monitoring proposals	10.0 Monitoring Proposals

2.5 DIFFICULTIES ENCOUNTERED

While no specific difficulties were encountered during the preparation of the Environmental Report, existing data was not always available at the appropriate scale for the Variation area, so a mix of local, county and regional baseline data has been used. Having determined the scope of the environmental report, there were deficiencies in information in relation to areas where significant environmental impacts were identified. This was largely overcome by the undertaking of primary studies in the areas of urban design, biodiversity and archaeology.

3.0 SUMMARY OF KEY OBJECTIVES OF THE VARIATION

3.1 DESCRIPTION OF THE VARIATION

A number of rezonings and objectives are proposed as part of the Proposed Variation and these are considered below. The subject lands are located both within the existing settlement and on the periphery of the town (Figure 1).

This chapter provides a summary of the rezoning proposed by the Proposed Variation, followed by a description of each Area, reason for its inclusion and, where appropriate, any Local Objectives that are proposed to apply to the rezoning.

3.1.1 Rezoning Proposed by the Proposed Variation

[a] Rezone the area marked M on the attached map from zoning objective OS to zoning objective RU.

[b] Rezone the area marked N on the attached map from zoning objective RU to zoning objective OS.

[c] Rezone the area marked O on the attached map from zoning objective RU to zoning objective RS1.

[d] Rezone the area marked P on the attached map from zoning objective RU to zoning objective ST1.

[e] Rezone the area marked Q on the attached map from zoning objective RU to zoning objective RS1.

[f] Rezone the area marked R on the attached map from zoning objective RU to zoning objective OS.

[g] Rezone the area marked S on the attached map from zoning objective RU to zoning objective RS1.

Area M: The subject lands are currently zoned OS *To preserve and provide for open space and recreational amenities*. The proposal is to rezone these lands to RU *To protect and provide for the development of agriculture and rural amenity*. In conjunction with adjoining Area L, currently zoned RU, this will ensure that land is secured for the provision of a primary school in the southern portion of the town.

Area N: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. As noted above the proposal will also provide the opportunity to transfer approximately 0.74 ha of existing open space adjacent to the new playing pitch, Area M, to Area N to accommodate a second playing pitch with associated car parking.

Area O: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The lack of a definite boundary has resulted in a small section of RU lands being developed as part of the Dun Emer Estate. The proposal is to rezone this land to RS1 *To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure*. The purpose of including Area O in this Variation is to regularise the zoning in the locality and enable the Development Boundary to be amended to accord with what has been built. The land area involved is relatively small, some 0.20 hectares and affects 4 dwellings and associated gardens.

Area P: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The land comprises some 5.49 hectares of land which is mainly in agricultural use, but also contains 2 detached dwellings and associated outbuildings. The proposal is to rezone this land to ST1 *To facilitate opportunities for science and technology based*

employment and associated and complementary uses in a high quality environment in accordance with an approved local area plan.

Area Q: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The land comprises some 8.1 hectares of open fields. The proposal is to rezone this land to RS1 *To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure.*

Area R: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The land comprises open fields of some 2.5 ha located on the western boundary of Lusk, immediately to the west of the Round Towers GAA Club. The proposal is to rezone this land to OS *To preserve and provide for open space and recreational amenities.*

Area S: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The land comprises some 0.26 hectares of land at Reamount Farm, to the west of Lusk. The proposal is to rezone this land to RS1 *To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure.*

Area J: In addition to the above, by securing a primary school site within Area M, Area J is no longer required for that purpose and therefore it is proposed to delete Area J from the Development Plan.

3.1.2 Proposed Changes to Development Objectives

Variation No 25 introduced **Objective LUSK 8:** *To identify important views and ensure that policies are incorporated within the Local Area Plan to preserve them* into the Development Plan. However as a result of further studies of the views of the former St. MacCullin's Church and round Tower the current Proposed Variation (W1) seeks to amend the existing Objective as follows:

Objective LUSK 8

To maintain the valued distinctive views of the monastic site from all approach roads in to the town, significant areas of open space and surrounding areas.

3.1.3 Proposed Change to Specific and Local Objectives

Specific Objectives:

Development Boundary

To amend the existing development boundary to encompass the new land zonings, Areas L - S, and remove the boundary from Area J.

Neighbourhood Centre

To delete the requirement for a Neighbourhood Centre that was to be provided within the Dun Emer Estate.

Local Objectives

As noted above the Proposed Variation seeks to delete, amend and introduce a number of Local Objectives. For clarification a full list of Local Objectives and their current status are given:

The following Local Objectives were adopted by Variation No. 25 and are to remain unchanged by the current Proposed Variation (W1):

Local Objective LK4 – [Applies to Area F]:

To ensure that residential development does not take place until such time as [a] work has commenced on the construction of the secondary school on land marked Area E on the attached map, immediately to the east of the site, and [b] the developer has undertaken an Educational Needs Assessment which demonstrates to the satisfaction of the Planning Authority that there is adequate school provision for the needs generated by the proposed development.

Local Objective LK6:

Creation of a Civic Square: to provide for a Civic Square, and ensure that proposed development in the vicinity of the junction of Main Street, Station Road and Church Road, facilitates the provision of a high quality Civic Square.

Local Objective LK7:

To provide for a pedestrian right of way from Church Road to Post Office Road.

Local Objective LK8:

To provide for a pedestrian right of way from Dublin Road through Town Park to Minister's Road/Tower View.

Local Objective LK9 – [Applies to Area D]:

To limit residential development on these lands to a maximum of 10 dwellings per hectare.

The following Local Objective LK10, previously adopted by Variation No. 25 is no longer required as the Proposed Variation (W1) is subject to Appropriate Assessment.

Local Objective LK10 – [Applies to Areas D, E, F and H]:

To ensure that no development proceeds until such time as an appropriate assessment has been carried out. The appropriate assessment shall provide for mitigation measures where required and shall clearly demonstrate that any development will not have an adverse impact on any relevant Natura 2000 site. In the event that mitigation measures are not sufficient to overcome significant effects on the conservation objectives of a Natura site development shall not proceed.

In addition to the above, Local Objective 92 *To develop this site as a landscaped civic open space to create an appropriate setting for the (St. MacCullins) Church on the southern side* is no longer required as the

treatment of lands is dealt with within the LAP. It is therefore proposed to delete Local Objective 92 on the adoption of the Local Area Plan.

The following Local Objectives previously approved Local Objectives required to be amended by the Proposed Variation (W1):

Local Objective LK1 – [Applies to Areas D, F, Q and S]:

To ensure that residential development does not take place until such time as the Waste Water Treatment Plant at Portrane becomes fully operational and the required network upgrades to facilitate the development are completed.

[Amendment proposed so as to enable the Objective to also apply to the proposed Areas Q and S, in addition to areas D and F as was previously the case]

Local Objective LK3 – [Applies to Areas E & F]:

To secure the preparation and approval by the planning authority of a master plan prior to the development of the secondary school, Fingal Sports Complex, community facility, playing pitches, park land and residential development to enable comprehensive development of the area in a proper manner.

[Amendment required to ensure that the master plan takes account of the Fingal Sports Academy that is now proposed to be established in this location]

Local Objective LK5 – [Applies to Area D, Q and S]:

To ensure that residential development does not take place until such time as [a] work has commenced on the construction of a new permanent primary school beyond the existing schools currently operating within the Lusk catchment area, and a new secondary school within Lusk, and [b] the developer has undertaken an Educational Needs Assessment which demonstrates to the satisfaction of the Planning Authority that there is adequate school provision for the needs generated by the proposed development.

[Amendment proposed so as to enable the Objective to also apply to Areas L, Q and S in addition to Area D as was previously the case]

Local Objective LK11 - [Applies to Area H and P]:

To ensure that development does not take place until such time as the Waste Water Treatment Plant at Portrane becomes fully operational and the required network upgrades to facilitate the development are completed.

[Amendment proposed so as to enable the Objective to also apply to Area P, in addition to Area H as was previously the case]

3.1.4 New Local Objectives to be incorporated into the Proposed Variation

The following Local Objectives are new Local Objectives to be incorporated into the Proposed Variation (W1):

Local Objective LK2 [Applies to Area N]:

To ensure that Kilhedge Lane is upgraded from its northern end as far as Area N to enable adequate access and a satisfactory level of car parking is to be provided to serve the existing and proposed open space.

[Note: this is proposed to replace the original LK2 which was adopted by Variation No. 25 which sought to secure the upgrading of Kilhedge Lane in connection with the school proposal in Area J, which is now proposed to be deleted]

Local Objective LK12 – [Applies to Area L Q]:

To ensure an appropriate mix of housing is provided in the local housing market.

Local Objective LK 13 – [Applies to Areas M and N]:

To require the provision of good pedestrian and cycle links between Areas M and N and the adjoining Chapel Farm Estate.

Local Objective LK14 – [Applies to Areas P and Q]:

To ensure that development does not take place until the necessary up grading of Minister’s Road as indicated on the Development Plan map is completed.

Local Objective LK15 – [Applies to Areas P and Q]:

To ensure that development does not take place until the playing pitch on Area R and Community Facility are constructed.

Local Objective LK16 – [Applies to Area R]:

To provide for a new Community Facility with a minimum floor area of 300 square metres.

Local Objective LK17 – [Applies to Area R]:

To provide for a pedestrian right of way between the Community Facility and Hand's Lane.

Local Objective LK18 – [Applies to Areas D, F, H, P, Q, R and S]:

To ensure that no development takes place until such time as a Management Plan for the Outer Rogerstown Estuary is adopted by the Council. The Management Plan shall incorporate a timescale for the implementation of management measures.

4.0 RELATIONSHIP OF THE VARIATION WITH OTHER RELEVANT PLANS AND PROGRAMMES

A requirement of the legislation and guidance documents is to outline the relationship between the Proposed Variation and other relevant plans in the area. In this regard, this Chapter explores the relationship between the components of the Proposed Variation and a number of land use plans and relevant guidance documents including the National Spatial Strategy, the Regional Planning Guidelines for the Greater Dublin Area, the Residential Density Guidelines and the Childcare Facilities Guidelines, Design Standards for New Apartments, Delivering Homes: Sustainable Communities the Fingal Development Plan 2005-2011 , the Draft Lusk Local Area Plan and Variation No. 25.

4.1 NATIONAL SPATIAL STRATEGY

The *National Spatial Strategy for Ireland 2002-2020* (NSS) issued in 2002 outlined the Government's vision for the future physical development of the country. The development strategy involved the determination of an urban hierarchy of gateways, hubs, country towns, and a range of towns of different sizes. Lusk is located within the Greater Dublin Area (GDA) comprising the Dublin and Mid East Regions, and is adjacent to the M1, which is designated as a Strategic National Transportation Corridor. The GDA is divided into the Metropolitan and Hinterland Areas. The subject lands are located within the Hinterland Area.

Lusk has also been identified both as a town with a population of between 1,500 -5,000 persons and as a town with urban strengthening opportunity within the NSS. It is stated that *'these towns cater for local growth in residential, employment and service functions through enhancing the built environment, water services, public transport links and the capacity for development in these centres. Accommodating such additional functions*

must however be balanced with protecting the character and quality of these towns.'

The proposed zoning of lands on the periphery of the town would be consistent with the need to cater for local growth in residential, employment and service functions. Due to the relatively moderate scale of the residential provision, it is not considered that the Proposed Variation has implications for the policies and objectives of the NSS. Significantly, the commissioning of both the Urban Design Study and Archaeological Assessment of the area will help ensure that any additional development is balanced with protecting the character and quality of Lusk.

4.2 REGIONAL PLANNING GUIDELINES

The *Regional Planning Guidelines for the Greater Dublin Area (2004-2016)* provide a robust sustainable planning framework for the GDA within the context of the Planning and Development Act 2000 and the National Spatial Strategy 2002 -2020. They provide a long term strategic planning framework for the development of the Greater Dublin Area in the 12 year period up to 2016 within the NSS vision for 2020. The strategy laid down in the RPGs is based upon the implementation of the principles of the NSS, the earlier Strategic Planning Guidelines for the Greater Dublin Area and the DTO's Platform for Change.

The RPGs distinguish the Metropolitan Area from the Hinterland Area with distinct development strategies for each. Lusk is identified as a moderate growth town and as part of a secondary dynamic cluster, with Rush, within the Hinterland Area.

A moderate growth town is defined as one with a target population between 5,000 -15,000 persons. It is envisaged that it should act as an attractor for investment. Higher residential densities are promoted where appropriate, consistent with DOEHLG Residential Density Guidelines for Planning Authorities, so as to support viable public transport services. The

development of the growth centres is intended to be self-sustaining in terms of employment provision, satisfying housing demands and ensuring the delivery of a high level quality of life for the resident communities. These urban centres should function as the focal points for the development of their rural catchments.

As a 'Secondary Dynamic Cluster' it is envisaged that Lusk –Rush should '*be developed in a mutually dependent way, so that the amenities and economics of the whole cluster are greater than the sum of the parts. They need not become a town in the usually understood sense of being a contiguous, developed, well-serviced urban area, and need not always be integrated administratively, provided that the channels for collaboration and cooperation between them are working*'.

The Proposed Variation is intended to help Lusk become more self-sustaining in terms of employment provision and provide the services and amenities that are currently lacking.

4.3 RESIDENTIAL DENSITY GUIDELINES AND CHILDCARE FACILITIES GUIDELINES

In considering the implications of the Proposed Variation and the likely scale and nature of development that the rezoning could facilitate, regard is given to the density and layout of the existing estates, and to the policies contained within the Development Plan and the *Residential Density Guidelines for Planning Authorities*, issued by the Department of the Environment and Local Government in 1999. The purpose of the guidelines is to assist in achieving high quality residential density of a suitable scale at appropriate locations, in conjunction with improved public transport systems.

For towns and villages the guidelines state that '*on serviced lands in towns or villages not served by quality public transport, increased densities would be acceptable if they contributed to the enhancement of the town or village form such as by reinforcing street patterns or assisting in the re-development of*

backlands. Special care will be required to protect the architectural and environmental quality of villages of special character'

The *Childcare Facilities – Guidelines for Planning Authorities* recommends that a crèche facility be provided for every 75 no. housing units. Therefore, regard needs also to be given to the possible requirement for a crèche facility.

4.4 SUSTAINABLE RESIDENTIAL DEVELOPMENT IN URBAN AREAS

The Department of the Environment, Heritage and Local Government launched new draft planning guidelines for *Sustainable Residential Development in Urban Areas*, on February 10th 2008. These new guidelines will act as a blueprint for the future sustainable development of Irish cities, towns and villages in the coming years.

The aim of these draft guidelines is to set out the key planning principles which should be reflected in development plans and local area plans, and which should guide the preparation and assessment of planning applications for residential development in urban areas.

According to the guidelines, in order for small towns and villages to thrive and succeed, their development must strike a balance in meeting the needs and demands of modern life but in a way that is sensitive and responsive to the past. They also state key overall messages for their development which include the following:

- New development should contribute to maintaining compact towns and villages. “Leap-frogging” of development at some distance from the existing built-up area should be avoided.
- In central sites, densities of 30-40+ dwellings per hectare may be appropriate for mainly residential or mixed-use schemes. At edge of town centre sites, under controlled circumstances, densities of 25-30 dwellings per hectare with a variety of dwelling types will be appropriate.

- The scale of new development should be in proportion to existing development, and such development should provide for easy connectivity, especially by pedestrians and cyclists, to existing facilities.

The Proposed Variation is in line with these draft guidelines and any new developments must have regard to these standards.

4.5 SUSTAINABLE URBAN HOUSING: DESIGN STANDARDS FOR NEW APARTMENTS AND DELIVERING HOMES, SUSTAINABLE COMMUNITIES

The Department of the Environment, Heritage and Local Government published guidelines for Local Authorities on *Design Standards for New Apartments* in September 2007. The primary aim of these guidelines is to promote sustainable urban housing, by ensuring that the design and layout of new apartments will provide satisfactory accommodation for a variety of household types and sizes over the medium to long term.

Any new developments within Lusk containing apartment style units must have regard to these standards. The focus of these guidelines is on the apartment building itself and on individual units within. These guidelines provide recommendations for minimum standards for floor areas, storage spaces, balconies/ patios and room dimensions for certain rooms.

The policy statement *Delivering Homes, Sustainable Communities* was published by the Government in February 2007. It sets out an integrated policy approach to the delivery of sustainable communities and gives detail to the previously published Housing Policy Framework – Building Sustainable Communities, 2005. The policy sets out a number of actions focused on building sustainable communities including the need to develop new and comprehensive guidelines on inter-related housing and planning matters. Development in Lusk will take cognisance of such guidelines.

4.6 FINGAL DEVELOPMENT PLAN 2005-2011

The relationship of the Proposed Variation with the Fingal Development Plan can be considered within the wider context of the existing zonings of the subject sites and the surrounding land use zonings.

The overall development Strategy for Lusk, as set out in the 2005-2011 Development Plan, is as follows: 'Lusk is a historic village with a very distinctive character. Extensive lands around the village are zoned for residential development, and there are significant opportunities for appropriate infill development within the village core. The strategy is to consolidate the planned growth of this distinct and separate settlement and to ensure in particular that the level of retail and local services concentrated in the village core grows to serve the expanding village population. Existing and future development will be consolidated within well defined boundaries and the distinct physical separation between Rush and Lusk will be maintained'.

The Proposed Variation will strengthen and reinforce the existing development plan and its objectives.

4.7 LUSK LOCAL AREA PLAN

It is intended that the Proposed Variation will facilitate the emerging Lusk LAP. The Lusk LAP will aim to uphold the existing strategy and objectives for Lusk set out in the Development Plan. It will also provide integration between the new peripheral estates with existing communities and the village core and propose improvements to existing services/facilities to deal with this growth. Social, economic and physical development is key to the regeneration of the village. The emphasis will be mainly on consolidation of the urban form which will provide for a steady population increase through infill/derelect/vacant sites within the existing development boundary.

The LAP will also provide for the location of employment generation so as to promote the long-term viability and sustainability of Lusk. At present there is a severe lack of social infrastructure such as educational, recreational and community facilities, and this also needs to be addressed, as does the lack of a suitable central civic space that would act as a much needed focal point as Lusk continues to evolve from a rural village to a moderately sized town.

4.8 VARIATION NO. 25 FOR LANDS AT LUSK

During the initial stages of the LAP process it was decided that in order to proceed with the LAP it would first be necessary to vary the Fingal Development Plan to facilitate the emerging Plan. A Proposed Variation and accompanying Strategic Environmental Assessment was subsequently placed on Public Display between 6th February 2008 and 5th March 2008. The Variation included a number of proposals including rezoning, new Local Objectives, a Specific Objective to identify a school site (Area J), and the identification of Inner and Outer Core Areas of Protection (Areas K and K1). The Variation was adopted by the Council on the 12th May 2008.

It is intended that Variation No. 25, in conjunction with the Variation now proposed, will facilitate the emerging LAP.

5.0 CHARACTERISTICS OF THE EXISTING ENVIRONMENT

5.1 INTRODUCTION

In previous Chapters of this Environmental Report, information has been presented on the subject lands, including general descriptions and locational details. To best describe the characteristics of the existing, or receiving, environment this Chapter has been organised into, and for the most part, corresponds with, the different components of the environment identified in Paragraph (f) of Annex I of the SEA Directive and replicated in the same paragraph in Schedule 2b of the SEA Regulations.

The broad categories of the environment are as follows:

- i. Population and Human Health
- ii. Biodiversity, Flora and Fauna
- iii. Soil
- iv. Water
- v. Air Quality and Climatic Factors
- vi. Material Assets
- vii. Cultural Heritage – Architectural and Archaeological
- viii. Landscape

5.1.1 Population and Human Health

The subject lands are located on the periphery of the town largely to the south and west. The following table outlines the changes in the population of Lusk town between the Census of 1991 and the most recent Census of 2006.

Table 5.1: Population growth between 1991 and 2006

Area	1991	1996	% Change 1991- 1996	2002	% Change 1996- 2002	2006	% Change 2002- 2006
Lusk Town	2071	2287	10.4%	2456	7.3%	5236	113.2%
Fingal	152766	167413	9.6%	196413	17.3%	239,813	22.1%
Ireland	3525719	3626087	2.8%	3917203	8%	4234925	8.1%

From Table 5.1, it is apparent that the subject lands are located in an area that has experienced dramatic population growth in a very short space of time, between 2002 and 2006. Of towns with a population in excess of 2000 persons in 2002, Lusk experienced the fastest population growth in Ireland in the intercensal period, 2002-2006. This is significantly higher than the population increase experienced at County level, even though this level of increase of over 22% was the highest in the country in comparison with the national level of increase of over 8%.

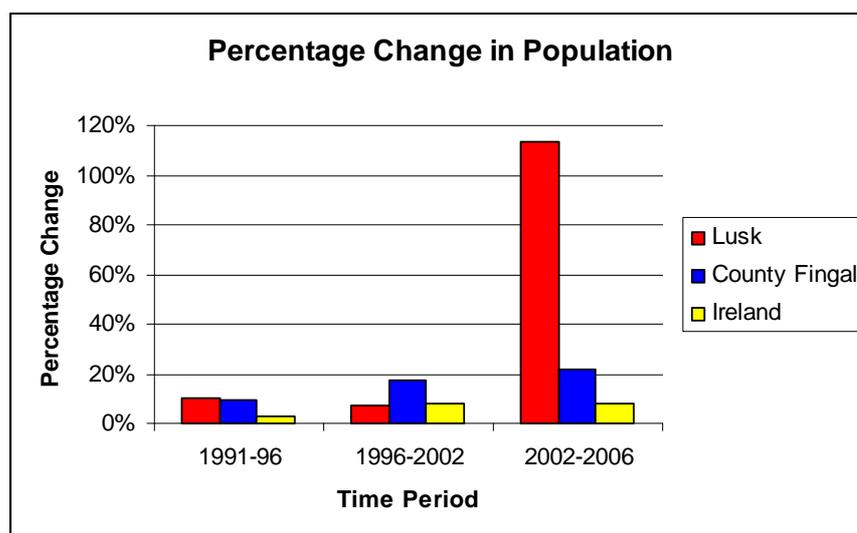


Figure 5(a) Percentage change in population, Lusk

This dramatic rise in population is demonstrated in figure 5(a). The population of Lusk grew approximately in line with either Fingal or the rest of the

country between 1991 and 2002. The large increase of 113.2%, between 2002 and 2006, was a huge increase in such a short time and Lusk has struggled to cope with this change. The sharp rise in population has not been matched by the social, commercial and physical infrastructure of the town. New estates have not yet had the opportunity to embed themselves firmly in to the wider community. This embedding of both the newer and older communities would be beneficial for the social health of the town.

The number of private occupied households recorded in the 2006 Census was 1,939. The actual number of houses is greater than the Census figure due to the existence of vacant houses. The housecounts, carried out by Fingal County Council, indicate that there were 815 houses in Lusk in 2002 rising to 2272 in 2006, 2346 in 2007, and 2422 in 2008, an increase of 197% from 2002-2008³.

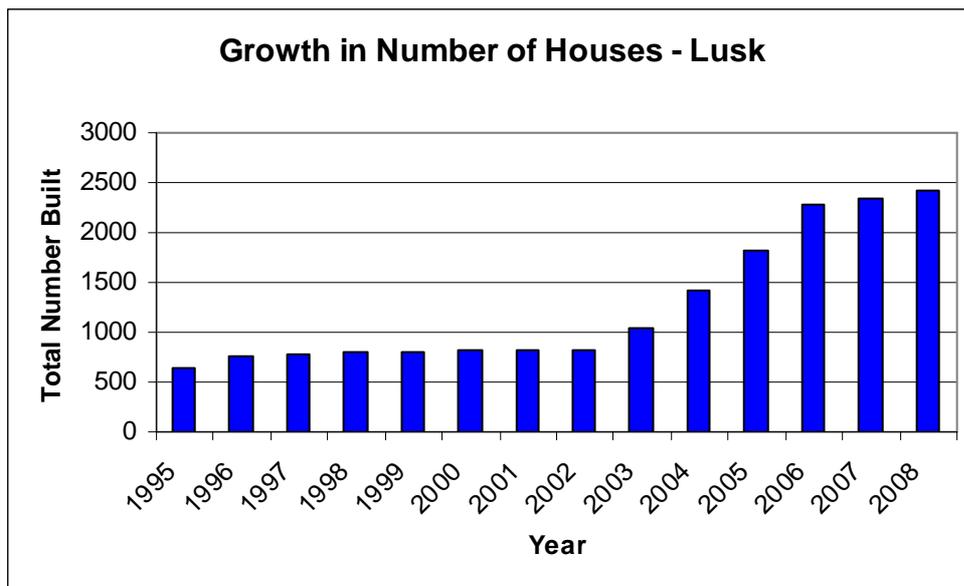


Figure 5(b) Total number of houses built in Lusk

A number of explanations can be suggested for the relatively low population vis a vis the number of houses. The occupancy rate in Lusk from the 2006 Census, at 2.7 persons per household, is low given the average occupancy rate in Fingal of 2.9 persons. This can be explained by an examination of household composition, from which it is evident that Lusk has a high

³ Given an average vacancy rate of 8% this represents an available housing stock provision of 2,228 in 2008.

percentage of pre-family couples, see Table 5.2. Therefore, there is a reasonable expectation that in the coming years the average household size in Lusk may actually rise thereby increasing the population within the existing housing stock.

Table 5.2: Number of couples with no children by family cycle in Lusk

Total	Pre-Family	Empty Nest	Retired
651	545	80	26

It is clear that under existing town centre zonings and zoned Greenfield sites there is potential for the town to continue to grow at a steady rate over the next 4 – 5 years (i.e. 8.6% - 6.9% per annum representing 34% and 27.5% over 4 – 5 years). Table 5.3 provides details of the 2008 housecounts (June 2008) for Lusk town.

Table 5.3: Lusk: 2008 Housecounts – Stages of Development

Occupied	Under Construction	Permissions not started (units) 'outstanding'	Potential new units on zoned lands	Total
2,422	30	319	663	3,434

Table 5.4 indicates the lands within the existing zoning which have not yet been developed. This includes approx. 0.5 hectare owned by Fingal County Council (potential 33 units). It also includes a proposed primary school site within the eastern portion of the lands (c.2 ha required for reservation). This figure does not include the potential for infill within the town itself.

Table 5.4 Lusk: Undeveloped RS1/RS Land 2008

		Lands (Ha)	Potential Units
Lusk	North AAP	3.9	136

	East (New and Old)	7.1	213
	Southeast AAP	2.37	82
	Southwest AAP	1.3	46
	Variation 25 - D	3.33	89
	Variation 25 - F	3.54	90
		21.54	656
Lusk Total	Less 2ha for School	19.54	596

In addition to population increase on undeveloped lands there is an estimated potential (conservative) for 250 units within the 'SC' zoning of the town giving a total existing potential for 846 units.

In taking the above into account under existing 'SC' zoning (250 units) and potential infill on RS1 lands (596 units), it is estimated that 846 units could be provided for within the town, representing an increase in population of 2,284 (with an average occupancy rate of 2.7 persons per household). This would equate to a total population of approximately 7,520 persons. However, as noted above, this is considered a conservative estimate based on the current low occupancy rate due to the high proportion of residents in an early stage of the family cycle. It is likely that the population will increase over the coming years without any increase in the supply of houses due to an increase in occupancy rates as the number of young families increase.

This potential population growth within the town is considered to be sustainable and is in line with the RPG's vision for Lusk as a moderate growth town with a population between 5,000 and 15,000. However, current zonings do not allow Lusk to become self sustaining in terms of employment as also stated in the RPG's vision.

Existing Environmental Issues

With regards to employment opportunities, in the current Development Plan these are confined to existing business or uses associated with RB and SC zoning. Without any specific lands zoned for other employment types the potential for significant employment opportunities are limited.

Variation No. 25 made provisions for the much needed educational and community facilities needed within the town. The Proposed Variation offers the opportunity to further strengthen these opportunities within the town to adequately cater for the current and potential population of the town.

Future growth of the town may have detrimental effects on the environment unless carefully planned and managed. An increasing population growth also places increased demands on the existing social and physical infrastructure. It is necessary in Lusk to allow development to settle and allow communities to form and embed into society. Improving the vitality and viability of Lusk would help prevent leakage to nearby towns.

Non-implementation of the Variation

In the absence of implementation of the Variation, it is anticipated that employment opportunities would be limited. The potential to deliver the much needed community and educational facilities would be compromised by non-implementation.

5.1.2 Biodiversity, Flora and Fauna

The lands in question are dominated by intensively managed, agricultural land (grassland or arable crops). No part is covered by a conservation designation or a proposed designation in relation to Biodiversity. The nearest area of conservation importance is the Rogerstown Estuary. There are no known rare, threatened or legally protected plant species within the sites (as listed in Curtis & McGough 1989).

Habitats of ecological significance include a number of hedgerows, those of importance are shown in Appendix 2 along with areas of ecological importance.

Habitats found in the Variation lands can be seen on the habitat map (Appendix 2) and are described as follows:

Arable land: This is the principal habitat type found. These fields are cultivated and managed for the production of arable crops including cereals and vegetables. There is commonly little or no margin to the adjacent field boundary (usually ditch & hedgerow), where one is present a suite of common weed species occur including knotgrasses (*Polygonum* spp.), scutch grass (*Elymus repens*), fumitory (*Fumaria muralis*), broad-leaved dock (*Rumex obtusifolius*) and field pansy (*Viola arvensis*).

Agricultural grassland: The grassy fields have been largely unmanaged and as such have become over-grown with vigorous rank grassland species including scutch grass (*Elymus repens*), annual meadow grass (*Poa annua*), cock's foot (*Dactylis glomerata*), creeping bent (*Agrostis stolonifera*), thistles (*Cirsium* spp.), ribwort plantain (*Plantago lanceolata*) and creeping buttercup (*Ranunculus repens*).

Hedgerows: There are a number of different hedgerow types within the lands. Some are little more than bramble (*Rubus fruticosus* agg.) dominated field boundaries which have a low biodiversity value. Others are 'gappy', unmanaged hedgerows dominated by hawthorn (*Crataegus monogyna*), brambles (*Rubus fruticosus* agg.), ash (*Fraxinus excelsior*), elder (*Sambucus nigra*) and sycamore (*Acer pseudoplatanus*). Where wet drainage ditches are adjacent, willow trees (*Salix* spp.) are common. Ivy (*Hedera helix*) is common on the trees and in the lower layers of the hedgerow.

The lands in question are of limited ecological importance. Three legally protected species were found in very low numbers in the Lusk area; Badger, Common Pipistrelle and Common frog, but not on any of the subject sites. The relatively limited range in wildlife species and good quality habitats can be largely attributed to intensive farming practices and the removal and alteration of habitats associated with housing construction in recent years.

Existing Environmental Issues

The key ecological features within the sites are the remaining hedgerows. While the hedgerows are not of particular note as regards species or structural diversity, they do, along with the accompanying ditches, offer

refuge for a variety of plant and animal species in an otherwise intensively managed landscape. These ecological features should be incorporated, enhanced and connected within development where possible and new ecological features should be created where the opportunity arises.

Non-implementation of the Variation

In the absence of implementation of the Proposed Variation, biodiversity in the area would remain largely unchanged. The potential exists to enhance the biodiversity of the area by giving careful consideration to biodiversity at design stage.

5.1.3 Soil

The Geological Survey of Ireland (GSI) provides information available on bedrock, subsoil, aquifer classifications and vulnerability. With regard to bedrock, Lusk is located in a significant area of Dinantian Upper Impure Limestone. In relation to aquifer classification, Lusk is an area of Locally Important Aquifer (LM) with bedrock which is generally moderately productive. With regard to aquifer vulnerability, Lusk is located within an area defined as high to low vulnerability with a small concentration of extreme vulnerability (rock near surface or Karst). With regard to subsoil, the core of Lusk is located in an area classified as till chiefly derived from limestone with the surrounding lands classified as made ground (built land) and areas of alluvium. From information available from Teagasc through the EPA, Lusk is further classified as basic mineral well drained and poorly drained soils. Soil issues in the area are not believed to be significant in nature and as a result have not been taken into account when assessing the potential impacts of the Proposed Variation.

Existing Environmental Issues

Existing environmental problems relating to soil include the building upon, and thereby sealing of, soil together with pollution and contamination of soil as a result of likely surface and ground water pollution. The loss of soil through development and its encasement under artificial surfaces impacts

upon many of its wider environmental functions. Soil issues have been determined to be more appropriately assessed at higher levels in the land use and environmental protection hierarchies, at a regional level, as well as at relevant individual project levels. As a result they have not been taken into account when assessing the potential impacts of the Proposed Variation.

Non-implementation of the Variation

Assessment of non-implementation of the Variation in terms of soil is difficult to assess due to the lack of local information that is available in relation to soil quality indicators and the lack of monitoring in the area. In the event that the Variation is not implemented, soil conditions in Lusk will remain largely unchanged.

5.1.4 Water

Water Supply

Water is currently supplied to Lusk from Ballycoolen Reservoir. Lusk is served by two trunk mains: a 15inch AC main and a 500mm Ductile Iron main. The overall level of service within the Lusk area is satisfactory; however, some developers may be required to lay local pipe work in order to bring a water supply to their site. All construction must comply with the Fingal County Council "Guidelines for the Laying of Water Mains". A Water Management and Conservation Plan must be submitted as part of the planning permission for all residential and commercial developments. All fittings and installations must incorporate best current practices in water conservation.

Foul Drainage

The existing foul drainage system for Lusk is currently at capacity. Critically there is no capacity in the existing network or temporary treatment facilities to support further development pending the construction of the new Wastewater Treatment Plant at Portrane and the associated upgrading to the network in Lusk. Provision in the plant has been made for 30,152 PE for the Rush and Lusk area, 25,174 of which had been allocated for domestic

purposes. The plant together with the upgraded connection network is not expected to be operational until mid 2011. When the plant becomes operational Lusk is expected to be connected almost immediately although connection to certain areas of the town may take longer. In particular, the south west requires the sewer under the ring road to be upgraded and areas to the north west of the town also require network upgrading.

The existing system, part of which is combined, discharges via a 300mm gravity sewer to a purpose built septic tank, located to the south of Lusk. From there the effluent is transferred in a 450mm diameter pipe to the railway embankment where it is discharged to the Rogerstown Estuary at the railway viaduct. Three temporary wastewater treatment facilities have been provided to cater for specific development within the Lusk area pending the construction of a permanent treatment works at Portrane. These are operated by a consortium of developers. The existing treatment facilities are dedicated and do not have the capacity to support further development. Furthermore the 450mm diameter outfall from the septic tank has no capacity to accept further development.

As part of a plan by Fingal County Council to implement the new wastewater treatment scheme for Rush and Lusk together with the Donabate Peninsula; a report was prepared by P.H Mc Carthy & Partners on the upgrade of the existing system, "Rush & Lusk Wastewater Treatment Scheme – Preliminary Report." It determined that while there were little or no reports of flooding from the system, there were inadequate levels of treatment by the existing septic tank. In addition it was also noted that there was a high incidence of pollution in the stream adjacent to the septic tank and at the estuary due to the discharge of foul sewage.

Surface Water

The existing storm sewerage system serving the old part of Lusk is a combined system. All new development will include separate systems for foul and surface water drainage. Surface water drainage will incorporate Sustainable Drainage Systems (SuDS), which will restrict the surface water run-off to Greenfield rates.

Kilhedge Lane and the lands adjacent to the Chapel Farm/Dun Emer development are at risk of flooding from the Balleally Stream due to constraints further downstream. In view of this Fingal County Council appointed Consultants to carry out a flood impact assessment to determine flood levels and risk generally along with mitigation measures which can be implemented locally at the Chapel Farm development. The recommendations from the study should apply to any new developments adjoining the streams. The risk of flooding along the Balleally Stream will be further assessed as part of the Fingal East Meath Flood Risk Assessment and Management Study (FEMFRAMS) which is due for completion in 2010.

All new surface water systems must be designed in accordance with the principles of the "GSDSDS (Greater Dublin Strategic Design Study) Regional Drainage Policies Volume 2 New Development".

Existing Environmental Issues

As already mentioned, there is no capacity in the existing network or temporary treatment facilities to support further development pending the construction of the new plant at Portrane and the associated upgrading to the network in Lusk. As the existing system is at capacity and as the upgraded network and treatment plant will not be operational until mid 2011, any further development in the Lusk area will be severely constrained in the short to medium term.

If development occurs in the vicinity of the watercourse mentioned above, a ten meter riparian strip will be required to reduce the impacts of flooding and minimise the impact on water quality.

The impact of run-off water from new development effecting the estuary via the streams will be dealt with as part of the Appropriate Assessment being carried out for the plan.

Non-implementation of the Variation

In the absence of implementation of the Variation for Lusk the issues identified in relation to surface water, water supply and foul drainage would remain unchanged. Given the pressure to develop the lands in and around Lusk, water treatment may come under further pressure, prior to the opening of the Portrane WWTP, unless policies are implemented to stop this from occurring.

5.1.5 Air Quality and Climatic Factors

Lusk is seen as a “clean” area in terms of air quality by Fingal County Council and as a result quality monitoring is not carried out for the area. There are five air quality monitoring stations located throughout Fingal (Blanchardstown, Balbriggan, Cloghran, Malahide, Airport) but none are considered to provide relevant information to Lusk given their environment. The lack of air quality monitoring at relevant locations is a restriction on this assessment at local level.

The climate of the Fingal region is characterised by the passage of Atlantic low pressure weather systems and associated frontal rain belts from the west during much of the winter period. Over the summer months the influence of anticyclonic weather conditions will result in drier continental air, in particular when winds are from the east, intercepted by the passage of Atlantic frontal systems. Occasionally, the establishment of a high pressure area over Ireland and Britain will result in calm conditions and during the winter months these are characterised by clear skies and the formulation of low level temperature inversions with slack wind conditions at night-time. Under periods of warm anticyclonic weather during the summer months, strong onshore sea-breezes will develop near the coast. Prolonged dry weather conditions are relatively infrequent but should continental air masses dominate over Ireland a period of drought conditions may occur which could last up to 2 or 3 weeks.

Existing Environmental Issues

Air quality and climate issues have been determined to be more appropriately assessed at higher levels in the land use and environmental protection hierarchies, at a regional level by the EPA, as well as at relevant individual project levels. As a result they have not been taken into account when assessing the potential impacts of the Proposed Variation.

Non-implementation of the Variation

Assessment of non-implementation of the Variation in terms of air quality and climate change is difficult in the context of the lack of local information that is available in relation to air quality indicators. In the event that the Variation is not implemented, air quality and climate change in Lusk will remain largely unchanged.

5.1.6 Cultural Heritage – Architectural and Archaeological

Lusk's cultural and archaeological heritage is one of its most important assets and most at risk from development.

Lusk is one of the earliest ecclesiastical settlements in Fingal and in Ireland containing a wealth of ecclesiastical monuments which are defined by the Record of Monuments and Places and the Zone of Archaeological Potential. It was founded in the fifth century by Saint MacCuilinn or Macculind, who, according to the Annals of Ulster, died in 496, and it developed into one of the most important ecclesiastical settlements of the east coast region. MacCuilinn is said to have been buried in the cave from which the town was named. The ecclesiastical enclosure is dominated by a round tower (RPS-297, 298) which itself is a symbol of prestige (Swan 1985, 89). The size of its enclosure, with a minimum diameter of 250 metres, is impressive. Recent archaeological investigations during road widening works on Church Road unexpectedly uncovered a souterrain containing burials on the western side of the ecclesiastical core (Tom Condit, Pers Com 2007). While there is no evidence that it was the last resting place of the Saint, it does indicate that such below ground sites were present within Lusk and gives weight to the understood place name meaning.

Elements of the early enclosure at Lusk have been naturally preserved in the curving nature of the roads, present street patterns and property boundaries that have survived for centuries. Large monastic sites, such as Lusk, usually have double concentric enclosures (i.e. the outer and the inner). The inner enclosure was thought to be the most sacred place and contained the church, the round tower, graveyard and perhaps the abbot's residence whilst the outer enclosure was reserved for secular and domestic activity.

There is a Zone of Archaeological Potential (ZAP) around the village of Lusk. The extent of the ZAP is based on the estimated size of the early monastic enclosure, the medieval expansion of the town and the site of St. Mary's Arrouaisian Convent. A ZAP is a statutory designation, and accordingly any works which would impact on archaeological structures, features or deposits including demolition or (major) alterations to a building within this zone require two months notice to the Department of the Environment, Heritage and Local Government.

A watercourse flows along the southwestern outskirts of the town through the Variation lands, known as the Balleally Stream. It flows through the townland of Regles and is partially culverted beneath housing estates before emerging to the southwest of the town. Riverine environments are regarded as highly sensitive and are considered to have an intrinsically significant archaeological potential. They have acted as focal points through all periods of human settlement and it is likely that this watercourse attracted prehistoric settlement and also the later monastic foundation. This watercourse feeds St. Maccullin's Holy Well and also supplies water to two further wells in Bridetree townland to the south of the town.

An archaeological investigation along section of the riverbank (in the vicinity of the Chapel Farm development) has identified ditches and linear features that may, from the presence of a flint arrowhead, date to the Early Bronze Age Period. Pottery identified in three other features was dated to the 12th-14th century B.C. The investigations provided evidence for the extended use of the watercourse from at least the Early Bronze Age up to the post-Medieval

period. Further archaeological features are very likely to survive in the vicinity of the watercourse.

It is clear from testing and excavations carried out on the outskirts of the town, in advance of road and residential developments, that the landscape surrounding Lusk and the Variation lands contains a wealth of previously unknown archaeological remains and the potential for further discoveries of archaeological sites around the town is high.

The subject lands do not contain any known monuments or protected structures, however, examples of each can be found in close proximity. The round tower of Lusk is a designated National Monument under protection of the State, and considered to be of national importance. A National Monument comprises the monument itself, as well as the site of the monument and means of access to it. The recorded known monuments (RMP sites) within the village are as follows:

Table 5.5: Recorded Monuments in Lusk

Site Type	Location	NGR	Legal Status
Ecclesiastical enclosure	Church Road and Main Street	32160/25444	RMP
Ballaun stone	The Green	32136/25483	RMP
Round Tower	Church Road	32158/25444	National Monument
Church	Church Road	32160/25443	RMP
Graveyard	Church Road	32161/25443	RMP
Ecclesiastical remains	The Green	32160/25444	RMP
Holy Well	Barrack Lane	32153/25417	RMP

Archaeological monuments, sites, features and finds are a crucial component of our heritage resource. Fingal County Council and all parties involved in development must regard all archaeological sites as finite and a non-renewable resource. Archaeological remains and the integrity of their setting

must be regarded as an element of the existing environment that is to be rigorously protected and managed, whilst at the same time, if clearly defined and mitigated, enabling sustainable future development for Lusk.

Existing Environmental Issues

Lusk's cultural and archaeological heritage is one of its most important assets and most at risk from development, therefore requiring a high degree of protection. Protection of the built and archaeological heritage is afforded within the existing plan, but the potential to enhance the existing historic core is limited. As already stated the potential for further discoveries of archaeological sites around the town is high, particularly around Areas L and M due to previous discoveries and the importance of the stream. Care must be taken during the development of these sites to ensure that any unknown archaeological sites are preserved and protected.

Non-implementation of the Variation

In the absence of implementation of the Variation for Lusk the issues identified in relation to archaeology would remain unchanged.

5.1.7 Landscape

Lusk is a historic village with a distinctive character, set by the medieval street pattern in the village core and a number of protected structures. The present day landscape has evolved as a direct result of the cultural heritage. The streetscapes of the village are distinctive because of the morphology and also because of the contribution of several key buildings, the most distinctive of which is St. Maccullins Church with its round tower and medieval tower. The Lusk urban and rural landscape is a product of continuous human activity over thousands of years from at least the late Neolithic period up to modern times, comprising ritual settlement, ecclesiastical, and farming activity. The presence of glasshouses reflects the traditional horticultural land use in the area and adds to the unique character of the town, the influence of this is evidenced today by the number of glasshouses that are still being used.

The subject lands do not form part of any natural heritage designations (SACs, SPAs NHAs). Lusk is however located approximately 1.5kms, at its closest point from Rogerstown Estuary. The Estuary is covered by a number of national and international conservation designations due to the important habitats, species of birds, animals and plants that occur on the site. Primarily it is a Special Protection Area (SPA) for birds and a candidate Special Area of Conservation (cSAC).

Existing Environmental Issues

The lands are low lying agricultural lands and as such do not contain any important landscape traits that require preservation. However they do add to the over all character of the area so care should be taken to ensure that the lands are developed sensitively and have regard to their surroundings. Care should also be taken to ensure that any views of St. Maccullins Church from the sites are protected and incorporated into the deign of the site.

Non-implementation of the Variation

In the absence of implementation of the Variation for Lusk, the visual encroachment of development onto visually sensitive lands and open spaces will continue.

5.1.8 Transport

Traffic is a cause of concern for residents on safety grounds and also with regard to congestion. While the opening of the Bypass provides a much needed relief route for the town the route through the centre of Lusk remains the shortest travel distance, particularly on the Dublin to Skerries route which continues to be the route of choice. As part of Variation No. 25 a Local Objective was included *to develop and implement comprehensive and effective measures for Traffic Management and Traffic Calming and to carry out a study in that regard*. This study will be done for the entire Lusk area but will incorporate management on the lands now proposed.

The current situation regarding cycling is not conducive to increasing the use of cycling as a mode of transport within Lusk due to the presence of through

traffic and the safety considerations arising from both the volume and type of traffic involved.

The train service is considered the most favourable form of public transport at present. Lusk/Rush railway station is located approximately 1km from Lusk within the townland of Efflestown. It forms part of the Belfast – Dublin rail-line and suburban commuter line with regular services to Connolly Station and other suburban rail stations along the east coast. Lusk/Rush rail station is currently operating at capacity, trains at commuter periods are generally full with overcrowding reported. At present, there are nine trains at peak hour serving Lusk/Rush and connecting to Dublin Connolly, at evening peak time there are five trains passing through Connolly which serve the station. Car parking at the station is particularly poor with limited spaces (approximately 200) and spread over 4 separate car parks, the demand for car parking far exceeds the spaces available. Permission was granted in February 2008 for the construction of a park and ride facility adjacent to the station. This new car park will provide for an additional 199 spaces including 12 disabled parking bays as well as bicycle storage.

Non-implementation of the Variation

In the absence of implementation of the Variation for Lusk the issues identified in relation to surface water, water supply and foul drainage would remain unchanged. Given the pressure to develop the lands in and around Lusk, water treatment may come under further pressure, prior to the opening of the Portrane WWTP, unless policies are implemented to stop this from occurring.

Permission was granted in February 2008 for a Park and Ride facility at the station, the development proposes to provide an additional 199 parking spaces when completed.

Existing Environmental Issues

The carriageway on many of Lusk's roads is shared between pedestrians and vehicles. Generally there are inadequate pedestrian facilities in Lusk and the village lacks permeability, particularly for residents living on the periphery of the town. The condition of the existing footpaths varies considerably with

some sections requiring attention or reconstruction. The widths of some sections of footpaths are inadequate and fall below the minimum standards. The issue of recommended engineering standards has to be balanced against the heritage assets reflected in the road pattern and network. All these issues as well as those associated with connecting the LAP lands to existing development in Lusk will need to be dealt with as part of the Traffic Claming and Management Study proposed as part of Variation 25.

Non-implementation of the Local Area Plan

In the absence of implementation of the Variation for Lusk the issues identified in relation to traffic would remain unchanged.

6.0 SEA OBJECTIVES, TARGETS AND INDICATORS

6.1 INTRODUCTION

An accepted method to determine the environmental effects of a plan, or in this case a Variation, is to devise environmental or SEA objectives for inclusion in the environmental report. A SEA objective is a statement of what is intended, usually specifying the desired direction of change. As the UK guidance on the SEA Directive prepared by the ODPM states:

SEA objectives are a recognised way of considering the environmental effects of a plan or programme and comparing the effects of alternatives. They serve a different purpose from the objectives of the plan or programme though they may in some cases overlap with them. SEA objectives are used to help show whether the objectives of the plan or programme are beneficial to the environment, to compare the environmental effects of alternatives, or to suggest improvements.⁴

As such, this Chapter presents the environmental objectives that have been identified for the environmental assessment process, against which the different variation alternatives outlined in Chapter 7 will be assessed.

The SEA objectives have been devised having regard to the baseline information, environmental issues that are apparent and to policies and objectives in place in other plans or national or European policy documents. Importantly, the selection of SEA objectives is required to be relevant to the context of the proposed variation.

⁴*A Practical Guide to the Strategic Environmental Assessment Directive*, Office of Deputy Prime Minister, September 2005, page 28.

The SEA objectives used in this report take the form of a general statement referring to a general direction of change, which can be given specific targets and then measured by an indicator. A target usually underpins an objective often having a time deadline that should be met. Indicators are measurements of variables over time, which are often used to measure or demonstrate the achievement of objectives and targets. The objectives outlined in this section will be used for the initial assessment of the alternatives and then refined in Chapter 10, when the preferred alternative is chosen.

6.2 SEA OBJECTIVES AND INDICATORS

Environmental objectives and corresponding indicators have been identified and devised for each of the major components of the environment as presented in Chapter 5 having regard to the nature of the Proposed Variation. These are presented in Table 6.1 below.

Table 6.1: SEA Objectives, Targets and Indicators

SEA Objectives	Targets	Indicators
Population and Human Health		
P01 Improve peoples quality of life through the provision of high quality residential development and recreational environments	Provide high quality developments using traditional and sympathetic materials Provide high quality recreational environment within the lifetime of the plan	<ul style="list-style-type: none"> • Good quality building materials and finishes – natural slate, stone in selected areas, lime plaster/render, timber windows/ composite • Development is in line with general design guidelines set out for development sites in the LAP. • Number of new open spaces and recreational facilities made available to the public since adoption of the Variation
P02 Promote and strengthen sustainable employment opportunities	Enhanced provision of employment opportunities Reduction in number of people commuting for work	<ul style="list-style-type: none"> • Number and extent of business start ups since the adoption of the Variation
P03 Promote the provision of educational and community amenities within new developments	Community and educational facilities to be provided in line with residential development Educational Needs Assessment to be carried out for all new developments	<ul style="list-style-type: none"> • Number of additional school places made available since adoption of the Variation • Number of new community facilities made available to the public since adoption of the Variation
P04 Facilitate integration of population increase into the existing community and social infrastructure through sustainable growth	Increased involvement in local sports and other clubs and increased number of places available for local education	<ul style="list-style-type: none"> • Increase in membership of local sports clubs • Number of new school places made available since adoption of the Variation

SEA Objectives	Targets	Indicators
Biodiversity, Flora and Fauna		
B01 Maintain and enhance the diversity of habitats and protected species, promote and maximise the opportunities for the creation of biodiversity	Incorporate biodiversity in landscape and building design No loss of important habitats or species during the lifespan of the Variation	<ul style="list-style-type: none"> • Number of approved application with landscape plans/ conditions • Identified occurrence of new flora and fauna species • Loss of any hedgerows/ linear planting, particularly those within Ecologically Important Areas
Transport		
T01 Improve and develop local access to public open space, recreational and retail facilities	Improved availability and accessibility to open spaces and recreational facilities	<ul style="list-style-type: none"> • Increase in number of public walkways to parks in metres • Amount (in sq.m) of new open space and recreational facilities available to the public since adoption of the variation
Water		
W01 Ensure that any new development is adequately serviced by foul drainage infrastructure	No new development to commence within the Plan until such time as it can be connected to the Portrane WWTP	<ul style="list-style-type: none"> • Development commenced when foul drainage infrastructure is available
W02 Prevent pollution and contamination of estuarine water as a result of ground water run-off	No contamination or pollution of estuarine water as a result of development	<ul style="list-style-type: none"> • Analysis of water indicates compliance with standards

SEA Objectives	Targets	Indicators
Cultural Heritage – Architectural and Archaeological		
C01 Ensure the appropriate treatment of previously unknown archaeological sites or features, outside the protected ZAP or in proximity to RMP sites, that are under threat from development	All unknown sites are protected from inappropriate development Adequate investigation of new development sites	<ul style="list-style-type: none"> Percentage number of planning outcomes in line with DoE and Conservation recommendation Number of development sites investigated
Landscape		
L01 Conserve and enhance valued natural and historic landscapes and features within them	Design of all new development is sympathetic and appropriate to its surroundings	<ul style="list-style-type: none"> Appropriate scale and density used on site, development is in line with the design guidelines for the area set out in the LAP
L02 Protect views that contribute significantly to the character of Lusk	Maintain all valued distinctive views of the former St. Maccullins Church	<ul style="list-style-type: none"> Important view of the church incorporated in to the design of the site
Air Quality and Climate Factors		
A01 Promote sustainable energy	All development complies with Fingal Standards on Sustainable Development and EU Directive 2002/91/EC	<ul style="list-style-type: none"> Percentage number of new buildings since adoption of the Variation that comply with Fingal Standards on Sustainable Design (60% above EU Directive 2002/91/EC standards)

7.0 CONSIDERATION OF ALTERNATIVES

7.1 INTRODUCTION

In this Chapter, the alternative development proposals undergo an environmental assessment by being tested for compatibility with the SEA objectives presented in Chapter 6.

In the following sub-sections, three alternative development scenarios are presented. These include a 'High Population Growth' scenario; a 'Low/Medium Population Growth' scenario, and a 'Balanced Moderate Growth' scenario.

The environmental assessment consists of each alternative development scenario being assessed against the SEA objectives to identify any potential effect or impact on different aspects or components of the environment. The assessment is presented in matrix form with an associated explanatory text. Each scenario is assessed with the concept that if the Council were to precede with that option for the Variation, mitigation measures in relation to foul drainage and archaeology would be put in place to reduce the impact. The potential impacts for each alternative are determined as being significant or insignificant and, where identified as being significant, as having either a positive or an adverse effect. The assessment of the impacts is both qualitative and quantitative, and is based on experience to date and consultation with relevant professionals within the Planning Authority and in relevant agencies.

The key for the potential effects used in the matrices is as follows:

- +** **Significant positive impact**
- X** **Significant negative impact**
- 0** **No relationship/ insignificant (positive or negative) impact**

Following the environmental assessment of the three alternative development scenarios, the preferred alternative will be selected and

described in greater detail. Then a further assessment of the chosen alternative including the identification of any significant impacts of implementing this alternative on the different components of the environment will be outlined.

7.2 OPTION 1: HIGH POPULATION GROWTH

Option 1 proposes a total rezoning of approximately 19 hectares. This consists of 2ha of land to be reserved for a school site with the remainder to be zoned residential.

The key element of this option is to actively facilitate the provision of a primary school in the southern portion of the town. In addition to this, Option 1 proposes the development of approximately 17ha of land as residential units. Taking a high density option of approximately 50 units per hectare there is the potential to increase the number of units in Lusk by approximately 850 units. Table 7.1 shows the potential population growth associated with Option 1.

Table 7.1: Low Density Growth Option 1

Area	Size (ha)	Potential Number of Units	Potential Population	Comment
Site P/Q/R	16.09	805	2174	Potential high density 50/ha
Site N/L/S	1	50	135	Potential high density 50/ha
Total	17.09	855	2,309	

These figures combined give a total potential growth of 855 units, taking an occupancy rate of 2.7 persons per household this produces a combined potential growth of 2,309 persons. With a current population in Lusk of 5,236 persons this growth would bring the population to 7,545 a 44% increase on the current figure. As previously mentioned in Chapter 5 there is an additional

growth potential within the existing development boundary of approximately 2,284 persons, so the predicted increase relates only to the Variation lands.

Option 1 is compared against the SEA objectives in the following matrix.

Matrix 1: High Population Growth Alternative

SEA Objectives	Impacts
Population and Human Health	
P01 Improve peoples quality of life through the provision of high quality residential development and recreational environments	X
P02 Promote and strengthen sustainable employment opportunities	X
P03 Promote the provision of educational and community amenities within new developments	+
P04 Facilitate integration of population increase into the existing community and social infrastructure through sustainable growth	X
Biodiversity, Flora and Fauna	
B01 Maintain and enhance the diversity of habitats and protected species, promote and maximise the opportunities for the creation of biodiversity	0
Transport	
T01 Improve and develop local access to public open space, recreational and retail facilities	0
Water	
W01 Ensure that any new development is adequately serviced by foul drainage infrastructure	X
W02 Prevent pollution and contamination of estuarine water as a result of ground water run-off	0
Landscape	
L01 Conserve and enhance valued natural and historic landscapes and features within them	X
L02 Protect views that contribute significantly to the character of Lusk	X
Cultural Heritage – Architectural and Archaeological	
C01 Ensure the appropriate treatment of previously unknown archaeological sites or features, outside the protected ZAP or in proximity to RMP sites, that are under threat from development	+
Air Quality and Climate Factors	

A01 Promote sustainable energy	+
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While this option would allow for new residential and educational uses, the zoning proposed on such a scale would result in encroachment into the local countryside. This high level of growth, in the region of 44%, is considered unsustainable for Lusk on top of the considerable rise experienced over the last six years. This Option would also not allow for creation of employment opportunities for the town or the enhancement of community facilities and open space, all important elements that the town is currently lacking.

In promoting high density development it is considered that this would generally be inappropriate for Lusk. High density development on the periphery of the town would not be in keeping with the rural location. Such high densities would also be unlikely to deliver sufficient choice in the local housing market where there is currently a shortage of larger dwelling houses for those who aspire to move into larger dwellings yet remain in the locality.

Lusk lacks the foul drainage infrastructure to cater for such a large growth in population and the potential growth is such that even when the treatment plant at Portrane comes on stream in 2011 it would not have the capacity to cater for this growth. This option would also have negative implications for the biodiversity of the area as well as the visual landscape. Important views of the church from these sites would be compromised to achieve the high density proposed.

For the above reasons Option 1 is not considered to allow for balanced sustainable growth over the next 6 years.

7.3 OPTION 2: LOW/ MEDIUM POPULATION GROWTH

Similar to Option 1, Option 2 proposes a total rezoning of approximately 19 hectares. This consists of approximately 2ha of land to be reserved for a school site with the remainder to be zoned residential. While Option 1

proposed a high density development option for the residential lands Option 2 would see these lands developed at a more moderate scale.

The key element of this option is to actively facilitate the provision of a primary school in the southern portion of the town. In addition to this, Option 2 proposes the development of approximately 17ha of land as residential units. Taking a low to moderate density option of between 10 - 25 units per hectare there is the potential to increase the number of units in Lusk by 300 units. Table 7.2 shows the potential population growth associated with Option 2.

Table 7.2: Low/ Medium Population Growth Option 2

Area	Size (ha)	Potential Number of Units	Potential Population	Comment
Site P/Q/R	16.09	282	761	Potential low/ med density 10-25/ha
Site N/L/S	1	18	49	Potential low/ med density 10-25/ha
Total	21.95	300	810	

These figures combined give a total potential growth of 300 units, taking an occupancy rate of 2.7 persons per household this produces a combined potential growth of 810 persons. With a current population of 5,236 persons this growth would bring the population to 6,046 a 15.5% increase on the current figure. As previously mentioned in Chapter 5 there is an additional growth potential within the existing development boundary of approximately 2,284 persons, so the predicted increase relates only to the Variation lands.

Option 2 is compared against the SEA objectives in the following matrix.

Matrix 2: Low/ Medium Density Alternative

SEA Objectives	Impacts
Population and Human Health	
P01 Improve peoples quality of life through the provision of high quality residential development and recreational environments	+
P02 Promote and strengthen sustainable employment opportunities	X
P03 Promote the provision of educational and community amenities within new developments	+
P04 Facilitate integration of population increase into the existing community and social infrastructure through sustainable growth	+
Biodiversity, Flora and Fauna	
B01 Maintain and enhance the diversity of habitats and protected species, promote and maximise the opportunities for the creation of biodiversity	+
Transport	
T01 Improve and develop local access to public open space, recreational and retail facilities	0
Water	
W01 Ensure that any new development is adequately serviced by foul drainage infrastructure	+
W02 Prevent pollution and contamination of estuarine water as a result of ground water run-off	0
Landscape	
L01 Conserve and enhance valued natural and historic landscapes and features within them	0
L02 Protect views that contribute significantly to the character of Lusk	+
Cultural Heritage – Architectural and Archaeological	
C01 Ensure the appropriate treatment of previously unknown archaeological sites or features, outside the protected ZAP or in proximity to RMP sites, that are under threat from development	+
Air Quality and Climate Factors	
A01 Promote sustainable energy	+

While this option would allow for a moderate amount of additional housing it would not allow for the provision of the much needed facilities in the town such as employment opportunities or the enhancement of community facilities and open space within the town. Such a density range would help to

deliver a mix of housing types and sizes to compliment the existing housing stock while providing choice in the local housing market. However, without the delivery of the required infrastructure in tandem with the delivery of housing such an option is not considered to be in the best interest of Lusk at this time.

7.4 OPTION 3: BALANCED MODERATE GROWTH

Similar to Option 1 and 2, Option 3 proposes a total rezoning of approximately 19 hectares. This comprises of 8.36ha of residentially zoned land, 3.24 ha of open space, 2 ha of land to be reserved for a school site and the remaining 5.49ha of land would be designated for the provision of science and technology opportunities. While Option 1 proposed high density development of the residential lands, Option 3 would see residential lands developed at a more moderate scale.

The key elements of this option include:

- Actively facilitate the provision of a primary school in the southern portion of the town
- Provide for an additional playing pitch and associated car park adjacent to current open space provision to the south of the Chapel Farm Estate
- Provide for an additional pitch for Round Towers GAA club adjacent to existing facilities
- Facilitate the development of community facilities
- Provide for an ST1 zoning to attract new employment opportunities to the tow and assist the diversification of the local economy and provide a mix of employment opportunities locally

Taking a moderate density option of approximately 30 units per hectare there is the potential to increase the number of units in Lusk by 250 units. Table 7.2 shows the potential population growth associated with Option 3.

Table 7.3: Balanced Moderate Growth Option 3

Area	Size (ha)	Potential Number of	Potential Population	Comment
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		Units		
Site Q/S	8.36	250	675	Potential moderate density 30/ha
Total	8.36	250	675	

These figures combined give a total potential growth of 250 units, taking an occupancy rate of 2.7 persons per household this produces a combined potential growth of 675 persons. With a current population of 5,236 persons this growth would bring the population to 5,911 a 13% increase on the current figure. As previously mentioned there is an additional growth potential within the existing development boundary of approximately 2,284 persons.

The 'Balanced Moderate Growth' alternative is compared against the SEA objectives in the following matrix.

Matrix 3: Balanced Moderate Growth Alternative

SEA Objectives	Impacts
Population and Human Health	
P01 Improve peoples quality of life through the provision of high quality residential development and recreational environments	+
P02 Promote and strengthen sustainable employment opportunities	+
P03 Promote the provision of educational and community amenities within new developments	+
P04 Facilitate integration of population increase into the existing community and social infrastructure through sustainable growth	+
Biodiversity, Flora and Fauna	
B01 Maintain and enhance the diversity of habitats and protected species, promote and maximise the opportunities for the creation of biodiversity	+
Transport	
T01 Improve and develop local access to public open space, recreational and retail facilities	+
Water	
W01 Ensure that any new development is adequately serviced by foul drainage infrastructure	+

W02 Prevent pollution and contamination of estuarine water as a result of ground water run-off	+
Landscape	
L01 Conserve and enhance valued natural and historic landscapes and features within them	0
L02 Protect views that contribute significantly to the character of Lusk	+
Cultural Heritage – Architectural and Archaeological	
C01 Ensure the appropriate treatment of previously unknown archaeological sites or features, outside the protected ZAP or in proximity to RMP sites, that are under threat from development	+
Air Quality and Climate Factors	
A01 Promote sustainable energy	+

This option would facilitate a limited amount of additional residential development but more importantly it would give the scope to provide for school and community facilities as well as increased employment opportunities. By pursuing a balanced moderate growth scenario a more sustainable use of the land would be secured. Such a density range would also help to deliver a mix of housing types and sizes to complement the existing housing stock while providing choice in the local housing market.

Lusk is defined in the Regional Planning Guidelines as a Moderate Growth Town. Such a balanced and sustainable growth would also help facilitate the further development of community facilities and amenities in accordance with a more moderately growing town, without compromising the primary growth towns of Balbriggan and Swords.

The development of Option 3 is considered to fulfil the overall development strategy of the County Development Plan by consolidating existing and future development within well defined town boundaries and maintaining the distinct physical separation between Rush and Lusk.

7.5 SELECTION OF PREFERRED ALTERNATIVE

A summary of the scoring/ rating of each of the development alternatives against the SEA objectives are provided in Table 7.4. Each development alternative was totalled and the scores were compared against each other, from this it is clear that Option 3 is the preferred alternative. Examination of the previous matrices, that assessed the alternatives against the SEA objectives, indicates a preferred alternative in the form of the 'Balanced Growth'.

Table 7.4: Scoring / Rating of Development Alternatives

Alternative Development Scenario	+ Significant positive impact	X Significant negative impact	0 No relationship/ insignificant (positive or negative) impact	Total
Option 1	3	6	3	-3
Option 2	8	1	3	7
Option 3	12	0	0	11

The Balanced Moderate Growth Alternative offers the most favourable results in terms of the environment and is considered to be in the best interest of Lusk at the present time. It allows for sustainable levels of population growth which is matched by social and physical infrastructure provision. It would have beneficial effects on the provision of community facilities, amenities and infrastructure as well as providing for the sustainable development of Lusk.

7.8 PREFERRED ALTERNATIVE

Taking the Balanced Growth Alternative as the preferred option for Lusk further studies were carried out to see how the objectives of the Variation could be achieved with minimal cost to the environment. In arriving at the preferred alternative the issue of rezoning and densities appropriate to the location were examined. The rezonings and objectives which form the Proposed Variation are detailed in Chapter 3 of this report.

7.9 CONCLUSION

This chapter has outlined the alternative development options chosen as part of the SEA and indicates how we arrived at the preferred alternative, and hence the Proposed Variation itself. It then described the proposed zoning and objectives of the variation. Following on from this Chapter 8 will assess the likely impacts of the preferred alternative on the environment.

8.0 ASSESSMENT OF PREFERRED ALTERNATIVE

This chapter will assess the potential impacts of the preferred alternative on the environment. As mentioned previously in Chapter 2, the Scoping Report, the response received from the prescribed bodies on the Scoping documentation and an examination of the existing environment allowed for the identification and focusing of the likely significant effects on the environment.

8.1 POPULATION AND HUMAN HEALTH

One of the biggest impacts on the receiving environment as a result of the Proposed Variation would be the increase in population. Two areas of land associated with the Proposed Variation have the potential to increase the number of residential units in the area. Table 8.1 outlines these areas and their potential.

Table 8.1: Potential Growth in Residential Units and Population

Area	Size (ha)	Potential Number of Units	Potential Population	Comment
Site Q/S	8.36	250	675	Potential moderate density 30/ha
Total	8.36	250	675	

If properly integrated this balanced moderate growth would not have long term negative impacts on the receiving environment. This planned growth, however, cannot happen without the implementation of the mitigation measures proposed for the other environmental receptors e.g. biodiversity, water and archaeology.

Improving the provision of local employment encourages Lusk to become more self sustaining in line with the Regional Planning Guidelines vision for a Moderate Growth Town, and decreases the need for people to commute to work. The provision of educational and community facilities will also be a positive asset to the town again reducing the need for the local population to commute to these facilities in neighbouring towns.

The Variation also aims to increase the provision of open space and public access to it. Lusk has traditionally had a strong community identity, typical of smaller rural towns. However, due to the rapid growth in the area, there has been insufficient time for social integration between the new residential areas and the more established communities within Lusk. The fact that there are very limited community facilities, with little useable open space in the town has accentuated the problem. Provision of the social and recreational facilities afforded by the plan will ensure a better quality of life for residents.

8.2 BIODIVERSITY, FLORA AND FAUNA

The key impact on the ecological value of the area as a result of the Proposed Variation is the direct loss of habitats as a result of residential and employment development within the Variation lands. Ecological features such as hedgerows should be incorporated, enhanced and connected within the development of Lusk without impacting upon these habitats. Where opportunities exist, new ecological features such as hedgerows, wildflower meadows and pond should be created.

There are a number of hedgerows, some of ecological importance, along the boundary of Areas P, Q and R. These should remain in place not only for

biodiversity reasons but also to act as a sensitive boundary treatment between the Variation lands and the surrounding agricultural lands. These hedgerows should be replaced where their removal is unavoidable and also be reinforced where necessary.

Measures to minimise and mitigate the impacts of the Proposed Variation will be discussed in Chapter 9 of this report.

8.3 WATER

As already discussed in Chapter 5, there is no capacity in the existing network to support further development pending the construction of the new plant at Portrane and the associated upgrading to the network in Lusk. Temporary treatment facilities have also given rise to some local problems and are not considered the preferred solution.

The Proposed Variation could potentially adversely affect the quality of foul drainage services provided in Lusk in respect of these capacity constraints. Therefore development must be phased in line with the implementation of the necessary infrastructure in order to reduce the potential impacts.

The phasing of development is important to ensure that the necessary infrastructural facilities are provided in tandem with development. It will be necessary to ensure that residential development does not take place until such time as the Waste Water Treatment Plant at Portrane becomes fully operational and the required network upgrades to facilitate the development are completed. The phasing of development will mitigate against potential adverse impacts.

The incorporation of SUDS measures, such as retention ponds, should be incorporated into the design of new development to ensure that run-off from new developments does not adversely affect the water quality in the area.

Mitigation measures to avoid/ minimise these potential impacts will be outlined in Chapter 9 of this report.

8.4 CULTURAL HERITAGE – ARCHITECTURAL AND ARCHAEOLOGICAL

Archaeological monuments, sites, features and finds are a crucial component of our heritage resource. Fingal County Council and all parties involved in development need to regard all archaeological sites as finite and a non-renewable resource. Archaeological remains and the integrity of their setting should be regarded as an element of the existing environment that is to be rigorously protected and managed, whilst at the same time, if clearly defined and mitigated, enabling sustainable future development for Lusk.

As part of the Local Area Plan process an archaeological study of Lusk was undertaken. A field evaluation was carried out by Margaret Gowan and Co. Ltd. on the lands associated with the LAP and incorporated some of the lands included in the Proposed Variation. The inspection sought to identify any potential low-visibility archaeological and/ or historical features that might be subject to direct or indirect impacts as a result of any proposed development and also to assess the archaeological potential of the landscape.

The archaeological study describes a significance rating for impacts i.e. slight, moderate, significant or profound. All impacts are described as being potential.

Profound Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise where an archaeological site is completely and irreversibly destroyed by a proposed development.

Significant An impact which, by its magnitude, duration or intensity alters an important aspect of the environment. An impact like this would be where part of a site would be permanently impacted upon leading to a loss of character, integrity and data about the archaeological feature/site.

Moderate A moderate direct impact arises where a change to the site is proposed which though noticeable is not such that the archaeological

integrity of the site is compromised and which is reversible. This arises where an archaeological feature can be incorporated into a modern day development without damage and that all procedures used to facilitate this are reversible.

Slight An impact which causes changes in the character of the environment which are not significant or profound and do not directly impact or affect an archaeological feature or monument.

The study looked at Areas Q and R and the results of the study were as follows:

Table 8.2: Archaeological Assessment Summary

Study Area	Desk Study & Field Inspection Summary	Impact (should development occur on the site)
Areas Q and R	<ul style="list-style-type: none"> • outside ZAP for DU008-010 and no RMP sites in the vicinity • well drained soil 	<ul style="list-style-type: none"> • given the number of archaeological discoveries in the general Lusk area and the topographical setting, there is a high potential for the recovery of subsurface archaeological features or finds within this site.

Avoidance of archaeological sites is the preferred mitigation measure, however, given the topographical nature of the land around Lusk and the proven archaeological potential of greenfields in the vicinity of the town, it is inevitable that impacts will occur. Early recognition of the type and level of impact makes it possible to minimise the loss of archaeological features and provide suitable mitigation measures. It will serve to facilitate avoidance (*Preservation in Situ*) of an impact on archaeological features or if necessary excavation and full resolution (*Preservation by Record*) as the authorities deem appropriate.

Mitigation measures to avoid/ minimise these potential impacts will be outlined in Chapter 9 of this report.

8.5 LANDSCAPE

As already stated the subject lands do not form part of any Landscape Designations (SACs, SPAs, NHAs). The significant impact on the landscape would likely be to the views of the church and views of the village on approach roads. The former St. Maccullins church plays a huge role in the town's landscape and character and this should be maintained. Important views of the church from the proposed sites should be preserved and incorporated into the design of the development to ensure that the church remains a dominant feature in the landscape.

The development of the lands will result in the loss of their rural character, the impact on the surrounding agricultural land can be reduced by siting and design, with sympathetic development of the site.

8.6 ASSESSMENT OF THE PROPOSED VARIATION OBJECTIVES

As discussed in section 7.7, Option 2, Balanced Moderate Growth, was selected on the basis of compatibility with environmental objectives. Further assessment was then carried out on Option 3 in the previous section of this chapter.

In this section the new Local Objectives put forward as part of the Proposed Variation were tested for compatibility with the Strategic Environmental Objectives. They will also be tested against each other to ensure there are no conflicting objectives in the plan. There are eight new Local Objectives and two Development Objectives associated with the Proposed Variation and they are outlined in Chapter 3 of this report.

The assessment of the objectives took the following forms:

1. To ensure that the local objectives of the selected option are compatible with each other (Matrix 4)
2. To test the local objectives of the selected option against the sustainable environmental criteria (Matrix 5)

As before, in filling out the matrices the impact, if any, was recorded indicating positive, negative, uncertain or no impact. This process was carried out so that it could inform the planning department of required mitigation measures to be undertaken.

The appraisal found the Local Objectives to be compatible with each other, no objective negatively impacted on another. A sample of conclusions from the assessment showed, for example that LK17, which stated, *to provide for a pedestrian right of way between the Community Facilities and Hands Lane*, would beneficially impact on LK16, *to provide for a new Community Facility with a minimum floor area of 300 square metres*.

Matrix 4: Evaluation of local and development objectives against each other

Plan Policy												
<u>Local Objective LK2</u>	LK2											
<u>Local Objective LK12</u>	0	LK12										
<u>Local Objective LK13</u>	0	0	LK13									
<u>Local Objective LK14</u>	+	0	+	LK14								
<u>Local Objective LK15</u>	0	0	0	+	LK15							
<u>Local Objective LK16</u>	+	0	0	0	+	LK16						
<u>Local Objective LK17</u>	0	0	+	0	+	+	LK17					
<u>Local Objective LK18</u>	0	0	0	0	0	0	0	LK18				
<u>Development Obj LUSK 8</u>	0	0	0	0	0	0	0	0	+	D08		
<u>Development Obj LUSK 10</u>	0	0	0	0	0	0	0	0	+	0	D010	

Key: + Beneficial Impacts
 ? Uncertain Impacts
 X Adverse Impacts
 0 No Impact

Matrix 6: Evaluation of local objectives against the sustainable environmental objectives

Plan Policy	P01	P02	P03	P04	B01	TO1	WO1	WO2	CO1	LO1	LO2	A01
<u>LK2</u>	+	+	0	+	0	+	0	0	0	0	0	0

<u>LK12</u>	+	0	0	+	0	0	0	0	0	0	0	0
<u>LK13</u>	+	0	+	+	0	+	0	0	0	0	0	0
<u>LK14</u>	+	+	0	+	0	+	0	0	0	0	0	0
<u>LK15</u>	+	0	+	+	0	+	0	0	+	0	0	0
<u>LK16</u>	+	0	+	+	0	+	0	0	0	0	0	0
<u>LK17</u>	+	0	+	+	0	+	0	0	0	0	0	0
<u>LK18</u>	0	0	0	0	+	0	0	0	0	0	0	0
<u>DO LUSK 8</u>	0	0	0	0	0	0	0	0	+	+	0	0
<u>DO LUSK 10</u>	+	0	0	+	0	0	0	+	+	0	0	0

The Local Objectives when tested against the Sustainable Environmental Objectives were also found to be largely compatible. For example, LK17, *to provide for a pedestrian right of way between the Community Facility and Hands Lane*, when compared with Environmental Objective TO1, *improve and develop local access to public space, recreational and retail facilities*, would beneficially impact on each other and promote and expanded civic base to serve the local community. Similarly PO1, *to improve peoples quality of life through the provision of high quality residential development*, would beneficially impact on LK12, *to ensure an appropriate mix of housing is provided in the local housing market*.

8.7 CONCLUSION

Following the selection of the preferred alternative and the identification of significant impacts, the next stage of the environmental assessment process is to propose mitigation measures to address and/ or ameliorate the significant impacts or, where appropriate, the mitigation measures (Chapter 9).

Having examined the Variation against the Sustainable Environmental Objectives it was found that there are a number of key areas where mitigation is necessary in order to reduce the potential impact on the environment. These key areas were found to be in biodiversity, landscape/ urban design, water and archaeology. The Sustainable Environmental Objectives for each of

the environmental receptors outlined in Chapter 6 of this report will be incorporated into the monitoring programme for the SEA.

Given the preferred option is for Balanced Moderate Growth, the impacts on the local population will be limited, however, the Variation still allows for moderate growth and as such it is considered that some of the Strategic Environmental Objectives should be included for monitoring.

9.0 MITIGATION MEASURES

9.1 MITIGATION MEASURES INCORPORATED

Mitigation measures are envisaged to prevent, reduce and as fully as possible offset any significant adverse impacts on the environment of implementing the Proposed Variation. The mitigation measures identified during the SEA and plan making process have been integrated into the Proposed Variation.

9.2 MITIGATION MEASURES PROPOSED

In Chapter 8, any significant impacts of implementing the Proposed Variation on the different components of the environment were identified.

9.2.1 Biodiversity

To minimise and mitigate the impacts of the proposed developments within the Proposed Variation, the following measures are proposed:

- Incorporate hedgerows and wet ditches in the open spaces and actively maintain hedgerows once they are handed over to the County Council. Mature hedgerows can provide an attractive element in an open space within newly developed housing estates for both residents and wildlife. Any development and boundary treatment should be set back at least 5-10m from hedgerows and watercourses. To encourage the protection of hedgerows and boundary treatments in Lusk, the Proposed Variation includes the Development Objective LUSK 10 *to reflect the important garden aspects of the character of the town the protection of existing boundary hedges shall be encouraged and with regard to new developments strong preference will be given to the planting of boundary hedges and trees, using native species.*
- Important hedgerows along the boundary of Area P, Q and R should remain intact and be reinforced where necessary. This will not only preserve

the flora and fauna in the area but will act as a sensitive boundary treatment for the proposed development.

- In addition to protecting natural features such as hedgerows, it is recommended that other habitat types such as wildflower meadows and woodland copses be included within new developments as much as possible. Where this is not possible, it is suggested that these habitats be provided within the ecological corridors along the stream.
- Planting schemes should take into account the native species already in the area. Preference should be given to the planting of Hawthorn, Blackthorn and Ash. Other useful species for wildlife include Birch, Holly, Alder, Willow, Guelder Rose and Dog Rose. Ideally the above species would be planted in small copses, rather than in lines within the new developments.

The Development Plan includes numerous objectives for protection of the natural heritage and individual applications should continue to be assessed against Development Plan policy.

9.2.2 Water

Surface Water

The 'Sustainable Urban Drainage Systems' (SUDS) principle is to move away from the traditional approach of managing the volume and rate of runoff from larger storm events, through rapid collection and disposal of flows into watercourse, and to move towards integrating flood control with runoff treatment using more natural means. Whenever practicable, runoff flows and pollutants are managed on site, rather than being directed to the nearest receiving waters. This has the benefit of reducing the problems associated with rapid runoff rates and volumes and the shock loading problems it causes, e.g. flooding, scour, etc, as well as helping to recharge aquifers and groundwater services more efficiently (an essential element of effective water cycle management). There are also the qualitative benefits with natural treatment of contaminated surface waters (e.g. percolation through the soil) being encouraged.

SUDS therefore involves a shift in the way of managing runoff from solely looking at volume control, to an integrated approach which considers land use planning, water quality, water quantity, amenity and habitat enhancements. As a result SUDS approaches provide an excellent mechanism through which the way of managing urban drainage can be changed, and the objectives of the EU Water Framework Directive can be advanced. SUDS will be used in Lusk as a mitigation measure for the treatment of surface water. SUDS retention or attenuation ponds must be incorporated into the design of developments to ensure that water run-off is dealt with on site before it enters the streams and ditches to ensure that water quality is not affected.

Foul Drainage

As is clear from this report there is no capacity in the existing network to support further development pending the construction of the new plant at Portrane and the associated upgrading to the network in Lusk. Therefore development must be phased in line with the implementation of the necessary infrastructure in order to reduce the potential impacts.

Phasing of development will be essential to ensure the variation meets with the Sustainable Environmental Objectives. This phasing must be linked to the delivery of the Portrane WWTP and network infrastructure. In order to ensure the proper phasing of development takes place the Fingal Development Plan includes the following two Local Objectives: LK1 and LK11. Note LK1 currently only applies to Area D and F, and LK11 currently only applies to H. It is the intention of the Proposed Variation that LK1 will also apply to Areas Q and S; and LK11 will apply to Area P.

Local Objective LK1 – [Applies to Areas D, F, L, Q and S]:

To ensure that residential development does not take place until such time as the Waste Water Treatment Plant at Portrane becomes fully operational and the required network upgrades to facilitate the development are completed.

Local Objective LK11 – [Applies to Areas H and P]:

To ensure that development does not take place until such time as the Waste Water Treatment Plant at Portrane becomes fully operational and the required network upgrades to facilitate the development are completed.

9.2.3 Archaeology

As part of the archaeological study carried out on the lands associated with the Proposed Variation by Margaret Gowan and Co. Ltd., a number of mitigation measures were proposed for various sites in order to mitigate the potential impacts. The mitigation measures proposed for Areas Q and R are outlined in Table 9.1. There are three types of mitigation measures detailed in the table, explanations of these are as follows:

- *Geophysical Survey (Non-invasive technique):* The aim of the geophysical survey is to identify and locate the nature and extent of below-ground archaeological sites and remains. Within greenfield areas of significant potential, and in accordance with the requirement of best practice devised by The National Monuments Section of the Department of the Environment, Heritage and Local Government it is usually recommended that geophysical testing take place. This is a non-invasive method of examining the below ground archaeological potential without disturbing the surface of the fields. The benefits of availing of this technique are that it can cover a large amount of ground rapidly and provide definition on the nature, extent and often plan layout of below ground sites. On the basis of the testing results further mitigation may be sought by the National Monuments Section in the form of targeted invasive testing or preservation in situ or full hand excavation. This work should be carried out by a licenced archaeologist well in advance of development.
- *Archaeological Test Excavation:* The purpose of archaeological test investigation is to identify any archaeological remains, whether they

are subsurface features or features preserved as part of an upstanding feature. Archaeological testing should be carried out at the earliest possible phase of the development programme; optimally at pre-planning stage, as it will limit the archaeological requirements at construction stage. Early testing will ensure that there are no unforeseen impacts to archaeological remains during construction and it will also ensure that archaeology is not the basis of delays or redesign during the construction programme.

Table 9.1: Archaeological Mitigation Measures

Study Area	Desk Study & Field Inspection Summary	Impact (should development occur on the site)	Mitigation
Area Q and R	<ul style="list-style-type: none"> • Outside ZAP for DU008-010 & no RMP sites in the vicinity • Well drained soil 	<ul style="list-style-type: none"> • Given the number of archaeological discoveries in the general Lusk area and the topographical setting, there is a high potential for the recovery of subsurface archaeological features or finds within this site 	<ul style="list-style-type: none"> • Geophysical testing has been carried out on this site • Test excavation will be required and will augment geophysical survey findings

Within Area Q and R an area of magnetic disturbance was identified which may indicate buried structural remains. As already stated the potential for further discoveries of archaeological sites around the town is high, particularly around Areas L and M due to previous discoveries and the importance of the stream. Testing would be required in all areas prior to development to ensure that previously unknown archaeological sites are protected.

9.2.4 Landscape/ Urban Design

The potential impacts of new development on the landscape in Lusk will be mitigated through proper siting and design. Policy relating to layout, density

and material will be set out in the Local Area Plan. The LAP will also propose a 'green' approach to be taken to the development of lands that make up this Variation.

The most significant impact on the landscape would likely be the views of the church and views of the village on approach roads. It is essential that these important views of the church are not obstructed by inappropriate development, careful design and siting will ensure that views are incorporated into the site. It will also be important to ensure a sympathetic balance between the development proposed and agricultural lands surrounding them.

To ensure the views of the church are not compromised by new development the Proposed Variation includes Development Objective LUSK 8 *To maintain the valued distinctive views of the monastic site from all approach roads into the town, significant areas of open space and surrounding areas.*

9.2.5 Population/ Human Health

No further growth on foot of this Variation should occur until such time as the foul drainage infrastructure is in place to cater for such growth. Social infrastructure such as open space and community facilities should be provided in tandem with population growth. The provision of schools prior to new residential development will be ensured by the inclusion of Local Objectives LK15 and LK16.

9.2.6 Transportation

In tandem with population growth, extensive traffic calming measures should be implemented to reduce traffic flow through the town, increase safety and permeability, and improve the quality of life of the local population. The recommended improvements of the Traffic Calming and Management Study, adopted as part of Variation 25, will be implemented as part of the LAP. The provision for improvements to pedestrian/ cyclist access within the new

development is catered for by LK13 and LK17. Road improvement in the area will also benefit from the inclusion of objectives LK2 and LK 14.

10.0 MONITORING PROPOSALS

10.1 PURPOSE OF MONITORING

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. This environmental report puts forward proposals for the monitoring of the Proposed Variation.

Monitoring is based around the indicators which were chosen earlier in the process. These indicators allow quantitative measures of trends of progress over time relating to the SEOs used in the evaluation. Focus is given to the indicators which are relevant to the likely significant environmental effects of implementing the Proposed Variation and existing monitoring arrangements are used in order to monitor the selected indicators where possible.

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 Proposed Variation is achieving its environmental objectives and targets and whether the proposed mitigation measures are being implemented.

10.2 MONITORING PROPOSALS

The monitoring programme for the implementation of the Proposed Variation is outlined in Table 10.1 overleaf.

Table 10.1: Monitoring Programme

Environment	Monitoring Objectives and Indicators	When?	By Whom	Source / Method of Monitoring
<p>Population and Human Health</p>	<p><i>Improve people's quality of life through the provision of high quality development and recreational environments</i></p> <ul style="list-style-type: none"> • Use of good quality building materials and finishes – traditional building materials, natural slate, limited use of stone/ brick • Amount (in sq.m.) of open spaces and recreational facilities available to the public since adoption of the Variation 	<p>This will be addressed during the lifetime of the plan</p> <p>2 year review</p>	<p>FCC Planning Department</p> <p>FCC Planning Department/ Parks Division</p>	<p>Planning Applications</p> <p>Comparison to baseline Open Space and Recreational Facilities Survey (May 2008)</p>
	<p><i>Promote and strengthen sustainable employment opportunities</i></p> <ul style="list-style-type: none"> • Number and extent of business/ retail/ commercial start ups within adopted development areas since adoption of the Variation 	<p>2 year review</p>	<p>FCC Planning Department</p>	<p>Comparison to baseline Employment Survey (May 2008)</p>
	<p><i>Promote the provision of educational and community facilities</i></p> <ul style="list-style-type: none"> • Number of additional school places available since adoption of the Variation • Amount (in sq.m.) of community facilities available to the public since adoption of the Variation 	<p>2 year review</p> <p>2 year review</p>	<p>FCC Planning Department</p> <p>FCC Planning Department</p>	<p>Baseline Survey to be carried out at review stage</p> <p>Comparison to baseline Open Space and Recreational Facilities Survey (May 2008)</p>

Environment	Monitoring Objectives and Indicators	When?	By Whom	Source / Method of Monitoring
Biodiversity	<p><i>Maintain and enhance the diversity of habitats and protected species, promote and maximise the opportunities for the creation of biodiversity</i></p> <ul style="list-style-type: none"> • Number of approved applications with landscape plans/ conditions • Loss of any hedgerows/ linear planting, particularly those of Ecological Importance 	<p>2 year review</p> <p>At planning application and planning consent stage</p>	<p>FCC Planning Department</p> <p>FCC Planning Department / Parks Division</p>	<p>Planning Applications</p> <p>Comparison to baseline Linear Planting and Woodlands Survey (May 2008)</p>
Transport	<p><i>Improve and develop local access to public open space, recreational and retail facilities</i></p> <ul style="list-style-type: none"> • Increase in number of public walkways/ shared surface areas • Amount (in sq.m.) of new open spaces and recreational facilities available to the public since adoption of the variation 	<p>2 year review</p> <p>2 year review</p>	<p>FCC Planning Department/ Transport Department / Parks Division</p> <p>FCC Planning Department/ Transport Department / Parks Division</p>	<p>Planning Application/ Comparison to baseline Public Walkways Survey (May 2008)</p> <p>Comparison to baseline Open Space and Recreational Facilities Survey (May 2008)</p>

Environment	Monitoring Objectives and Indicators	When?	By Whom	Source / Method of Monitoring
Water	<p><i>Ensure that any new development is adequately served by foul drainage infrastructure</i></p> <ul style="list-style-type: none"> Development commences when foul drainage infrastructure is available 	2 year review	FCC Water Services/ Planning Department	Planning Applications – Is new development connected to Portrane?
	<p><i>Prevent pollution and contamination of estuarine water</i></p> <ul style="list-style-type: none"> Result of testing show no contamination in the water 	2 year review	FCC Water Services/ Planning Department	Comparison to water quality testing for Balleally Stream (August 2008)
Cultural Heritage – Architectural and Archaeological	<p><i>To ensure the appropriate treatment of previously unknown archaeological sites or features, outside the protected ZAP or in proximity to RMP sites, that are under threat from development</i></p> <ul style="list-style-type: none"> Percentage number of planning outcomes in line with DoE and Conservation recommendations 	2 year review	FCC Planning Department / Conservation Office	Planning Applications Query
Landscape	<p><i>Protect views that contribute significantly to the character of Lusk</i></p> <ul style="list-style-type: none"> Number of new developments which have obstructed key views of the monastic site 	2 year review	FCC Planning Department/ Conservation Office	Comparison with Protected Views Baseline Survey (May 2008)

11. CONCLUSION AND RECOMMENDATION

The methodology employed in undertaking this SEA for the Proposed Variation at Lusk has been in accordance with the relevant planning legislation and guidance issued by the DoEHLG. Through the SEA process, the Proposed Variation has been assessed in order to evaluate the environmental implications of developing residential, retail, industrial, education, community facilities and open space uses at the subject sites.

The SEA process has comprised a number of distinct stages, one of the most important of which has been the preparation of this Environmental Report. The Environmental Report, which is the principal document produced during the SEA process, presents information on the Proposed Variation and the subject sites, on the Proposed Variation's context with other relevant plans, and on baseline information for the different categories within the receiving environment.

In the environmental assessment, three alternative development scenarios, including the Proposed Variation itself, were assessed. The environmental assessment consisted of each alternative development scenario being assessed against the SEA objectives to identify any potential significant effect or impact on the different categories of the environment.

Following the environmental assessment of the alternative scenarios, the preferred alternative, the Proposed Variation, was selected. A further assessment of the Proposed Variation was undertaken to identify any significant effects or impacts on the environment from implementing the Proposed Variation. Importantly, mitigation measures have been formalised to ameliorate any negative impacts, and finally appropriate monitoring proposals have been developed to monitor the significant effects and also the relevant mitigation measures.

It is proposed to monitor the effects of the Variation every two years or as appropriate in conjunction with the associated Local Area Plan. A full

monitoring programme, including baseline information, will be produced as part of the SEA Statement.

12. APPENDIX

12.1 APPENDIX 1

Proposed Variation Scoping Report

Fingal County Council

**Draft Variation for Lands at Lusk
Fingal Development Plan 2005-2011
Strategic Environmental Assessment**

Scoping Report

Strategic Planning Unit

July 2008

Purpose of Report

Fingal County Council is currently preparing a Draft Variation to the County Development Plan 2005-2011. This is being undertaken in association with the preparation of a LAP for the Lusk area. The Draft Variation is being proposed in the context of the Fingal Development Plan and having regard to the policies and objectives therein. Section 13 of the Planning and Development Act 2000 sets out the procedures to be followed when making a Draft Variation, and these will be adhered to. The making of the Draft Variation will be subject to a Strategic Environmental Assessment (SEA).

As part of the Variation process, and having regard to the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S. I. No 436 of 2004), Fingal County Council must consider whether to carry out an SEA on the Draft Variation. Under article 13K of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, it is necessary to determine whether or not the proposed variation would be likely to have significant effects on the environment in order to ascertain whether SEA should be undertaken. This should be determined having regard to the relevant criteria set out in Schedule 2A of the Regulations.

The key determinant in deciding if SEA is appropriate is whether a variation would be likely to have significant effects on the environment. This decision should not be determined by the size of an area alone but should also be influenced by the nature and extent of the development likely to be proposed in the variation, its location and its broad environmental effects. Work is currently being carried out on a Local Area Plan for Lusk for which a Strategic Environmental Assessment is being prepared and as a result it was deemed necessary to produce an SEA for the Draft Variation. An Appropriate Assessment is also being undertaken for the Lusk area as part of the LAP process, this assessment will incorporate the lands now proposed.

Background Context

Lusk is located approximately 18km north of Dublin city centre, c.3.5km west of the coastal village of Rush and about 10km south of Balbriggan. The village is located within the designated Hinterland of the Greater Dublin Area and is surrounded by agriculturally zoned lands. It is situated between the Old National Route N1 (R132) (replaced by the new M1 motorway located to the west of this) and the Dublin /Belfast Rail Corridor and is accessed from the south along the Regional Route (R127), a spur off the R132 which links Lusk to Skerries to the north. This Regional Route is intersected with the R128, which links Lusk to Rush to the east.

The sites subject to the Draft Variation are located on the periphery of the town, to the south of Chapel Farm Estate and to the West of Round Towers GAA Club (see attached map).

The following is a summary of the rezoning proposed by the Draft Variation, followed by a description of each area:

- (a) Rezone the area marked L on the attached map from zoning objective RU to zoning objective RS1.
- (b) Rezone the area marked M on the attached map from zoning objective RU and OS to zoning objective RS1.
- (c) Rezone the area marked N on the attached map from zoning objective RU to zoning objective OS.
- (d) Rezone the area marked O on the attached map from zoning objective RU to zoning objective RS1.
- (e) Rezone the area marked P on the attached map from zoning objective RU to zoning objective ST1.

- (f) Rezone the area marked Q on the attached map from zoning objective RU to zoning objective RS1.
- (g) Rezone the area marked R on the attached map from zoning objective RU to zoning objective OS.
- (h) Rezone the area marked S on the attached map from zoning objective RU to zoning objective RS1.

Area L: The subject lands are currently zoned RU 'To protect and provide for the development of agriculture and rural amenity'. The lands comprise some of 4.86 hectares of mainly open land located on the southern boundary of Lusk. The proposal is to rezone this land to RS1 'To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure'.

Area M: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity* and OS *To preserve and provide for open space and recreational amenities*. The proposal is to rezone this land to RS1 *To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure*. The rezoning will ensure that some 2.02 hectares of land is made available to the Council to secure the provision of a primary school site in the southern portion of the town. The site for the school will in the first instance be given to the Council, before being disposed of to the Department of Education. The proposal will also provide the opportunity to transfer approximately 0.74 hectares of existing open space located within Area M, across to Area N. This along with some additional Class 1 open space to be provided as part of the development of Area L will enable the consolidation of existing Open Space and accommodate a second playing pitch with associated car parking adjacent to the existing pitch.

Area N: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. As noted above the proposal will also provide the opportunity to transfer approximately 0.74 ha of existing open space adjacent to the new playing pitch.

Area O: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity* however they have been built upon during the development of the Dun Emer Estate. The proposal is to rezone this land to RS1 *To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure*. The purpose of including Area O in this Variation is to regularise the zoning in the locality and enable the Development Boundary to be amended to accord with what has been built. The land area involved is relatively small, some 0.20 hectares and affects, in part or whole, some 3 dwellings and associated gardens.

Area P: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The land comprises some 5.49 hectares of land which is mainly in agricultural use, but also contains 2 detached dwellings and associated outbuildings. The proposal is to rezone this land to ST1 *To facilitate opportunities for science and technology based employment and associated and complementary uses in a high quality environment in accordance with an approved local area plan*.

Area Q: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The land comprises some 8.1 hectares of open fields. The proposal is to rezone this land to RS1 *To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure*.

Area R: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity*. The land comprises open fields of some 2.5 ha

located on the western boundary of Lusk, immediately to the west of the Round Towers GAA Club. The proposal is to rezone this land to OS *To preserve and provide for open space and recreational amenities.*

Area S: The subject lands are currently zoned RU *To protect and provide for the development of agriculture and rural amenity.* The land comprises some 0.26 hectares of land at Reamount Farm, to the west of Lusk. The proposal is to rezone this land to RS1 *To provide for new residential communities in accordance with approved local area plans and subject to the provision of the necessary social and physical infrastructure.*

Area J: In addition as previously discussed above, by securing a primary school site within Area L, Area J is no longer required for that purpose and therefore it is proposed to delete Area J from the Development Plan.

Specific Objective: To amend the existing development boundary to encompass the new land zonings, Areas L - S, and remove the boundary from Area J.

Local Objectives: In addition to the rezoning proposed there are a number of Local Objectives to be included as part of the Draft Variation. These include:

Local Objective LK2 [Applies to Area N]:

To ensure that Kilhedge Lane is up graded to provide adequate access and that a satisfactory level of car parking is provided to serve the existing and proposed open space.

[Note: this is proposed to replace the original LK2 which was adopted by Variation No. 25 which sought to secure the upgrading of Kilhedge Lane in connection with the school proposal in Area J, which is now proposed to be deleted]

Local Objective LK12 – [Applies to Areas L and Q]:

To ensure an appropriate mix of housing is provided in the local housing market.

Local Objective LK13 – [Applies to Area L]:

To require the provision of a vehicular access between the R127 and Area L before any residential development is commenced on Area L.

Local Objective LK 14 – [Applies to Areas L and M]:

To require the provision of good pedestrian and cycle links between Areas L and M and the adjoining Chapel Farm Estate.

Local Objective LK15 – [Applies to Areas P and Q]:

To ensure that development does not take place until the necessary up grading of Minister's Road as indicated on the Development Plan map is completed.

Local Objective LK16 – [Applies to Areas P and Q]:

To ensure that development does not take place until the open space, playing pitch and Community Hall are constructed on the adjoining Area R.

Local Objective LK17 – [Applies to Area R]:

To provide for a new Community Facility with a minimum floor area of 300 square metres.

Local Objective LK18 – [Applies to Area R]:

To provide for a pedestrian right of way between the Community Facility and Hands Lane.

Context of the Draft Variation

Lusk has experienced unprecedented growth in the order of about 170% increase in its residential population since the production of the last Action Area Plan. Major new residential developments include Chapel Farm, Dun Emer and Lusk Village, however facilities and services have not improved apace to cater for this growth nor did the Action Area Plan provide for significant levels of employment generation.

During the initial stages of the LAP process it was decided that in order to proceed with the LAP it would first be necessary to vary the Fingal Development Plan to facilitate the emerging Plan. A Draft Variation and accompanying Strategic Environmental Assessment was subsequently placed on Public Display between 6th February 2008 and 5th March 2008. The Variation included a number of proposals including rezoning, new Local Objectives, a Specific Objective to identify a school site (Area J), and the identification of Inner and Outer Core Areas of Protection (Areas K and K1). The Variation was adopted by the Council on the 12th May 2008 (see attached map for details).

As the LAP process developed further, it was decided that additional rezoning and objectives would be required in order to further strengthen the framework for the developing LAP, resulting in the Draft Variation.

The rezoning proposed as part of the Draft Variation, along with the accompanying Local Objectives, will assist Lusk in developing in a planned and proper manner, addressing the capacity of Lusk to grow in accordance with its RPG Moderate Growth Town Status. The Draft Variation will also provide for the location of employment generation uses so as to promote the long-term viability and sustainability of Lusk.

It is intended that Variation No. 25, in conjunction with the Draft Variation now proposed, will facilitate the emerging LAP. The Lusk LAP will aim to provide integration of the new peripheral estates with the existing communities and village core, and will also propose improvements to the existing services/ facilities and employment to deal with this growth. Social, economic and physical development is key to the regeneration of the village.

Scoping

The purpose of scoping is to determine the nature and level of detail of information to be included in the Environmental Report. The scoping process should develop an understanding of the impact on the different aspects of the environment, if any, and ensure that the relevant environmental issues are highlighted and addressed appropriately in the Environmental Report. Scoping will ensure that the planning authority remains focussed upon the important issues.

The content of this report is based on the guiding criteria outlined in article 13M (2) (c) of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 and the SEA Guidelines⁵ of the type of information that should be included within an environmental report.

- i. The current knowledge and methods of assessment,
- ii. The contents and level of detail in the plan,
- iii. The stage of the plan in the decision making process, and
- iv. The extent to which certain matters are more appropriately assessed at different levels in the decision making process in order to avoid duplication of the environmental assessment.

⁵*Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment, Guidelines for Regional and Planning Authorities*, page 17, Department of the Environment, Heritage and Local Government, November 2004.

Current Knowledge and Methods of Assessment

A SEA was not undertaken for the Fingal Development Plan 2005-2011, to which the Draft Variation relates, and in recent years no Environmental Impact Assessments have been carried out for any developments in Lusk. In compiling this Scoping Report and identifying the potential impacts of implementing the Draft Variation, it was necessary to gather all available baseline information available internally in Fingal County Council. Due to the sensitive and rural nature of the area, and owing to the huge level of development that has occurred over recent years, Fingal County Council commissioned a number of additional studies to be carried out. These included an Urban Design Study and Ecological Assessment incorporating a Mammal Study.

An Appropriate Assessment of Lusk is to be undertaken as part of the process. The study will look at the sites proposed as part of the Draft Variation as well as the land associated with the forthcoming LAP.

Contents and Level of Detail in the Plan

The different components of the environment are identified below with the possible implications of implementing the Draft Variation outlined. Each component will be investigated in greater detail, as deemed appropriate, during the preparation of the Environment Report.

The broad categories of components in the environment, derived from paragraph (f) of Annex 1 of the Directive, are as follows:

- ix. Population, Human Health
- x. Biodiversity, Flora and Fauna
- xi. Soil
- xii. Water
- xiii. Air, Climatic Factors
- xiv. Material Assets: Heritage and Archaeology
- xv. Landscape

Population, Human Health

The population of Lusk was recorded as 5,236 in the 2006 Census, and has the potential to grow to over 7,000 under the current zoning. Future development of the town may have detrimental effects on the environment unless carefully planned and managed. An increasing population growth also places increased demands on the existing social infrastructure. One of the most apparent impacts on the receiving environment would be an associated increase in traffic on the surrounding road network as a result of the infill development. The previous Variation, No. 25, included a Local Objective *to develop and implement comprehensive and effective measures for Traffic Management and Traffic Calming and to carry out a study in that regard*. This study will incorporate the sites proposed and ensure that future development can be catered for within the current road network.

The estimated residential development potential of the subject lands may be in the region of 393 no. houses. Taking an average household figure of 2.7 no. persons per residential unit, the development of the subject lands could result in an additional 1,061 no. persons in the area.

The amenities within the town are extremely limited particularly given the large increase in population over the past few years and its potential for the future; it appears that increased development has not been matched by the required amenities. Provisions have been made in Variation No. 25 for improvements to educational, recreational and community facilities. The Draft Variation, now proposed, offers the opportunity to further strengthen educational, recreational and community facilities in the area.

One concern is that the local population and future residents should not experience unreasonable diminution in their quality of life from direct or indirect consequences of the implementation of the Draft Variation. The principal issue that would have to be addressed in the Strategic Environmental Assessment is that future development of land would be required to be at an appropriate level and form to ensure that the existing character and historical nature of Lusk is not harmed. Consideration of the established character of the existing town and how this can be maintained/ integrated with future development is therefore important and must be addressed in the Environmental Report.

Biodiversity, Flora and Fauna

The subject lands are greenfield (grass cover vegetation) in nature not having been developed. The lands are not located in the vicinity of any Nature Conservation Designations (SACs, SPAs, NHAs), nor do they contain any preserved trees, woodlands or hedgerows. A watercourse, Balleally stream, does run along the east of the southern site, this will have to be taken into consideration when developing the site to ensure that it is protected and enhanced where possible. The stream also flows into the Rogerstown Estuary so the effects of this will be looked at by the Appropriate Assessment.

Fingal County Council carried out an Ecology Study and Mammal Survey of the lands associated with the Draft Variation, and their surrounding environment, to predict any potential impacts on the lands. The Ecology study recorded habitats, plant species and vegetation types present on the land as well as habitats and land uses surrounding the site. The study concluded that an open space/ riparian strip should be developed along side the stream to reduce the impact of development. While the study noted that the lands in question were not important in terms of fauna, a number of hedgerows were identified in sites P, Q and R. These hedgerows will be taken into consideration during the design stage and incorporated into the development where possible.

These studies were used to inform the Draft Variation and plan-making process to ensure that the loss of biodiversity in the area is minimal and to help identify any opportunities to enhance biodiversity where possible.

Soil

As detailed above, the subject lands are greenfield and have not been developed. The Geological Survey of Ireland (GSI), as well as the EPA, provide information on bedrock, subsoil, aquifer classifications and vulnerability. With regard to bedrock, Lusk is located in a significant area of Dinantian Upper Impure Limestone. In relation to aquifer classification, Lusk is an area of Locally Important Aquifer (LM) with bedrock which is generally moderately productive. With regard to aquifer vulnerability, Lusk is located within an area defined as high to low vulnerability with a small concentration of extreme vulnerability (rock near surface or Karst). It should be noted here that the information for high to low vulnerability was taken from an interim study and a more detailed study may be required. With regard to subsoil, the core of Lusk is located in an area classified as till chiefly derived from limestone with the surrounding lands classified as made ground (built land) and areas of alluvium. From information available from Teagasc through the EPA, Lusk is further classified as basic mineral well drained and poorly drained soils.

Water

Water Supply

Water is currently supplied to Lusk village from Ballycoolen Reservoir. The overall level of service within the Lusk area is satisfactory; however, some developers may be required to lay local pipe work in order to bring a water supply to their site. It should be noted that during the course of new development all asbestos concrete pipes should be replaced when the opportunity arises. All construction must comply with the Fingal County Council "Guidelines for the Laying of Water Mains". A Water Management and Conservation Plan must be submitted as part of the planning application for all residential and commercial developments. All fittings and installations must incorporate best current practices in water conservation.

Foul Drainage

The existing system, part of which is combined, discharges via a 300mm gravity sewer to a purpose built septic tank, located to the south of Lusk. From there the effluent is transferred in a 225mm diameter pipe to the railway embankment where it is discharged to the Rogerstown Estuary at the railway viaduct. Interim sewage treatment facilities have been provided to cater for specific development within the Lusk area pending the construction of a permanent treatment works for the Lusk/Rush area. These treatment facilities are dedicated and do not have the capacity to support further development. Furthermore the 450mm diameter outfall from the septic tank has no capacity to accept further development.

As part of a plan by Fingal County Council to implement a new wastewater treatment scheme for Rush and Lusk, a report was prepared by P.H Mc Carthy & Partners on the upgrade of the existing system, "Rush & Lusk Wastewater Treatment Scheme – Preliminary Report." It determined that while there were little or no reports of flooding from the system, there were inadequate levels of treatment by the existing septic tank. In addition it was also noted that there was a high incidence of pollution in the stream adjacent to the septic tank and at the estuary due to the discharge of foul sewage.

Plans for a new Wastewater Treatment Plant at Donabate to serve Portrane, Donabate, Rush and Lusk are at tender stage. This plant together with the upgraded collection network will not be operational until late 2010. Provision in the plant has been made for 30,152 PE for the Rush and Lusk area, 25,174 of which had been allocated for domestic purposes. Critically there is no capacity in the existing network or temporary treatment facilities to support further development pending the construction of the new plant at Portrane and the associated upgrading to the network in Lusk and Rush.

Furthermore as the existing system is at capacity and as the upgraded network and treatment plant will not be operational until the end of 2010, no further development can take place in the Lusk area in advance of the new scheme. A local objective was included as part of the Variation *To ensure that residential development does not take place until such time as the Waste Water Treatment Plant at Portrane becomes fully operational and the required network upgrades to facilitate development are completed.* This will also be placed on the Draft Variation to ensure that there is adequate wastewater treatment for any potential development.

Air, Climatic Factors

It is considered that any significant impacts on air and climatic factors would likely be in the short-term and associated with the construction phase of any future development. The scale of development proposed is not significant so any increase in vehicle activity and construction related airborne particles is not envisaged to have a negative impact on Lusk. During the operational phase of the development (occupation of units) there will likely be a permanent increase in traffic volumes in the local area and an associated rise in vehicle emissions, though again this is envisaged as minimal.

With regard to noise, it is not envisaged that the implementation of the Draft Variation will result in significant negative long-term impacts. It is considered likely that there will be short-term noise impacts from the construction phase of development on the sensitive receptors in proximity to the subject lands (existing residential properties and school).

Material Assets

Heritage

Lusk is a historic village with notable built heritage and a distinctive character, which is set by the medieval street pattern in the village core and a number of protected structures. The streetscapes of the village are distinctive because of the morphology and also because of the contribution of several key buildings, the most distinctive of which is the 19th century Church of Ireland with its early Christian Round Tower and medieval tower to the west, c. 1500.

Lusk has a heritage of monuments, groups of buildings and sites of conspicuous architectural, historical, and associated interest. It is the policy of the Council to seek to ensure the conservation of this heritage and its setting, where this is practicable. This includes protected

buildings, structures, sites and features. There are eleven protected structures Lusk, with two more outside the village on the road to the railway station. Of particular note is the Church and Round Tower, which is of national importance and the four remaining thatched cottages, which are rated as being of regional importance in the National Inventory of Architectural Heritage.

Given the importance of the heritage in defining the character of Lusk including its archaeology the need to ensure its conservation will remain a valid objective of the Draft Variation and the resultant LAP. In addition to everyday development management processes the Council is also preparing an Architectural Conservation Area (ACA) Character Appraisal which should be completed by the end of 2008.

The Council commissioned an Urban Design Study for the core of the town during the early stages of the process. The purpose of this study was to evaluate the existing built environment within Lusk, including important views, assess assets and highlight potential opportunities and design solutions for future development and management. The findings and recommendations of this study will be included as part of the LAP, this will ensure that development of the Variation lands are appropriately designed and sympathetic to their surroundings.

Archaeology

The long history of continuous settlement, from prehistoric times, in the town and surrounding area has resulted in a wealth of archaeological finds and potential. There is a Zone of Archaeological Potential designated within the centre of Lusk, however recent developments have resulted in important finds in areas outside of the Zone. It is acknowledged that the potential for further significant finds within and beyond the designated Zone is high.

Such is the richness of archaeology throughout the town that the Council commissioned, archaeological consultants Margaret Gowan & Co. Ltd. to undertake a Study to review the archaeological potential of the town. The Study confirms the importance of the town in archaeological terms, and that remains are likely to occur throughout the settlement and surrounding area. It recommends that an appropriate policy be developed and implemented to ensure appropriate measures are taken regarding archaeology when considering future development proposals.

The Study provides a Best Practice Protocol for the Council to use to help ensure that development is appropriate in terms of location, layout and design with regard to any archaeological remains that may be present and ensure that any necessary mitigation is undertaken during any works. The issue of archaeology will be addressed by the upcoming LAP.

A prehistoric/early medieval settlement was identified within the Dun Emer development to the north of Areas L, M and N; as a result testing would need to be carried out prior to the development of these sites to identify any archaeological potential within the lands and protect the findings where necessary.

As part of the Archaeological study geophysical testing was carried out on Areas Q and R and the report recommended that test excavation be carried out on these sites prior to the commencement of development. Below is an extract from the mitigation table of the report.

Table 1: Mitigation measures to be taken prior to development

Study Area	Desk Study & Field Inspection Summary	Impact (should development occur on the site)	Mitigation
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Area Q/R	<p>Outside ZAP for DU008-010 & no RMP sites in the vicinity</p> <p>Well drained soil</p>	<p>Given the number of archaeological discoveries in the general Lusk area and the topographical setting, there is a high potential for the recovery of subsurface archaeological features or finds within this site</p>	<p>Geophysical testing has been carried out on this site</p> <p>Test excavation will be required and will augment geophysical survey findings</p>
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Landscape

The County Development Plan divides the County into 7 landscape character areas and 16 Landscape Groups. The Plan describes each Character Area and Landscape Group and identifies landscape sensitivities and principles for development. Lusk is located within the Low Lying Agricultural Area.

On the approach roads into Lusk the rural character is set by fields, hedges, old dwellings and thatched cottages and there are open vistas across the surrounding countryside and long distance views towards the church. These views are an important part of the landscape character in Lusk and should be protected. A survey of the important views that require protection has been carried out for the area as part of the monitoring programme for Variation No. 25. This survey will be incorporated into the LAP to ensure that these views are preserved where necessary from inappropriate development.

The Stage of the Plan in the Decision Making Process

Fingal County Council had determined that the Draft Variation may be likely to have significant environmental effects on the environment and that accordingly an SEA would be required. In this regard, the Draft Variation is currently at the Scoping stage of the SEA process to determine the nature and extent of information to be included in the subsequent Environmental Report.

The Draft Variation was proposed at the Balbriggan/ Swords Area Committee Meeting on 24th June 2008. In accordance with article 13K(1) of the Planning and Development (Strategic Environmental Assessment) Regulations 2004, the procedures of section 13 of the Planning and Development Act 2000 have not been initiated as the Draft Variation is undergoing SEA and is at scoping for the Environmental Report stage.

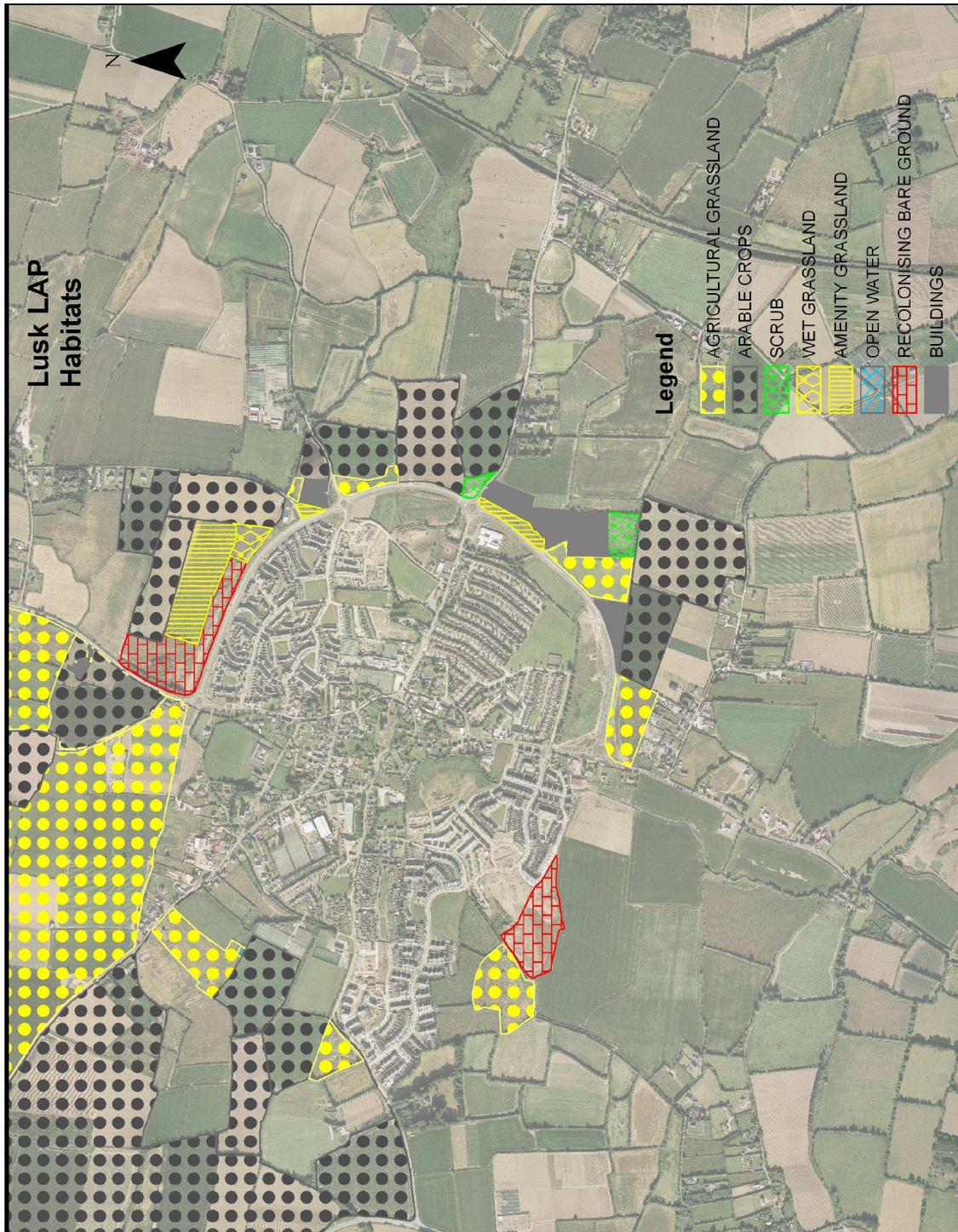
The extent to which certain matters are more appropriately assessed at different levels in the decision making process in order to avoid duplication of the environmental assessment

In the event that planning permission is sought on the subject lands for residential development a planning application will be required to be submitted for consideration by the planning authority.

As detailed above in the Current Knowledge and Methods of Assessment section, it is estimated that potentially c. 400 no. residential units could be accommodated on the lands. A planning application for this scale of development, while being under the threshold requiring an Environmental Impact Assessment (EIA), would require detailed engineering specifications for water supply, groundwater and surface water implications demonstrating inter alia that there is capacity in the systems. In addition, a traffic impact assessment of the proposal could be required at the planning application stage to demonstrate that the traffic generated would be able to be absorbed into the existing and planned road network.

In the event that permission is sought for over 75 no. units, a crèche facility may be required to be provided. The appropriateness of such a requirement and any associated impacts, such as an increase in crèche-generated traffic, could be addressed at planning application stage.

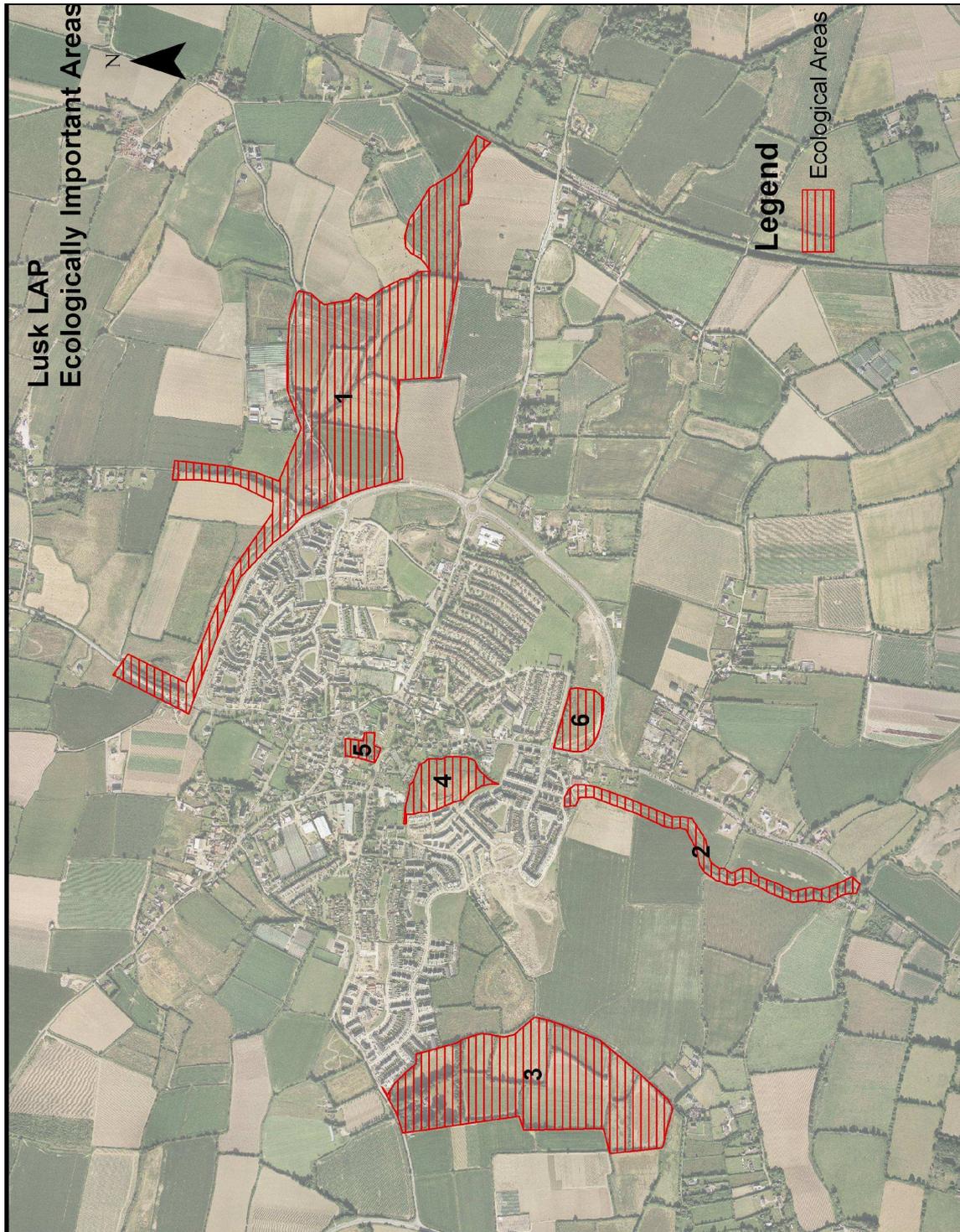
Hedgerows and Water Course Map



Habitats Map



Ecologically important Areas





Fingal County Council
Comhairle Contae Fhine Gall

