

## Appendix B

### STRATEGIC ENVIRONMENTAL ASSESSMENT

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#### Bibliography

#### 1. Introduction

This report contains an environmental assessment which was undertaken as part of Draft Dundalk South West Local Area Plan (DSWLAP). The assessment has been carried out in compliance with the EU Directive on Strategic Environmental Assessment (SEA) (Directive 2001/42/EC), Section 19(4)(a) of the Planning and Development Act, 2000, and in accordance with the *Guidelines to Regional Authorities and Planning Authorities on the Assessment of the Effects of Certain Plans and Programmes on the Environment*.

The assessment included the following stages:

- (a) examination of the relationship between the draft plan and other plans and policies;
- (b) description of the baseline environmental conditions with reference to available environmental data within the plan area;
- (c) identification of the strategic environmental goals of the plan; and
- (d) assessment of the impact of the strategic objectives and policies contained in the plan on the environment.

This report has been prepared by Cronin Mathews, in consultation with Louth County Council. The Ecology Report was prepared by Roger Goodwillie & Associates.

#### 1.1 EU Directive on SEA

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the significant environmental effects of implementing a plan or programme before a decision is made to adopt the plan or programme. The Directive, which applies to certain plans and programmes, was adopted on June 27<sup>th</sup> 2001 with the first formal preparatory action having to be taken after 21<sup>st</sup> July 2004. The Directive was transposed into Irish law through the following instruments:

- European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. 435 of 2004), and
- Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. 436 of 2004).

In November 2004, the Department of the Environment, Heritage and Local Government issued *Guidelines for Regional Authorities and Planning Authorities on the Assessment of the Effects of Certain Plans and Programmes on the Environment*, in November 2004.

The objective of the Directive is to “provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development” (Article 1). It requires Member States to assess the likely significant environmental effects of plans and programmes prior to their adoption, providing for the assessment of strategic environmental considerations at an early

stage of the decision-making process. In accordance with Article 2 of the Directive, this assessment process must result in an environmental report which must identify, describe and evaluate the likely significant effects on the environment of implementing the plan and reasonable alternatives. In particular, the report must contain:

- an outline of the contents and main objectives of the plan, and of its relationship with other relevant plans and programmes;
- description of current environmental characteristics / conditions and the likely evolution of the environment without the implementation of the plan;
- a list of the environmental protection objectives, established at international, EU or national level, which are relevant to the plan and describe how they have been taken account of in the plan;
- description of the likely significant effects on the environment (biodiversity, water, cultural heritage, etc.);
- mitigation measures;
- reasons for selection of alternatives considered; and
- description of proposed monitoring measures.

## 1.2 Dundalk South West Local Area Plan (DSWLAP)

The National Spatial Strategy has identified Dundalk as a 'Gateway' location and notes that the town has the capacity to function as a service industry capital for the entire region. In this context, it is important that sufficient lands are available and zoned to provide for residential and associated growth. The development of the Dundalk South West Local Area Plan (DSWLAP) area will partially address this requirement.

The DSWLAP area is geographically defined by a strategic quadrant bounded by the Carrickmacross Road to the north, the Southern Link Road Dual Carriageway to the south, the M1 / Dundalk Western Bypass to the west and the Dublin Road to the east. Most of the plan area falls under the administrative control of Dundalk Town Council, with the southern extremities of the area lying within the administrative area of Louth County Council. The LAP covers parts of the District Electoral Divisions of Dundalk Urban, Castletown and Haggardstown. The plan area lies to the southwest of the existing built-up area of Dundalk and has common boundaries with some of the older industrial areas of the town to the north-east, low density suburban housing areas to the north and southeast and open countryside to the west. Dundalk town centre is approximately 2km from the geographic centre of the plan area.

The plan area, due to its physical extent, has been divided into five sectors for the purposes of detailed development proposals. Each sector, in turn, has been subdivided into a number of individual land parcels to facilitate the formulation of realistic development targets. The Draft LAP outlines a development framework for four of the five sectors, two of which abut the existing built-up area to the south (Priorland) and west (Mounthamilton). The third which comprises the central portion of the plan area (Fairhill) whilst the fourth lies to the south west (Rath). A detailed development framework has not been proposed for the Crumlin sector within the LAP.

The purpose of the DSWLAP is to ensure the sustainable development of the area in accordance with the broader strategic objectives for the region. The plan aims to create a high quality living and working environment which will be based on the principles of sustainable development, which include: quality urban design; residential choice; transport choice; energy efficiency; ecology and landscape; phased delivery of development and the fostering of sustainable communities. The plan is aimed at "achieving attractive and sustainable places through better design and layout together with ensuring long term urban sustainability through the provision of a variety of essential services relevant to the everyday needs of residents". Given that the plan area is interdependent with the existing urban area, the plan recognises the need to co-ordinate the delivery of the plan with the *Dundalk and Environs Development Plan 2003-2009*. It is intended that the plan area will be developed in a phased manner, with the initial phases of residential development emanating from the edges of the existing urban area and not in isolation from the development of Dundalk itself. The plan proposes the creation of three Civic and Commercial Centres and one Local Centre within the plan area and the provision of realistic alternatives to the use of private cars through the promotion of quality public transport, cycling and walking, principally utilising urban design. The plan sets out design criteria for a range of development types, which seek to achieve high quality buildings and urban spaces. In doing this, the plan also seeks to create a strong sense of place through the conservation and integration of important ecological areas and historic buildings into the design of the urban space.

## 1.3 The requirement for SEA of the DSWLAP

In accordance with the Planning and Development (Strategic Environmental Assessment) Regulations, 2004, a Strategic Environmental Assessment must be carried out in respect of Local Area Plans for areas with a population of 10,000 persons or more. According to Louth County Council, the plan area, which comprises a total of 576 hectares, could contain up to 20,000 residents. This LAP, therefore, falls within the mandatory national requirements for undertaking a strategic environmental assessment.

## 2. Methodology

### 2.1 Assessment methodology

This SEA was undertaken by external consultants to the Planning Authority. There are advantages and disadvantages to the use of external consultants for an exercise such as this, as set out in the Heritage Council's *Heritage Appraisal of Development Plans: A Methodology for Planning Authorities* (Heritage Council, 2000, 16). There was, however, close consultation between Cronin Mathews, the consultants and the Planning Authority, throughout the preparation of the SEA. Consultation with prescribed bodies in relation to the SEA, as listed in the *SEA Guidelines*, will take place during the public consultation period of the Local Area Plan.

The environmental assessment of the DSWLAP forms the main portion of this report. The methodology uses a series of matrices, which chart the extent to which the various policies and objectives of the plan comply with environmental criteria.

The environmental criteria are derived from the list of environmental topics outlined in Table 4B of the *SEA Guidelines*. The following symbols are used in setting out the potential effects of each policy and objective:

- ✓ Significant beneficial effect
- ? Uncertain impact
- ✗ Significant adverse impact
- No relationship, or insignificant impact

### 2.2 Scoping the environmental report

An important first step in the SEA process is to scope the extent and type of information that should be contained in the environmental report. Regard must be had to Article 5 and Annex 1 of the Directive. Article 5 states that in this regard, account must be taken of:

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

#### 2.2.1 Current knowledge and methods of assessment

The methodology follows that suggested in the *Guidelines for Regional Authorities and Planning Authorities on the Assessment of the Effects of Certain Plans and Programmes on the Environment* ('SEA Guidelines'). It also draws on Irish experience in developing and testing methodologies for SEA, including the Strategic Environmental Assessment of the Draft Master Plan 2003 for the Dublin Docklands Area and the Heritage Appraisal Methodology developed by the Heritage Council (2000).

#### 2.2.2 The contents and level of detail in the plan

In addition to including broad strategic objectives, policies and zoning objectives designed to guide development within the plan area, the plan also contains detailed development proposals for four of the five sectors of the plan area. These include the location of open space and amenity areas, proposed transport corridors and sanitary services infrastructure, and the location of Civic and Commercial Centres. This level of detail in the plan requires the SEA to be more than a qualitative assessment of the policy statements and to use quantitative baseline data in the assessment of the plan on environment.

#### 2.2.3 The stage of the plan in the decision-making process

This SEA has been integrated into the plan-making process at an early stage. It was completed prior to the publication of the draft plan and the environmental baseline study, in particular the Ecology Study, contributed directly to the zoning objectives contained within the plan.

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

It is considered appropriate that while this SEA would assess both the qualitative and quantitative impacts of each of the five sectors, it would not include a detailed assessment of each of the land parcels within each sector. One of the objectives of the

SEA is to highlight particular geographical areas or environmental topics which may need monitoring or further detailed assessment at the planning application stage. This can be achieved at a strategic level without assessing the detailed outcomes of developing each of the sub-sector land parcels.

### 2.3 Baseline Environmental Study

Although the SEA Guidelines state that the SEA process “does not require major new research”, it was considered by Louth County Council that a comprehensive survey of the ecology of the plan area should be undertaken. In relation to all other environmental topics, it was considered appropriate that existing and available data could be compiled from recognised and credible sources (e.g. Louth County Council, EPA, Department of the Environment, Heritage and Local Government) and that any gaps in baseline environmental data be noted. The EIS for the Dunleer – Dundalk Motorway Project (Louth County Council, April 1993) was reviewed as the project area included some of the DSWLAP area. However, much of the environmental data, having been collected in 1993, is now out of date and of limited relevance to the current assessment.

Much of the environmental baseline data contained within this SEA, whether newly collected (i.e. ecology) or compiled from existing sources (i.e. archaeological sites and monuments), will provide a valuable resource for potential developers of the area during the implementation phase.

### 2.4 Consideration of Alternatives

The preparation of the DSWLAP has been an iterative process which has continually been informed by environmental data and by this SEA. For the purpose of this assessment, the ‘do nothing’ option is considered as the alternative to not producing the DSWLAP; in other words, what would the environmental outcome be if the plan were not put in place and the area was allowed to evolve in a piecemeal fashion.

## 3. Consistency with National / Regional / Local Policy

### 3.1 National Spatial Strategy

The strategic location of Louth along the Dublin / Belfast Corridor makes it critical for regional and national development. The designation of Dundalk as a Gateway consolidates and develops the central portion of the Dublin / Belfast Corridor. It underpins cross-border co-operation (particularly with Newry) and drives economic and social development throughout the eastern part of the Border region.

### 3.2 Sustainable Development – A Strategy for Ireland, 1997

The central aim of the strategy is to apply the principles of sustainable development to policy-making and development and to ensure that they are integrated into the plan-making system. The Strategy provides a comprehensive framework for the promotion of sustainability across a range of development types.

The Strategy sets out a number of sustainability principles which should be adhered to in all development. These include:

- Maximising access to and encouraging use of public transport, cycling and walking;
- Contributing to the evolution of sustainable socially integrated communities in both urban and rural areas which have easy access to employment, services and leisure facilities and to make better use of existing and future investments in public services, including public transport;
- Promoting cost effective provision of public services such as drainage, roads, waste management facilities, public lighting, amenities and schools;
- Minimising the consumption of non-renewable resources like soils, groundwater and agricultural land;
- Protection of environmental features such as landscapes, habitats and protected species, river catchments, the marine environment and the cultural heritage;
- Ensuring that construction design is of high quality and in keeping with the scale and context of its surroundings.

The DSWLAP explicitly complies with all of the above principles through its objectives relating to public and sustainable transport, the cost effective provision of public services, protection of ecological and historical features, and promoting high quality urban design. The implementation of the plan will result in the loss of agricultural land. However, as a result of the construction of the M1/Dundalk Western Bypass along the western boundary of the site and the existence of the Southern Link Road Dual Carriageway to the south and the Dublin Road to the east, the plan area presents itself as an obvious extension to the existing urban area as uses such as agriculture and quarrying will become less viable within the area as the urban area evolves westward even without the presence of the DSWLAP.

It is considered that the DSWLAP is broadly consistent with the Strategy.

### 3.3 National Climate Change Strategy, 2000

The National Climate Change Strategy provides a framework for reducing greenhouse gas emissions as an essential step in achieving the targets agreed under the Kyoto Protocol. The Strategy is relevant to the DSWLAP in terms of both energy usage and transportation. The DSWLAP aims to minimise energy usage through innovation in building layout, design and the use of materials. Realistic alternatives to the use of the private car will be offered through the provision of a quality public transport system and Greenways for cycling and walking. It is considered that the DSWLAP is consistent with the Strategy.

### 3.4 Regional Planning Guidelines for the Border Region, 2004

The Regional Planning Guidelines for the Border Region will implement the Government’s National Spatial Strategy (NSS) and will complement the Regional Development Strategy for Northern Ireland. It provides a spatial framework at regional level which will recognise uniqueness of the Region and facilitate its development. The Guidelines envisage the concentration of critical mass and promotion and development of the three Regional Gateways of Dundalk, Sligo

and Letterkenny “as a priority of investment, and as key employment locations, with appropriate first class infrastructure and with an indigenous, educated and skilled labour force” (p.5). The key strategic goals for Dundalk includes a population growth from 32,000 in 2002 to 60,000 in 2020. With the DSWLAP aiming to facilitate a potential population of 20,000, this projection is in line with the Regional Guidelines. Dundalk falls within sub-region 3 of the Border Region, which focuses on the need to build Dundalk as the Gateway and key urban centre for that part of the country. It is considered that the DSWLAP is consistent with the Regional Planning Guidelines for the Border Region.

### 3.5 Regional Development Strategy for Northern Ireland

Provides a strategic focus that will guide future development in a sustainable manner across Northern Ireland. The Border Region provides an interface between two national economies and links such as the Newry/Dundalk link are particularly important in developing both economies. The Strategy has identified the Newry/Dundalk link as a Key Transport Corridors which represent urban strengthening opportunities. It is considered that the DSWLAP is consistent with the Strategy.

### 3.6 Retail Planning Guidelines for Planning Authorities, 2000, and the Retail Strategy for County Louth

The Retail Planning Guidelines for Planning Authorities, published by the Department of the Environment, Heritage and Local Government, provides a framework to guide the preparation of Development Plans and to aid in the assessment of retail development proposals. An objective of the framework is to support the continuing role of town and district centres. In the Retail Strategy for County Louth, Dundalk, Drogheda and Ardee are identified as the three core retail centres within the county.

It is considered that the DSWLAP will play a supporting role to the existing retail centre in Dundalk as well as to the larger retailing units that have been established along the Dublin Road which forms the eastern boundary of the site. Also, through the provision of three Civic and Commercial Centres and one Local Centre at Priorland, Fairhill, Mounthamilton and Crumlin, with the commercial core at Fairhill, the plan area will provide for the retailing needs of the resident population.

It is considered that the DSWLAP is consistent with the Retail Guidelines and the Retail Strategy.

### 3.7 Residential Density Guidelines for Planning Authorities, 1999

The Residential Density Guidelines published by the Department of the Environment, Heritage and Local Government (DoEHLG) promote increased residential densities in appropriate locations. The Guidelines state that “the greatest efficiency in land usage on [outer suburban / ‘greenfield’ sites] lands will be achieved by providing net residential densities in the general range of 35-50 dwellings per hectare and such densities should be encouraged generally”.

The DSWLAP envisages an average density of 35 units per hectare across the plan area with a range of 25-50 units per hectare permissible at strategic locations including transport corridors and Civic and Commercial Centres throughout the plan area. In total, some 49% of the plan area could be made available for residential development.

The Guidelines state that *“on lands proximate to existing or proposed public transport corridors, densities in excess of 50 dwellings per hectare should be permitted, subject to appropriate qualitative safeguards”*.

It is considered that the residential density standards contained in the DSWLAP are consistent with the Guidelines.

### 3.8 Louth County Development Plan 2003-2009

Louth County Development Plan 2003-2009 identifies Dundalk as a centre for growth over the plan period, with particular emphasis on facilitating residential growth and establishing it as one of the three retail centres within the county (together with Drogheda and Ardee). The County Plan contains a Landscape Character Assessment for the county and the conservation policy framework which will govern the management of cultural resources within the county.

It is considered that the DSWLAP is consistent with the Louth County Development Plan 2003-2009.

### 3.9 Dundalk and Environs Development Plan 2002-2009

The Dundalk and Environs Development Plan 2002-2009 aims:

*“To provide a forward planning framework which promotes growth and development for the Dundalk Plan area and promotes the establishment of its Gateway status as a regional shopping destination and employment growth centre whilst protecting and, where appropriate, enhancing the natural and built environment and ensuring that development is both sustainable and of high quality”*.

The Dundalk and Environs Development Plan 2002-2009 makes provision for the development of brown-field sites and industrial lands within the town which is complimentary to the objective of the DSWLAP to develop an area that is largely green-field. Taken together, therefore, the two plans provide a balanced approach to the provision of sufficient land for development to facilitate the future growth of Dundalk.

The Dundalk and Environs Plan 2003-2009 also promotes the concept of ‘Employment Mixed Use Zones’. It is proposed that there will be an Employment Mixed Use Zone within each of the Crumlin and Mounthamilton sectors.

It is considered that the DSWLAP is consistent with the Dundalk and Environs Development Plan 2003-2009.

## 4. Description of the Existing Environment

### 4.1 General description of the site

The study area is bounded by four roads, the M1 to the west, Southern Link Road Dual Carriageway to the south, the Dublin Road to the east and the Carrickmacross Road to the north. It is also traversed by the Ardee Road (via Louth village) at the northern end. It is divided from north to south by the Belfast-Dublin railway line and was formerly crossed at the northern end by a branch line to Carrickmacross, the corridor of which is still visible along most of its length through the plan area.

The primary topographical features are a series of depressions which run in a NNW-SSE direction, in line with the movement of the last ice sheet (Goodwillie, 2005). They occur beside the railway and the old access lane to the quarry. There is lower ground at the northern end in two areas - close to the Ardee Road and at Balmer's Bog. These areas are linked by a deepened channel which flows from a wetland known as the Jarogee - and they are linked today by a deepened channel flowing from a wetland known as the Jarogee located to the west of the M1. This is referred to as the Cambricville channel and was probably created as a water source for the brewery Goodwillie, 2005).

The total land area comprises 576 ha of which approximately 80% is used for agriculture or aggregate extraction, or is open land or wetland.

### 4.2 Description of development sectors

For the purposes for planning for the orderly development of the site, the plan area has been divided into five development sectors. Proposals have been put forward in the plan for four of these sectors, Mounthamilton, Priorland and Fairhill and the following is a brief description of each of these areas.

#### Mounthamilton

- The western boundary of the sector is defined by the line of the proposed Western Road Infrastructure;
- This is the most highly developed of all the sectors with areas of low density housing and established commercial and industrial lands;
- The Belfast-Dublin railway line runs along its western edge;
- The sector becomes rural on the western side;
- It contains a number of low-lying areas which have a history of flooding;
- There are several areas of ecological value, including Balmer's Bog and the Mounthamilton scrub;
- The remains of the trackbed of a former railway line provides a key feature in the central portion of the sector;
- The eastern area and the remaining lands east of the operational Belfast-Dublin railway form an important entry point to the DSWLAP from Dundalk town centre.

#### Priorland

- The sector extends from the Dublin Road west to the line of the Western Bypass road. The existing built form is concentrated to the east of the sector and, to a large extent, comprises piecemeal ribbon development along the Dublin Road;

- It contains generally low density residential units, commercial premises and the Louth Hospital;
- The bulk of the proposed residential lands are un-serviced;
- The sector is in close proximity to the Dundalk IT which is sited east of the Dublin Road;
- There are opportunities to capitalise on the critical mass which this and the proximity to the hospital attract;
- Priorland presents a number of large development parcels with ready access to future high quality road and public transport infrastructure;
- The sector is predominantly zoned residential with the exception of the lands surrounding Louth Hospital;
- To the extreme south of the sector, road, pedestrian and cycle links provide direct access both to the Employment/Mixed Use areas of the Crumlin sector and to a new area of parkland;
- The sector will operate as a self-contained community with strong links to the other DSWLAP sectors and the remaining Dundalk Urban area.

#### Fairhill

- This sector is almost completely devoid of built development at present, the exception being Priorland House;
- The sector is bordered to the east by the railway;
- Existing fields are in arable cultivation and area formed into relatively large blocks divided by mature, native species hedgerows;
- The sector contains a large proportion of the Fairhill Park lands and has direct links into this area.

#### Rath

- The sector consists largely of agricultural lands forming the westernmost portion of the DSWLAP;
- The sector is the most elevated of all the sectors with a high point reached south of the junction of the Ardee Road and a minor road continuing south towards the Southern Link Road;
- Built development in the sector is concentrated close to the junction of the Ardee and Knockbridge roads in the Rath townland itself with ribbon development in evidence further southwards along the Ardee Road. All of the existing residential development is low density.

### 4.3 Population

From the statistics presented in the 2002 Census, the population of County Louth was 101,821. This represents an increase of 10.5% since 1996 (92,166). The overall population of the county has increased, with only five District Electoral Divisions (DEDs) experiencing a small percentage decline since 1996. In contrast the other DEDs have experienced a high percentage growth rate with nearly half increasing their population size by over 10% (CSO 2002; Louth County Development Board website). The electoral division of Dundalk is noted as having a population of 29,187 in 2002, an increase of 6.2% since 1996 when the number was 27,489 (Gamma; Louth County Development Board website). In contrast, Dundalk Rural showed a decrease in population of 2.8% since 1996 (15,138) to 2002 (14,715).

The statistics presented in the Dundalk and Environs Development Plan 2003-2009 for the study area indicate overall population figures for Dundalk Urban as 29,275; Castletown as 1,536 and Haggardstown as 5,440. Between 1996 and 2007, it is estimated that the entire Dundalk and Environs plan area will increase in population from 33,474 to 44,392 representing an overall growth of 31% in eleven years. The key strategic goals for Dundalk, as set out in the Regional Planning Guidelines for the Border Region (2004), include a population growth to 60,000 in 2020. The DSWLAP aims to facilitate a potential population of 28,000 upon implementation of the plan. This additional population will also require an increase in households and residential units and the provisions of adequate utility services and infrastructure.

#### 4.3.1 Human health

In 2000, 31,115 people died in Ireland, of which 2,592 (8.3%) were HSE; North Eastern Area residents (i.e. counties Louth, Meath, Cavan and Monaghan). The mortality pattern for HSE; North Eastern Area residents is similar to that of the Irish population. Of the 2,592 deaths in the region, 1,303 (50.3%) occurred in males and 1,289 (49.7%) occurred in females. Other than a slight increase in the proportion of males dying from injury and poisoning, the proportional mortality profile for both sexes is quite similar. The categories for cause of death in the HSE; North Eastern Area region are Circulatory Diseases (39%); Cancers (24%); Respiratory Diseases (18%); Injuries and Poisoning (5%) and Other (14%) which reflect a similar pattern for Ireland as a whole.

The mortality profile of a population is also affected by age. Very few deaths occur in the 0 - 14 age group (1.7%), with most deaths occurring in the 65+ age group (79.8%). Based on an analysis of the period 1991 - 2000 and adjusting for statistical significance the data suggests that residents in the Board region as a whole have a mortality profile that is not significantly different to the national picture.

Analyses of the data show that there has been a steady decrease in mortality in the region. This mirrors that of the Irish population generally. With the exception of deaths from injury and poisoning, the mortality patterns for HSE; North Eastern Area residents and Ireland are almost identical.

#### 'Do-nothing' option

In the event that the DSWLAP is not implemented, a pattern of piecemeal housing developments on the outskirts of the existing urban area are likely to abound, for which appropriate infrastructure and services will only follow a number of years after they have been completed. This will have the effect of spreading the projected population growth over a wider area, with a large proportion of that population being drawn towards the Greater Dublin Area, making it less likely that Dundalk will reach its targets as a Gateway settlement in terms of critical mass. The 'do-nothing' scenario is unlikely to have any significant impact on human health.

#### 4.4 Soil

The plan area is characterised by undulating drift deposits on acidic slates and shales of Silurian age which are exposed as rock outcrops in places, especially on a hill in the south-west quarter of the plan area. The soils are acid brown earths suitable for tillage except when low-lying. Small outcrops of limestone north of the town may

also contribute some material to the soils (Goodwillie, 2005). There are three quarry sites within the plan area.

#### 'Do-nothing' option

The non-implementation of the DSWLAP is unlikely, in the short-term, to have any impact on soils, however, it is likely that the area would be developed in a piecemeal fashion over time.

#### 4.5 Water

There are a number of water bodies within the plan area, including Balmer's Bog, an area of wetland, and the Cambricville channel, which links Balmer's Bog with a the Jarogee wetland to the west of the M1, in addition to groundwater supplies.

##### 4.5.1 Drinking Water

The quality of drinking water in Ireland was assessed and a report compiled in 2002 by the EPA. There was one public water supply monitored in Dundalk (Cavan Hill) in 2002 supplying water to a population of 28,000 people. Overall compliance with the drinking water standards was above average at 98.6% compliance. Compliance with the faecal coliform standard in public water supplies was excellent with full compliance with the microbiological standards achieved in 2002 (only Dundalk Town Council and Galway City Council achieved full compliance with the total coliform standard). The only parameter of concern was odour with compliance 92.4%. For the period 2000-2002 the quality of drinking water in Dundalk was good.

##### 4.5.2 Urban Waste Water Discharges

In a report produced by the EPA on Urban Waste Water Discharges in Ireland for the years 2002-2003; Dundalk was one of five agglomerations of Waste Water Treatment facilities that exceed the population equivalent of 150,000 persons and this, together with the other four agglomerations (Dublin City – Ringsend Treatment Plant; North Dublin, Cork and Killybegs) represent almost 60% of the waste water discharges for 2002/2003.

##### 4.5.3 Sewage Sludge Re-use – Agriculture

The use of Sewage Sludge in Agricultural Regulations require an analysis of sewage sludge at least once every six months. The frequency of analysis may then be reduced to yearly where the results of the analysis do not vary significantly over a year. Where it is evident that copper and zinc are present only in small or negligible quantities in the waste water treated by the sewage treatment plants, the frequency of analyses for those parameters may be reduced to once in three years. From the EPA Report on Urban Waste Water Discharges for 2002-2003; Dundalk was one of three samples tested which exceeded the concentration of heavy metals in sludges used in agriculture, namely zinc at 9500mg/kg DM. The concentration of other metals for the Dundalk sample were within the limit values. The Regulations (Use of Sewage Sludge in Agriculture Regulations, 1998) specify that sludge shall not be used in agriculture where the concentration of one or more of the heavy metals exceeds the values specified.

##### 4.5.4 Rivers and Streams

From EPA statistics, the eastern region (including Co. Louth), one of the more

densely populated and intensively farmed areas of the country, is the most polluted. However, a comparison with baseline data, shows a recent reversal in the trend of increasing slight and moderate pollution evident since the baselines were established in 1971 and 1987, and also a recent slight reduction in the extent of serious pollution throughout the country generally.

##### 4.5.5 Groundwater

The results of the examination of analyses of groundwater samples in the period 1998-2000 indicate that there was no widespread pollution of particular aquifers. The results of the examination of samples for nitrates indicate that there was no widespread pollution of particular aquifers although elevated values (i.e. with a mean nitrate concentration >50mg/l NO<sub>3</sub>) were found in Carlow and Louth. However, groundwaters in some counties, including Louth, have been identified by a panel of experts as being polluted or susceptible to pollution by nitrates from agricultural sources. Consideration is being given to the designation of these areas under the EU Directive on the prevention of nitrate pollution from agriculture.

#### 'Do-nothing' scenario

In the event that the DSWLAP is not implemented, the situation regarding waterbodies is likely to remain unchanged. However, given the susceptibility of groundwater to pollution by nitrates from agricultural sources, it is likely the risk to groundwater will continue. The DSWLAP proposes to put in place the necessary infrastructure to deal with waste water and sewage in advance of any development of the plan area.

#### 4.6 Air

The Air Framework Directive deals with each Member State in terms of Zones and Agglomerations. For Ireland, four zones, A,B,C and D are defined in the Air Quality Regulations (2002). Dundalk is in Zone C of the country (Other Cities and Large Towns; specified urban centres with populations in excess of 15,000). An assessment of air quality was carried out in Dundalk by the EPA. The assessment site was located in the yard of the Fire Station near the town centre. Monitoring was carried out by a mobile unit containing continuous monitors for sulphur dioxide, nitrogen oxides, carbon monoxide and benzene. Continuous samples were also taken for particulates (PM10) and lead.

Results were collected from 17/12/2001 to 29/07/2002 and compared with the Assessment Thresholds in the Air Quality Regulations to determine the long term monitoring necessary. Concentrations of carbon monoxide, sulphur dioxide, nitrogen dioxide, benzene and lead were below their respective lower assessment thresholds. Levels of PM10 exceeded the upper assessment threshold for this parameter.

The Directive states that modelling or objective estimation techniques may be used to assess ambient air quality if levels of the pollutant in question in that zone are below the lower assessment threshold. Continuous monitoring is required if levels exceed the upper assessment threshold. The EPA recommended that (a) levels of PM10 will need to be monitored continuously and (b) levels of CO, SO<sub>2</sub>, NO<sub>2</sub>, benzene and lead can be assessed using modelling or objective estimation techniques.

The EIS for the Dunleer – Dundalk Motorway Project stated that “there will be a beneficial effect on residents along roads from which traffic will divert..... There will be a net reduction in air pollution to the affected population as a whole” (Louth County Council, 1993, 111). It is likely that the construction of the MI along the western boundary of the site and the presence of the Southern Link Road Dual Carriageway to the south will have a slight impact on the quality of the air in the immediate vicinity of these roads, arising from emissions from vehicles. Air quality is also affected in the vicinity of the operational quarries within the plan area.

#### **‘Do-nothing’ scenario**

At present, air pollution occurs in only occurs in those parts of the plan area in the immediate vicinity of the M1, the Southern Link Road Dual Carriageway and the operational quarries within the plan area. In the event that the DSWLAP is not implemented, this situation is likely to continue, with the air quality in the majority of the plan area being unchanged.

### **4.7 Climatic Factors**

Climate stability is fundamental to social stability and sustainable development. The UN Intergovernmental Panel on Climate Change has identified the build-up of atmospheric greenhouse gases (GHGs) such as carbon dioxide as threatening global climate stability. This is considered to be one of the most serious environmental issues of this century. Ireland ratified the UN Framework Convention on Climate Change in 1994 and the Kyoto Protocol in 1997. Under the Kyoto Protocol, Ireland undertook to limit the net growth of greenhouse gases (GHG) to 13% above the 1990 level by the period 2008-2012. However, recent rapid economic development in Ireland meant that national GHG emissions during 2002 were 29% higher than 1990 levels. Flexible mechanisms in the Kyoto Protocol, such as emissions trading, can reduce the costs of meeting targets but urgent implementation of further measures is required (McGovern, 2004, 249).

In Ireland, most GHG emissions are related to sectors such as energy, transport, agriculture and industry. It is therefore important that these sectors consider potentials to address future emissions reductions as well as opportunities and benefits. In addition, (a) policies and practices are required to enable local, regional and national resources to be creatively and fully utilised to reduce GHG emissions; and (b) opportunities and potentials as develop solutions that can constitute win-win scenarios for key sectors should be explored.

Minor changes in the micro climate are likely to occur as a result of the implementation of the DSWLAP, due to the fact that the area will take on a more built-up and sheltered character, thereby reducing the impact of wind in particular, on the plan area.

#### **‘Do-nothing’ scenario**

In the event that the DSWLAP is not implemented, climatic conditions in the plan area will remain largely unchanged.

### **4.8 Biodiversity / Flora and Fauna**

The DSWLAP area comprises a range of diverse land uses including existing built up residential areas, quarries, railway / industrial uses, agriculture and a variety of

different habitat types. An ecological survey was carried out by Roger Goodwillie & Associates to provide a baseline study of the flora and fauna of the plan area and to assist in formulating policies and zoning objectives in the DSWLAP. This SEA report should be read in conjunction with the Ecology Report.

The Ecology Report found that the plan area contains a significant amount of ecological interest which is contained in sites of varying sizes and character. The most important of these is Balmer’s Bog and the Mounthamilton scrub, both of which are easily defined spatially. Due to their biodiversity value and their proximity to an urban area, these areas could be considered for designation as Natural Heritage Areas (NHA). Killally Hill, the adjacent Fairhill wetland and woodland and Crumlin Marsh are also important complexes which have a value greater than local. The report recommends that these areas should be retained in their present form insofar as is possible and that buffer zones should be established to separate them from adjacent development.

These sites, while important for their biodiversity value, contain few protected species. There are no Annex I habitats, listed in the EU Habitats Directive, present within the plan area. The only protected species present are bats (listed in Annex IV) and the frog (listed in Annex V). The kingfisher, which is widespread in Ireland but rare in Europe and therefore listed for protection in Annex I of the EU Birds Directive, is also present in the DSWLAP area.

The Ecology Report concludes that while there are other ecological features of interest within the plan area, these are not considered to be constraints that would prevent development of the area, but rather efforts should be made to accommodate them within or around development. For example, it suggests that sites of interest within the Cambrickville depression may be suitable for attenuation areas for surface run-off rather than as protected habitat areas.

#### **‘Do-nothing’ scenario**

In the event that the DSWLAP is not implemented, areas of biodiversity value are likely to remain unchanged, although they may be adversely affected over time by sporadic and piecemeal development.

### **4.9 Material Assets / Cultural Heritage**

#### **4.9.1 Agriculture**

Approximately 50% of the land within the DSWLAP area is currently used for agricultural purposes. It would appear from aerial photographs that over half of this is arable land. This land use will be affected by the implementation of the DSWLAP with the loss of all agricultural land for development or public open space for amenity purposes. It is proposed in the plan to zone extensive lands for public open space. However, if the status quo were to prevail and the DSWLAP was not implemented, the long-term viability of this agricultural land would be in question due to its ongoing fragmentation as a result of the development of one-off houses and its encapsulation on all four sides by an intensive road network and further development.

#### **4.9.2 Archaeological sites**

There are twenty-three Recorded Monuments within the DSWLAP area, a list of which is included at Appendix 1. *Fulachta fiadh* or *fulachta fian*, meaning cooking places of the wild (or of deer) frequently survive as low mounds, often horseshoe-shaped, of charcoal-enriched soil packed with fragments of heat-shattered stones (termed ‘burnt material’); when levelled they are often noticeable as black spreads in ploughed fields. They are usually situated close to a water source, such as a stream or spring, or in wet marshy areas. They can occur singly or in groups of up to ten; ‘sites in a group being perfectly intervisible and within a few metres of each other’ (Ó Drisceóil 1991, 3). While it is generally thought that they were probably used as cooking places (Ó Drisceóil 1988), finds from excavated examples where there is a noteworthy absence of animal bone do not support this theory. Lucas (1965) suggested that *fulachta fiadh* might have been utilised for processes such as bulk washing, dying and leather working. Barfield and Hodder (1987) have suggested that such sites were covered by light structures and used as sweat houses. It is not certain whether *fulachta fiadh* were elements of temporary hunting camps or of permanent settlements. The majority of radiocarbon dates place these monuments in the Bronze Age (Brindley and Lanting 1990, 55–6) though evidence from early Irish texts (Ó Drisceóil 1988) suggest use of this type of site up until the sixteenth century AD. There are three examples listed in the RMP within the plan area (LH-007-06401-, LH-007-06402-, LH-007-06403) which may only be a fraction of the monuments likely to exist in the region.

The majority of the twenty-three sites and features located within the plan area date from the early medieval period (AD 400 – 1169), which was a time of profound internal social and economic change in Ireland. The dominant site types associated with this period include ringforts, souterrains and enclosures. (Generally enclosures are likely to be ringforts but insufficient evidence survives to classify them as such without recourse to archaeological excavation). Ringforts are undoubtedly the most widespread and characteristic archaeological field monument in the Irish countryside. They are usually known by the names *ráth* or *lios*, forming some of the most common place-name elements in the countryside. The ringfort is basically a circular or roughly circular area enclosed by an earthen bank formed of material thrown up from a concentric fosse (or ditch) on its outside. Archaeological excavation has shown that the majority of ringforts were enclosed farmsteads, built in the early medieval period (AD 500 – 1169). Though not forts in the military sense, the earthworks acted as a defence against natural predators like wolves, as well as against the cattle raids that were a characteristic of that period. Souterrains (underground chambers) are often found in association with ringforts. In some areas, especially in upland areas and along the western seaboard of Ireland, dry-stone walls were built to enclose farmsteads in place of the excavated defences of the ringforts. Cashels (Irish *caiseal*) have the same circular or roughly circular plan as ringforts. The walls can be quite massive, sometimes as much as six metres thick and up to three metres high.

The early medieval period in Ireland saw the introduction and establishment of Christianity. The process of conversion of the native population would not have been rapid and spectacular but rather one of steady infiltration (Ó Cróinín 1994, 131). Over and above the change in religious outlook that conversion would have meant for the individual, the establishment of the Irish Church was to have profound implications for political, social and economic life, in no small part due to

the introduction of writing into the country. In Ireland there was from now on ‘in existence an organisation part of whose function was to maintain contacts, both in ideas and through individuals, between Ireland and the rest of Europe’ (Mallory and McNeill 1991, 181). The introduction and establishment of Christianity is attested to in the archaeological record by the presence of church sites, associated places for Christian burial and holy wells.

**The Record of Monuments and Structures records twenty four sites of interest dating from this period in the plan area. A souterrain (LH-007-06301-) and an associated millstone (LH-007-06302-) are found in the townland of Donaghmore. An enclosure (LH-007-07201-), three souterrains (LH-007-07202-, LH-007-07204-, LH-007-07205-), an example of rock art (LH-007-07203-), an ogham stone (LH-007-07206-), an area of iron working (LH-007-07208-) and a church (LH-007-07207-) are located in the townland of Ballybarrack and are described in the RMP as an archaeological complex. This is considered to be the most important archaeological site within the plan area. A cemetery (LH-007-077---), an enclosure (LH-007-10801-) and two associated souterrains (LH-007-10802-, LH-007-10803-) lie in the townland of Killally that lies to the east of the proposed development area. In Fairhill towards the south lies another souterrain (LH-007-078---). A souterrain (LH-007-104---) at Crumlin and at Littlemill (LH-007-066---), and an earthwork site at Haynestown, are also located within the plan area.**

#### 4.9.3 Protected structures

The Records of Protected Structures (RPS) contained within both the Louth County Development Plan and the Dundalk and Environs Development Plan are based upon surveys which were carried out on behalf of the two Local Authorities. It is noted that the National Inventory of Architectural Heritage (NIAH) is currently undertaking an interim county survey for the entire county which will include the DSWLAP area. The results of this survey will not be available until 2006. For the purposes of this assessment, therefore, the existing two RPSs have been used to establish baseline information on the architectural heritage of the plan area.

With the DSWLAP area, there is one protected structure within the administrative area of Louth County Council, and 61 within the administrative area of Dundalk Town Council. The majority of the protected structures within the plan area are the nineteenth century red-brick terraced housing in the vicinity of the railway along the Carrickmacross and Ardee Roads. Some of the buildings associated with the railway and the brewery are also protected. Some of the railway buildings have value of regional importance while the red-brick terraces are generally of local importance. This historic building stock is generally a legacy of Dundalk's nineteenth century industrial heritage.

There are a number of other historic buildings and structures within the plan area which are not protected structures but which should be noted nonetheless and may be noted as important by the NIAH survey which is currently underway. These include Brighton Villa (Mounthamilton), Brookfield House (Camerickville), the former District Hospital and Fever Hospital (Rath), Ballybarrack House (Ballybarrack), Priorland Villa (Priorland), Windmill House (Killally) and Crumlin Bridge (Crumlin).

#### 4.9.3 Landscape

The landscape character of the DSWLAP area ranges from urban fringe on the northern and eastern portions, to undulating farmland, interspersed with housing for much of the remainder of the area. There is a significant amount of housing out along the Carrickmacross Road and the Ardee Road, which is mixed in form, from terraced to ribbon development to cul-de-sac suburban-type housing. There is a large cluster of single-house developments in Rath. As a result of this sporadic and piecemeal development, the farmland is becoming increasingly fragmented and once the M1 has been completed on the western side of the site, it will have been completed encapsulated by development.

##### 'Do-nothing' option

In the event that the DSWLAP is not implemented, the status quo is likely to prevail, with agriculture being the predominant land use, although it is likely that over time this use would reduce due to the pressure from the urban area for land for housing. Development would be likely to take place within the plan area in a piecemeal fashion rather than in the planned manner that is envisaged in the DSWLAP. The opportunities for the co-ordinated re-use and re-development of protected structures, particularly those of an industrial nature, would be more limited. Recorded monuments would be largely unaffected.

#### 4.10 Noise

No specific data has been collected on noise levels within the plan area. It is considered, however, that background noise levels to the south of the plan area have increased slightly due to the presence of the Southern Link Road Dual Carriageway and will increase on the western side of the area once the M1 Motorway has been completed. Otherwise, background noise levels throughout the remainder of the site, except in and around operational quarries, is currently expected to be consistent with those of a rural area.

##### 'Do-nothing' scenario

In the event that the DSWLAP is not implemented, it is likely that the status quo will remain, with background noise levels in the northern and central portions of the site remaining low, with those in the western, southern and eastern portions being slightly affected, principally by passing traffic.

#### 5. Environmental Criteria

The environmental criteria that are used in the assessment of the plan objectives and policies in section 6, have been devised using a combination of (a) the scoping exercise in section 2.2 above and (b) the environmental criteria that were used for the purposes of the Environment Assessment of the Louth County Development Plan 2003-2009.

##### Environmental Criteria

##### 1. Human beings / social need

To promote the creation of a safe, healthy and high quality environment in which to live and work; promote the meeting of local housing needs.

##### 2. Water / soil

To ensure the protection and maintenance of a high quality water supply and prevent the contamination of water supplies; maintain the quality of soils; minimise the amount of waste to landfill.

##### 3. Air / climate / noise

Maintain and promote the improvement of air quality; reduce the need for motorised transport; promote the use of public and non-motorised transport; promote sustainable energy use; minimise noise pollution.

##### 4. Landscape / visual

Enhance landscape / townscape quality; minimise negative visual impacts from development; ensure adequate provision of open space and access to it.

##### 5. Biodiversity / Flora & fauna

Protect areas identified as being of biodiversity value and maintain habitats for protected flora and fauna.

##### 6. Material assets / Cultural heritage

Safeguard the integrity and setting of Protected Structures and archaeological monuments.

#### 6. Assessment of DSWLAP

##### 6.1 Compatibility of Strategic Objectives

A set of ten strategic objectives were identified in the DSWLAP and were tested for compatibility with each other (Figure 1). This exercise was undertaken to test the level of cross-compliance that exists within the plan at a strategic level. In general, the objectives were found to be compatible with each other, with the exception of the conflict between Objective A (To create high quality new urban places with a strong sense of identity which is modern in concept yet with traditional town/village formats) and Objective E (To preserve local ecosystems and other natural resources through the incorporation of wildlife habitats and established natural features). Up to 80% of the plan area is currently green field and the implementation of the plan will result in the consumption of this resource for development. However, if the DSWLAP was not implemented, the long-term viability of this agricultural land would be in question due to its ongoing fragmentation as a result of the development of one-off houses and its encapsulation on all four sides by an intensive road network and further development.

##### 6.2 Compatibility of Strategic Objectives with Environmental Criteria

The compatibility of each of the Strategic Objectives was tested against the six environmental criteria that were listed in Section 5 above. Again, the Objectives were found to be largely compatible with the exception of Objective A (To create high quality new urban places with a strong sense of identity which is modern in concept yet with traditional town/village formats). This Objective scored poorly when assessed against criteria 2-6 due to the fact that the plan is utilising a largely green-field site to provide housing and mixed-use development. However, when the plan is viewed within the context of the Dundalk and Environs Development Plan 2002-2008, which makes provision for the development of brown-field sites and industrial lands within the town, the DSWLAP is seen as a component within the overall development strategy for the town, which includes the provision of sufficient land (a mix of both brown-field and green-field) to facilitate the projected growth of Dundalk.

Figure 1

STRATEGIC OBJECTIVES										
A. To create high quality new urban places with a strong sense of identity which is modern in concept yet with traditional town/village formats.	A									
B. To create a mix of house types, sizes and tenures capable of addressing the varied requirements of a multi-layered society.	✓	B								
C. To provide realistic alternatives to private car use in meeting the needs of the community through the promotion of quality public transport, cycling and walking, and the provision of neighbourhood facilities.	✓	✓	C							
D. To minimise energy use through innovation in building layout, design and materials.	✓	✓	0	D						
E. To preserve local ecosystems and other natural resources through the incorporation of wildlife habitats and established natural features.	X	✓	0	0	E					
F. To ensure that development does not occur in the absence of all necessary infrastructure, amenities and services.	✓	✓	✓	✓	0	F				
G. To promote more sustainable patterns of living, working and travelling, more effective integration between land-use planning and transport.	✓	✓	✓	✓	0	✓	G			
H. To achieve quality of design through the conservation of archaeological sites and protected structures.	✓	0	0	✓	✓	0	0	H		
I. To provide three Civic and Commercial Centres within the DSWLAP area.	✓	0	0	0	0	✓	✓	✓	I	
J. To provide between one and four schools within the DSWLAP area, together with a high level of pre-school and after-school facilities.	✓	0	0	✓	0	✓	0	0	0	J

Key: ✓ Compatible    0 No Effect    ? Uncertain Effect    X May Conflict

### 7.3 Compatibility of DSWLAP Policies with Environmental Criteria

Each policy statement contained in the DSWLAP was assessed against the six environmental criteria and matrices were used to record the results. Only the most relevant and important policies were appraised. The findings of the exercise are summarised below.

The policies **social and community facilities policies** (Figure 3) were found to be generally compatible with the Environmental Criteria. The provision of all new development within the plan area will see a loss of green-field land and a potential risk to the quality of ecological resources. However, careful planning and location of such facilities can help to ensure that these risks are minimised and that benefits are brought to the ecology of the area wherever possible.

The **retail and commercial facilities policies** (Figure 4) were found to be generally compatible with the criteria. The question of the precise location of these facilities will determine the nature and extent of any possible impact. In general terms and taking the Ecology Report into account, it is considered that while the loss of ecological resources will be high in quantitative terms, it is not considered that this loss will be

significant in qualitative terms. The most important ecological resources, Balmer's Bog and extensive areas of Fairhill, are to be protected within the plan. The **recreational and amenity policies** (Figure 10) contribute greatly to the protection of any areas of open space identified as being of ecological importance. The **employment policies** (Figure 5), residential / housing policies (Figure 8) and the transport policies (Figure 10) also depend on appropriate locational strategies to ensure that any potential negative impact on ecological or cultural resources can be avoided.

The policies on **urban form and design** will assist greatly in reducing the amount of energy that has to be generated by the development as a whole, given the emphasis that there is on ways of minimising energy demand through siting and orientation of buildings. The proposed layout of the urban spaces and the aim to achieve a high degree of permeability in the layout of the urban form will encourage walking and cycling as alternatives to the use of the car.

The **residential / housing policies** (Figure 8) have been designed to provide a safe and accessible living and working environment. The cross-references between these policies and the **retail and commercial policies** (Figure 4), particular the 'living above the shop' policy, demonstrates a high degree of policy convergence within the plan.

Given the number of historic buildings within the plan area (both protected and unprotected), there is a risk that these buildings might be neglected while the land around them is developed. (see Figure 8).

Figure 2

STRATEGIC OBJECTIVES	Environmental Criteria					
	1.	2.	3.	4.	5.	6.
A. To create high quality new urban places with a strong sense of identity which is modern in concept yet with traditional town/village formats.	√	X	X	X	X	X
B. To create a mix of house types, sizes and tenures capable of addressing the varied requirements of a multi-layered society.	√	0	0	√	0	0
C. To provide realistic alternatives to private car use in meeting the needs of the community through the promotion of quality public transport, cycling and walking, and the provision of neighbourhood facilities.	√	0	√	0	√	0
D. To minimise energy use through innovation in building layout, design and materials.	√	√	√	√	√	0
E. To preserve local ecosystems and other natural resources through the incorporation of wildlife habitats and established natural features.	0	√	√	√	√	0
F. To ensure that development does not occur in the absence of all necessary infrastructure, amenities and services.	√	√	0	0	0	0
G. To promote more sustainable patterns of living, working and travelling, more effective integration between land-use planning and transport.	√	0	0	0	0	0
H. To achieve quality of design through the conservation of archaeological sites and protected structures.	0	0	0	√	√	√
I. To provide three Civic and Commercial Centres within the DSWLAP area.	√	0	0	√	0	0
J. To provide between one and four schools within the DSWLAP area, together with a high level of pre-school and after-school facilities.	√	0	0	0	0	0

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** √ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 3

POLICY APPRAISAL		Environmental Criteria					
Social and Community Facilities							
Policy No.		1.	2.	3.	4.	5.	6.
1. To provide schools in the Civic and Commercial Centres at Priorland, Fairhill and Mounthamilton.		√	0	0	0	?	0
2. To cater for the after school care needs of local children.		√	0	0	0	0	0
3. To locate, design and manage recreational and other facilities associated within the school, so that they can be made available for use by the wider community after school hours and out of term.		√	√	√	0	0	√
4. To provide a crèche or other pre-school facility for every 75-100 dwellings occupied and within 500m of each dwelling.		√	√	0	0	0	0
5. To make these facilities capable of being converted to other uses in time.		√	0	√	√	0	√
6. To seek to capitalise on the presence of the DKIT in terms of the generation of critical mass for new housing, retail facilities and enhanced transportation links in particular.		√	0	0	0	0	0
7. To support the provision of residential care and day care facilities in residential areas, with an emphasis on 'Lifetime Housing'.		√	√	√	√	0	√
8. To locate a dedicated health village within the Fairhill Civic and Commercial Centre.		√	0	0	0	0	0
9. To require that all public areas be designed with the needs of persons with disabilities in mind and in line with Part M of the Buildings Regulations.		√	0	0	0	0	0
10. To locate a civic building within the Fairhill Civic and Commercial Centre which will act as a focal point for the community, and which may accommodate a public library or similar function.		√	0	0	√	?	√

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** √ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 4

POLICY APPRAISAL		Environmental Criteria					
Retail and commercial facilities							
Policy No.		1.	2.	3.	4.	5.	6.
1. To provide Civic and Commercial Centres (high level retail, social, commercial and transport service centres) within the Priorland sector, the Mounthamilton sector and the Fairhill sector.		√	0	√	0	0	0
2. In addition to the Civic and Commercial Centres, to provide small convenience and speciality stores to be dispersed around the plan area and favoured in those areas remote from the Civic and Commercial Centres.		√	0	√	0	0	0
3. To provide a Civic and Commercial Centre, incorporating a commercial core, within the Fairhill sector, with the possible long-term development of a District Centre.		√	0	0	√	0	0
4. To provide an Urban Square around the Fairhill Civic and Commercial Centre.		√	0	0	√	0	0
5. To apply the principle of 'Living over the shop' within the Civic and Commercial Centres to assist in fostering a vibrant urban environment.		√	0	√	√	0	√

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** √ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 5

POLICY APPRAISAL		Environmental Criteria					
Employment							
Policy No.		1.	2.	3.	4.	5.	6.
1. A substantial portion of the overall plan area should be reserved for the purposes of large scale employment generation.		√	0	?	0	?	0
2. To provide key 'Employment Mixed Use Zones' within the Crumlin sector and the Mounthamilton sector, as defined by the Dundalk and Environs Plan 2003-2008.		√	0	?	0	?	0
3. To provide a significant amount of public transportation infrastructure within the Crumlin sector, including a railway station, to the south of the Crumlin sector, straddling the Dublin-Belfast line.		√	√	√	√	?	0
4. To prioritise a mixed-use scheme in the Mounthamilton sector (lands parallel to the railway) to incorporate commercial industrial and ancillary uses, possibly including an Enterprise Centre for local business start-ups.		√	0	0	0	?	0
5. To encourage a mixed-use development in the Mounthamilton sector (lands adjacent to the Hill Street Road Junction) to incorporate enterprise / high tech, and commercial uses. Development within this area should take into account the future potential for a public transport interchange in the vicinity of this area.		√	0	0	√	?	0

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** √ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 6

POLICY APPRAISAL Conservation	Environmental Criteria					
	1.	2.	3.	4.	5.	6.
1. To protect the biodiversity value of the plan area.	✓	✓	✓	✓	✓	✓
2. To protect the archaeological sites and features within the plan area.	✓	✓	0	✓	✓	✓
3. To conserve integrity, character and setting of the protected structures within the plan area.	✓	0	0	✓	✓	✓
4. Development proposals should seek to reflect historical cues provided by local features unique to the DSWLAP.	✓	0	0	0	0	✓
5. To encourage developments that allude to the railway legacy in the Mounthamilton sector, in the design and use of materials in developments.	✓	0	0	0	0	✓
6. To require a bat survey to be carried out in certain cases where works to existing structures over ten years old are proposed, in advance of planning permission being granted.	0	0	0	✓	✓	✓
7. To ensure the protection of certain trees identified as significant as part of a survey in advance of development.	✓	✓	✓	✓	✓	✓

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** ✓ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 7

POLICY APPRAISAL Urban form and design		Environmental Criteria					
Policy No.		1.	2.	3.	4.	5.	6.
1. The Crumlin sector will contain one or more significant 'Landmark' buildings intended to provide a sense of arrival to both the DSWLAP area and the entire Dundalk urban area.		√	0	0	√	0	0
2. In designing housing schemes, to have regard to the design standards set out within the DSWLAP and design guidance such as 'Creating Places, Improving the Quality of Housing Layout in Northern Ireland', published by the Department of the Environment, Northern Ireland (Planning Service).		√	√	√	√	√	√
3. To provide a range of housing types in any development.		√	0	0	√	0	0
4. To develop the plan area so that it contributes to a sense of place, with buildings arranged to create and contain public spaces.		√	0	0	√	0	√
5. To design new development on a human scale in terms of building height and mass, movement patterns and planting schemes.		√	0	√	√	√	√
6. To take advantage of existing site features and topography to create layouts which are varied and distinct.		√	√	√	√	√	√
7. To achieve a high degree of permeability in the layout of the urban form and access to services and facilities.		√	0	0	0	0	0
8. To ensure the security of residents is designed into all developments.		√	0	0	0	0	0
9. Where possible, to encourage a number of other uses within residential schemes so as to ensure there is life in the area throughout the day.		√	0	0	√	0	0
10. To promote the analysis of the characteristics of each site to ensure that the development will: <ul style="list-style-type: none"> <li>- respect the history of the site and appropriately protect and integrate features of the archaeological and built heritage,</li> <li>- respond to the form of the land, its contours and views to and from the site,</li> <li>- make the best use of existing vegetation, and</li> <li>- protect or create, appropriate conditions for flora and fauna to thrive.</li> </ul>		√	√	√	√	√	√
11. To encourage the design of buildings so as to minimise energy demands (utilising also the principles of 'passive housing')		√	√	√	0	0	0
12. To encourage the use of new technologies designed to reduce energy consumption in buildings in the design and development of both public and private buildings.		√	√	√	0	0	0
13. To promote the development of clustered mixed use areas designed to maximise access by public transport and other non-motorised transport modes.		√	0	√	0	0	0

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** √ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 8

POLICY APPRAISAL Residential / housing		Environmental Criteria					
Policy No.		1.	2.	3.	4.	5.	6.
1. To encourage residential developments designed around the 'homezone' concept in all five sectors ('homezones' should be designed for a normal peak traffic flow in the region of 100 vehicles per hour).		✓	0	✓	✓	0	0
2. To encourage the design of all new residential developments in accordance with the principles of 'Defensible Space'.		✓	0	0	✓	0	0
3. To make adequate provision to enable people with mobility impairments to safely and independently access and use a building. Such provision should provide reasonable access to open space, public transport facilities and other public areas.		✓	0	0	0	0	0
4. The principles of universal, inclusive, barrier-free design must be demonstratively applied across all development proposals for the DSWLAP area in accordance with the concept of 'lifetime housing'.		✓	0	0	0	0	0
5. A density range of 25-50 units per hectare should be observed throughout the DSWLAP except where otherwise explicitly permitted.		✓	0	✓	0	?	0
6. To permit higher residential densities along principle transportation corridors within the plan area.		✓	0	✓	0	0	0

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** ✓ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 9

POLICY APPRAISAL Transport	Environmental Criteria					
	1.	2.	3.	4.	5.	6.
1. The principal form of transportation infrastructure will be vehicular roads augmented by a network of pedestrian and cycle routes.	√	0	√	0	0	0
2. Public transportation services will be based on bus services, integrated where possible, by links to the existing rail services in Dundalk.	√	0	√	0	0	0
3. A long-term objective is to provide a new rail station in the extreme south of the DSWLAP area.	√	0	√	0	?	0
4. To seek that development proposals prioritise access arrangements other than by private car. This will include encouraging a modal shift in transportation terms from the private car to alternative modes including rail and bus.	√	0	√	0	0	0
5. To give priority to the requirements of pedestrians, cyclists and those with Restricted Mobility in the design and layout of developments.	√	0	√	0	0	0
6. To provide six major north to south and east to west roadways designed to provide access both to the plan area and to the wider Dundalk and Environs area.	√	0	0	0	?	?
7. To provide internal roads within the five sectors, based on a cell structure of residential distributor roadways and local roads which act to filter vehicular traffic through the entire sector thus avoiding the funnelling of large amounts of traffic onto a limited number of access routes.	√	0	0	0	?	?
8. To provide extensions from the existing internal town bus services into the DSWLAP area and afford high priority to ensuring effective bus penetration to the DSALAP plan area.	√	0	√	0	0	0
9. To provide internal circular distribution routes to permit full penetration by public transport services.	√	0	√	0	?	?
10. Bus stops should be within easy reach of all dwellings with the ideal walking distance between dwellings and bus stops not exceeding 200m. Bus passenger facilities should also be located as close as possible to the main pedestrian access in accordance with logical pedestrian desirelines. Pedestrian routes from the bus arrival and departure areas should avoid the need to cross any trafficked roads and the route should avoid unnecessary changes in level and unnecessary street furniture.	√	0	√	√	0	0
11. To provide a bus priority strategy in the overall layout of the development at an early stage of planning.	√	0	√	0	0	0
12. To establish a bus-based Park and Ride facility within the Crumlin sector in close proximity to the Southern Link Road.	√	0	√	0	?	?
13. To encourage the rail and bus operators to arrange their respective services and networks to minimise the need for interchange between services and modes and to maximise the convenience of interchange where and when necessary.	√	0	√	0	0	0
14. All public transport facilities should take account of the needs of those members of society with reduced mobility.	√	0	√	0	0	0
15. Pedestrian and cycle routes should be as direct as practicable between commercial and residential areas and major attractions such as Civic and Commercial Centres and bus stops and should minimise likely conflicts with vehicular traffic but should be inter-visible between each other.	√	0	√	0	0	0
16. In order to promote greater cycle usage, developers will be encouraged to provide cycle facilities within development sites and to provide linkages beyond the site boundaries which will ultimately form a comprehensive cycle network around the DSWLAP area.	√	0	√	0	0	0
17. To provide bicycle parking facilities, with suitable upright parking features, at locations as close to pedestrian entrances to the development as possible.	√	0	√	0	0	0
18. To provide pedestrian facilities, both the tandem with cycle facilities and on their own, which are direct, attractive and safe. Schools and other institutional uses should be developed in locations where they can be accessed by a variety of modes of transport.	√	0	√	0	0	0

**Environmental criteria:**

1. Human beings / social need;
2. Water / soils; 3. Air / climate / noise;
4. Landscape / visual;
5. Biodiversity / flora & fauna;
6. Material assets / cultural heritage

**Key:** √ Beneficial Effect  
0 No Significant Effect  
? Uncertain Effect  
X Some deterioration in environmental quality

Figure 10

POLICY APPRAISAL Recreation and amenity		Environmental Criteria					
Policy No.		1.	2.	3.	4.	5.	6.
1. To zone substantial lands of land for open space within the DSWLP, including wet lands and strategic public open space areas.		✓	✓	✓	✓	✓	✓
2. To provide a range of parkland across the plan area. The largest will be shared between the Fairhill and Rath sectors.		✓	✓	✓	✓	✓	✓
3. To provide a secondary park at the southern extremity of the Priorland sector which has been designed as a passive recreational area and as such will comprise planting and seating areas.		✓	✓	✓	✓	✓	✓
4. To provide three further themes parks / amenity areas at the Ardee Road, Mounthamilton and the Carrick Road, to include a wildlife habitat park and an amenity park.		✓	✓	✓	✓	✓	✓
5. To provide a linear park at Fairhill.		✓	✓	✓	✓	✓	✓
6. To provide an Environmental Garden at Mounthamilton, which is to be maintained as a natural habitat area with native species, with access via the Ardee Road together with a pedestrian / cycle link from the Mounthamilton Wildlife Habitat Park.		✓	✓	✓	✓	✓	✓
7. To provide a Wildlife Habitat Park at Balmers Bog, which will not have any pedestrian or vehicular access. As a natural wetland area, the bog has a major flood attenuation role for the entire DSWLAP area.		✓	✓	✓	✓	✓	✓
8. To provide substantial linear open spaces laid out in the form of tree lined boulevards, in the Fairhill and Mounthamilton areas, which will form key sustainable transport corridors linking development parcels across the DSWLAP area.		✓	✓	✓	✓	✓	✓
9. To provide other smaller public open spaces that will be well distributed in a comprehensive manner, linked together and designed as an integral part of the overall development.		✓	✓	✓	✓	✓	✓
10. Public open space should not be located out of sight and not visible from the majority of dwellings.		✓	0	0	✓	0	0
11. Public open spaces should be readily accessible to the majority of dwellings in the development.		✓	0	0	✓	0	0
12. Where possible, the provision of public open spaces should be orientated around existing natural features such as mature trees, streams, rivers and / or archaeological remains such as raths, etc.		✓	✓	✓	✓	✓	✓
13. To promote the management of public open spaces by private management companies on behalf of the local community.		✓	0	0	0	0	0

**Environmental criteria:**

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora &amp; fauna; 6. Material assets / cultural heritage

**Key:** ✓ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

Figure 11

POLICY APPRAISAL Sanitary Services		Environmental Criteria					
Policy No.		1.	2.	3.	4.	5.	6.
1. To extend the town water supply to serve the plan area.		√	√	0	0	0	0
2. To create separate foul and surface water drainage throughout the plan area.		√	√	√	0	√	0
3. To encourage the separation of wastes at source to reduce the overall load on the wastewater treatment plant.		√	√	0	0	0	0
4. To put in place surface water drainage facilities in line with the Sustainable Urban Drainage (SUDS) which is concerned primarily with rain water from developed or urbanised areas. The overall objective of SUDS is to return excess water to the natural water cycle with minimal adverse impact on people and the environment, which will be achieved in the plan area through both hard and soft engineering measures.		√	√	0	0	√	0
5. All planning applications for the DSWLAP area must incorporate a drainage strategy for the proposed development.		0	√	√	0	√	√
6. To require 'bring' facilities to be located strategically around the plan area so that every household has convenient access to them.		√	√	0	0	0	√
7. To provide for the separation of waste at source in the design of all development.		√	√	√	0	√	√
8. To encourage the provision of home composters in the rear gardens of all houses, schools and public buildings generating waste materials.		√	√	0	0	√	0

#### Environmental criteria:

1. Human beings / social need; 2. Water / soils; 3. Air / climate / noise; 4. Landscape / visual; 5. Biodiversity / flora & fauna; 6. Material assets / cultural heritage

**Key:** √ Beneficial Effect    0 No Significant Effect    ? Uncertain Effect    X Some deterioration in environmental quality

### 8. Mitigation

The mitigation measures or key recommendations arising from the SEA exercise are as follows:

- The sensitive siting and location of new development within the plan area is the single most effective mitigating factor available to the Planning Authority. The majority of important sensitive sites within the plan area are known from existing sources (e.g. archaeological & architectural) or new surveys (e.g. ecology) and can, therefore, be avoided. A requirement should be made that planning applications for development within the plan area should be accompanied with an assessment of the impact of a development on any known environmental or cultural resources where those resource exists or where the potential exists to impact upon them.
- Include specific objectives for the protection of areas that have been identified as ecologically important. These include the Balmer's Bog and Mounthamilton scrub areas. Include also the ecology map as part of the DSWLAP.

- A provision may have to be made in the plan for the erection of noise barriers or berms along the western perimeter of the plan area to mitigate against any possible noise pollution once the M1 Motorway is operational. The EIS for this stretch of the M1 Motorway, which was compiled in 1993, did not envisage that the current plan area would be developed for residential purposes.
- Construction works should be planned to be carried out with the least feasible disturbance of soils. Where soil stripping occurs the resulting excavated soil fractions should be separated into topsoil and subsoil stockpiles. It is recommended that all topsoil and subsoils excavated at the site will be reused during the construction works, in as far as is possible. Excess fill and unsuitable excavated material should be deposited in appropriate and approved infill sites, in compliance with the Waste Management Acts 1996 to 2003 and Section 5 of the Waste Management (Collection Permit) Regulations of 2001. Conversely, if the importation of topsoil is required for landscaping purposes, the material will be brought from as near a site as possible, in order to reduce transport distances.

- To avoid historic buildings being neglected while lands around them are developed, a policy statement could be inserted in the plan to provide for their rehabilitation / restoration as part of other development schemes and that their conservation be prioritised within such schemes.

### 9. Monitoring

Article 10 of the SEA Directive requires Member States to monitor the significant environmental effects of the implementation of the plan or programme in order to identify at an early stage unforeseen adverse and to be able to undertake appropriate remedial action.

As was outlined in Section 4 above, a certain amount of environmental monitoring is already taking place close to the plan area which provides useful information relating to the environmental condition of the general area (e.g. EPA monitors air and water quality). As a result of this assessment and of EPA recommendations, there are a number of specific items which may require additional monitoring. In particular, the

EPA recommended that (a) Levels of PM10 will need to be monitored continuously and (b) Levels of CO, SO2, NO2, benzene and lead should be assessed using modelling or objective estimation techniques.

Also, as a result of the Ecology Study which was commissioned by Louth County Council a part of its preparation of the DSWLAP, Balmer's Bog and the Mounthamilton scrub were identified as particularly important for their ecological value. The impact of any development to be located nearby these areas should be adequately assessed and monitored to ensure that their ecological value is not diminished and, in particular, the hydrology of the wetland is not adversely affected.

Appendix One: Table of Recorded Monuments within the DSWLAP area

Recorded monuments within the DSWLAP area				
Mon. No.	OS Sh/Pl/Tr	National Grid	Townland	Classification
LH-007-06301-	007-/09/6	30284/30605	Donaghmore	Souterrain
LH-007-06302-	007-/09/6	30284/30605	Donaghmore	Millstone
LH-007-06401-	007-/09/6	30325/30598	Manorhamilton	Fulacht Fiadh
LH-007-06402-	007-/09/6	30325/30598	Manorhamilton	Fulacht Fiadh
LH-007-06403-	007-/09/6	30325/30598	Manorhamilton	Fulacht Fiadh
LH-007-071---	007-/13/2	30277/30540	Littlemill	Souterrain
LH-007-072---	007-/13/3	30340/30524	Ballybarrack	Archaeological complex
LH-007-07201-	007-/13/3	30340/30524	Ballybarrack	Encloure
LH-007-07202-	007-/13/3	30340/30524	Ballybarrack	Souterrain
LH-007-07203-	007-/13/3	30340/30524	Ballybarrack	Rock Scribing/ Art
LH-007-07204-	007-/13/3	30340/30524	Ballybarrack	Souterrain
LH-007-07205-	007-/13/3	30340/30524	Ballybarrack	Souterrain
LH-007-07206-	007-/13/3	30340/30524	Ballybarrack	Ogham stone
LH-007-07207-	007-/13/3	30340/30524	Ballybarrack	Church
LH-007-07208-	007-/13/3	30340/30524	Ballybarrack	Iron working
LH-007-076---	007-/14/1	30400/30507	Fairhill	Earthwork site possible
LH-007-077---	007-/14/4	30393/30473	Killally	Cemetery
LH-007-078---	007-/14/4	30432/30471	Fairhill	Souterrain
LH-007-104--	007-/14/5	30477/30461	Crumlin	Souterrain
LH-007-10801-	007-/14/4	30375/30415	Killally	Enclosure site
LH-007-10802-	007-/14/4	30375/30415	Killally	Souterrain
LH-007-10803-	007-/14/4	30375/30415	Killally	Souterrain
LH-012-004---	012-/02/1	30409/30359	Haynestown	Earthwork site
LH-012-064---	???	???	???	???

## Appendix Two: Tables of Protected Structures within the DSWLAP area

## (a) Protected structures within the administrative area of Louth County Council

Record of Protected Structures (RPS) for County Louth					
ID	Town/District	Townland	Classification	Notes	Rating
328	Dundalk	Donaghmore	OPW Thatched site 04-Donaghmore	Four-bay single storey stone walled, whitewashed thatched cottage, with three replacement chimneys, replacement windows and door	A, So, T, Regional

## (b) Protected structures within the administrative area of Dundalk Town Council

Record of Protected Structures (RPS) for Dundalk							
Ref No	Ref No	Town	Street	Structure / Address	Description	Notes incl. features	Importance
D379	17	Dundalk	Ardee Road	Ardee Terrace, No.18	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D8	17	Dundalk	Ardee Road	Brook St. "Brooklyn"	House	Late 19 <sup>th</sup> C	A Regional
D372	17	Dundalk	Ardee Road	Ardee Terrace No.11	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D13	19	Dundalk	Ardee Road	Rath Cottage	House	c.1850	A Local
D376	17	Dundalk	Ardee Road	Ardee Terrace, No.15	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D378	17	Dundalk	Ardee Road	Ardee Road, No.17	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D385	17	Dundalk	Ardee Road	Brook Street Terrace, No.4	House	Late 19 <sup>th</sup> C, two-storey, red brick terraced house	AG Local
D12	17	Dundalk	Ardee Road	Macardle Moore Brewery	Brewery	Late 19 <sup>th</sup> C Maltings and Buildings	A Regional
D377	17	Dundalk	Ardee Road	Ardee Terrace, No.16	House	Late 19 <sup>th</sup> C, two-storey, two-bay, red brick terraced house	AG Local
D375	17	Dundalk	Ardee Road	Ardee Terrace, No.14	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D11	17	Dundalk	Ardee Road	G.N.R. Engineering Works	Industrial	All red-bricked Workshop Buildings	A Regional
D373	17	Dundalk	Ardee Road	Ardee Terrace, No.12	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D371	17	Dundalk	Ardee Road	Ardee Terrace No.10	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D370	17	Dundalk	Ardee Road	Ardee Terrace No.9	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local

D369	17	Dundalk	Ardee Road	Ardee Terrace, No.8	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D365	17	Dundalk	Ardee Road	Ardee Terrace, No.4	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D364	17	Dundalk	Ardee Road	Ardee Terrace, No.3	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D368	17	Dundalk	Ardee Road	Ardee Terrace, No.7	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D367	17	Dundalk	Ardee Road	Ardee Terrace, No. 6	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D363	17	Dundalk	Ardee Road	Ardee Terrace, No. 2	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D374	17	Dundalk	Ardee Road	Ardee Terrace, No.13	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D8a	17	Dundalk	Ardee Road	Brook Street, “Brookville”	House	Late 19 <sup>th</sup> C	A Regional
D14	17	Dundalk	Ardee Road	St. Margaret’s	House	Edwardian	A Local
D393	17	Dundalk	Ardee Road	Brook Street Terrace, No.12	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D392	17	Dundalk	Ardee Road	Brook Street Terrace, No.11	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D391	17	Dundalk	Ardee Road	Brook Street Terrace, No.10	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D390	17	Dundalk	Ardee Road	Brook Street Terrace, No.9	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D389	17	Dundalk	Ardee Road	Brook Street Terrace, No.8	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D388	17	Dundalk	Ardee Road	Brook Street Terrace, No.7	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D394	17	Dundalk	Ardee Road	Brook Street Terrace, No.13	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D386	17	Dundalk	Ardee Road	Brook Street Terrace, No.5	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D384	17	Dundalk	Ardee Road	Brook Street Terrace, No.3	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D362	17	Dundalk	Ardee Road	Ardee Terrace, No.1	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D395	17	Dundalk	Ardee Road	Brook Street Terrace, No.14	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local

D396	17	Dundalk	Ardee Road	Brook Street Terrace, No.15	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D397	17	Dundalk	Ardee Road	Brook Street Terrace, No.16	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D398	17	Dundalk	Ardee Road	Brook Street Terrace, No.17	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D399	17	Dundalk	Ardee Road	Brook Street Terrace, No.18	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D400	17	Dundalk	Ardee Road	Brook Street Terrace, No.19	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D401	17	Dundalk	Ardee Road	Brook Street Terrace, No.20	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D387	17	Dundalk	Ardee Road	Brook Street Terrace, No.6	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D382	17	Dundalk	Ardee Road	Brook Street Terrace, No.1	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D380	17	Dundalk	Ardee Road	Ardee Terrace, No.19	House	Late 19 <sup>th</sup> C two-storey, two-bay, red brick terraced house	AG local
D381	17	Dundalk	Ardee Road	Ardee Terrace, No.20	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D383	17	Dundalk	Ardee Road	Brook Street Terrace, No.2	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D366	17	Dundalk	Ardee Road	Ardee Terrace, No.5	House	Late 19 <sup>th</sup> C two-storey, red brick terraced house	AG Local
D10	17	Dundalk	Ardee Road	Chapel at East end of Ardee Terrace	Chapel	Late 19 <sup>th</sup> C	A Regional
D57	15	Dundalk	Ck'macross Road, Railway Terrace	Railway Terrace, No.7	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D62	15	Dundalk	Ck'macross Road, Railway Terrace	Railway Terrace, No.12	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D61	15	Dundalk	Ck'macross Road, Railway Terrace	Railway Terrace, No.11	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D60	15	Dundalk	Ck'macross Road, Railway Terrace	Railway Terrace, No.10	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D39	15	Dundalk	Ck'macross Road, Railway Terrace	Railway Terrace, No.9	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D58	15	Dundalk	Ck'macross Road, Railway Terrace	Railway Terrace, No.8	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D56	15	Dundalk	Ck'macross Road, Railway Terrace	Railway Terrace, No.6	House	c.1855, terraced, two-bay, two-storey brick house	G Local

D55	15	Dundalk	Ckmacross Road, Railway Terrace	Railway Terrace, No.5	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D54	15	Dundalk	Ckmacross Road, Railway Terrace	Railway Terrace, No.4	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D52	15	Dundalk	Ckmacross Road, Railway Terrace	Railway Terrace, No.2	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D51	15	Dundalk	Ckmacross Road, Railway Terrace	Railway Terrace, No.1	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D53	15	Dundalk	Ckmacross Road, Railway Terrace	Railway Terrace, No.3	House	c.1855, terraced, two-bay, two-storey brick house	G Local
D181	20	Dundalk	Dublin Road	Bayview House	House	Early 19 <sup>th</sup> C, single storey	-
D181	20	Dundalk	Dublin Road	County Hospital	Hospital	Late 1950s modern movement	-

## Bibliography

Department of the Environment, Heritage and Local Government, (2004), *Guidelines for Regional Authorities and Planning Authorities on the Assessment of the Effects of Certain Plans and Programmes on the Environment*, Dublin.

Mc Govern, Frank, (2004), “Climate Change and Greenhouse Gases”, from Chapter 14, *Ireland's Environment*, EPA, p. 249.

Louth County Council, (1993), *Dunleer – Dundalk Motorway Project: Environmental Impact Statement*, April 1993.

Prendergast, Terry, (2003), *Strategic Environmental Assessment of the Dublin Docklands Area Draft Master Plan*, Dublin Docklands Development Authority.