

Environmental Report

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The Strategic Environmental Assessment of

Kilcock Local Area Plan 2015-2021

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Glossary

<i>Appropriate Assessment</i>	An assessment of the effects of a plan or project on the Natura 2000 network. The Natura 2000 network comprises Special Protection Areas under the Birds Directive, Special Areas of Conservation under the Habitats Directive and Ramsar sites designated under the Ramsar Convention (collectively referred to as European sites).
<i>Baseline environment:</i>	A description of the present state of the environment of the P/P area.
<i>Birds Directive:</i>	Council Directive of 2nd April 1979 on the conservation of wild birds (79/409/EEC).
<i>Cumulative effects:</i>	Effects on the environment that result from incremental changes caused by the strategic action together with other past, present, and reasonably foreseeable future actions. These effects can result from individually minor but collectively significant actions taking place over time or space.
<i>Data:</i>	Includes environmental data, proxy data, and any other relevant statistical data.
<i>Designated authority</i> <i>(Designated environmental authority):</i>	An organisation that must be consulted in accordance with the SEA Regulations. For Ireland these are the Environmental Protection Agency (EPA), the Department of the Environment, Community and Local Government (DoECLG) and the Department of Agriculture, Food & the Marine (DoAFM).
<i>Environmental Assessment:</i>	The preparation of an environmental report, the carrying out of consultations, the taking into account of the environmental report and the results of the consultations in decision-making and the provision of information on the decision (in accordance with Articles 4 to 9 of the SEA Directive).
<i>Environmental Characteristics:</i>	Environmental resources, issues and trends in the area affected by the P/P.
<i>Environmental indicator:</i>	An environmental indicator is a measure of an environmental variable over time, used to measure achievement of environmental objectives and targets.
<i>Environmental objective:</i>	Environmental objectives are broad, overarching principles which should specify a desired direction of environmental change.
<i>Environmental receptors:</i>	Include biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage (including architectural and archaeological) and landscape as listed in the SEA Directive. This list is not exhaustive, and can include other receptors which may arise for a particular P/P.
<i>Environmental Report (ER):</i>	A document required by the SEA Directive as part of an environmental assessment which identifies, describes and evaluates the likely significant effects on the environment of implementing a plan or programme.

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<i>Environmental targets:</i>	A target usually underpins an objective often having a time deadline that should be met and should be accompanied by limits or thresholds.
<i>Evolution of the baseline:</i>	A description of the future state of the baseline in the absence of a plan or programme assuming 'business as usual' or 'do nothing' scenarios, depending on which is more reasonable for the P/P being proposed.
<i>Habitats Directive:</i>	Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.
<i>Hierarchy of Plans:</i>	Both higher and lower level P/P relevant to the P/P being assessed.
<i>Indirect effect:</i>	Any aspect of a P/P that may have an impact (positive or negative) on the environment, but that is not a direct result of the proposed P/P. May also be referred to as a secondary effect
<i>Interrelationships:</i>	Associations or linkages, related to environmental impact of the proposed P/P usually on environmental receptors.
<i>Issues Paper:</i>	Paper produced as part of the consultation process, usually for Land Use Plans, to facilitate consultation with stakeholders on key issues.
<i>Key environmental issues:</i>	Those significant environmental issues, which are of particular relevance and significance within a P/P area and/or the zone of influence of that P/P. These issues should be identified during SEA Scoping process.
<i>Key environmental receptors:</i>	Aspects of the environment likely to be significantly impacted by the proposed P/P.
<i>Material Assets:</i>	Critical infrastructure essential for the functioning of society such as: electricity generation and distribution, water supply, wastewater treatment transportation etc.
<i>Member States:</i>	Those countries that belong to the European Union.
<i>Mitigation measures:</i>	Measures to avoid/prevent, minimise/reduce, or as fully as possible, offset/compensate for any significant adverse effects on the environment, as a result of implementing a P/P.
<i>Monitoring:</i>	A continuing assessment of environmental conditions at, and surrounding, the plan or programme. This determines if effects occur as predicted or if operations remain within acceptable limits, and if mitigation measures are as effective as predicted. The primary purpose of monitoring is to identify significant environmental effects which arise during the implementation stage against those predicted during the plan preparation stage.
<i>Monitoring Programme:</i>	A detailed description of the monitoring arrangements to be put in place to carry out the monitoring of the impact of the proposed P/P on the environment including; frequency of monitoring, who has responsibility

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	for monitoring, and responses if monitoring identifies significant negative impacts.
<i>Non-technical summary:</i>	A summary of the findings of the ER, summarized under the headings listed in Annex 1 of the SEA Directive that can be readily understood by decision-makers and by the general public. It should accurately reflect findings of ER.
<i>Plan or Programme:</i>	Including those co-financed by the European Community, as well as any modifications to them: <ul style="list-style-type: none">- which are subject to preparation and/or adoption by an authority at national, regional or local level or which are prepared by an authority for adoption, through a legislative procedure by Parliament or Government, and- which are required by legislative, regulatory or administrative provisions. In accordance with the SEA Directive, P/P that require SEA are those that fulfil the conditions listed in Article 2(a) and Article 3 of the SEA Directive.
<i>Post-mitigation residual impacts:</i>	Environmental effects that remain after mitigation measures have been employed.
<i>Proxy data:</i>	Is a measure of activity resulting from a P/P which provides information on environmental impact without the need for a direct measure of an environmental receptor for example, an increase in the number of vehicles (activity resulting from a P/P) can provide information on the impact on air quality and greenhouse gases without having to measure the concentration of these parameters in the receiving environmental receptor.
<i>Public:</i>	One or more natural or legal persons and, in accordance with national legislation or practice, their associations, organisations or groups.
<i>Reasonable alternatives:</i>	Alternatives should take into account the objectives and geographical scope of the P/P. There can be different ways of fulfilling the P/P objectives, or of dealing with environmental problems. The alternatives should be realistic, capable of implementation and should fall within the legal and geographical competence of the authority concerned.
<i>Scoping:</i>	The process of deciding the content and level of detail of an SEA, including the key environmental issues, likely significant environmental effects and alternatives which need to be considered, the assessment methods to be employed, and the structure and contents of the Environmental Report.
<i>Screening:</i>	The determination of whether implementation of a P/P would be likely to have significant environmental effects on the environment. The process of deciding whether a P/P requires SEA.
<i>SEA Directive:</i>	Directive 2001/42/EC 'on the assessment of the effects of certain plans and programmes on the environment'.

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<i>SEA Statement:</i>	<p>A statement summarising:</p> <ul style="list-style-type: none">- how environmental considerations have been integrated into the P/P- how the ER, the opinions of the public and designated authorities, and the results of transboundary consultations have been taken into account- the reasons for choosing the P/P as adopted in the light of other reasonable alternatives.
<i>Secondary effect:</i>	Effects that are not a direct result of the P/P, same as indirect effect.
<i>Short-term effects:</i>	These are typical of those effects that may occur during construction stage of a development, for example, the increased traffic going to and from a site during construction, or, the noise associated with construction activities.
<i>Significant effects:</i>	Effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship between the above factors.
<i>Statutory authority:</i>	The authority by which or on whose behalf the plan or programme is prepared.
<i>Statutory Instrument (S.I.):</i>	Any order, regulation, rule, scheme or bye-law made in exercise of a power conferred by statute.
<i>Synergistic effect:</i>	Effects that, when totalled, result in a greater or lesser effect than the sum of the individual effects.

1.0 Non-Technical Summary

1.1 Introduction and Background

The core objective of the process is to assess the Plan in terms of its overall environmental impact, both positive and negative and to indicate where necessary how improvements can be incorporated into the plan to improve the plans' environmental performance.

This section of the Environmental Report is a Non-Technical summary. The purpose of the Non-Technical Summary is to ensure that the key findings of the Environmental Report are readily understood by both decision makers and the general public. To this end technical jargon has been avoided wherever possible.

The Planning and Development Act 2000-2013 require that a Strategic Environmental Assessment, (pursuant to the SEA Directive) and an Appropriate Assessment (pursuant to the EU Habitats Directive) be carried out as Part of the Local Area Plan process.

The preparation of Kilcock Local Area Plan 2015-2021 ran in parallel with the Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) and both these processes significantly influenced the preparation of the Local Area Plan.


In this regard environmental considerations have been considered throughout the plan process and have been incorporated in the Plan ensuring a continuation of a qualitative environment.







The Environmental Report is the primary element in the SEA process and is published alongside the Kilcock Local Area Plan 2015-2021.

1.2 Steps in the SEA Process

Table 1 below highlights the key stages in the SEA process and the progress made to date:

Table 1: Key Stages in SEA process

Stage	Description	
Scoping	<p>The Scoping of the Kilcock Local Area Plan 2015-2021 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC).</p> <p>The principal purpose of the Scoping stage is to decide upon the range of issues and level of detail to be included in the Environmental Report. An overview of the relevant environmental issues requiring further analysis are given and consideration in the Environmental Report and ultimately in the Local Area Plan itself. By highlighting some of the significant issues at an early stage, it ensures that the issues are firmly to the forefront when considering each of the</p>	<p>Completed</p> 

	policies and objectives of the Plan and reduces the possibility of relevant issues not being addressed.	
Consultation with the Environmental Authorities	Submissions were received from the EPA, the Department of Communications, Energy & Natural Resources, and the Department of Agriculture, Food and the Marine.	Completed 
Scoping Report	Submissions received from Environmental Authorities were incorporated into the Scoping Report and baseline data was amended.	Completed 
Preparation of draft ER & LAP	<ul style="list-style-type: none"> • A multi-disciplinary team was established to create policy consistent documents and to examine the effects on the environment of implementing the objectives and policies. • Objectives created in Local Area Plan assessed in ER and proposed zonings for the plan area examined. • Feedback from on-going Plan preparation process & ER preparation • Mitigation measures discussed and chosen. • Monitoring incorporated into existing methods. 	Completed 
Consultation	Consultation on the Draft Local Area Plan and associated Environmental Report and Natura Impact Report.	Completed 
Evaluation of submissions	Evaluation of submissions and observations made on the Draft Local Area Plan, Environmental Report and Natura Impact Report.	Completed 
SEA Statement	Preparation of an SEA Statement identifying how environmental considerations and consultation have been integrated into the Adopted Local Area Plan.	Completed 
Monitoring the Local Area Plan	Monitoring significant environmental effects over the lifetime of the Kilcock Local Area Plan 2015-2021	Current Stage

1.3 Content of Environmental Report

The Environmental Report considers all of the following in accordance with the requirements of the SEA Directive:

1. Population, Human Health and Quality Of Life
2. Biodiversity
3. Soil & Geology
4. Water
5. Air Quality and Climate Change
6. Material Assets
7. Cultural Heritage
8. Landscape

Table 2 below summarises the content of the Environmental Report. In the first instance the Environmental Report details the Current State of the Environment of Kilcock within each of the sub headings set out above, and interrelationships between each of the environmental

topics. The Environmental Report examines significant environmental pressures that may affect each of the environmental topics and the current (Baseline) State of the Environment.

Table 2: Content of Environmental Report

Section	Description
Non-Technical Summary	A brief summary of the Environmental Report, its main points and conclusions.
Introduction	Provides a description of the type of plan involved and a summary of its key aims and objectives. The purpose of the SEA process, SEA requirements, and its benefits and how the LAP and Environmental Reports have progressed are outlined.
SEA Methodology	Highlights the steps taken in preparation of the SEA, the methods used and technical difficulties encountered.
Relationship of the Plan with Other Relevant Plans and Programmes	The relationship of the LAP to other relevant plans and programmes is highlighted.
Baseline	A description of the current environment of the plan area is given, highlighting any existing environmental problems in the plan area. This exercise results in a comprehensive baseline against which the likely effects of implementing the LAP can be examined.
Strategic Environmental Objectives	A number of environmental protection objectives which have been established at international, EU or national Level and are relevant to the plan are listed. Following this a description of how the objectives and any environmental considerations have been taken into account in the preparation of the plan is given.
Alternatives	An assessment of proposed development alternatives in the plan area are considered at this stage.
Assessment	The proposed LAP policies and objectives are examined in terms of their potential effects on the various Environmental parameters.
Mitigation Measures	Should potentially significant effects be discovered, measures to prevent, reduce or offset these effects are proposed and integrated into the LAP.
Monitoring	Proposals for monitoring the significant effects of the LAP on the environment are put forward. A number of indicators of change and targets are identified and existing monitoring arrangements are utilised.
Conclusion	A conclusion with regard to the overall impact on the environment resulting from the implementation of the Local Area Plan.

1.4 Policy Context

The preparation of the Local Area Plan must be considered within the context of a hierarchy of policies, plans and strategies of international, national, regional and local level as detailed in Chapter 4 of the Environmental Report. Other relevant Plans, policies and programmes were considered in this report and are referenced throughout.

1.5 Appropriate Assessment

An Appropriate Assessment (AA) Screening has also been carried out in accordance with Article 6 of the EU Habitats Directive and as required under the Planning and Development Acts 2000-2013. The AA Screening is a separate but parallel process that has influenced the SEA process in the preparation of the Local Area Plan. The Appropriate Assessment Screening specifically assesses the potential impact on Natura 2000 sites (and their conservation objectives) of the implementation of the Plan based on the Screening Report and other supplementary information; the ultimate aim being to avoid significant adverse impacts on these sites. The Screening Report determined that there is no requirement to proceed to Stage 2 of the AA as there is no significant detrimental effect identified as the result of implementation of the Plan to the integrity of any European Site. The Appropriate Assessment Screening shall be published parallel to the Local Area Plan and Environmental Report.

1.6 Contents and Objectives of the Kilcock Local Area Plan 2015-2021

The Kilcock Local Area Plan 2015-2021 has been prepared by Kildare County Council under the provisions of the Planning and Development Acts 2000-2014.

The vision statement for Kilcock as set out in the Local Area Plan is:

Within the next 20 to 30 years Kilcock will be compact and beautiful town which showcases the distinct character of its built and natural heritage. It will be well connected to Dublin City centre and neighbouring towns by exemplary public transport and cycling routes and will support the knowledge based economy in Maynooth and Leixlip by focusing on smart, green innovation-based industries. It will be socially inclusive and have a vibrant community with its neighbourhoods connected by cycling and walking routes, interwoven with a quality bio-diverse greenspace network. In short Kilcock will become a place of choice.

This vision statement for the plan area is backed up by three key strategies which aim to provide a foundation for the Local Area Plan policies and objectives.

The three Key Strategies are:

- KS 1 A high quality, green, well connected town with a compact urban form which provides a vibrant and vital mixed use environment.*
- KS 2 A smart, green, well connected town which provides a vibrant and vital economy.*
- KS 3 A town of well-connected sustainable neighbourhoods and socially inclusive communities.*

The Local Area Plan will be the guiding document for development within the Plan area over the next 6 years. Environmental aspects have been considered throughout the plan-making process and have been incorporated into the Plan with the aim of improving the environment of the plan area. The Environmental Report is the primary element in the SEA process and is published alongside the Kilcock Local Area Plan 2015-2021.

1.7 Current State of the Environment

Kildare County Council adopted the Kildare County Development Plan 2011 – 2017 on April 4th 2011 and the Plan took effect from May 2nd 2011. The purpose of the County Development Plan is to promote sustainable development by encouraging consolidation within existing urban footprints, supporting and strengthening the role of the county's town and villages, promoting economic development in defined clusters, supporting national investment in infrastructure, recognising the role of the rural countryside and the rural economy and most critically for SEA protecting local assets by preserving the quality of the landscape, open space, natural, architectural, archaeological and cultural heritage and material assets of the county.

The previous Local Area Plan (LAP) for Kilcock dates from 2009 and Kildare County Council proposed to prepare a new LAP for Kilcock. The LAP boundary for the Kilcock Local Area Plan remains effectively as per the previous LAP, with minor alteration.

The LAP will shape the future development of Kilcock and will identify zones where different land uses are considered to be appropriate.

Kilcock is located in the Metropolitan area of the county and is designated as a 'Moderate Sustainable Growth Town' as set out in the core strategy of the Kildare County Development Plan (CDP) 2011-2017. This reflects its designation in the Regional Planning Guidelines 2010-2022 and is consistent with the National Spatial Strategy. Moderate Sustainable Growth Towns are defined as having levels of economic activity beyond that which is required to service the local community.

Kilcock is also part of an economic cluster along with Maynooth, Leixlip and Celbridge. The core strategy of the CDP defines Kilcock's role within the economic cluster, as that of a supporting centre to Maynooth and Leixlip. The Kilcock Local Area Plan therefore will support the knowledge based economy that exists in Maynooth and Leixlip by focusing on manufacturing and office based industry, logistics, tourism, natural and built heritage.

The settlement hierarchy within the county development plan defines and shapes the target population distribution, preferred growth locations and consequent land use zonings which will be implemented through Local Area Plans. The county settlement strategy has set the target for Kilcock at 3% from its 2006 census population figure. The population target for Kilcock by 2017 is 5,956. It will be the role of the forthcoming Kilcock Local Area Plan to plan for this level of growth in a self-sufficient manner, reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The provision of strong social infrastructure in tandem with growth in population, particularly in relation to schools and leisure facilities is also required.



Figure 1: Local Area Plan Context Map

An Issues Paper has been prepared by Kildare County Council to help stimulate debate between the planning authority, key stakeholders, landowners and the general public around the issues relevant to Kilcock and how they may be addressed in the new LAP.

The Core Strategy aims to secure the sustainable growth of towns and villages. Existing and new neighbourhoods should be connected, legible and well designed with a variety of dwelling sizes and types. Good design and quality of material used will deliver a good quality of the built environment.

This LAP will be prepared under the provisions of the Planning and Development Acts 2000-2014. The LAP will consist of a written statement and maps. Once adopted, the LAP will provide a 6 year statutory framework for guiding development and will assist in ensuring that future development is appropriately managed and occurs in a sustainable manner.

Chapter 5 of the Environmental Report describes in detail the current Environmental Baseline of the County using available environmental data. The current state of the environment and its evolution is described as well as any existing environmental problems affecting the area.

Table 3: Summary of Main Environmental Issues within the Plan Area

Topic	Environmental Issue/Pressures
Biodiversity, Fauna and Flora	The natural heritage of County Kildare is an important asset and a unique resource. Within the plan area there are no of areas designated for protection under the Natura 2000 network however the Kilcock Habitats and Green Infrastructure Mapping Study identified habitats of importance within the plan area for supporting flora and fauna. Development requirements can lead to, pressures on land, which are increased by the plan area's close proximity to Dublin. Most relevant to the East Kildare area, tourism and recreation pressures along the river, which is sensitive, which if not be managed in a combined way which could lead to the loss of important habitats.
Population and Human Health & Quality of Life	There are environmental issues existing with regard to the current population of the plan area. The plan recognises that Kilcock must offer living and working conditions, educational, recreational and cultural opportunities of the highest standard in an attractive urban environment in order to achieve this. While the recent economic boom resulted in an unprecedented growth in the population of Kilcock it did little to improve the environmental and physical quality of the heart of town. This plan provides an opportunity to create a vision for recovery in a coherent, sustainable manner for the benefit of the region, town and its citizens. The settlement pattern in the area has resulted in a pattern of unsustainable commuting which has been shown to have a negative impact on human health and quality of life.
Soil & Geology	Soil is lost annually through the development of agricultural land. The number of hectares, which are rezoned annually on a countrywide basis is not known, nor is the quantity of soil loss through surface sealing. Urban environments have greatly changed in Ireland with the centres of population and towns being subjected to depopulation with growth focused on the periphery of these areas. With urban expansion, agricultural land surrounding towns and settlements as well as green areas within them are subjected to increasing pressures.
Water	<p>The principal threat to water is pollution which can adversely impact on all parts of the water cycle from groundwater to rivers, lakes estuaries and coastal waters. In simple terms pollution means the presence of a harmful substance such as a poisonous metal or pesticide, a nutrient or indeed silt.</p> <p>Groundwater status within the Plan area is 'Good' in 2010. However, there are areas of the plan where the groundwater resource is classified as being of high vulnerability. This presents significant challenges in terms of appropriate land use and the long term protection of vulnerable resources.</p> <p>The plan identifies the inadequacy of the surface water management treatment.</p>
Air and Climate	Air quality within the Plan area is generally good. Increased greenhouse gas emissions have been linked with climate change resulting in increases in the intensity and frequency of flooding. Of particular concern is the high dependency on the use of the private car within the plan area.

<p>Material Assets – Transportation</p>	<p>The residents of the plan area rely heavily on the use of private cars for transport. Travel patterns show that a high proportion of residents commute long distances by car to school, work, mostly to Dublin.</p> <p>There is a need to improve cycling and pedestrian facilities to provide for the sustainable development of the area. Increasing movements within the area in this regard should be a priority.</p>
<p>- Waste Management</p>	<p>Both public and private waste collectors have a responsibility with regards to meeting Waste Management targets. Increased facilities for recycling should be provided to reduce the levels diverted to landfill.</p>
<p>- Water Supply</p>	<p>It is anticipated that there will be an adequate supply of water to facilitate development during the life of this plan. Water supplied to the town is tested regularly and is consistently of the highest quality. Irish Water is now responsible for water provision.</p>
<p>- Wastewater</p>	<p>As infrastructure is currently being upgraded there is sufficient capacity to meet the needs of this LAP. However should development occur at a higher level than anticipated this could cause environmental damage from inadequacy in the capacity of both private and Local Authority systems and the assimilative capacity of receiving waters. Such pressure on infrastructure could affect river quality and ground water.</p>
<p>- Energy</p>	<p>County Kildare is overly reliant on external and non renewable energy sources. While renewable energy is to be welcomed any new wind farm development within the plan area must be carefully sited and designed so as to avoid negative impacts on the protected views and landscapes of the plan area.</p>
<p>Cultural Heritage</p>	<p>Currently the most immediate threat to the cultural heritage is development pressure which can lead to a loss or impairment of a feature of importance. Furthermore it is recognized that heritage has an economic value particularly in terms of tourism. However unsustainable tourism must be avoided and care taken to ensure a balance is achieved between the economic gain that cultural heritage can bring and the preservation of the structures / sites of interest.</p>
<p>Landscape</p>	<p>Urban areas particularly within commuting distance of the capital have grown rapidly which has eroded the essential character of these towns. Generally the volume of large development within these towns is not in keeping with their character or scale and has created a series of autonomous developments with no reference to their rural setting. Also many settlements have grown at a rate that the historic centres have become detached from the majority of their populations and the relationship between urban areas and landscape setting has been largely lost.</p> <p>Given the importance of the natural landscape and the heritage fabric of the town within the plan area development must be considered in terms of its potential impact on landscape and views.</p>
<p>Interrelationship</p>	<p>Cumulative impacts and interaction of above mentioned items can give rise to increased pressure on the environment. The impacts and interactions will obviously vary in extent and nature. In particular, issues regarding water quality, climate change and flooding cross a number of environmental areas. Population increase and changes in peoples’ activities and settlement patterns can also impact on a wide range of the topics mentioned above.</p>

1.8 Strategic Environmental Objectives, Targets and Indicators

Strategic Environmental Objectives (SEOs) assist in the prediction, description and monitoring of impacts on the environment as a result of the Local Area Plan. The Objectives are based on the overall strategy of the Planning Authority to safeguard the environmental integrity of the plan area and to develop in a sustainable manner. The Strategic Environmental Objectives are set out in **Table 4** below.

Table 4: Strategic Environmental Objectives (SEOs)

Environmental Parameter		Objective
Biodiversity	B1	Conserve and where possible enhance the diversity of habitats and protected species avoiding irreversible losses
	B2	Promote measures to protect biodiversity by creating and improving habitats, where possible
	B3	Provide opportunities for sustainable public access to wildlife and wild places at appropriate locations
	B4	Avoid damage by development to designated wildlife sites and protected species, and associated ecological corridors/ linkages
Population	P1	Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Human Health	H1	Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry
Soil	S1	Maintain the quality of soils
	S2	Maximise the sustainable re-use of brownfield lands, and maximise and prioritise the use of the existing built environment rather than developing greenfield lands
	S3	Minimise the consumption of non-renewable sand, gravel and rock deposits
	S4	Minimise the amount of waste to landfill
Water	W1	Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems
	W2	Promote sustainable water use based on a long-term protection of available water resources
	W3	Reduce progressively discharges of polluting substances to waters
	W4	Mitigate the effects of floods and droughts including vulnerability to climate change. (extreme weather, sea level rise, coastal erosion)
Air	A1	Reduce all forms of air pollution
	A2	Minimise emissions of greenhouse gases to contribute to a reduction and avoidance of human-induced global climate change
	A3	Reduce waste of energy, and maximise use of renewable energy sources
	A4	Assess, plan and manage adaptation to climate change impacts
	A5	Reduce the need to travel
	MA1	Maximise use of the existing built environment

Environmental Parameter		Objective
Material Assets	MA2	Avoid flood risk and/or coastal erosion in selecting sites and zoning of lands for development
	MA3	Maintain water abstraction, run-off and recharge within carrying capacity (including future capacity) at environmentally sustainable levels.
	MA4	Maintain the quality of and access to assets such as aquifers, aggregates, ports, motorways, and all physical and social infrastructures.
Cultural Heritage	CH1	Promote the protection and conservation of the cultural, including architectural and archaeological, heritage
Landscape	L1	Conserve and enhance valued natural and historic landscapes and their character and features within them

1.9 Alternative Plan Scenarios

The SEA Directive requires the consideration of SEA Alternatives. This consideration is outlined in Chapter 7 of the Environmental Report.

Particular reference is drawn to the Core Strategy of the Kildare County Development Plan which must be complied with. Three alternatives were considered in the preparation of the SEA and the preparation of the Local Area Plan.

- Alternative A: To provide high density residential, retail and employment development on Greenfield sites and limited consolidation of the town centre.
- Alternative B: To provide development at the Motorway Junction around a high capacity motorway network and limited expansion of the town centre.
- Alternative C: To consolidate and strengthen the town centre and provide for the limited expansion of Kilcock to the east and west.

Following consideration and assessment of the three alternatives put forward it was concluded that Alternative C was the most appropriate and environmentally protective to the future development of Kilcock. The approach would involve reducing the extent of town centre zoned land and facilitating the redevelopment of strategic brownfield sites in order to consolidate the town core. The town will be strengthened by providing improved linkages between the town centre and existing residential neighbourhoods.

1.10 Strategic Environmental Assessment of the Plan

The SEA aims to highlight the potential conflicts, if they are present, between the stated policies and objectives contained in the Plan with the Strategic Environmental Objectives. Furthermore, the assessment examines the potential impact arising from the implementation of the Plan's policies and objectives on sensitive environmental receptors.

The process of SEA and Local Area Plan formulation is an iterative one and environmental considerations have informed all stages of plan preparation carried out in order for the potential for significant adverse effects arising from implementation of the plan to be minimised. Where the environmental assessment identifies significant adverse effects,

consideration is given in the first instance to preventing such impacts. Where prevention is not possible, the plan seeks to lessen or offset those effects through mitigation measures.

In some instances there is little or no relationship between the various Plan Policies/Objectives and the respective environmental receptor. Where this occurs no further discussion is deemed necessary. This has been determined through an initial screening of the Local Area Plan policies and objectives which ascertains if policies are likely to have a positive, negative or neutral impact on the environment. This screening process allows the assessment to focus more efficiently on the pertinent issues.

The preliminary phase of this assessment identifies the quality of the potential impact on the environment as a result of the policies and objectives of the Local Area Plan. Table 13 in the Environmental Report highlights where the impact may be either potentially positive (green); neutral (white); potentially negative (yellow); or uncertain (blue). Where a neutral impact is identified no further discussion is deemed necessary. However it is acknowledged localised issues may arise depending on site specific issues and the type of development proposed. The assessment contained herein deals with strategic issues alone, for potential localised impacts the Mitigation section contained in Chapter 9 should be consulted.

It has been determined that there are a number of policies/objectives where the impact is potentially negative. The significant issues are discussed in the following sections. A comprehensive and detailed set of mitigation measures are provided in Chapter 9 which effectively reduces or eliminates identified negative impacts. Similarly, monitoring the implementation of the plan, as discussed in Chapter 10, will ensure that if any negative impact becomes a reality it will be identified at an early stage and appropriate actions taken by the relevant authority/agency to remedy the situation.

In general terms the Plan, in its current form will have a positive effect on the environment as a whole.

1.11 Mitigation Measures

While every effort will be taken to ensure that the impact of the plan on the environment is neutral to positive, certain unavoidable negative impacts may occur as a result of the implementation of the plan. The Environmental Report details mitigation measures to reduce or eliminate identifiable adverse impacts.

Similarly, monitoring of the plan, in accordance with the Planning and Development Act, 2000 – 2014 will incorporate proposals to monitor various environmental receptors. A schedule of monitoring and reporting is proposed in order to ensure that any unforeseen negative impact is identified at the earliest opportunity and subsequently appropriate mitigation measures are put in place to eliminate or at a minimum limit the level of impact to an acceptable degree. Environmental Indicators, as prescribed in the EPA publication “Ireland’s Environment: An Assessment 2012” are provided where relevant to this plan and presented as a yardstick against which the plans success can be monitored.

In general terms, all proposals for development will be required to have due regard to the environmental considerations outlined in the Local Area Plan. Proposals for development which are deemed contrary to the objectives and policies contained within the Plan will not normally be permitted, and if permitted, not without the appropriate site and development specific mitigation measures. In addition, certain individual applications for developments

within the County may be subject to individual Environmental Impact Assessments and Appropriate Assessments.

1.12 Local Area Plan Monitoring

Monitoring of the Local Area Plan and its implications on the environment is paramount to ensure that the environment of the plan area is not adversely affected through the implementation of the plan.

While considerable environmental data is directly available to the County Council such as water quality, recycling rates etc, other sources of information will be accessed to provide a comprehensive view of the effect of the Plan. In this regard the Local Authorities will work with other agencies with environmental mandates to gather data for the purposes of monitoring the implementation of the Plan. Therefore, while monitoring specific elements of the environment is not strictly the preserve of the Council, the Council will continue to liaise and work with the Environmental Protection Agency, The National Parks and Wildlife Service etc., as well as others in the pursuit of environmental conservation and protection through existing environmental monitoring procedures.

It is proposed to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water or air pollution levels.

The indicators aim to simplify complex interrelationships and provide information about environmental issues which can be easily understood.

2.0 Introduction and Background

Pursuant to the provisions of Sections 18, 19 and 20 of the Planning and Development Acts 2000 to 2014 Kildare County Council has prepared a Local Area Plan (LAP) for Kilcock.

Pursuant to Article 13B of the Planning and Development (SEA) Regulations 2004 and 2013 and Articles 6(3) and (4) of the Habitats Directive, Kildare County Council have also carried out a Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA) as part of the Local Area Plan preparation process.

Consequently, this SEA Environmental Report has been prepared in tandem with the preparation of the Local Area Plan. In addition the Habitats Directive Assessment has been carried out in parallel with the preparation of the LAP and SEA and is presented as a separate document.

2.1 Introduction and Terms of Reference

The EU Directive on Strategic Environmental Assessment or SEA (Directive 2001/42/EC) came into force in July 2001. The SEA Directive was subsequently transposed into Irish law through **S.I. No. 435 of 2004** (*European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004*) and **S.I. No. 436 of 2004** (*Planning and Development (Strategic Environmental Assessment) Regulations 2004*) as amended by **S.I. No. 200 of 2011** (*European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011*) and **S.I. No. 201 of 2011** (*Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011*) respectively.

Under this legislation member States of the EU are obliged to assess the likely significant environmental effects of plans and programmes prior to their adoption thus providing for the assessment of strategic environmental considerations at an early stage of the decision making process.

Article 1 of the SEA Directive states:

“The objective of this 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, by ensuring that, in accordance with this directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.”

The Directive came into effect in an Irish context in July 2004. Since then SEA must be prepared for plans and programmes, including:

- Regional Planning Guidelines;
- City and County Development Plans;
- Development Plans made by Town Councils, where the population of the area is 10,000 or more; or
- Local Area Plans for towns with a population of 5,000 or more.

The Regulations state that SEA is mandatory for certain plans while screening for SEA is required for other plans that fall below the specified thresholds. Where plans or programmes fall below or outside of the specified thresholds, a screening report is required to be carried

out to determine whether the making and implementation of a particular plan will or will not, lead to significant environmental consequences for the plan area.

Kilcock is located in the Metropolitan area of the county and is designated as a 'Moderate Sustainable Growth Town' as set out in the core strategy of the Kildare County Development Plan (CDP) 2011-2017. The current population of Kilcock is 5533 and therefore SEA is mandatory.

The following document is an Environmental Report prepared as part of the Strategic Environmental Assessment (SEA) of the Kilcock Local Area Plan 2015-2021. The purpose of this Environmental Report is to identify, describe and evaluate the likely significant effects on the environment of implementing the Kilcock Local Area Plan 2015-2021 and should be read in conjunction with the Plan. The aim of the Environmental Report is to identify:

- Existing environmental issues in the Plan area;
- The likely significant effects on the environment resulting from implementation of the Local Area Plan;
- How the impact(s) on the environment can be prevented or reduced; and
- How to monitor environmental impacts over the lifetime of the Local Area Plan.

This Environmental Report forms an integral part of the SEA process which is carried out in parallel with the preparation of the Local Area Plan and of the Appropriate Assessment of the Plan. The SEA review process also comprises a Scoping Report, a Non-Technical Summary and an Environmental Statement. The Scoping Report was prepared in order to determine the baseline environmental parameter data and issues to be considered in the Environmental Report – this is discussed in more detail in Chapter 3.

The purpose of this Environmental Report is to document the process that has been followed in carrying out the SEA. The SEA process has guided the preparation of objectives and development scenarios for the Local Area Plan with an ultimate goal of achieving sustainable development in the area, and the avoidance of negative impacts on the environment. This Environmental Report provides an explanation of the process of conducting the SEA, identifies the key environmental effects, highlights mitigation and monitoring measures, and provides an opportunity for interested parties to comment on the environmental issues associated with the new Plan.

2.2 The Plan Area

The previous Local Area Plan (LAP) for Kilcock dated from 2009 and Kildare County Council proposed to prepare a new LAP for Kilcock. The proposed LAP boundary for the Kilcock Local Area Plan remains similar to the previous LAP.

The LAP will shape the future development of Kilcock and will identify zones where different land uses are considered to be appropriate.

Kilcock is located in the Metropolitan area of the county and is designated as a 'Moderate Sustainable Growth Town' as set out in the core strategy of the Kildare County Development Plan (CDP) 2011-2017. This reflects its designation in the Regional Planning Guidelines 2010-2022 and is consistent with the National Spatial Strategy. Moderate Sustainable Growth Towns are defined as having levels of economic activity beyond that which is required to service the local community.

Kilcock is also part of an economic cluster along with Maynooth, Leixlip and Celbridge. The core strategy of the CDP defines Kilcock's role within the economic cluster, as that of a supporting centre to Maynooth and Leixlip. The Kilcock Local Area Plan therefore will support the knowledge based economy that exists in Maynooth and Leixlip by focusing on manufacturing and office based industry, logistics, tourism, natural and built heritage.

The settlement hierarchy within the county development plan defines and shapes the target population distribution, preferred growth locations and consequent land use zonings which will be implemented through Local Area Plans. The county settlement strategy has set the target for Kilcock at 3% from its 2006 census population figure. The population target for Kilcock by 2017 is 5,956. It is the role of the Kilcock Local Area Plan to plan for this level of growth in a self-sufficient manner, reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The provision of strong social infrastructure in tandem with growth in population, particularly in relation to schools and leisure facilities is also required.

Kilcock is not located directly adjacent to any site designated as part of the Natura 2000 European network of designated site, however the Royal Canal proposed Natural Heritage Area (pNHA) runs through the LAP area.

2.3 Kilcock Local Area Plan 2015-2021

The Kilcock Local Area Plan 2015-2021 has been prepared by Kildare County Council under the provisions of the Planning and Development Acts 2000-2014.

The vision statement for Kilcock as set out in the Local Area Plan is:

Within the next 20 to 30 years Kilcock will be compact and beautiful town which showcases the distinct character of its built and natural heritage. It will be well connected to Dublin City centre and neighbouring towns by exemplary public transport and cycling routes and will support the knowledge based economy in Maynooth and Leixlip by focusing on smart, green innovation-based industries. It will be socially inclusive and have a vibrant community with its neighbourhoods connected by cycling and walking routes, interwoven with a quality bio-diverse greenspace network. In short Kilcock will become a place of choice.

This vision statement for the plan area is backed up by three key strategies which aim to provide a foundation for the Local Area Plan policies and objectives.

The three Key Strategies are:

- KS 1 *A high quality, green, well connected town with a compact urban form which provides a vibrant and vital mixed use environment.*
- KS 2 *A smart, green, well connected town which provides a vibrant and vital economy.*
- KS 3 *A town of well-connected sustainable neighbourhoods and socially inclusive communities.*

The Local Area Plan will be the guiding document for development within the Plan area over the next 6 years. Environmental aspects have been considered throughout the plan-making process and have been incorporated into the Plan with the aim of improving the environment of the plan area. The Environmental Report is the primary element in the SEA process and is published alongside the Kilcock Local Area Plan 2015-2021.

2.4 SEA Definition and Role

Strategic Environmental Assessment (SEA) is the formal, systematic evaluation of the likely significant effects of implementing a plan or programme. It is undertaken during the preparation period of the plan or programme, and before a decision is made to formally adopt it. The SEA process thereby assists in and improves the quality of the plan making process by:

- Facilitating the identification and appraisal of alternative plan strategies;
- Raising awareness of the environmental impacts of the plan's implementation; and
- Encouraging the inclusion of measurable targets and indicators to aid monitoring.

The objective of SEA 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 throughout the member states of the EU.

2.5 Legislative and Guidelines Context

In 2001 the European Community passed the Strategic Environmental Assessment (SEA) Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment. This piece of legislation established the necessity for SEA to be carried out on plans and programmes, including those of land use planning.

Article 1 of the SEA Directive states:

The objective of this 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, by ensuring that, in accordance with this Directive, an environmental assessment is carried out of certain plans and programmes which are likely to have significant effects on the environment.

The EU Directive on Strategic Environmental Assessment or SEA (Directive 2001/42/EC) came into force in July 2001. The SEA Directive was subsequently transposed into Irish law through **S.I. No. 435 of 2004** (*European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004*) and **S.I. No. 436 of 2004** (*Planning and Development (Strategic Environmental Assessment) Regulations 2004*) as amended by **S.I. No. 200 of 2011** (*European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011*) and **S.I. No. 201 of 2011** (*Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011*) respectively.

In terms of guidance relating to this legislation the EPA published "Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis report" in 2003. Further to this in 2004, the Department of the Environment, Heritage and Local Government published "Implementation of SEA Directive 92001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment –Guidelines

for Local Authorities and Planning Authorities” and the Environmental Protection Agency “EPA Pack” (updated in 2013) have guided this review process.

2.6 SEA Process

The process of carrying out the Strategic Environmental Assessment of the Kilcock Local Area Plan 2015-2021 is documented throughout this Environmental Report. The methodology employed is discussed in detail in Chapter 3. The structure of this Environmental Report (from hence referred to as the Report), which is the result of the Strategic Environmental Assessment, is in accordance with Article 1 of the Directive which provides a broad basis for the content of the environmental report. This report therefore identifies, describes and evaluates the likely significant effects on the environment of implementing the plan’s objectives and policies. This report also identifies the reasonable alternatives and in broad terms assesses the alternative ‘philosophies’ guiding the preparation of the Local Area Plan. Annex 1 of the EU Directive (Directive 2001/42/EC) details the information to be included in the report and in broad terms this Environmental Report provides the following:

- An outline of the content and main objectives of the Local Area Plan and the relationship between this and other relevant plans or programmes;
- The environmental characteristics of the area affected by the plan;
- Any existing environmental problems which are relevant to the plan including, in particular, those relating to any areas of particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC (Directive for the Conservation of Wild Birds) and 92/43/EEC (Conservation of Natural Habitats and of Wild Fauna and Flora);
- The environmental protection objectives, established at International, Community or Member State level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation;
- The likely significant effects on the environment, including issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage and landscape;
- The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan;
- An outline of the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information;
- A description of the measures envisaged concerning monitoring in accordance with Article 10;
- A non-technical summary of the information provided under the above headings.

2.7 Integration of the Local Area Plan, SEA and Habitats Directive Assessment

The legislation and guidelines governing the SEA process state that the processes of preparing the Local Area Plan, SEA and Appropriate Assessment (AA) should be integrated and prepared in an iterative manner. The Environmental Report outlines how the SEA process was carried out in tandem with the preparation of the Kilcock Local Area Plan 2015-2021 and its accompanying Appropriate Assessment Screening Report. The SEA process ensured that the Plan was informed by environmental considerations from the outset. The SEA Team were

fully involved in the preparation of policies and objectives and were in a position to make suggestions throughout the process of plan preparation to ensure that environmental considerations and environmental effects were considered in the formulation of strategic goals and development objectives. Figure 2 overleaf summarises the integrated nature of the LAP preparation and SEA process.

2.8 Implications of SEA for the Plan

This Environmental Report, which identifies the likely significant effects on the environment of implementing the Local Area Plan should be read in conjunction with the Local Area Plan and the Natura Impact Report. The results of the Environmental Report and Habitats Directive Assessment must be fully taken into account before the Local Area Plan is adopted.

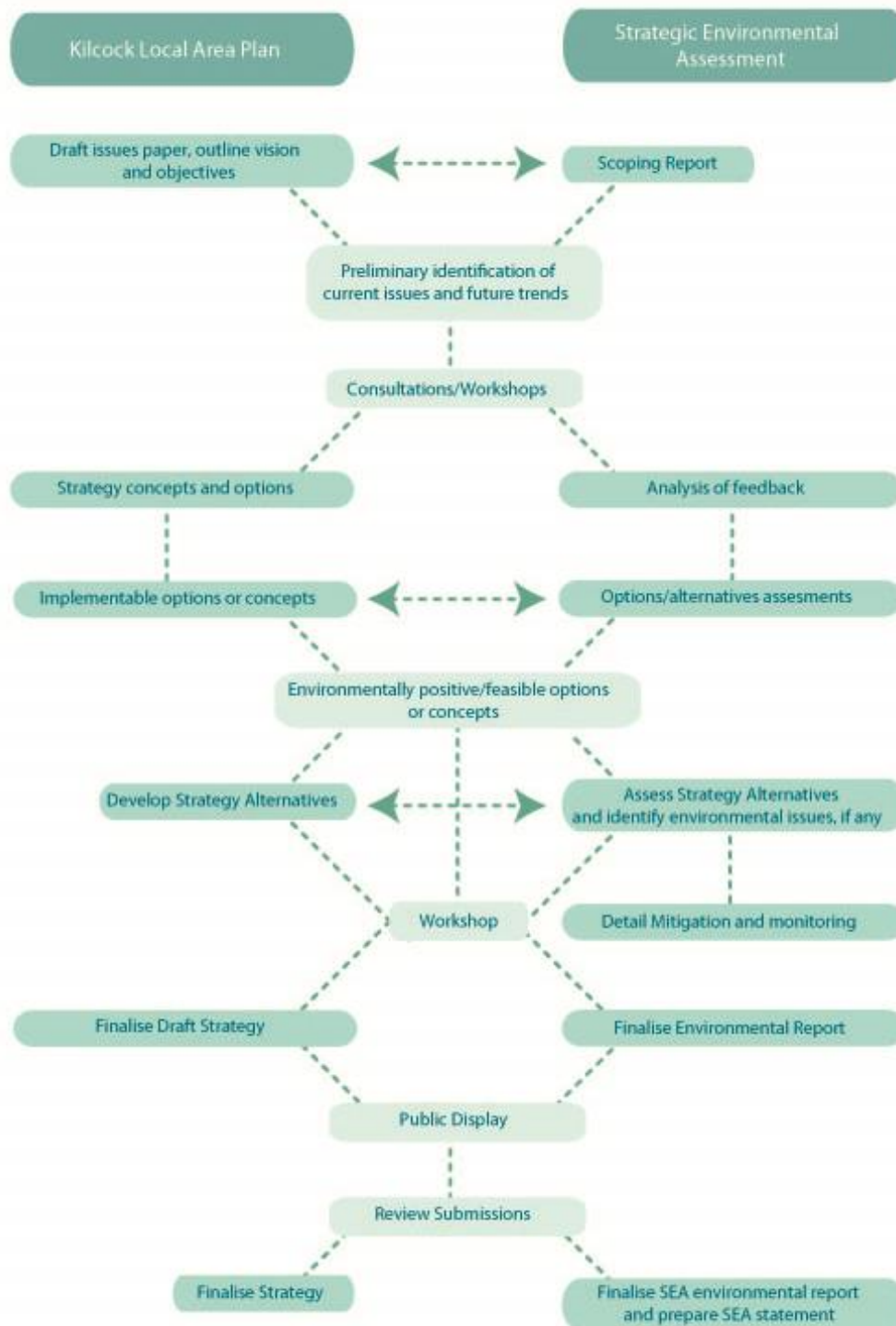


Figure 2: Integrated Local Area Plan and SEA Process

3.0 Methodology

3.1 Introduction

Two amending SEA Regulations were signed into Irish law on 3rd May 2011, amending the original SEA Regulations: European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011, (S.I. No. 200 of 2011), amending the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (S.I. No. 435 of 2004), and Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011, (S.I. No. 201 of 2011), amending the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (S.I. No. 436 of 2004).

The methodology used to carry out the Strategic Environmental Assessment (SEA) of the Kilcock Local Area Plan 2015-2021 reflects the requirements of the SEA Directive (2001/42/EC) and SEA Regulations (S.I. 435 & 436 of 2004 and as amended by S.I. 200 & 201 of 2011) and other SEA guidance documentation. The requirements of the recent European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), have also been taken into account in implementing the Plan. These Regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the CJEU judgements.

Guidance documentation utilised in the preparation of this SEA includes *“Implementation of SEA Directive (2001/42/EC): Assessment of the Effects of Certain Plans and Programmes on the Environment – Guidelines for Regional Authorities and Planning Authorities”* published by the Department of the Environment, Heritage and Local Government, *“Development of Strategic Environmental Assessment (SEA) Methodologies for Plans and Programmes in Ireland – Synthesis Report”*, published by the EPA in 2003 and the EPA SEA Pack 2013.

This section of the report outlines the key stages in the development of the assessment in accordance with the Directive and the aforementioned regulations.

Stage	Description
Screening	The screening process is the first stage of the Strategic Environmental Assessment. Screening assesses the need to undertake a Strategic Environmental Assessment. Under the Planning and Development Act 2000-2014 full Strategic Environmental Assessment is mandatory for the Kilcock Local Area Plan 2015-2021. Therefore no Screening was undertaken.
Scoping	The Scoping of the Kilcock Local Area Plan 2015-2021 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC). The principal purpose of the Scoping stage is to decide upon the range of issues and level of detail to be included in the Environmental Report. An overview of the relevant environmental issues requiring further analysis are given and consideration in the

	Environmental Report and ultimately in the Local Area Plan itself. By highlighting some of the significant issues at an early stage, it ensures that the issues are firmly to the forefront when considering each of the policies and objectives of the Plan and reduces the possibility of relevant issues not being addressed.
Consultation with the Environmental Authorities	Submissions were received: <ul style="list-style-type: none"> • Environmental Protection Agency • Department of Arts, Heritage and the Gaeltacht
Scoping Report	Submissions received from Environmental Authorities were reviewed and incorporated into the process where warranted.
Preparation of ER & Draft Local Area Plan	<ul style="list-style-type: none"> • A multi-disciplinary team was established to create policy consistent documents and to examine the effects on the environment of implementing the objectives and policies. • Objectives created in Local Area Plan assessed in ER and Development options examined. • Feedback from on-going Plan preparation process & ER preparation. • Mitigation measures discussed and chosen. • Monitoring incorporated into existing methods.
Monitoring the Local Area Plan	Monitoring significant environmental effects over the lifetime of the Kilcock Local Area Plan 2015-2021.

Table 5: Key Stages of SEA

3.2 Screening

Screening assesses the need to undertake a Strategic Environmental Assessment. Under the Planning and Development Act 2000-2014 full Strategic Environmental Assessment is mandatory for the Kilcock Local Area Plan 2015-2021. Therefore no Screening was undertaken.

3.3 Scoping

The Scoping of the Kilcock Local Area Plan 2015-2021 was carried out in accordance with Article 5 (4) of the SEA Directive (2001/42/EC).

The principal purpose of the Scoping stage is to decide upon the range of issues and level of detail to be included in the Environmental Report. An overview of the relevant environmental issues requiring further analysis are given and consideration in the Environmental Report and ultimately in the LAP itself. By highlighting some of the significant issues at an early stage, it ensures that the issues are firmly to the forefront when considering each of the policies and objectives of the Plan and reduces the possibility of relevant issues not being addressed.

The scoping aspect involved consultation with the statutory consultees, providing an opportunity to comment on the highlighted issues and the proposed methodology. Under the

Environmental Report Chapter 3: Methodology

Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011 the list of statutory consultees includes:

- The Environmental Protection Agency.
- The Minister for Environment, Community and Local Government.
- The Minister for Arts, Heritage and Gaeltacht Affairs.
- The Minister for Agriculture, Food and the Marine.
- The Minister for Communications, Energy and Natural Resources.
- Any adjoining planning authority whose area is contiguous to the area of a planning authority which prepared a plan, – in this case counties includes South Dublin, Fingal, Meath, Offaly, Laois, Carlow and Wicklow.

In compliance with the SEA (Amendment) Regulations 2011 Kildare County Council gave notice to the aforementioned Environmental Authorities of its intention to prepare a new LAP for the area. A Scoping Report was prepared in order to facilitate consultation with statutory consultees and consultees were requested to review the content of the report and to comment on aspects they believe may require particular emphasis in the Local Area Plan and associated SEA Environmental Report and Appropriate Assessment documentation.

3.4 Statutory Consultation

Submissions were received from the following statutory consultees:

- Environmental Protection Agency
- Department of Arts, Heritage and the Gaeltacht

Table 6 below outlines the issues raised and the response or how the issue was addressed within the preparation of the Environmental Report:

Consultee and Comments	Response
Environmental Protection Agency	
Acknowledges Scoping for Local Area Plan and draws attention to EPA Checklist, Guidance on SEA and SEA Scoping Pack as well as updated SEA Regulations / Circulars. The Agency also lists the Environmental Authorities to be notified.	Noted.
Department of Arts, Heritage and the Gaeltacht	
Acknowledges Scoping for Local Area Plan. <ul style="list-style-type: none"> • would recommend that it state as a key objective to protect the historic core of this town. The town of Kilcock developed around the site of the Early Christian monastery, Recorded Monument KD005-002----. After the coming of the Normans, a church mentioned in 1303 was on this site and given into the control of the Knight's Hospitallers, Recorded Monument KD005-002001-. At the west end of the 'Fair Green' to the south of Kilcock village, Rochfort (1999, 74) provides a 	Noted.

<p>photograph and brief details on what is regarded locally as being the Kilcock market cross, Recorded Monument KD005-030----. The photograph shows a small, rectangular, granite cross base with a broad mortice in its upper surface. Traditionally used as a coffin-resting stone. These Recorded Monuments are subject to statutory protection in the Record of Monuments and Places, established under section 12 of the National Monuments (Amendment) Act 1930-2004.</p>	<p>Agreed.</p>
<ul style="list-style-type: none"> • The conservation of the archaeology of Kilcock should be considered in the broader context of the European Convention on the Protection of the Archaeological Heritage (Valetta, 1992) ratified by Ireland in 1997. It relates to the protection of archaeological heritage and includes the setting and context of archaeological sites. 	<p>Noted.</p>
<ul style="list-style-type: none"> • The Framework and Principles for the Protection of the Archaeological Heritage (1999) published by the Department of Heritage, Gaeltacht and the Islands outlines guiding policies for the protection of the archaeological heritage of Ireland. The National Heritage Plan and The County Kildare Heritage Plan also provide a clear and coherent strategy and framework for the protection of archaeological heritage. 	<p>Noted.</p>

Table 6: Summary of Scoping Comments

3.5 Non- Statutory Public Consultation

Pre-Draft Non Statutory Public Consultation

The preparation of the Draft LAP included a number of opportunities for members of the public’s involvement and input by making written submissions on the LAP. Section 20 of the Planning Act states that:-

‘a Planning Authority shall take whatever steps it considers necessary to consult the Minister and the public before preparing’... “a local area plan, including consultations with any local residents, public sector agencies, non-governmental agencies, local community groups and commercial and business interests in the area’.

The preparation of this local area plan included pre-draft consultation with the local community groups, infrastructure providers, sectoral groups, statutory agencies and adjoining local authorities. The pre-draft public consultation extended over a four-week period with the launch of a background Issues Paper. The background Issues Paper identified the key planning issues that the Local Area Plan could address and was made available at Kilcock Community Library, Butler's Lane, Main St, Kilcock, and online at www.kildarecoco.ie. An advertisement was placed in the Liffey Champion on the 6th February 2013 inviting submissions until the 6th March 2013 to encourage as much public engagement as possible.

Environmental Report Chapter 3: Methodology

Submissions were received from residents, service providers, from local community and recreation groups, local representatives and from adjoining local authorities. A total of 11 submissions were received which were taken into account when formulating this local area plan.

These measures assisted in providing insights into the local issues and helped to shape the Draft LAP and Environmental Report for the area.

Draft Stage & Alterations to Draft LAP

The Draft LAP was published and placed on display for a minimum 6 weeks during which time submissions and observations were invited from the public and the interested parties. A report summarising the issues raised and the Manager's recommendation was presented to the Elected Members not later than 12 weeks after publication of the notice. The Elected Members considered the report and amended the Draft LAP. Material Alterations to the Draft LAP then went on public display for a further period of not less than 4 weeks. A report summarising the issues raised and the Chief Executive recommendations (formerly referred to as 'manager's recommendations') was presented to the Elected Members and agreed by resolution at the council meeting on 15th October 2015. The LAP came into effect four weeks from that date on the 12th November 2015.

The Strategic Environmental Assessment Environmental Report and Appropriate Assessment Natura Impact Report accompanied the draft LAP and amendments to the Draft LAP during the public display periods. Submissions with regards to the SEA were received from the EPA and the Geological Society of Ireland and are summarised below:

No.5: EPA Submission

Issue Raised in Submission	Response
In relation to the section on baseline environment, it would be useful to include relevant suitably scaled maps showing the current environmental baseline described in the Plan. In particular, water quality within the Plan area / adjacent to the plan area would be useful to highlight on a map along with associated water related biodiversity aspects.	The submission from the EPA has been noted and considered. It is proposed that baseline mapping will be included in the Environmental Report.
<i>Chapter 10 Local Area Plan Monitoring</i> includes information on the indicators, targets, sources and responsibilities in relation to environmental monitoring. A summary of the frequency of monitoring on the various environmental criteria should also be added where possible.	The submission from the EPA has been noted and considered. The appropriate frequency of monitoring will be considered by Kildare County Council and reference made in the Environmental Report.
The EPA submission notes where amendments to the Plan are proposed, these should be screened for likely significant effects in accordance with the criteria as set out in Schedule 2A of the SEA Regulations and should be subject to the same	Noted

Issue Raised in Submission	Response
method of assessment applied in the “environmental assessment” of the Draft Plan.	
The EPA submission notes the requirements for SEA following adoption of the Plan and that a copy of the SEA Statement with the above information should be sent to any environmental authority consulted during the SEA process.	Noted

No.13: Geological Survey of Ireland

Issue Raised in Submission	Response
The Geological Survey of Ireland agrees that future development of Kilcock will be guided by the policies and objectives of the Kildare Development Plan and would like to reiterated previous scoping comments in relation to Soils & Geology and Surface Water & Groundwater	Noted

3.6 Environmental Baseline Data

The baseline data, assists in assessing the current state of the environment, facilitating the identification, evaluation and subsequent monitoring of the effects of the plan. Thus, this information creates a platform whereby existing problems relevant to the Plan area can be quantified (where possible) or qualified thereby ensuring that the implementation of the Plan does not exacerbate these problems.

Baseline data has been collected based on the various broad environmental topics described in the SEA Directive i.e. biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage including architectural and archaeological heritage and landscape. The Directive requires that information be focused upon relevant aspects of the environmental characteristics of the area likely to be significantly affected by the plan and the likely change, both positive and negative terms where applicable. The baseline data was collated from currently available, relevant data sources the SEA Directive does not require major new research to be carried out. Where deficiencies or gaps in the information available are identified this is noted.

3.7 Environmental Report

The type of information to be provided in the Environmental Report is set out in Annex I of the SEA Directive - reproduced in Schedule 2B of the Planning and Development Regulations 2001 (as inserted by article 12 of the Planning and Development (Strategic Environmental Assessment) Regulations 2004). This report contains the sections as outlined in Table 7.

Section	Description
Non-Technical Summary	A brief summary of the Environmental Report, its main points and conclusions.
Introduction	Provides a description of the type of plan involved and a summary of its key aims and objectives. The purpose of the SEA process, SEA

Environmental Report Chapter 3: Methodology

	requirements, its benefits and how the LAP and Environmental Reports have progressed are outlined
SEA Methodology	Highlights the steps taken in preparation of the SEA, the methods used and technical difficulties encountered.
Relationship of the Plan with Other Relevant Plans and Programmes	The relationship of the LAP to other relevant plans and programmes is highlighted.
Baseline	A description of the current environment of the plan area is provided, highlighting any existing environmental problems in the Plan area and outlining evolution of the environment in the absence of the new Plan. This exercise results in a comprehensive baseline against which the likely effects of implementing the new LAP can be examined.
Strategic Environmental Objectives	A number of environmental protection objectives which have been established at international, EU or national Level and are relevant to the plan are listed. Following this a description of how the objectives and any environmental considerations have been taken into account in the preparation of the Plan.
Alternatives	An assessment of proposed development alternatives in the Plan area are considered at this stage. Scenarios are tested against the environmental objectives and the most appropriate strategy is selected.
Assessment	The proposed LAP policies and objectives are examined in terms of their potential effects on the various Environmental parameters.
Mitigation Measures	Where potentially significant adverse effects are discovered, measures to prevent, reduce or offset these effects are proposed and integrated into the LAP.
Monitoring	Proposals for monitoring the significant effects of the LAP on the environment are put forward. A number of indicators of change and achievable targets are proposed and monitoring arrangements detailed.

Table 7: SEA Report Structure

3.8 Consideration of Alternatives

The SEA Directive (Article 5) recommends that alternative development scenarios for the plan are included for assessment. Alternatives need to be '*realistic and capable of implementation*' and should represent a range of different approaches within the statutory and operational requirements of the particular plan.

The consideration of alternatives was restricted by the statutory requirement to comply with the Core Strategy of the Kildare County Development Plan 2011-2017. On this basis, three alternative approaches were considered for the future development of Kilcock's and assessed against the SEOs established in the SEA. Following consideration and assessment of the three alternatives put forward it was concluded that Alternative C was the most appropriate and environmentally protective to the future development of Kilcock. This approach has formed the basis for the zoning, policies and objectives contained with the Draft Local Area Plan.

3.9 Environmental Assessment of the Local Area Plan

The assessment described within this Environmental Report aims to highlight the potential conflicts, if they are present, between the stated policies and objectives contained in the Draft Plan with the Strategic Environmental Objectives. Furthermore the assessment examines the potential impact arising from the Plan's implementation of its policies and objectives on sensitive environmental receptors.

Key to assessing the policies and objectives of the Plan is setting a specific set of environmental objectives for each of the environmental topics. The objectives are provided in Chapter 6 and include all aspects of the environment such as Human Beings, Flora and Fauna, Soil, Water, Air and Climate Change, Noise, Material Assets, Cultural Heritage including Architectural and Archaeological Heritage and Landscape.

It is worth reiterating that the process of SEA and Local Area Plan formulation is an iterative process and as such environmental considerations have informed all stages of plan preparation in order for potential for significant adverse effects arising from plan implementation to be minimised. Nonetheless, it is possible that some individual plan objectives will potentially lead to adverse effects of varying severity. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts; where this is not possible for stated reasons, to lessening or offsetting those effects.

In accordance with SEA guidelines the assessment identifies 'impact' under the quality of impact using the following terms:

Potential Positive impact:	A change which improves the quality of the environment.
Potential Neutral impact:	A change which does not affect the quality of the environment.
Potential Negative impact:	A change which reduces or lessens the quality of the environment.
Uncertain impact:	The nature of any impact cannot be ascertained at this stage.

The initial stage aims to ascertain the quality, if any, of the potential impact. Each of the Plan's policies and objectives have been screened for their impact and where a neutral impact is noted no further discussion is provided within this report. This format allows for the ER to focus on the negative and positive impacts and proceed to a discussion on their significance and duration. Thus it is a more robust, more focused approach to understanding the potential impact associated with the Plan's implementation.

Finally where it has been determined that a policies/objectives may potentially result in a negative impact on an environmental receptor appropriate level mitigation measures are proposed.

Preparation of the Draft Local Area Plan followed an iterative process, involving the environmental and forward-planning team of Kildare County Council, the public, Kildare County Council councillors, statutory consultees and the SEA and AA team.

3.10 Mitigation

Section (g) of Schedule 2B of the SEA Regulations require information on the mitigation measures that will be put in place to minimise/eliminate any significant adverse impacts due to the implementation of the Local Area Plan. Chapter 9 of this document highlights the mitigation measures that will be put in place to counter identified significant adverse impacts due to the implementation of the Plan. As stated previously the formulation of the Draft Plan and the development of the SEA is an iterative process and therefore many of the potential negative aspects of the Plan have been removed. Thus the objectives and policies contained within the Draft Plan are considered robust and environmentally sustainable. However some unavoidable residual issues may remain and therefore mitigation measures are required. Chapter 9 details the mitigation measures necessary to prevent, reduce and, as fully as possible, offset any significant adverse impacts on the environment of implementing the Plan.

3.11 Monitoring

Article 10 of the SEA Directive sets out the requirement that monitoring is to be carried out of the significant environmental effects of the implementation of the Kilcock Local Area Plan 2015-2021 in order to identify at an early stage any unforeseen adverse effects and to be able to undertake appropriate remedial action.

This section outlines the monitoring requirements for Kilcock Local Area Plan 2015-2021. Methods of monitoring and indicators of change in the environment have been proposed with set targets to be reviewed over the duration of the LAP.

3.12 Technical Difficulties Encountered

A sizeable volume of information was available given the data collected in the previous review of the County Development Plan. Recent National and County level studies on various aspects of the environment (water, cultural heritage etc) also resulted in a significant amount of data becoming available. However gaps do remain in information available, for instance in relation to complete ecological coverage.

3.13 Report Preparation

This report has been prepared by Brady Shipman Martin, Planning and Environmental Consultants on behalf of Kildare County Council.

4.0 Review of Relevant Policies Plans and Programmes

4.1 Introduction

The Kilcock Local Area Plan 2015-2021 is framed within a hierarchy of spatial plans which range from the international down to site specific level. These plans are formed by International, National and Regional level policy guidelines. This hierarchy of plans, programmes, policies, strategies, etc. sets the legislative and policy framework by which the Local Area Plan must be formulated. The National, Regional and County strategies and policies play a central role in establishing higher level agendas and the county level plan objectives. The Kilcock Local Area Plan 2015-2021 is required to conform to and translate the objectives of these higher levels plans, in particular the Kildare County Development Plan 2011-2017, to a town level basis.

The SEA Directive requires that the SEA process should include a review and discussion of other plans or programmes, which are associated to and concern the assessment of the Local Area Plan. This could include plans or programmes in the same geographical area or in the same sector at different levels. Paragraph (e) of Schedule 2B of the Planning and Development (SEA) Regulations 2004 states that the SEA Report must contain: ‘the environmental protection objectives, established at International, European Union or National level, which are relevant to the plan, and the way those objectives and any environmental considerations have been taken into account during its preparation’.

This chapter summarises the International, National, Regional and local legislation and policy documents, strategies and guidelines that are relevant to this SEA process and the East Kilcock Local Area Plan 2015-2021. The purpose of this review is to take into consideration the contextual legislative and policy framework to which the Local Area Plan must comply. The key issue relevant to this section of the SEA is to ascertain whether the plan has taken due consideration of the objectives set out in the legislative and policy framework.

4.2 Planning and Development

4.2.1 National Development Plan (NDP) Transforming Ireland: A Better Quality of Life for All 2007-2013

The NDP 2007-2013 provides for an indicative investment of €184 billion in the broad areas of infrastructure, enterprise, human capital and social inclusion, as well as health services, social housing, education, roads, public transport, rural development, industry, and water and waste services. The vast bulk of this investment (some €143 billion) is being provided by the central exchequer. The objective of this ambitious investment plan is to deliver a better quality of life for all within a strong and vibrant economy that maintains International competitiveness and promotes regional development, social justice and environmental sustainability. The investment priorities are carefully aligned with the specific objectives of the National Spatial Strategy in achieving balanced regional development.

4.2.2 National Spatial Strategy 2002-2020

The National Spatial Strategy (NSS) is a coherent national planning framework for Ireland for the next 20 years. The NSS aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning. The NSS aims to achieve balanced development throughout the country by setting out a range of measures to be implemented at the national, regional, county and local level.

Its focus is on people, on places and on building communities. The NSS is intended to provide an upper-tier of strategic guidance that feeds into general government policy-making and also into the regional and local development planning framework. In order to further these aims, the NSS sets down a series of policies in relation to: employment, housing, rural development, access to services, and quality of life/environmental quality. The strategy identifies a limited number of Regional Gateways and Hubs. Kildare is located within the Dublin and Mid East Region as designated by the NSS.

It is noted that in Feb 2013 the Department announced the Governments intention to abandon the National Spatial Strategy and replace it with a revised strategy.

4.2.3 Regional Planning Guidelines for the Greater Dublin Area (2010-2022)

The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 give effect, at a Regional level, to the national planning framework put forward in the National Spatial Strategy (NSS) and National Development Plan (NDP). They provide a Regional framework for the formulation of policies and strategy in the County Development Plan and seek to ensure the proper balance between the different settlements in the region with regard to development, population and services. The Guidelines present an updated Regional settlement strategy. They also set out 'Population Targets' for the region and for each County, including County Kildare, which have been formulated having regard to the January 2009 'population targets' issued by the Department of Environment, Heritage and Local Government (DoEHLG) and supplementary guidance of August and October 2009.

Furthermore, the Guidelines outline a range of criteria for Development Plans in the context of population and settlement and identify strategic infrastructure investments for the region, this criteria then feeds from the County Plan through to the preparation of Local Area Plans. This Regional guidance has influenced the development of the settlement strategy for County Kildare and in turn the Kilcock plan area.

4.2.4 Draft Transport Strategy for the Greater Dublin Area - National Transport Authority, (2015-2035)

The draft strategy document constitutes a strategic transport plan for the GDA for the next 20 years. A number of fundamental tenets underlie the draft strategy objectives. These include the adoption of a hierarchy of transport users with pedestrians, cyclists and public transport users at the top of the hierarchy and consequently these users should have their safety and convenience needs considered first. A second key principle is the requirement that land use planning and transport planning need to be considered together in the overall development of the GDA region.

The land use measures set out in the strategy seek to:

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- Focus person-trip intensive development, particularly key destinations such as retail and offices, into Dublin City and Designated Town centres within the GDA including Kildare.
- Focus any person-trip intensive development outside Dublin City and Designated Town centres to locations served by stations on the existing and proposed rail network (particularly Metro and DART).

4.2.5 Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas (Cities, Towns & Villages) (2009)

The aim of these guidelines is to set out the key planning principles which should be reflected in development plans and local area plans, and which should guide the preparation and assessment of planning applications for residential development in urban areas. The guidelines highlight the importance of energy efficiency in building and development and sets out a series of high level aims for successful and sustainable residential development in urban areas. They include:

- Prioritise walking, cycling and public transport, and minimise the need to use cars;
- Deliver a quality of life which residents and visitors are entitled to expect, in terms of amenity, safety and convenience;
- Provide a good range of community and support facilities, where and when they are needed and that are easily accessible;
- Present an attractive, well-maintained appearance, with a distinct sense of place and a quality public realm that is easily maintained;
- Are easy to access for all and to find one's way around;
- Promote the efficient use of land and of energy, and minimise greenhouse gas emissions;
- Provide a mix of land uses to minimise transport demand;
- Promote social integration and provide accommodation for a diverse range of household types and age groups;
- Enhance and protect the green infrastructure and biodiversity; and
- Enhance and protect the built and natural heritage.

In relation to Development Plans the guidelines highlight that plans should include policies and objectives which underpin the creation of sustainable residential development.

4.2.6 Sustainable Rural Housing – Guidelines for Planning Authorities 2005

The Rural Housing Guidelines seek to ensure that sustainable housing development patterns are supported in rural areas and that the policies and practices of planning authorities should seek to:

- (1) Ensure that the needs of rural communities are identified in the development plan process and that policies are put in place to ensure that the type and scale of residential and other development in rural areas, at appropriate locations, necessary to sustain rural communities is accommodated.
- (2) Manage pressure for overspill development from urban areas in the rural areas closest to the main cities and towns such as the gateways, hubs, and other large towns.

- (3) Take account of other related dimensions in relation to rural settlement such as environmental and heritage protection and the need to maintain the integrity of economic resources

The Guidelines suggest that settlement strategies should start by putting forward a development vision for rural areas that:

- Aims to support the sustainable development of these areas in economic, social and environmental terms in a way that supports the rural economy and rural communities,
- Ensures that development of rural areas takes place in a way that is compatible with the protection of key economic, environmental and natural and cultural heritage assets such as the road network, water quality, important landscapes, key identified areas with wind energy potential, habitats and built heritage, and
- Promotes the development and consolidation of key settlements in rural areas.

4.2.7 Delivering Homes, Sustaining Communities, (2007)

This 2007 policy statement provides for an integrated approach to housing and planning in Ireland. The policy recognises that continued strong demand for housing presents major challenges in respect of the planning of new housing and associated services. Sustainable neighbourhoods involve the efficient use of land and quality urban design, effectively integrated with the supply of appropriate physical and social infrastructure by providing a quality environment; sustainable neighbourhoods also contribute to the provision of attractive locations to support the NSS objective for a more coherent form of future regional development.

4.2.8 Quality Housing for Sustainable Communities, (2007)

Design guidelines intended to assist in the implementation of the policies set out in *Delivering Homes Sustaining Communities* (above). The aim of these Guidelines is to identify principles and criteria that are important in the design of housing and to highlight specific design features, requirements and standards that have been found to be particularly relevant.

4.2.9 Sustainable Urban Housing: Design Standards for New Apartments. Guidelines for Planning Authorities (2007)

The primary aim of these guidelines is to promote sustainable urban housing, by ensuring that the design and layout of new apartments will provide satisfactory accommodation for a variety of household types and sizes – including families with children - over the medium to long term.

These guidelines provide recommended minimum standards for:

- floor areas for different types of apartments,
- storage spaces,
- sizes for apartment balconies / patios, and
- room dimensions for certain rooms

4.2.10 Smarter Travel, A Sustainable Transport Future, A New Transport Policy for Ireland 2009-2020

This document represents the transport policy for Ireland for the period 2009-2020

Key goals of this policy are:

- (i) To reduce overall travel demand,
- (ii) To maximise the efficiency of the transport network,
- (iii) To reduce reliance on fossil fuels,
- (iv) To reduce transport emissions, and
- (v) To improve accessibility to transport.

The policy sets out 49 Key Actions for achieving sustainable transport. They can be grouped into the following four themes:

- Actions to reduce distance travelled by private car and encourage smarter travel.
- Actions aimed at ensuring that alternatives to the car are more widely available.
- Actions aimed at strengthening institutional arrangements to deliver the targets.
- Actions aimed at improving the fuel efficiency of motorised transport.

4.3 Environmental Plans and Policies

4.3.1 Water Framework Directive (2000/60/EC) as amended

The Water Framework Directive (WFD) (2000/60/EC) seeks to improve or maintain the ecological and physico-chemical quality of all waterbodies – rivers, lochs, groundwater, transitional waters (estuaries) and coastal waters. When fully operational, the WFD will achieve the level of protection afforded by a number of existing directives, including the Shellfish Waters Directive (and Freshwater Fish Directive), which is scheduled to be repealed in 2013. These objectives will be achieved through the operation of River Basin Management Plans (RBMPs), which incorporate the improvement actions specified within the Shellfish Water PRPs. Its ultimate objective is to achieve “good ecological and chemical status” for all Community waters by 2015.

4.3.2 Floods Directive (2007/60/EC)

Directive 2007/60/EC on the assessment and management of flood risks entered into force on 26 November 2007. The Directive aims to establish a common framework for assessing and reducing the risk that floods within the European Union pose to human health, the environment, property and economic activity. This Directive requires Member States to assess if all water courses and coast lines are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. This includes the preparation and implementation of flood risk management plans for each river basin district. This Directive also reinforces the rights of the public to access this information and to have a say in the planning process.

4.3.3 EC Freshwater Fish Directive, (78/659/EEC) 1978

The aim of the EU Freshwater Fish Directive (78/659/EEC) is to protect fish life from pollution discharge into waters and lays out water sampling and monitoring procedures and definitions. The Directive was ratified by Ireland by S.I. No. 293 of 1988, and aims to protect those fresh waterbodies identified by Member States as waters suitable for sustaining fish populations. The Directive is due to be repealed in 2013 by the EU Water Framework Directive.

4.3.4 The Groundwater Directive, (2006/118/EC) 2006

This directive establishes a regime which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater. The directive establishes quality criteria that takes account local characteristics and allows for further improvements to be made based on monitoring data and new scientific knowledge. The directive thus represents a proportionate and scientifically sound response to the requirements of the Water Framework Directive (WFD) as it relates to assessments on chemical status of groundwater and the identification and reversal of significant and sustained upward trends in pollutant concentrations. Member States will have to establish the standards at the most appropriate level and take into account local or regional conditions.

The groundwater directive complements the Water Framework Directive. It requires:

- groundwater quality standards to be established by the end of 2008;
- pollution trend studies to be carried out by using existing data and data which is mandatory by the Water Framework Directive (referred to as "baseline level" data obtained in 2007-2008);
- pollution trends to be reversed so that environmental objectives are achieved by 2015 by using the measures set out in the WFD;
- measures to prevent or limit inputs of pollutants into groundwater to be operational so that WFD environmental objectives can be achieved by 2015;
- reviews of technical provisions of the directive to be carried out in 2013 and every six years thereafter;
- compliance with good chemical status criteria (based on EU standards of nitrates and pesticides and on threshold values established by Member States).

A public consultation on the review of Annexes I and II of the Groundwater Directive was carried out in 2013 with the aim of collecting opinions on different policy options for the review of the Annexes, and to identify missing options and gather data on impacts.

4.3.5 EC Bathing Water Quality Directive, (2006/7/EC) 2006

This Directive strengthens the rules guaranteeing bathing water quality. It supplements Directive 2000/60/EC on water protection and management.

Each year, the Member States are required to identify the bathing waters in their territory and define the length of the bathing season.

They shall establish monitoring at the location most used by bathers or where the risk of pollution is greatest. Monitoring shall take place by means of sampling:

- four samples, including one before the start of the bathing season.
- three samples only if the season does not exceed eight weeks or if the region is subject to special geographical constraints.

Member States shall communicate the results of their monitoring to the European Commission with a description of the water quality management measures. Monitoring may be suspended exceptionally once the Commission has been informed.

4.3.6 Shellfish Directive, (2006/113/EC), 2006

The Directive concerns the quality of shellfish waters, i.e. the waters suitable for the development of shellfish (bivalve and gastropod molluscs).

It applies to those coastal and brackish waters which need protection or improvement in order to allow shellfish to develop and to contribute to the high quality of shellfish products intended for human consumption.

The Directive establishes parameters applicable to designated shellfish waters, indicative values, mandatory values, reference methods of analysis and the minimum frequency for taking samples and measures.

The parameters applicable to shellfish waters are set for pH, temperature, coloration, suspended solids, salinity, dissolved oxygen and the presence or concentration of certain substances (hydrocarbons, metals, organohalogenated substances).

Responsibility for the Shellfish Waters Directive in Ireland transferred from the Department of Agriculture, Fisheries and Food to the Department of the Environment, Community and Local Government on 5 November 2008.

4.3.7 EU Directive on the Conservation of Wild Birds, (2009/147/EC) 1979

This Directive ensures far-reaching protection for all of Europe's wild birds, identifying 194 species and sub-species among them as particularly threatened and in need of special conservation measures. There are a number of components to this scheme:

Member States are required to designate Special Protection Areas (SPAs) for 194 particularly threatened species and all migratory bird species. SPAs are scientifically identified areas critical for the survival of the targeted species, such as wetlands. They are part of the Natura 2000 ecological network set up under the Habitats Directive 92/43/EEC.

A second component bans activities that directly threaten birds, such as the deliberate killing or capture of birds, the destruction of their nests and taking of their eggs, and associated activities such as trading in live or dead birds (with a few exceptions).

A third component establishes rules that limit the number of bird species that can be hunted and the periods during which they can be hunted. It also defines hunting methods which are permitted (e.g. non-selective hunting is banned).

4.3.8 EU Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, (92/43/EEC), 1992

In conjunction with the Birds Directive, the Habitats Directive forms the backbone of EU nature protection legislation.

Known as the Habitats Directive (92/43/EEC) this legislation was transposed into Irish law by the European Communities (Natural Habitats) Regulations, 1997 (S.I. No. 94 of 1997). The main goal of the Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain, protect or restore natural habitats, animal and plant species to a favourable conservation status, introducing robust protection for those habitats and species of European importance. For Ireland, these habitats include raised bogs, active

blanket bogs, turloughs, sand dunes, machair (flat sandy plains on the north and west coasts), heaths, lakes, rivers, woodlands, estuaries and sea inlets. The Directive provides for a network of protected sites known as The Natura 2000 network, which limits the extent and nature of development which may have a detrimental effect on the flora or fauna identified therein. Special Areas of Conservation (SACs) are part of the Natura 2000 Network and as such Ireland is required to propose relevant areas for designation as SACs to ensure the natural habitats and species habitats are maintained and restored if necessary to a favourable conservation status. Animals and plant species that are in need of strict protection are listed in Annexes to the Directive. The Habitats Directive is considered the most important EU initiative to support National and International biodiversity.

4.3.9 European Communities (Birds and Natural Habitats) Regulations 2011

These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats)(Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in the CJEU judgements.

Articles 6(1) and (2) of the Regulations require Member States to take appropriate conservation measures to maintain and restore habitats and species, for which a site has been designated, to a favourable conservation status. Furthermore the Regulations require Member States to avoid damaging activities that could significantly disturb these species or deteriorate the habitats of the protected species or habitat types. Under these regulations any plan or project likely to have a significant effect on a Natura 2000 site, either individually or in combination with other plans or projects, shall undergo an Appropriate Assessment to determine its implications for the site.

The competent authorities can only agree to the plan or project after having ascertained that it will not adversely affect the integrity of the site concerned. In exceptional circumstances, a plan or project may still be allowed to go ahead, in spite of a negative assessment, provided there are no alternative solutions and the plan or project is considered to be of overriding public interest. In such cases the Member State must take appropriate compensatory measures to ensure that the overall coherence of the Natura 2000 Network is protected. Article 12 of the Regulations is also important as it affords protection to specific species regardless of their location.

4.3.10 SEA Directive - Assessment of the effects of certain plans and programmes on the Environment, (2001/42/EC) 2001

This Directive requires plan-makers to carry out an assessment of the likely significant environmental effects of implementing a plan or programme before the plan or programme is adopted. There are two statutory instruments which transposed the SEA Directive into Irish Law:

The SEA Directive (2001/42/EEC) came into force in 2004 and was subsequently transposed into Irish law through **S.I. No. 435 of 2004** *European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004* and **S.I. No. 436 of 2004** *Planning and Development (Strategic Environmental Assessment) Regulations 2004* as amended by **S.I. No. 200 of 2011** *European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011* and **S.I. No. 201 of 2011** *Planning and Development (Strategic Environmental Assessment) (Amendment) Regulations 2011* respectively.

4.3.11 Environmental Impact Assessment Directive (85/337/EEC) (97/11/EC), 1985

The EIA Directive (85/337/EEC) came into force in 1985 and applies to a wide range of defined public and private projects, which are defined in Annexes I and II of the Directive. The Directive has been amended three times, in 1997, 2003 and 2009. Under the Directive Member States are required to carry out Environmental Impact Assessments (EIA) of certain public and private projects, before they are authorised, where it is believed that the projects are likely to have a significant impact on the environment.

The initial Directive of 1985 and its three amendments have been codified by Directive 2011/92/EU of 13 December 2011.

4.3.12 European Landscape Convention 2000

The 2000 European Landscape Convention, adopted in Florence (and was ratified by Ireland in 2002), requires a commitment to introduce policies on landscape protection and management. It promotes the protection, management and planning of EU landscapes as a response to European-wide concerns that the quality and diversity of landscapes were deteriorating. The underlying purpose of the Convention is to encourage public authorities to adopt policies and measures at local, Regional, National and International level to protect and manage landscapes throughout Europe.

4.3.13 Eastern River Basin District River Basin Management Plan (2009 – 2015)

The Eastern River Basin District (ERBD) covers the Kilcock area of county Kildare and is one of eight river districts within the island of Ireland formed to aid the implementation of the requirements of the EU Water Framework Directive 2000/60/EC. The Directive requires the preparation of management plans for each district.

The ERBD River Basin Management Plan (RBMP) sets out the objectives for the water bodies within the plan area and outlines actions necessary to achieve these objectives. In compliance with the WFD these are to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwaters which:

- a) Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;
- b) Promotes sustainable water use based on a long-term protection of available water resources;
- c) Aims at enhanced protection and improvement of the aquatic environment, including through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;
- d) Ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and
- e) Contributes to mitigating the effects of floods and droughts.

4.3.14 The Planning System and Flood Risk Management Guidelines (and Technical Appendices) for Planning Authorities (DoEHLG, OPW), 2009

These guidelines require the planning system at national, regional and local levels to:

- Avoid development in areas at risk of flooding, particularly floodplains, unless there are proven wider sustainability grounds that justify appropriate development and where the flood risk can be reduced or managed to an acceptable level without increasing flood risk elsewhere;
- Adopt a sequential approach to flood risk management when assessing the location for new development based on avoidance, reduction and mitigation of flood risk; and
- Incorporate flood risk assessment into the process of making decisions on planning applications and planning appeals

In relation to planning the guidelines require planning authorities to:

- introduce flood risk assessment as an integral and leading element of their forward planning functions at the earliest practicable opportunity.
- Align strategic flood risk assessment (SFRA) with the SEA process.
- Establish flood risk assessment requirements as part of the preparation of statutory land use plans.
- Assess planning applications against the guidance set out in the Guidelines.
- Ensure development is not permitted in areas of flood risk except where there are no suitable alternative sites.

4.3.15 National Renewable Energy Action Plan, (NREAP) 2010

Submitted under Article 4 of Directive 2009/28/EC this plan sets out Ireland's renewable energy targets to be achieved by 2020. Ireland's overall target is to achieve 16% of energy from renewable sources by 2020. Member states are to achieve their individual target across the heat, transport and electricity sectors and apart from a sub-target of a minimum of 10% in the transport sector that applies to all Member States, there is flexibility for each country to choose how to achieve their individual target across the sectors.

4.3.16 SEA Guidelines 2004 and 2011 Local Area Plan Guidelines for Planning Authorities 2013

Planning Authorities are now required to assess the consistency of existing LAPs with the core strategies of Development Plans and to review them where necessary, with a view to aligning local planning with strategic city and county development objectives. The aims of these Guidelines is to:

- Highlight best practice and improve the quality of LAPs.
- Improve community and institutional participation in the process of preparing / amending LAPs, and
- Enhance the co-ordination and provision of essential public infrastructure within the planning process.

The Kilcock LAP has been prepared having regard to the Core Strategy as outlined in Kildare Development Plan 2011-2017.

4.3.17 Appropriate Assessment of Plans and Projects in Ireland. Guidelines for Planning Authorities (2009)

Formulated to assist with compliance with Article 6 of the Habitats Directive Article 6(3) states that:

Any plan or project not directly connected with or necessary to the management of a Natura 2000 site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

Appropriate Assessment is a focused and detailed impact assessment of the implications of the plan or project, alone and in combination with other plans and projects, on the integrity of a Natura 2000 site in view of its conservation objectives.

4.3.18 Actions for Biodiversity 2011-2016 – Irelands National Biodiversity Plan

In 2002, Ireland published its first National Biodiversity Plan which contained 91 actions. The implementation of that Plan was reviewed as part of the process of developing this document. Actions for Biodiversity 2011-2016 builds upon the achievements since 2002. It focuses on actions that were not fully completed and addresses emerging issues. The main biodiversity actions identified are as follows: Taking responsibility; Strengthening knowledge and raising awareness; Protecting and restoring biodiversity in Ireland; Protecting and restoring biodiversity internationally. Amongst the most important means of providing for the conservation and sustainable use of biodiversity in the wider countryside is the planning system. A number of recent developments in planning legislation, in particular the Planning and Development (Amendment) Act, 2010, provide significantly improved measures for the conservation of biodiversity. The Planning and Development Act 2000-2011 provides that: -

'Development Plans must have mandatory objectives for the conservation of European and nationally important sites and for the conservation of biodiversity in general. The new Amendment Act 2010 has introduced for the first time, the requirement to carry out Appropriate Assessment for individual development proposals.'

4.3.19 Wildlife (Amendment) Act 2000

The Wildlife Act is Ireland's primary national legislation for the protection of wildlife. It covers a broad range of issues, from the designation of nature reserves, the protection of species, regulation of hunting and controls in wildlife trading. It is implemented by a series of regulations. The Act provides strict protection for nearly all birds, 22 other animal species, and 86 plant species. These species are protected from injury, or from disturbance / damage to their breeding or resting place wherever these occur. The 2000 Act was amended in 2010.

The main objectives of the Wildlife (Amendment) Act, 2000 are to:

- provide a mechanism to give statutory protection to NHAs;
- provide for statutory protection for important geological and geomorphological sites, including fossil sites by designation as NHAs;
- improve some existing measures, and introduce new ones, to enhance the conservation of wildlife species and their habitats;
- enhance a number of existing controls in respect of hunting, which are designed to serve the interests of wildlife conservation;

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- broaden the scope of the Wildlife Acts to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act;
- introduce new provisions to enable regulation of the business of commercial shoot operators;
- ensure or strengthen compliance with international agreements and, in particular, enable Ireland to ratify the Convention on International Trade in Endangered Species (CITES) and the African-Eurasian Migratory Waterbirds Agreement (AEWA).
- increase substantially the level of fines for contravention of the Wildlife Acts and to allow for the imposition of prison sentences;
- provide mechanisms to allow the Minister to act independently of forestry legislation, for example, in relation to the acquisition of land by agreement;
- strengthen the provisions relating to the cutting of hedgerows during the critical bird-nesting period and include a requirement that hedgerows may only be cut during that period by public bodies, including local authorities, for reasons of public health or safety;
- strengthen the protective regime for Special Areas of Conservation (SACs) by removing any doubt that protection will in all cases apply from the time of notification of proposed sites;
- and give specific statutory recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity, in light of Ireland's commitment to the UN Convention on Biological Diversity.

4.3.20 Architectural Heritage Protection - Guidelines for Planning Authorities (2011)

The 2004 guidelines were reissued in 2011 following the transfer of architectural heritage protection functions to the Department of Arts, Heritage and the Gaeltacht.

Part IV of the Planning and Development Acts 2000 – 2011 sets out the legislative provisions for the protection and conservation of our architectural heritage. The main features of the act in this respect are:

- Local authorities must create and maintain a Record of Protected Structures (RPS) which is to include all structures within the administrative area which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. The RPS must form part of the Development Plan for each county.
- Local authorities must also protect the character of places and townscapes which are comply with the special interests listed above. This is done through the designation of Architectural Conservation Areas (ACAs) which are also to be contained within Development Plans.
- Development plans must include objectives for the protection of such structures and the preservation of the character of such areas to ensure proper and sustainable planning and development.
- Owners and occupiers of protected structures can be held responsible in ensuring that buildings are not endangered either directly or through neglect.

4.3.21 National Climate Change Strategy (2007-2012)

The National Climate Change Strategy 2007 - 2012 sets out a range of measures, building on those already in place under the first National Climate Change Strategy (2000) to ensure Ireland reaches its target under the Kyoto Protocol. The Strategy provides a framework for action to reduce Ireland's greenhouse gas emissions

The Framework for Climate Change Bill published in December 2009 provides for a statutory obligation on the Minister to propose to the Government a National Climate Change Strategy on a 5 year cycle and to review the previous Strategy at the end of this time. The Strategy will set an overall reduction target for the 5-year period within the context of the long-term and annual reduction targets set out in the Bill (as subject to review by the Minister). It will also set the policy context for the Carbon Budget and set out requirements in terms of policy objectives for the various sectors in the economy.

4.3.22 A National Landscape Strategy for Ireland (2015 – 2025)

The Department of Arts, Heritage and the Gaeltacht has issued a National Landscape Strategy for Ireland, which sets out objectives to implement the European Landscape Conventions by integrating landscape into our approach to sustainable development.

The strategy provides a policy framework, which will put in place measures at national, sectoral - including agriculture, tourism, energy, transport and marine - and local community levels to protect, manage and properly plan through high quality design for the sustainable development of our landscape.

The will establish and embed a public process of gathering, sharing and interpreting scientific, technical and cultural information in order to carry out evidence-based identification and description of the character, resources and processes of the landscape.

4.3.23 Eastern Midlands Draft Regional Waste Management Plan 2015-2021

Kildare is located in the North East region of the country in terms of waste management planning. The Draft Waste Management Plan sets out the proposed policy for integrated waste management within the region and places an emphasis on waste prevention and minimisation through source reduction, producer responsibility and public awareness and the management of recovery/recycling/disposal of regional waste. Dublin City Council is the lead authority progressing the preparation of a new waste management plan. The public consultation phase for this plan has commenced.

4.4 Local Plans and Policies

4.4.1 Kildare County Development Plan 2011-2017

The Kildare County Development Plan 2001-2017 is guided by the policies contained in the National Spatial Strategy and the Regional Planning Guidelines for the Greater Dublin Area as outlined above. The Kildare County Development Plan 2011-2017 sets out in its Core Strategy the planning framework for the County until 2017.

The future growth of Kilcock will be strictly guided by the overarching policies and objectives of the Kildare County Development Plan 2011-2017 (or as maybe amended), in order to ensure that any future development of Kilcock is in line with the Core Strategy.

The focus of the Core Strategy is achieving a critical mass within the Metropolitan area. Kilcock is designated as continuing to have a strong role as a commuter location in the region. The strategy outlines that the future expansion of the town will be directly related to the capacity of high quality public transport connections as well as the capacity of social and physical infrastructure.

The core strategy also states that Kilcock will provide support to the knowledge based industries located in Maynooth and Leixlip by focusing on manufacturing/office based industry, logistics, tourism and natural and built heritage.

Connectivity to adjoining suburbs/towns and employment locations within the Metropolitan area is a key requirement of the Core strategy particularly focused on local bus/cycle/pedestrian routes.

The Core Strategy further advocates the need to create sustainable and more socially inclusive integrated communities seeking to provide quality homes, mixed tenure neighbourhoods ensuring social and community facilities, including recreation and amenity facilities are provided in tandem with residential development.

The strategy for the future development of Kilcock focuses on the principles established in the Core Strategy as contained in the Kildare CDP 2011-2017.

4.4.2 Kildare 2012 - An Economic, Social and Cultural Strategy

The Kildare County Development Board Strategy “Kildare 2012- An Economic, Social and Cultural Strategy” sets the framework within which Kildare County Development Board will operate for the next 10 years. The vision of this strategy is to make “Kildare- the first choice as a place to live, learn, work, visit and do business.”

The strategy focuses on six key objectives, which are vital to ensuring this vision. These are to:

- (i). Develop transport and communications
- (ii). Respond to new settlement patterns
- (iii). Respond to contrasts within the county and towns
- (iv). Protect the environment
- (v). Develop education, training and capacity building and
- (vi). Develop a sense of place.

The Local Government Reform Act 2014, provided for the establishment of Local Community Development Committees (LCDC) to replace the County Development Board. The LCDC is currently preparing a six year Economic and Community Plan. This plan will agree the strategic framework for economic and community development for the County and is expected to come into effect in 2015, superseding “Kildare 2012- An Economic, Social and Cultural Strategy”.

4.4.3 Kildare Biodiversity Plan (2009-2014)

The County Kildare Biodiversity Action Plan was adopted in November 2009 and provides a framework for the conservation of biodiversity and natural heritage throughout the county. The Biodiversity Plan sets out a range of actions in terms of the biodiversity of Kildare which have been divided into four objectives:

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- Objective 1: To facilitate the collection and dissemination of heritage information.
Objective 2: To raise public awareness, understanding and appreciation of County Kildare's heritage.
- Objective 3: To promote best practice in heritage conservation and management.
Objective 4: To inform policy and provide advice to Kildare local authorities.

Implementation of the plan is on-going and co-ordinated by the Heritage Officer.

4.4.4 Kilcock Habitats and Green Infrastructure Mapping 2014

Kildare County Council, in partnership with the County Kildare Heritage Forum and the Heritage Council commissioned a series of Habitat Survey and Mapping projects for a number of towns in Kildare. An action of the County Kildare Heritage and Biodiversity Plan is to identify local important biodiversity areas. Such habitats are essential for preserving the biodiversity of an area and supporting its wildlife. In addition, there are a wide range of benefits to maintaining biodiversity areas such as provision of recreation and amenity areas, protection of soil and water quality, sustainable food and fuel production, flood alleviation and carbon sequestration. As a result, the importance of these habitats in Ireland is widely recognised and their significance should be fully appreciated.

5.0 Environmental Baseline of the Plan Area

5.1 Introduction

The purpose of this section of the Environmental Report is to describe the relevant aspects of the current state of the environment within the Plan area. This baseline information outlines the environmental context within which the Kilcock Local Area Plan 2015-2021 will be implemented.

The aim of this chapter is therefore to identify the following parameters;

- The key environmental baseline resources and sensitivities;
- The key environmental threats and trends; and
- The likely evolution of the environment in the absence of the Local Area Plan.

The baseline data allows for the “State” of the environment to be identified in objective terms. Where possible and where data exists a quantitative measurement of the environmental conditions is provided, however where such information is absent, qualitative descriptions of environmental themes are provided instead. Where important information deficits are noted, recommendations are provided in the mitigation measures section to ensure that any absence of critical information will be addressed as part of the ongoing monitoring and review of the Local Area Plan.

The headings provided are in accordance with the legislative requirements of the SEA Directive. An emphasis is placed on the strategic elements of each aspect and where potentially relevant to Plan policy.

The topics addressed are:

- Population, Human Health and Quality Of Life
- Biodiversity
- Soil & Geology
- Water
- Air Quality and Climate Change
- Material Assets
- Cultural Heritage
- Landscape

** Human health is not considered directly in this report, but is instead dealt with through consideration of other environmental issues such as air quality, water quality etc.*

5.2 Technical Difficulties Encountered and Information Gaps

A sizeable volume of information was compiled and collated in relation to the environment of the plan area during the preparation of this SEA. Recent National and County level studies on various aspects of the environment (water, cultural heritage etc) have resulted in a significant amount of data becoming available. However gaps do remain in information available, for instance in relation to complete ecological coverage, e.g. habitats, trees, hedgerows etc.

5.3 Study Area Overview

The Kildare County Development Plan (CDP) 2011-2017 sets out the overall strategy for the proper planning and sustainable development of the county over a six year period. The plan has a critical role to play in ensuring that the needs of future population growth are planned for. The Kildare County Development Plan 2001-2017 is guided by the policies contained in the National Spatial Strategy and the Regional Planning Guidelines for the Greater Dublin Area as outlined above. The Kildare County Development Plan 2001-2017 sets out in its Core Strategy the planning framework for the County until 2017.

The future growth of Kilcock will be strictly guided by the overarching policies and objectives of the Kildare County Development Plan 2011-2017 (or as maybe amended), in order to ensure that any future development of Kilcock is in line with the Core Strategy.

The focus of the Core Strategy is achieving a critical mass within the Metropolitan area. Kilcock is designated as continuing to have a strong role as a commuter location in the region. The strategy outlines that the future expansion of the town will be directly related to the capacity of high quality public transport connections as well as the capacity of social and physical infrastructure.

The core strategy also states that Kilcock will provide support to the knowledge based industries located in Maynooth and Leixlip by focusing on manufacturing/office based industry, logistics, tourism and natural and built heritage.

Connectivity to adjoining suburbs/towns and employment locations within the Metropolitan area is a key requirement of the Core strategy particularly focused on local bus/cycle/pedestrian routes.

The Core Strategy further advocates the need to create sustainable and more socially inclusive integrated communities seeking to provide quality homes, mixed tenure neighbourhoods ensuring social and community facilities, including recreation and amenity facilities are provided in tandem with residential development.

The development strategy for Kilcock, is to improve the quality of life for the local community and provide for the future sustainable growth of the town. The Local Area Plan will remain in place for a period of 6 years and will need to provide for the appropriate growth of the town over this time and beyond. The key objective of the Council is therefore to provide for sustainable growth that will keep the town viable and prospering while not overburdening existing services. The Council recognises that Kilcock must offer living and working conditions, educational, recreational and cultural opportunities of the highest standard in an attractive urban environment in order to achieve this. While the recent economic boom resulted in an unprecedented growth in the population of Kilcock it did little to improve the environmental and physical quality of the heart of town.

This plan provides an opportunity to create a vision for recovery in a coherent, sustainable manner for the benefit of the region, town and its citizens. This vision is a statement of what Kilcock aspires to be, not in the six year lifetime of a local area plan, but over the next 20 to 30 years. It is only by developing a shared long term vision that we can deliver and support the short term goals of subsequent development plans and core strategies.

This long term vision is based on the principles of sustainable development and will be implemented by providing a planning framework to secure development that balances social,

economic and environmental considerations while minimising the potential adverse effects on the environment.

5.4 Population, Human Health and Quality Of Life

5.4.1 Introduction

This section discusses the impact of the Local Area Plan on the population of the plan area. An overview of the current and estimated future population and the issues affecting quality of life are discussed. Human health data for the area is not readily available. However, impacts on human health and quality of life may derive from any of the environmental parameters discussed throughout this Chapter. Ultimately, all of the effects of a development on the environment impact upon human beings and their quality of life, both positively and negatively. Direct effects relate to matters such as water and air quality, noise, and landscape change. Indirect effects relate to such matters as flora and fauna. Accordingly, the topic of human beings and their quality of life is addressed in this Environmental Report by means of an appraisal of the indirect effects, etc. of the Local Area Plan on the other environment parameters, of which human beings and their quality of life are an integral part. Where appropriate, mitigation measures to reduce/avoid adverse impacts are identified and incorporated into this Report and the Plan under the other environmental parameters.

5.4.2 Population Trends

Kilcock recorded a population of 5,533 in the 2011 census, representing a 35% increase on the 2006 population figure. In 2006 Kilcock had a population of 4,100 persons, representing a 50% increase from its 2002 census population. Table 2 and Figure 3.1 show how the town's population increased by 2,793 persons therefore doubling its population between 2002 and 2011. This major increase in population was 6 times the national average, representing the most significant period of population growth in the town in recent history. The overall percentage population change within the state from 2002-2011 was 17% whereas the percentage of population change in Kilcock for the same period was 102%.

Table 8 below shows the actual and percentage population growth within the Plan area relative to the County, Province and State.

	Population 2006	Population 2011	Actual Population Change	% Pop Change
State	4239848	4588252	348404	8.2
Leinster	2295123	2504814	209691	9.1
Kildare	186335	210312	23977	12.8
Plan Area	4100	5533	1433	34.9

Table 8: Actual and Percentage Population Growth 2006-2011

5.4.3 Household Sizes

The national trend is one of falling household size from an average of 3.14 persons per household in 1996 to 2.7 in 2011 (Census 2011). The total housing stock in Kilcock in 2011 census was 2158, made up of 1,956 occupied houses, 143 vacant houses and 51 unoccupied houses. The town's average household size of 2.83 persons is lower than both the county

average of 2.94 persons but higher than the national average of 2.72 persons. A break down of the household unit size shows Kilcock is predominantly made up of two person households, having a higher proportion of these households than the national average. This demonstrates the County's desirability as an attractive place to live but also due in part to its relative affordability and proximity to Dublin.

5.4.4 Settlement Strategy

The approach to provide quality homes in a compact town is to build on the policies and zoning of the previous Kilcock Local Area Plan and implement the Core Strategy of the Kildare County Development Plan 2011-2017 by:

- Supporting the regional settlement strategy which seeks to consolidate development in the metropolitan area.
- Providing for an appropriate quantity and quality of residential accommodation incorporating sustainable densities and designs.
- Providing for a variety of housing typologies and tenures which are adaptable, flexible and meet family needs and the changing needs of people throughout their lives.
- Providing for housing that is accessible and affordable for all residents through the implementation of the housing strategy.
- Providing for the creation of attractive mixed use sustainable neighbourhoods which benefit from the phased delivery of supporting infrastructure.

The county settlement strategy has set out a target of 850 new housing units¹ to be provided for within Kilcock over the period 2006-2017. This equates to 3% of the total residential unit growth target for the entire county for this period.

A total of 136 residential units have been constructed in the town over the period 2006-2014 resulting in target of 1090 units for the period 2012-2017. As advocated in the 'Development Plan Guidelines for Planning Authorities', issued by the Department of the Environment Heritage and Local Government (2007), overzoning of one third to one half is acceptable to ensure that housing targets are met. The LAP housing target increases to 1,635 units when an additional 50% overzoning is applied. Regard must also be had to the 574 un-built units with valid permissions currently in existence. Taking these permissions away from the LAP target leaves a remaining target of 1061 units for the period 2015 – 2021.

The quantum of land required to meet the unit target of 923 units will be dependent on the location and density of development. The location and nature of different land use zonings will allow for different residential densities. For instance a new neighbourhood zoning on a central brownfield site will allow for higher density development (e.g. 30 per Ha.) compared to an edge of town site with lower density standards (e.g. 25 units per Ha).

5.4.5 Commuting Patterns and Distance to work

A persons' journey to their place of work or school is a factor in determining their quality of life. In addition it is also a measure of the sustainability of settlements; how does a settlement maximise the proportion of the population working as well as living within them? The commuting patterns, are of some concern as they reflect an unsustainable reliance on private car based travel within the County. Often places of work or education are extensive distances

¹ Please refer to Chapter 3 (Settlement Strategy) of the Kildare CDP 2011-2017

from an individual's places of residence. The Census 2011 indicates that approx. 75% of workers enumerated in Kilcock, are travelling outside the area for work, most likely due to the proximity of the town to Intel and Hewlet Packard and ease of access to Dublin City Centre.

5.4.6 Radon

Radon is a radioactive gas which is naturally produced in the ground from the uranium present in small quantities in all rocks and soils. Tiny radioactive particles are produced by the gas which when inhaled can cause lung cancer. The risk of contracting lung cancer as a result of Radon depends on how much Radon a person has been exposed to over a period of time. Radon levels in the County have been collated from the Radiological Protection Institute of Ireland. The plan area is in a mid-risk area in regards to Radon however a high radon level can be found in any home in any part of the country.

5.4.7 Noise

Environmental noise is described as unwanted or harmful outdoor sound created by human activities, including road, rail, air traffic and industry. EC Directive 2002/49/EC deals with the regulation of environmental noise. It does not apply to domestic noise. The directive is implemented in Ireland by the Environmental Noise Regulations 2006 (SI 140/2006).

The Regulations allow for action to be taken by each member state, with a view to preventing and reducing environmental noise, particularly where exposure levels can induce harmful effects on human health and to preserving environmental acoustic quality where it is good.

The Regulations have designated the relevant local authorities as the bodies charged with development and making of Noise Action Plans. There is no noise mapping available for the plan area.

However it can be reasonably assumed that the noise environment in the plan area varies by location and proximity to the town and village centres and main roads. Noise which would be influenced by local noise sources such as building services equipment, serving shops and restaurants, traffic in rural areas where the noise environment would be influenced by community noise sources such as local traffic, agricultural activity etc.

5.4.8 Existing Environmental Issues

There are environmental issues existing with regard to the current population of plan area. The unprecedented growth of the past fifteen years has placed considerable strain on the areas ability to provide the physical and social infrastructure needed to support its increased population. The settlement pattern in the area has resulted in a pattern of unsustainable commuting which has been shown to have a negative impact on human health and quality of life.

5.5 Biodiversity

5.5.1 Introduction

The natural heritage of the plan area is an important asset and a unique resource. The Biodiversity of the plan area is not only valuable in terms of its intrinsic worth to the inhabitants of the area, it also plays a role in the provision of clean air and water, healthy soils,

food, building materials and medicines. Protecting and conserving these habitats is critically important, not just to the residents of the plan area and the County but also in a national and international context.

Also referred to as flora and fauna; biodiversity has been defined by the Convention of Biological Diversity as:

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems

Biodiversity supports life on earth; it is a crucial part of all our lives and its economic value is being increasingly recognised. Not only does it underpin important economic sectors such as tourism and agriculture but it provides many other benefits which can be grouped into four main categories:

- **Provisioning services** (production of food and water, etc.)
- **Regulating services** (e.g. the control of climate and disease)
- **Supporting services** (e.g. nutrient cycling and crop pollination)
- **Cultural services** (such as spiritual and recreational benefits)

The importance of protecting our natural heritage has been recognised at an international level and takes into account that the condition of biodiversity within any particular nation cannot be seen in isolation. Changes to biodiversity in one country can have international transboundary implications. (For instance deforestation in one country can lead to flooding in another or loss of habitats for migratory birds).

5.5.2 Designated Habitats

The EU has provided a basis for the legal protection of certain important ecological sites throughout Europe. Natura 2000 was established under the 1992 E.C Habitats Directive and is an EU wide network of such protected areas it provides for the designation and protection of sites that support annexed habitats and species by requiring, among other things, their favourable conservation status to be maintained or restored. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats. The Natura 2000 network is comprised of two main designations:

- **Special Areas of Conservation (SAC)**; designated by Member States under the Habitats Directive, these sites are established for the protection and conservation of habitats and species listed in Annex I (habitats) and Annex II (species – not birds) of the EU Habitats Directive.
- **Special Protection Areas (SPA)**; established under the 1979 Birds Directive these sites are designated for the protection and conservation of Annex 1 (rare and threatened bird species) and regularly occurring migratory species, and for bird habitats.

In addition to SPA and SAC designations Irish legislation contains a further designation for areas that are considered important for their habitats or which hold species of plants and animals whose habitats needs protection – these areas are known as NHAs (Natural Heritage Areas) and are designated under the Wildlife (Amendment) Act, 2000. NHAs are also designated to conserve and protect nationally important landforms, geological or geomorphological features.

Depending on their quality and importance, sites may carry multiple designations such as SAC, SPA, NHA, Ramsar site, Statutory Nature Reserve or Refuge for Fauna. Planning Authorities are obliged by law to ensure that these sites are protected and conserved.

A full list of the SAC, NHA and pNHA sites that are deemed to be within the zone of influence (c. 15km) of the plan area is provided in Table 9. The majority of these designated site are within a 10-15km distance from Kilcock with the exception of the Royal Canal pNHA which runs through the LAP area.

Special Areas of Conservation (SAC)	Site Code
<i>European Habitats Directive (92/43/EEC)</i>	
Ballynafagh Lake	001387
Ballynafagh Bog	000391
Rye Water Valley/Carton	001398

Natural Heritage Areas (NHA) & proposed Natural Heritage Areas (pNHA)	Site Code
Donadea Wood	001391
Hodgestown Bog	001393
Ballynafagh Lake	001387
Ballynafagh Bog	000391
Grand Canal	002104
Rye Water Valley/Carton	001398
Royal Canal	002103
Liffey Valley	00128

Table 9: Areas Protected under EU and National Legislation

The importance of these sites is recognised in the existing plan and they will continue to be afforded protection through enforcement of current legislation and through the support of the Local Authority working in conjunction with other state/non-state organisations.

The protection of the integrity of Natura 2000 sites has been further legislated for under Article 6(3) of the Habitats Directive. Under this legislation any plan or project not directly connected with or necessary to the management of a Natura 2000 site but that is likely to have a significant effect on such a site, either individually or in combination with other plans or projects, shall be subject to an Appropriate Assessment of its implications for the site in view of the site's conservation objectives.

For a proposed plan or project to be approved its Appropriate Assessment must establish beyond reasonable scientific doubt that it will not have an impact on a Natura 2000 site.

5.5.3 Other Habitats

In addition to the areas protected by legislation many other important habitat types exist within the plan area and these sites play a significant role in the natural environment. Kilcock has a diverse natural heritage ranging from rivers, riparian habitats, woodlands and groups of trees particularly in Courtown Demesne.

The Kilcock Habitats and Green Infrastructure Mapping Report 2014 found that Overall, the main habitats comprised of mixed broadleaved and conifer woodlands, areas of scrub, improved, semi-improved and wet grassland fields, parkland and linear stretches of reed swamp along the River Rye Water. There were also areas of disturbed and bare ground that were impacted by human activities, primarily construction. Fields boundaries generally consisted of hedgerows and treelines, some of which had associated drainage ditches.

These habitats have an important function in providing shelter and refuge to a host of animal and plant species alike. There is a wide range and type of species that are supported by these habitats in the Plan area.

5.5.4 Existing Environmental Issues

Biodiversity has become an integral part of the conservation of our wild areas. Ireland is one of 193 countries which are party to the Convention on Biological Diversity along with the other EU Member States and the EU itself. In its recent assessment, the Commission states that Europe is seeing the constant loss, degradation and fragmentation of natural habitats and entire ecosystems are also being pushed to the point of collapse.

Nationally, although significant progress has been made in the past decade, biodiversity loss has not been halted in Ireland. The status of many of our habitats and some of our species is judged to be poor or bad (Ireland's Second National Biodiversity Plan).

There are five main pressures causing biodiversity loss:

- habitat change
- overexploitation
- pollution
- invasive alien species
- climate change

The primary mechanism for conserving, protecting and enhancing biodiversity in Ireland is through the Actions for Biodiversity 2011-2016, Ireland's Second National Biodiversity Plan², of which a key concept is that local authorities (and other agencies) share responsibility for the conservation and sustainable use of biodiversity.

The Plan states that the principal target is: *"That biodiversity loss and degradation of ecosystems are reduced by 2016 and progress is made towards substantial recovery by 2020."*

It is European and national policy to protect designated areas from development thus ensuring their long term protection. Therefore restrictions must be provided within the plan and indeed close to such areas where such development is incompatible with the site's long term protection. The National Parks and Wildlife Service is preparing management plans for the nations natural assets which is likely to take some time to complete but will become a valuable tool in assessing the issues relevant to each site. The management plans will also provide mechanisms for their effective protection. Designated areas will form the basis of controlled development within the plan area and restrictions imposed on further development, which may adversely impact on the overall integrity of the protected area.

² Actions for Biodiversity 2011-2016, Ireland's Second National Biodiversity Plan

As stated previously, under the Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora) an Appropriate Assessment is required for all plans or projects which may impact on sites designated as either Special Areas of Conservation or Special Protection Areas. The Local Authority will be obliged to seek such an assessment where the need arises.

The AA Screening Report prepared separately identifies of the types of threats to the integrity of the European sites. These can then be related to the consequences of implementing the Draft Local Area Plan to see if there is any risk of likely significant effects.

The following generic potential threats can be identified:

Urban, Economic and Infrastructural Development

- Golf Courses;
- Roads, motorways;
- Sewage outflows;
- Housing developments;
- Communications Networks;
- Quarries;
- Canalisation;
- Disposal of household waste;
- River Channel Maintenance, and;
- Invasive Alien Species.

Recreation and Leisure

- Walking, horse riding
- New Paths and Tracks.

5.6 Soil and Geology

5.6.1 Introduction

The upper most layer of the earth's surface is generally termed "Soil". It comprises for the most part organic matter, minerals and fine to course grained weathered rocks. The variability in the constituent parts and the percentage content of each in the soil matrix results in differing characteristics. This has implications for suitable land use and the appropriateness for differing land use practices.

Geology encompasses the understanding and study of the solid and liquid matter that constitutes the earth and the processes by which they are formed, moved and changed. Its understanding is necessary to fully appreciate the geological factors that shape and influence the world and its particular structure.

5.6.2 Soils

Soil can be defined as the top layer of the earth's surface. It consists of fine to course grained rock and mineral particles, organic matter (the remains of plants and animals) and the living organisms that reside in the soil.

The draft Plan area has a varied soil profile. The overburden geology of Kildare is described in 'Soils of County Kildare' (National Soil Survey of Ireland). The sub soil map of Kildare shows

the area to lie on Limestone till Carbiniferous. The Aquifer is described as Locally Important Bedrock Aquifer.

5.6.3 Geology

The Geological Survey of Ireland (GSI) provides information available on bedrock, subsoil, aquifer classifications and vulnerability. The landscape of Kildare principally reflects the erosional and depositional legacy of the last period of glaciation, which ended some 10,000 years ago following the Devensian period. Glacial erosion of pre-existing topographic features and deposition of glacial drift deposits, mainly till (boulder clay) resulted in a fairly typical post-glacial topography. The post-glacial landscape also reflects the effects of fluvial processes that have altered the topography, since the ice sheet retreat.

5.6.4 Existing Environmental Problems

The soil environment is a much overlooked aspect of the natural environment. However soils are an intrinsic part of the environment and perform a range of uses benefitting the wider environment. Soils have an economic value in terms of agricultural production, their type and quality dictating the type and intensity of production.

In addition soils also have an ecological value, their status being a critical factor in determining botanical diversity and ultimately the range of fauna which feed upon or live within those species of plant life.

Changes in soil result from both natural processes and human activities which contribute to their dynamic and evolving nature. Such changes are matters of concern if they result in the physical, biological or chemical degradation of soils. This can result in the impairment of ecologically-essential soil processes, the reduction in productive capacity, the depletion of soil quality and biodiversity and the direct loss of soil. Many of the changes arise as a result of pressures from human activities.

Urban environments have greatly changed in Ireland with the centres of population and towns being subjected to depopulation with growth focused on the periphery of these areas. With urban expansion, agricultural land surrounding towns and settlements as well as green areas within them are subjected to increasing pressures.

The type and depth of soil has direct implications on water movement which can lead to increased pollution threats if not properly considered.

5.7 Water

5.7.1 Introduction

For the purposes of this section of the Environmental Report the water environment is taken to include natural features such as lakes, rivers, streams and groundwater. In addition flooding is also dealt with in this section. Wastewater treatment and drinking water may be referred to in this section, but are discussed in more detail under the Material Assets section.

Water is fundamental to all life; for humans, plants and animals alike. It is also critical in economic terms in generating and sustaining wealth in a number of key areas such as agriculture, fishing, power generation, industry transport and tourism. However it is also a fragile resource requiring continued protection. In general terms Ireland's waters are of good

quality, however preserving the high standard of water is essential for human health and the natural environment.

Since 2000, Water Management in the EU has been directed by the Water Framework Directive (WFD) 2000/60/EC which was transposed into Irish law under the European Communities (Water Policy) Regulations 2003 (S.I. No. 722/2003). This legislation requires governments to take a holistic approach to managing all their water resources based on natural geographic boundaries, i.e. the river catchment or basin. The WFD establishes a common framework for the sustainable and integrated management of all waters covering groundwater, inland surface waters, transitional waters and coastal waters.

For the purpose of implementing the WFD, Ireland has been divided into eight River Basin Districts or areas of land that are drained by a large river or number of rivers and the adjacent estuarine/ coastal areas. The management of water resources is divided into these River Basin Districts. The plan area is located in the Eastern River Basin District (ERBD).

A River Basin Management Plan (RBMP) for the Eastern River Basin District was prepared and adopted in 2010. The RBMP provides objectives for River Basin Districts in order to implement the requirements of the WFD.

5.7.2 Surface Water

The Council recognises that surface water drainage in Kilcock is inadequate and the practice of disposing of surface water through the combined sewerage network is unsatisfactory. Local Area Plan policies and objectives seek to ensure the satisfactory and sustainable disposal of surface water, facilitating the upgrade in infrastructure where necessary and promoting sustainable urban drainage systems (SuDs) such as permeable surfaces, retention ponds and rainwater harvesting.

The Rye River, a tributary of the River Liffey, is located on the western periphery of the town of Kilcock and forms the LAP boundary line running in a northwest to southeast direction. It also serves as a linear county separation between Meath to the north of the river and Kildare to the south. The Rye River forms part of the Rye Water Valley/Carton SAC which is designated at an area approximately 7km downstream of Kilcock.

According to the Eastern River Basin District Management Plan 2009 - 2015, the Rye River is considered one of the most important salmon spawning grounds in the Liffey catchment. The most recent fisheries stock assessment by Inland Fisheries was conducted in 2011 at the Balfeaghan bridge approximately 300m north of the draft LAP. A total of five fish species were recorded at this location. Minnow was the most abundant species, followed by three-spined stickleback, brown trout, stone loach and lamprey.

The Water Framework Directive (WFD) requires Member States to manage all of their waters and ensure that they achieve at least 'good status' by 2015. In line with requirements of the Eastern River Basin District River Basin Management Plans (ERBD RBMP) 2009 – 2015, ecological sampling by the EPA is carried out.

The SEA process will consider all available and relevant data from the EPA /Water Framework etc in relation to the current state of surface water quality within the area and will provide information for the surface water bodies in the plan area. It is proposed to present this on a Water Management Unit basis, this information being available through the relevant River

Basin District websites. . This information will prove invaluable to the SEA process in terms of evaluating the potential impact of policy on the 'Water' aspect of the environment.

The River Basin Management Plan affecting the plan area sets out the objectives and actions required to achieve at least 'good' quality status for all waters, in the period 2009-2015. The ultimate deadline for Member States for achievement of 'good' status is 2027 at the latest.

The reported results of the EPA biological surveys carried out over the period of 2007-2009 as part of the first three years of the Water Framework Directive (WFD) monitoring programme are also shown above. Based on these surveys the EPA classified the river waters into four biological quality classes.

- A - Unpolluted (Good),
- B - Slightly polluted/eutrophic (Moderate),
- C - Moderately polluted (Poor) and
- D - Seriously polluted (Bad)

The northern areas of Kildare are considered to have moderate water quality status. The main pressures are generally wastewater discharges, un-sewered properties and agricultural pollution.

5.7.3 Groundwater

Groundwater is the water stored underground in formations of saturated rock, sand, gravel, and soil. Surface water and groundwater are intimately linked to each other within the hydrological cycle and is an important source of water for streams, rivers and lakes. Ground water resources are an invaluable source of water supply for the public, industry and agriculture and also perform an important role in sustaining base flows in the rivers within the plan area and their tributaries. In Ireland groundwater provides between 20% and 25% of drinking water supplies. Thus the protection of groundwater quality from the impact of human activities is a high priority; resources are susceptible to pollution with long term consequences both for humans and the natural environment.

The WFD identifies the groundwater status as being good in the area. Groundwater resources are assessed in terms of their vulnerability to pollution. The aquifer present within the LAP area is classified as a 'Locally Important Aquifer' and as High to Moderate in terms of vulnerability. These classifications will facilitate the evaluation as to whether the Local Area Plan would, if implemented, have significant effects on groundwater quality. Groundwater protection is therefore of the utmost importance.

5.7.4 Flooding and Flood Risk

The underlying causes of flooding, heavy rain and high sea levels are, essentially uncontrollable. However, the factors affecting the extent and severity of the flood can be addressed. The most influential of these factors is development, in particular development in flood plains i.e. areas adjacent to rivers that tend to become flooded following periods of heavy rain.

It is recognised that the risk of flooding has increased due to climate change. There are two types of flooding events with can arise separately or in combination in Kilcock:

- Fluvial Flooding arising from river and streams

- Pluvial Flooding arising from extreme rainfall

Kildare County Council will not permit development in areas at risk of flooding, particularly floodplains, unless there is wider sustainability grounds for the development.

A Strategic Flood Risk Assessment (SFRA) was undertaken as part of this LAP preparation. These assessments were prepared in accordance with requirements of the DoECLG and OPW Planning Guidelines, The Planning System and Flood Risk Management.

Flood risk can be defined as the probability of flooding multiplied by the consequences of flooding. The SFRA for the LAP contains Flood Zone Mapping for the plan area which highlights those parts of the area that are at a higher risk of flooding.

In the 'Planning System and Flood Risk Management', the probability of a flood event taking place is recognised through the classification of Flood Zones which indicate a high, moderate or low risk of flooding from fluvial or tidal sources.

5.7.5 Existing Environmental Issues

The principal threat to water is pollution which can adversely impact on all parts of the water cycle from groundwater to rivers, lakes estuaries and coastal waters. In simple terms pollution means the presence of a harmful substance such as a poisonous metal or pesticide, a nutrient or indeed silt.

Flooding of land from surface water runoff is usually caused by intense rainfall that may only last a few hours. Areas at risk from fluvial flooding will almost certainly be at risk from surface water flooding. Local flood events have occurred in Kilcock in recent times however the SFRA undertaken identifies only a small number of areas which are at risk from flooding and have been addressed in the Draft LAP.

There is an increased risk of flooding due to development, climate change and rainfall patterns. Development can exacerbate the problems of flooding by accelerating and increasing surface water runoff, altering watercourses and removing floodplain storage. It is now recognised that flood risk management must be treated as a central issue in the development of the area. Areas of floodplain and wetlands should therefore be recognised and preserved as natural defences against flood risk.

A Strategic Flood Risk Assessment (SFRA) has been carried out as part of the preparation of the draft Local Area Plan. Kilcock has experienced numerous flooding events due to its proximity to the Rye Water along the northern boundary of the LAP and areas of poorly draining and low lying land.

The drainage pattern of lands near the southern boundary of the LAP has been altered in recent years due to the construction of the M4 Kilcock-Enfield-Kinnegad motorway. Historical indicators suggested the potential for minor localised flooding at several locations as well as more extensive flooding along the Rye Water. OPW flood-mapping also identified a recurrent flooding problem arising from inadequacies in the surface water drainage infrastructure and low lying lands.

The Planning System and Flood Risk Management guidelines recommends that a precautionary approach to climate change is adopted due to the level of uncertainty involved

in the potential effects. Climate change may result in increased flood extents and therefore caution should be taken when zoning lands in transitional areas.

5.8 Air and Climate

5.8.1 Air Quality

Air quality monitoring in Ireland is undertaken largely to implement EC Directives. In 2008 the EC Directive 2008/50/EC on ambient air quality and cleaner air for Europe (the CAFE Directive) entered into force. This piece of legislation placed the previous air quality framework legislation into a single directive. It sets out air quality objectives and targets

The Environmental Protection Agency is involved in air quality monitoring and has installed a number of air quality monitoring stations throughout Ireland. The EPA Report *Air Quality in Ireland 2011* provides an overview of the air quality in the country for 2011 based on data obtained from the 28 monitoring stations. There is no detailed information available for the plan area with the closest monitoring station, for Co. Kildare, being located in Celbridge. The County of Kildare is primarily rated located within Zone D (primarily smaller settlements and rural areas outside of cities and major centres).

5.8.2 Climate Change

It is now largely recognised that tackling the issue of climate change must take centre stage on policy agendas around the world. The UN's Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (UNEP, IPCC, 2007), concluded that if left unchecked, the world's average temperature could rise by as much as 6°C by the end of the century, causing serious harm to economies, societies and ecosystems worldwide.

Climate Change is a phenomenon that has widespread economic, health and safety, food production, security, and other dimensions. It is also widely recognised that Climate Change is occurring as a result of the build up of atmospheric Greenhouse Gases (GHG's) such as carbon dioxide. Most GHG emissions are related to the energy generation, transport, agriculture, and industry sectors.

The National Climate Change Strategy 2007-2012 states that there is now scientific consensus that global warming is occurring as a result of man made green house gases. In order to avoid the devastating effects that climate change is predicted to have, action must be taken to stabilise and reduce these harmful emissions.³ The EPA states that global warming is the primary environmental challenge of this century.⁴

5.8.3 Existing Environmental Issues

Air Quality

Overall, road traffic has now become the greatest source of air pollution generally. In urban areas, concern has clearly shifted to a range of pollutants associated with this source which may be considered relatively new in the context of air quality control. The most important of these pollutants are NO₂, particulate matter less than 10 microns in diameter (PM₁₀), carbon monoxide (CO) and a wide variety of Volatile Organic Compounds (VOC), including

³ National Climate Change Strategy 2007-2012, Page 7

⁴ www.epa.ie

carcinogens such as benzene. Advances in engine technology and fuel development will, it is predicted, offset any rise in tail pipe emissions from increased car usage due to an increased population. The context to the plan area is rural in nature where travel is an essential part of daily life. Therefore it is important that a good quality road infrastructure is provided and indeed alternatives to the private car are encouraged where possible.

Climate Change

Land use changes can and will have far-reaching implications for climate change that could include changes to commuter patterns with the building of further housing developments and the resultant increase in GHGs, SO₂, NO_x, VOC and other pollutant emissions.

5.9 Material Assets

5.9.1 Introduction

Material assets can be defined as the critical infrastructure essential for the functioning of society such as: electricity generation and distribution; water supply; wastewater treatment; and transportation. Whilst this infrastructure is essential its usage can lead both directly and indirectly to adverse environmental impacts. This section will discuss the following:

1. Transportation (road and rail)
2. Waste Management
3. Water Supplies
4. Wastewater Treatment Infrastructure
5. Energy

5.9.2 Transportation

Transportation is an essential element to the functioning of the Irish economy and will continue to be promoted as a crucial component to the further sustainable development of the plan area. Nonetheless, the role of the Local Authority is somewhat limited with respect to the provision of transportation infrastructure. The National Roads Authority is directly responsible for the national road network, Iarnród Éireann is directly responsible for the rail network and Bus Éireann and other private operators are responsible for public bus services. The Local Authority will continue to liaise with the relevant authorities in enhancing service provision to the inhabitants of the Plan area.

The National Transport Authority (NTA) is a statutory body formed in 2009 with responsibility for securing the provision of public passenger land transport services; it also has responsibility for the development of an integrated transport system within the Greater Dublin Area (GDA). The NTA has produced a draft Strategic Transport Plan for the GDA up to the period of 2035. The Strategy establishes appropriate policies and transport measures that will support the GDA (including Co. Kildare) in meeting its potential as a competitive, sustainable city region. This strategy will form the top level of the hierarchy of transport plans for the Greater Dublin Area.

The plan area is served by a number of National and Regional roads which act as both local distribution roads and also link roads to other smaller towns, villages and with the larger urban centres and with the national primary and secondary routes. The M4 provides high quality access into Dublin and R148 links Kilcock directly East to Maynooth and Leixlip and West to Enfield.

The plan area is very well served by the rail network with the Dublin to Sligo Intercity Service stopping in Kilcock town centre.

The County Development Plan promotes the improvement of cycling and walking routes. Policy guidance documents such as 'Smarter Travel – A New Transport Policy for Ireland (2009-2020)' and the 'National Cycle Policy Framework (2009-2020)' have clearly placed an emphasis on walking and cycling as alternatives to vehicular transport. The LAP should place emphasis on alternatives to car travel.

5.9.3 Waste Management

The Local Authorities of Kildare, Louth, Cavan and Monaghan form the North East region with respect to Waste Management Planning. The current Waste Management Plan for the region is the replacement North East Regional Waste Management Plan 2005 – 2010. The objective of the Waste Management Plan is to develop a sustainable approach to managing resources, by minimising the waste that is generated in a safe and environmentally sound manner and disposing of wastes in accordance with current National and EU waste legislation and policies. The Eastern-Midlands Waste Region for which a Draft Regional Waste Management Plan 2015-2021 was published for public consultation on the 18th November 2014.

5.9.4 Water Supply

The provision of safe potable water is a basic human necessity. Within Ireland drinking water is supplied either by the Local Authority, a Group Water Scheme or by private borehole. The quality of both surface and groundwater reserves are an important element of the area's supply of water and it is critical that resources contributing to the water supply network remain free from contamination.

Kilcock's water supply is taken from Irish Water's Water Treatment Plant at Ballymore Eustace, via the Castlewarden Reservoir, the Ballycaghan Reservoir and interconnecting pipework. It is anticipated that there will be an adequate supply of water to facilitate development during the life of this plan. Water supplied to the town is tested regularly and is consistently of the highest quality.

Irish Water, the new national public utility, is to acquire statutory responsibility for water services, ownership of assets, operations and capital investment from 2014. Any water supply scheme required to meet the anticipated water requirements to serve this area will be subject to SEA and AA, as required.

5.9.5 Waste Water

The safe treatment and disposal of sewerage is fundamental to the sustainable development of our society. The treatment of waste water is either through wastewater treatment plants or individual septic tank units.

Kilcock forms part of the Lower Liffey Valley catchment area, which also serves the towns of Leixlip, Celbridge, Straffan and Maynooth. The Waste Water Treatment Plant at Leixlip, which serves Kilcock, as well as the aforementioned towns, is currently being upgraded to provide a treatment capacity of 150,000 PE (Population Equivalents).

5.9.6 Energy

Electricity is provided in Ireland through a national grid system which is made up of a network of high voltage (110,000 volts, 220,000 volts and 400,000 volts) transmission stations, power lines and cables. The system includes approximately 6,000 km of overhead lines and underground cables and over 100 transmission stations. Power is generated by power plants throughout the country, utilising a variety of fuel or energy sources – including gas, oil, coal, peat, hydro-electricity, wind turbines and other sources including biomass and landfill gas.

Technologically advanced societies such as Ireland have become increasingly dependent on external energy sources for transportation, the production of many manufactured goods, and the delivery of energy services. As the problems of climate change and peak oil production become more prevalent, societies are increasingly turning to renewable energy sources for power. To this end the Government have set a target for 40% of electricity consumed to be generated from renewables by the year 2020.

5.9.7 Existing Environmental Issues

Transport

The 2011 Census results show that the residents of County Kildare rely heavily on the use of private cars for transport. Travel patterns show that a high proportion of residents commute long distances by car to school, work, mostly to Dublin. The area is therefore dependent on an efficient and adequate connection to the primary road network.

Access and circulation routes in Kilcock are largely defined by the historical development of the town and its relationship to its topography as well as the Rye Water River, the Royal Canal and the railway line which act as barriers and restrict access, one of the consequences of these constraints is that there are few linkages north/south. This combined with the one way system in place in the town core area puts an emphasis on the Shaw Bridge linking the Maynooth and Clane Roads as a vehicular thoroughfare. Inadequate permeability between the town centre and surrounding residential areas, contributes to the weakening role of the town core as the principle social and economic area. It is therefore important to increase permeability and connectivity between the town centre and the surrounding residential areas in order to ensure that the town core is easily accessible from all areas within the Local Area Plan boundary. This will ensure that primacy of the town core as a social and economic hub is reinforced.

The previous LAP 2009 indicated a relief road to the north of the historic town centre linking to the M4 interchange. This objective is contained in the LAP also and will open up the lands north of the Rye Water River. This is likely to have a positive impact on the town centre providing an additional crossing along the river. Care should be taken to ensure that this road does not create a hostile environment for pedestrians and cyclists but rather provides an urban street based on the perimeter block and on the principles of passive surveillance as outlined in the Urban Design Section of the Kildare County Development Plan 2011-2017 and the Design Manual for Urban Roads and Streets.

Congestion in the town core area is further compounded by servicing and deliveries to its shops. While this activity is essential for the functioning of these premises, scope exists for the coordinated management of servicing to minimise impact on the main shopping area during peak times.

Uncontrolled car parking in the town which appears to be overflow commuter carparking related to the railway station and Dublin Bus also contributes to congestion within the town centre. This plan seeks to formalise car parking within the town and provide 'park and ride' facility at an appropriate location within the town.

It is important that the balance is sought between public and private transport modes, for instance the integration of park and ride facilities with public transport provisions. In addition lands planned for future public transport requirements should be protected from inappropriate development.

There is a need to improve cycling and pedestrian facilities to provide for the sustainable development of the area. Increasing movements within the area in this regard should be a priority.

Waste Management

Both public and private waste collectors have a responsibility with regards to meeting Waste Management targets. Increased facilities for recycling should be provided to reduce the levels diverted to landfill.

Water Supply & Wastewater

The metropolitan region is facing a number of infrastructural challenges particularly in the supply and demand for high quality drinking water and for waste water treatment. The main challenge to be addressed regarding waste water treatment and drinking water supply are centred on meeting future demand due to population growth, improving the efficiency of the existing networks and encouraging water conservation. Progress in the development of the orbital sewer is essential to the future growth of the Metropolitan Region.

Energy

County Kildare is reliant on external and non-renewable energy sources. While renewable energy is to be welcomed any new wind farm development within Kildare must be carefully sited and designed so as to avoid negative impacts on the protected views and landscapes of the plan area.

5.10 Cultural Heritage

5.10.1 Introduction

Cultural heritage can be defined as the legacy of physical objects and intangible attributes of a group or society that are inherited from past generations, preserved in the present and maintained for the benefit of future generations.

Within the LAP settlements there are monuments, groups of buildings and sites of extreme importance in cultural heritage terms. In addition to the intrinsic value of the cultural heritage of Kildare, the County also benefits economically through the tourism value of these sites and their ability to attract visitors.

5.10.2 Archaeological Heritage

The archaeological heritage of an area includes structures, constructions, groups of buildings, developed sites, moveable objects, monuments of other types as well as their context, whether situated on or under land or water.

The National Monuments Acts 1930 – 2004 provide for the protection of archaeological heritage. The Record of Monuments and Places (RMP) was established under Section 12 of the National Monuments (Amendment) Act 1994 and structures, features, objects or sites listed in this Record are known as Recorded.

5.10.3 Architectural Heritage

At the heart of the planning system is a statutory requirement that the protection of buildings of artistic, architectural, historical, cultural, archaeological, scientific, technical or social interest be a mandatory objective of the Development Plan of each Local Authority. These buildings and structures are compiled on a register known as the “*Record of Protected Structures*” (RPS). There are a number of protected structures in the plan area and the identification of these structures on the RPS can be seen in the Built Heritage Map of the Draft LAP.

Section 81 of the Planning & Development Act 2000-2011 places a statutory obligation on Planning Authorities to ensure that all development plans must now include objectives to preserve the character of a place, area, group of structures or townscape that of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or contributes to the appreciation of protected structures. The policies and objectives contained within the LAP seeks to reinforce the protection of these structures.

Kilcock boasts a unique natural, built and archaeological heritage, characterised by landmark structures and features such as the Royal Canal, the Square, St. Coco’s Church, and St Joseph’s Hall on School Street. The town’s street pattern reflects its historical development. The earliest settlement is to be found around the burial ground at Church Lane. The narrow, twisting street pattern is typical of medieval towns and forms an attractive feature for the town contributing to the sense of place. Vernacular architecture makes a strong contribution to the character of streetscapes. The Square and Harbour Street dating from the 18th century, contain some fine terraces and individual buildings reflecting the relative prosperity the town enjoyed at the time. The town’s industrial buildings of traditional enterprises also contribute to creating a sense of place necessary for the future development of Kilcock.

5.10.4 Existing Environmental Issues

Cultural Heritage, including all its various elements, represents a finite resource, one which must be protected in order to enrich future generations. Thus, development which is deemed to adversely impact on structures, features, historical areas etc must not be permitted. A proactive approach needs to be maintained by the Local Authority, working in conjunction with the various state agencies and departments as well as stakeholders to ensure the ongoing protection of this element of the environment.

Currently the most immediate threat to the cultural heritage is development pressure which can lead to a loss or impairment of a feature of importance. Furthermore it is recognized that heritage has an economic value particularly in terms of tourism. However unsustainable tourism must be avoided and care taken to ensure a balance is achieved between the

economic gain that cultural heritage can bring and the preservation of the structures / sites of interest.

The tourism industry relies largely on the attractiveness of the built heritage of a town. Unlocking the tourism potential of the historic town centre is a key challenge of this Local Area Plan. Enlivening streets and public spaces with markets and entertainment, greening and creating pedestrian friendly routes will be required to regenerate Kilcock and create an attractive and active centre. It is also crucial that people are encouraged to live above shops and businesses in the town core.

The Architectural Conservation Area (ACA) Kilcock has been designated in recognition of the unique architectural character of its townscape and the important contribution it makes to the heritage of the town. The designated area includes the town core area comprising of groups of buildings, streetscapes, associated open spaces and Royal Canal and the banks of the Rye Water River. This area requires special care in terms of development proposals which affect structures and landscapes in this area, both protected and unprotected.

The Area of Significant Archaeological Potential can provide challenges to development and regeneration as well as providing opportunities for understanding our past. Part of the Town Core falls within a Zone of Archaeological Potential which runs from the Rye Water River to New Lane, Church Road and New Road.

5.11 Landscape

5.11.1 Introduction

The concept of landscape encompasses all that can be seen by looking across an area of land, i.e. it is the visible environment in its entirety. Landscape is the context in which all change takes place and helps to create a unique sense of place or identity within an area. The landscape supports a wide range of ecological habitats despite the rapid growth in its resident population. It is the interaction of all of these elements that influences landscape character for future generations.

Kildare is an inland county. Local landscapes, including features such as rivers, streams, ponds, lakes, turloughs, woodlands, hedgerows and field boundaries, make a considerable contribution to the amenity and local distinctiveness of both urban and rural landscapes.

5.11.2 Landscape Character Types

Trees, woodlands and hedgerows make a valuable contribution to the landscape and visual amenity of Kilcock. Trees perform many functions particularly in urban settings such as providing shelter, absorbing pollutants, habitats and food source for wildlife, combating climate change by absorbing surface water faster than grasslands.

Kilcock's natural heritage is a unique and special resource. As well as the Royal Canal and the Rye Water River habitats the natural heritage includes woodland and Courtown Demesne to the south of the plan area. It is critical to retain existing key landscapes and open spaces which help provide a sense of identity and place to Kilcock.

The landscape of Kilcock is typical of lowlands of northeast Kildare being visually flat and subdivided by strong hedgerows and tree-lines. The landscape is punctuated by small stands of mature trees.

The landscaping planning context is considered under the Kildare County Development Plan 2011 – 2017; the Kilcock Local Area Plan 2009; the National Inventory of Architectural Heritage (Historic Gardens and Designed Landscapes) and the National Inventory of Outstanding Landscapes of Ireland.

Landscape, Recreation and Amenities are considered under Chapter 14 of the Development Plan and also includes the Landscape Character Assessment (LCA) of the County (2004). The landscape of the county has been divided into 15 LCAs.

The LAP area is located within the large LCA of the 'Northern Lowlands', which typifies the landscape of much of the northeast of the county. The Development Plan identifies that the 'Northern Lowlands- Naas and Environs' is of low sensitivity and are robust landscapes which are tolerant to change, and which have the ability to accommodate development pressure.

The various definition of landscape acknowledge the interaction between people and nature and the changing nature of landscape. The concepts of protecting the significant features of landscape while managing change within landscape are considered to be a key element for the Local Area Plan.

5.11.3 Existing Environmental Issues

Landscape Character Assessments identify that significant uncontrolled population growth is a threat to landscapes and historic settlement structures. Modern unsympathetic development is also a threat to the landscape quality.

Urban areas particularly within commuting distance of the capital have grown rapidly which has eroded the essential character of these towns. Generally the volume of large development within these towns is not in keeping with their character or scale and has created a series of autonomous developments with no reference to their rural setting. Also many settlements have grown at a rate that the historic centres have become detached from the majority of their populations and the relationship between urban areas and landscape setting has been largely lost.

5.12 Interactions

The environment is both complex and dynamic and the various elements of the environment interact in an equally complex and dynamic manner. The permutations can be numerous; however at a simplistic level the principal interactions can be either qualified or quantified in most instances.

These interactions can be either benign or unfavourable; can be either proportionate or synergistic; can be short lived or permanent. In addition an event, an individual action or an ongoing activity can have an effect on one or more aspects of the environment. This effect may differ in magnitude, type and duration across several different aspects of the environment.

For example the potential exists for discharges of treated effluent from wastewater plants to surface water systems to impact negatively on water quality. Similarly the use of septic tanks can impact negatively on the quality of ground water resources if working inefficiently or inappropriately sited. This report has attempted to deal with the issues at a 'root' level

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thereby diminishing the necessity to discuss further the possible and numerous interactions between the various environmental receptors.

This environmental report has approached each of the environmental receptors on an individual basis though it is fully cognisant of the relationship between the various elements. The report has therefore attempted to present the data in such a way as to indicate fully the potential for impacts on other aspects of the environment where they may occur or indeed are likely to occur.

To highlight the extent of the relationship between the various elements of the environment the matrix presented in Table 14 provides an indication of the interactions present between environmental receptors.

		Human Beings - Quality of Life	Biodiversity - Flora and Fauna	Soil and Geology	Water Quality - Surface and Ground	Flooding	Landscape and Visual Issues	Material Assets - Wastewater Treatment	Material Assets - Water Supplies	Material Assets - Transportation	Material Assets - Waste Management	Material Assets - Energy	Cultural Heritage	Air Quality	Noise
Is this aspect of the environment likely to interact with other aspects of the environment?	Human Beings - Population	Grey	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Biodiversity - Flora and Fauna	Blue	Grey	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Soil and Geology	Blue	Blue	Grey	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Water Quality - Surface and Ground	Blue	Blue	Blue	Grey	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Flooding	Blue	Blue	Blue	Blue	Grey	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Landscape and Visual Issues	Blue	Blue	Blue	Blue	Blue	Grey	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Material Assets - Wastewater Treatment	Blue	Blue	Blue	Blue	Blue	Blue	Grey	Blue	Blue	Blue	Blue	Blue	Blue	Blue
	Material Assets - Water Supplies	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Grey	Blue	Blue	Blue	Blue	Blue	Blue
	Material Assets - Transportation	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Grey	Blue	Blue	Blue	Blue	Blue
	Material Assets - Waste Management	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Grey	Blue	Blue	Blue	Blue
	Material Assets - Energy	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Grey	Blue	Blue	Blue
	Cultural Heritage	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Grey	Blue	Blue
	Air Quality	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Grey	Blue
	Noise	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Grey

Table 10: Environmental Interactions

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The significant aspect of the matrix (is the relationship between human beings and all aspects of the environment. There are three simple conclusions to be drawn from the matrix; people benefit most from a high quality environment; people are collectively responsible for the adverse impacts that can occur; and people are most seriously affected by deterioration in environmental quality.

6.0 Strategic Environmental Objectives Targets and Indicators

6.1 Introduction

The primary objective of the SEA is to provide for a high level of environmental protection and to contribute to the integration of environmental considerations into the preparation and adoption of the Kilcock Local Area Plan 2015-2021

Article 5 of the SEA Directive requires the identification of environmental protection objectives. These Strategic Environmental Objectives (SEOs) assist in the prediction, description and monitoring of impacts on the environment as a result of the Local Area Plan. Indicators allow impacts to be assessed and highlighted in a simple and effective manner. Indicators can also be used to form the basis of a monitoring programme for the Plan, (outlined in Chapter 10 of this Environmental Report) the results of which will inform the next Plan Review and other studies.

Thus to achieve the aim of assessing and improving the environmental performance of the Draft Local Area Plan, a number of Environmental Objectives, specific to each environmental topic have been formulated, see Table 15. These SEOs are a fundamental part of the SEA process. The Objectives are derived through consultation between the Planning Authority, the report authors (guided by SEA guidelines, incorporating where relevant international, national and regional policies which govern environmental protection/conservation) and are based on the overall strategy of the Planning Authority to safeguard the environmental integrity of the Local Area Plan area and to develop its functional area in a sustainable manner.

SEOs are distinct from the objectives and policies contained in the plan, though the process of preparing the Local Area Plan in conjunction with the SEA allows for the incorporation of environmental themes at an early stage of the process. The Environmental Objectives are used to assess the proposed development strategies of the Draft Local Area Plan, its policies and objectives, in order to evaluate and identify where conflicts may occur. The assessment is contained in Chapter 8.

Allied to the development of the Strategic Environmental Objectives are Environmental Indicators and targets. Indicators facilitate the monitoring aspect of the SEA, while targets provide a realistic and achievable target to which the Local Authority can work towards. The indicators are discussed in more detail in Chapter 10.

Environmental Report Chapter 6: Strategic Environmental Objectives

Environmental Parameter		Objective
Biodiversity	B1	Conserve and where possible enhance the diversity of habitats and protected species avoiding irreversible losses
	B2	Promote measures to protect biodiversity by creating and improving habitats, where possible
	B3	Provide opportunities for sustainable public access to wildlife and wild places at appropriate locations
	B4	Avoid damage by development to designated wildlife sites and protected species, and associated ecological corridors/ linkages
Population	P1	Improve people's quality of life based on high-quality residential, working and recreational environments and on sustainable travel patterns
Human Health	H1	Minimise noise, vibration and emissions from traffic, industrial processes and extractive industry
Soil	S1	Maintain the quality of soils
	S2	Maximise the sustainable re-use of brownfield lands, and maximise and prioritise the use of the existing built environment rather than developing greenfield lands
	S3	Minimise the consumption of non-renewable sand, gravel and rock deposits
	S4	Minimise the amount of waste to landfill
Water	W1	Protect and enhance the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems
	W2	Promote sustainable water use based on a long-term protection of available water resources
	W3	Reduce progressively discharges of polluting substances to waters
	W4	Mitigate the effects of floods and droughts including vulnerability to climate change. (extreme weather, sea level rise, coastal erosion)
Air	A1	Reduce all forms of air pollution
	A2	Minimise emissions of greenhouse gases to contribute to a reduction and avoidance of human-induced global climate change
	A3	Reduce waste of energy, and maximise use of renewable energy sources
	A4	Assess, plan and manage adaptation to climate change impacts
	A5	Reduce the need to travel

Environmental Report Chapter 6: Strategic Environmental Objectives

Environmental Parameter		Objective
Material Assets	MA1	Maximise use of the existing built environment
	MA2	Avoid flood risk and/or coastal erosion in selecting sites and zoning of lands for development
	MA3	Maintain water abstraction, run-off and recharge within carrying capacity (including future capacity) at environmentally sustainable levels.
	MA4	Maintain the quality of and access to assets such as aquifers, aggregates, ports, motorways, and all physical and social infrastructures.
Cultural Heritage	CH1	Promote the protection and conservation of the cultural, including architectural and archaeological, heritage
Landscape	L1	Conserve and enhance valued natural and historic landscapes and their character and features within them

Table 11: Strategic Environmental Objectives

7.0 Alternatives

7.1 Introduction

The issue of alternatives is a critical function of the SEA process and is necessary to evaluate the likely environmental consequences of a range of alternative development strategies for the county within the constraints imposed by environmental conditions. The alternatives were considered at an early stage of the process and through an iterative process with the Local Area Plan, SEA and AA teams the most appropriate scenario was selected.

7.2 Legislative context

Article 5 of the SEA Directive requires the consideration of reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme and the significant environmental effects of the alternatives proposed. It states under Article 5(1) that;

Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated. The information to be given for this purpose is referred to in Annex I.

In accordance with SEA guidelines the alternatives put forward should be reasonable, realistic and capable of implementation. They should also be in line with the appropriate strategic level at which the Plan will be implemented within the national and county planning hierarchy. The Draft Kilcock Local Area Plan 2015-2021 will be framed within a policy context set by a hierarchy of National, Regional and County level strategic plans as well as the Irish and European legislative framework. Therefore the options for alternatives are limited, and a scenario such as the 'do-nothing' situation has not been included as it is neither reasonable nor realistic.

The alternatives proposed have been assessed against the relevant Strategic Environmental Objectives (SEOs) established for the key aspects of the environment likely to be affected by the Plan's implementation. The evaluation process resulted in the identification of potential impacts and informed the selection of the preferred development scenario for the Kilcock 2015-2021. This determination sought to understand whether each alternative was likely to improve, conflict with, or have a neutral interaction with the environment of the plan area.

7.3 Methodology for the Selection of Alternatives

The plan is based on the principles of sustainable development which means that development will be promoted in accordance with the appropriate international, national, regional and county guidelines.

Particular reference is drawn to the Core Strategy of the Kildare County Development Plan which must be complied with. The following factors have been used to determine the suitability of specific lands for residential development which constitute the proper planning and sustainable development of the town:

Environmental Report Chapter 7: Assessment of Alternatives

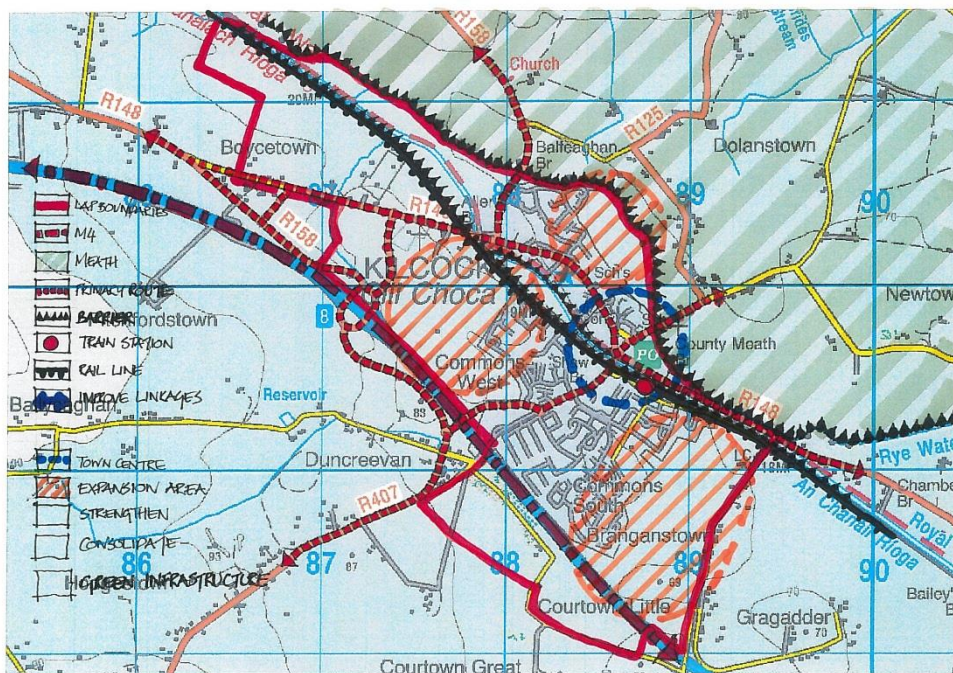
- Proximity to the Kilcock town centre;
- Proximity to the schools;
- Availability of Public Transport - to maximise public transport investment, it is important that land use planning underpins its efficiency by sustainable transport patterns. This includes promoting higher densities within 400m metres walking distance of a bus stop and proximity to the rail station (800m);
- Regeneration/Renewal of residential areas or other brownfield sites;
- Environmental Constraints – proximity to and potential impact on the qualifying interests of the adjoining designated sites;
- The need to provide new roads infrastructure to facilitate development
- Consideration as to whether a site could be considered an infill opportunity as opposed to extending the urban footprint further from the town centre.
- Leapfrogging beyond other available sites will not be considered favourably.

Three alternatives were considered in the drafting of the SEA and the preparation of the Draft Local Area Plan.

- Alternative A: To provide high density residential, retail and employment development on Greenfield sites and limited consolidation of the town centre.
- Alternative B: To provide development at the Motorway Junction around a high capacity motorway network and limited expansion of the town centre.
- Alternative C: To consolidate and strengthen the town centre and provide for the limited expansion of Kilcock to the east and west.

Alternative A:

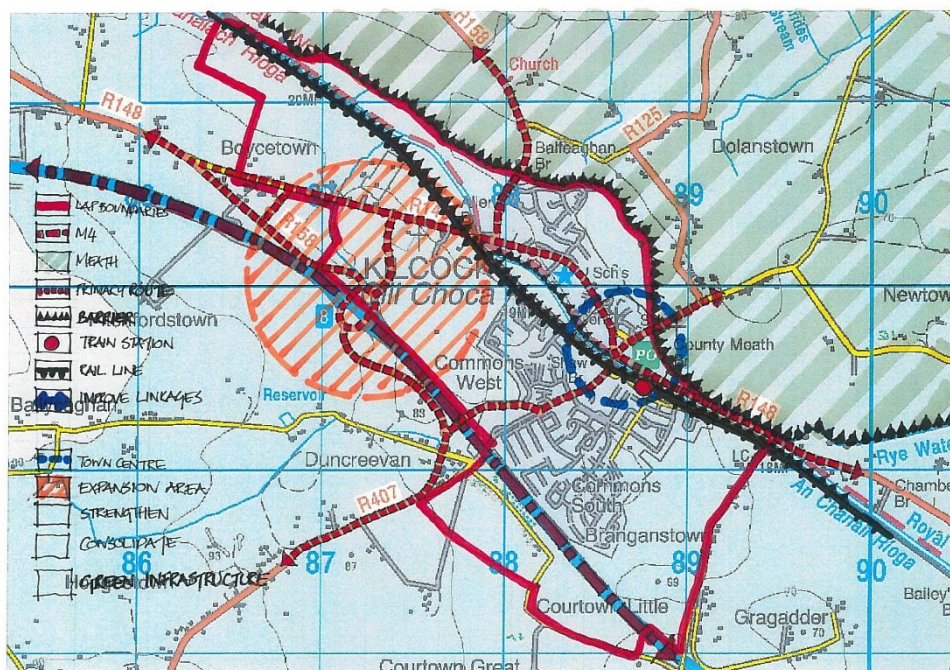
This approach to the future development of Kilcock would provide high density residential, retail and employment development on Greenfield sites and limited consolidation of the town centre.



Critical Evaluation	Effects on Planning
<ul style="list-style-type: none"> • The development pattern is likely to detract from the town centre with increased vacancies on the existing town core and lack of critical mass resulting in a less vibrant town centre. • Underutilises the potential to consolidate the existing town centre by not prioritising the more efficient use of brownfield sites. 	<ul style="list-style-type: none"> • Some of the lands may be more productively used for recreational uses. • Requires significant upgrading of infrastructural links to town centre and surrounding residential areas. • There are other more suitable brownfield sites adjacent within and adjacent to the town centre. • Would place pressure on environmental habitats. • High density development would detract from the town centre which is already in decline.

Alternative B:

This approach to the future development of Kilcock would provide development at the Motorway Junction around a high capacity motorway network and limited expansion of the town centre.

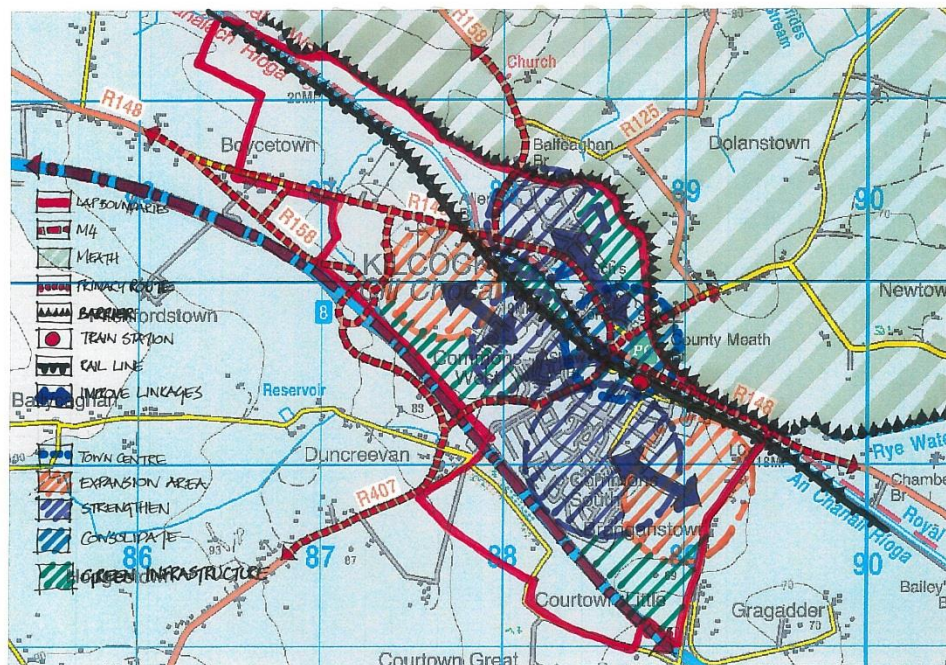


Critical Evaluation	Effects on Planning
<ul style="list-style-type: none"> • These lands are far removed from the town centre, existing residential communities and social and physical infrastructure. • Impact on the M4 interchange with increased residential and employment development creating traffic congestion at key junctions. • Underutilises the potential to consolidate the existing town centre by not prioritising the more efficient use of land on identified strategic sites closer to the centre. 	<ul style="list-style-type: none"> • Requires significant upgrading of infrastructural links to town centre and surrounding residential areas. • Has potential to lead to an uncoordinated use of lands with disconnected neighbourhoods. • High density development would detract from the town centre which is already in decline. • There are other more suitable brownfield sites adjacent within and adjacent to the town centre.

Alternative C:

This approach to the future development of Kilcock would consolidate and strengthen the town centre and provide for the limited expansion of Kilcock to the east and west.

This approach would involve reducing the extent of town centre zoned land and facilitating the redevelopment of strategic brownfield sites in order to consolidate the town core. The town will be strengthened by providing improved linkages between the town centre and existing residential neighbourhoods.



Environmental Report Chapter 7: Assessment of Alternatives

Critical Evaluation	Effects on Planning
<ul style="list-style-type: none"> This alternative allows for a consolidation strengthening and limited expansion of Kilcock in an orderly and sustainable manner through the development of an urban design strategy and framework plan. Consolidating the town core by reducing the amount of town centre zoned land in order to create a compact core. Strengthening the town centre by increasing connectivity and permeability between the town centre and the existing and proposed residentially zoned lands and by providing guidance to improve the vitality and viability of the town centre. Concentration of development in town centre by providing development briefs for strategic redevelopment brownfield sites within and adjacent to the town centre. Limited expansion to the east and west of Kilcock has been identified in order to meet the requirements of the Core Strategy with clear guidance for the future development of these lands. 	<ul style="list-style-type: none"> Requires significant upgrading of infrastructural links to town centre and surrounding residential areas. Requires specific local planning and urban design guidance for the development of key sites in the town centres and clear guidance on the density and quality of new residential development in areas identified for expansion. Responds to the relevant national/regional planning strategies including the National Spatial Strategy and the Regional Planning Guidelines for the Greater Dublin Area. Seeks to provide a vibrant town centre and an improved quality of life for the residents of the town. Accords with national guidance e.g. Urban Design Guidelines, Design Manual for Urban Roads and Streets,

Consideration against the SEOs of the Draft Local Area Plan

This assessment is undertaken to identify any potential issues in relation to the alternative development scenarios proposed and to identify which is most suitable. This essentially is a thorough review of the approaches from an environmental perspective. This assessment was used to inform the overall approach towards the future development of Kilcock as would be pursued and facilitated by the Local Area Plan zonings, policies and objectives.

	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management
Alternative A	Potential Positive Impact	Potential Neutral Impact	Potential Negative Impact	Potential Negative Impact	Potential Negative Impact	Potential Negative Impact	Potential Positive Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Negative Impact	Potential Negative Impact	Potential Positive Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Neutral Impact
Alternative B	Potential Negative Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Negative Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Negative Impact	Potential Negative Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Negative Impact	Potential Neutral Impact
Alternative C	Potential Positive Impact	Potential Positive Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Negative Impact	Potential Positive Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Positive Impact	Potential Neutral Impact	Potential Positive Impact	Potential Neutral Impact	Potential Neutral Impact	Potential Positive Impact	Potential Neutral Impact

Potential Positive Impact
 Potential Neutral Impact
 Potential Negative Impact
 Uncertain Impact

Table 12: Assessment of Alternatives against SEOs

Environmental Report Chapter 7: Assessment of Alternatives

The potential uncertainties or negative impacts identified in the assessment relate to localised impacts which may occur as a result of the development of these alternatives. However these potential uncertainties will be dealt with at planning application stage and are mitigated against by protective policies contained in the draft Plan with regards to transport, biodiversity and landscape etc.

Conclusions

The alternatives reviewed represent choices that are available to the planning authority in delivering the same balance of residential growth across the county.

The density and location of future residential development requires a balance between the desire to increase the number of people close to local services, the desire to regenerate and consolidate development in town centres and the need to protect the architectural, archaeological and natural environments of settlements in the county. The option chosen in the proposed variation represents an appropriate balance between the competing environmental objectives.

8.0 Strategic Environmental Assessment of Draft Plan

8.1 Introduction

In its Introduction chapter the Draft Kilcock Local Area Plan 2015-2021 states:

Within the next 20 to 30 years Kilcock will be compact and beautiful town which showcases the distinct character of its built and natural heritage. It will be well connected to Dublin City centre and neighbouring towns by exemplary public transport and cycling routes and will support the knowledge based economy in Maynooth and Leixlip by focusing on smart, green innovation-based industries. It will be socially inclusive and have a vibrant community with its neighbourhoods connected by cycling and walking routes, interwoven with a quality bio-diverse greenspace network. In short Kilcock will become a place of choice.

The SEA process ensures that the environment is central to all decisions on the future development of the plan area.

The purpose of this section of the Environmental Report is to highlight the potential conflicts, if they are present, between the stated policies and objectives contained in the Draft Plan with the Strategic Environmental Objectives. Furthermore the assessment examines the potential impact arising from the Plan's implementation of its policies and objectives on sensitive environmental receptors.

The process of SEA and Local Area Plan formulation is an iterative one and as such environmental considerations have informed all stages of plan preparation carried out to date in order for the potential for significant adverse effects arising from implementation of the plan to be minimised. Nonetheless, it is possible that some individual plan objectives or policies will create such effects. Where the environmental assessment identifies significant adverse effects, consideration is given in the first instance to preventing such impacts; where this is not possible for stated reasons, to lessening or offsetting those effects through mitigation measures outlined in Chapter 9 of this report.

In some instances there is little or no relationship between the various Plan Policies/Objectives and the respective environmental receptor. Where this occurs no further discussion is deemed necessary. This has been determined through an initial screening of the Local Area Plan policies and objectives which ascertains if policies are likely to have a positive, negative or neutral impact on the environment. This screening process allows the assessment to focus more efficiently on the pertinent issues. The assessment matrices are provided indicating where the screening process has in the first instance identified an impact which may potentially arise due to the implementation of policy/objective contained within the Plan. Similarly where a conflict exists between a Strategic Environmental Objective and a Policy/Objective this is noted and discussed.

This initial stage aims to ascertain the quality, if any, of the potential impact. Each of the Plan's policies and objectives have been screened for their impact and where a neutral impact is noted no further discussion is provided within this report. This format allows for the ER to focus on the positive and negative impacts and proceed to a discussion on their significance

and duration. Thus it is a more robust, more focused approach to understanding the potential impacts associated with the Plan's implementation.

8.2 Environmental Assessment

The preliminary phase of this assessment identifies the quality of the potential impact on the environment as a result of the policies and objectives of the Draft Local Area Plan. Table 13 below highlights where the impact may be either potentially positive (green); neutral (white); potentially negative (yellow); or uncertain (blue). Where a neutral impact is identified no further discussion is deemed necessary. However it is acknowledged localised issues may arise depending on site specific issues and the type of development proposed. The assessment contained herein deals with strategic issues alone, for potential localised impacts the Mitigation section contained in Chapter 9 should be consulted.

It has been determined that there are a number of policies/objectives where the impact is potentially negative. The significant issues are discussed in the following sections. A comprehensive and detailed set of mitigation measures are provided in Chapter 9 which effectively reduces or eliminates identified negative impacts. Similarly, monitoring the implementation of the plan, as discussed in Chapter 10, will ensure that if any negative impact becomes a reality it will be identified at an early stage and appropriate actions taken by the relevant authority/agency to remedy the situation.

In general terms the Plan, in its current form will have a positive effect on the environment as a whole.

8.3 Human Beings

The purpose of the Local Area Plan in broad terms is to promote, manage and control development within the plan area over the lifetime of the plan in order to achieve a balance between social, economic and environmental considerations thereby benefitting the residents of the area both now and in the future. The initial screening aspect of the assessment presented in Table 17 indicates the Plan will impact positively on the area's residents. However the assessment of the Plan's implementation on other receptors fully considers the consequences of the Plan's implementation on Human Beings. For instance where an aspect of the environment relates to or overlaps with the broad issue of human health such as air quality or water quality, this aspect of 'human health' is addressed under that topic.

The potential impacts for Population and Human Health are predominantly positive as it is proposed to consolidate settlements, improve social and community facilities and integrate land use and transport.

8.4 Soil and Geology

The assessment reveals that the majority of policies and objectives are neutral on Soils & Geology. A number of the objectives and policies contained within the Strategic Vision, Core Strategy and Themes chapter of the Draft Plan will result in a positive effect at a strategic level on the soil and geology aspect of the environment.

The overall reduction in lands zoned within the plan area and a focused approach towards new development reduces the requirement of development on greenfield sites thus protecting potentially valuable agricultural resource. The implementation of these strategic objectives will contribute positive impact on the soil and geology element of the environment.

The screening assessment identified a positive impact on this aspect of the environment due to the implementation of the Plan's policies and objectives in relation to the natural environment.

8.5 Biodiversity

The plan area is situated in a sensitive environment for flora and fauna as the Canal supports various species. As such the assessment has raised a significant number of potential negatives and uncertainties as a result of the policies and objectives contained within the plan.

The primary concerns relate to the interaction between recreational proposals, transport objectives, and green infrastructure proposals and reference to policies and objectives relating to the Canal and the protection of important sites. Many of these are screened as uncertain or potential negative at this stage and would be subject to detailed environmental assessment during the planning process.

8.6 Water Quality

The screening assessment identified a neutral impact on water quality (water, groundwater, surface water and flooding) due to the implementation of the Plan's policies. Development will be subject to necessary infrastructure in place to accommodate the needs of that development. This will therefore result in a positive impact on the quality of waters within the plan area.

The Plan provides considerable protection of vulnerable and valuable water resources and thus the effect of the Plan's policies and objectives contained within this section of the Plan will result in a positive impact on water resources. The Council has provided specific policy and objectives relating to water quality, both ground and surface.

In order to ensure both public health and environmental protection, it is essential that any new dwelling is served by drainage arrangements that meet the Council's requirements and standards. Therefore the following policies are encouraged as they are likely to have profound positive impacts on the water environment of the plan area.

Proposals for mitigation and management of flood risk will only be considered where avoidance is not possible and where development can be clearly justified with the justification test outlined in the "Planning System and Flood Risk Management – Guidelines for Planning Authorities".

In those areas where the Initial Assessment indicated a risk of minor localised flooding, the SFRA recommended that site-specific Flood Risk Assessment be carried out for any proposals for development of these lands. These site-specific assessments should be appropriate to the nature and scale of the development being proposed. In a number of cases, the Initial Assessment indicated a more significant flood risk in lands which were being considered for types of development not generally compatible with flood risk areas. The SFRA recommended that Detailed Flood Risk Assessment (Detailed FRA) be carried out for these lands.

8.7 Material Assets – Transport

Broadly speaking the policies and objectives relevant to the Transport (Material Assets) aspect of the environment are positive and will assist in increasing the sustainable movement of

people and goods throughout the County. The promotion of sustainable travel patterns through reduced requirement on cars and the increased provision of cycling and pedestrian routes will have positive impacts.

The consolidation of development within the town and the adoption of a consolidation and focused approach to development of settlements will ensure the viability of transport infrastructure and provision of alternatives to the private car.

Implementation of the above policies and the supporting objectives regarding transport will in general have a positive or neutral impact and will have secondary positive impacts on climate change and air quality. There are a number of identified potential impacts on biodiversity and landscape, however these are mitigated through protective policies.

8.8 Material Assets – Waste Services

This section of the assessment ascertains how the policies and objectives of the Draft Local Area Plan are likely to impact on the supply of water and disposal of wastewater and waste management throughout the County.

Wastewater

The baseline analysis revealed the plan area's reliance on external wastewater infrastructure. However this wastewater infrastructure is secure and sufficient to cater for the proposed future expansion of Kilcock. The inclusion of policies and objectives to ensure wastewater infrastructure is maintained is a positive for wastewater. This assessment has identified a likely neutral to positive impact in this regard through the implementation of policies and objectives contained within the Water Services and Waste Management Section of the Draft Plan.

Waste Management

With regard to waste management the policies of the Draft Plan which support the reduction of the amount of waste that ends up in landfill / incineration have a positive to neutral impact on the plan area. Additionally they will have secondary positive impacts on climate change and human beings.

8.9 Noise

In overall terms the policies and objectives of the Draft Plan have been found likely to have a positive to neutral impact on this aspect of the environment. While implementation of policies and objectives contained in the plan are likely to have a positive impact on noise the potential exists for site specific impacts to occur as a result of development, particularly with regards to development in proximity to the M4. This of course will be dependent on the nature and specifics of that development and where it will be located. Any potential negative impacts will be mitigated for and will be dealt with on a site specific basis through the development management process.

8.10 Air Quality

The potential impacts on Air Quality are positive or neutral as the Plan proposes to consolidate the town. The Plan acknowledges the need to facilitate private car use, however it also aims

to promote more sustainable modes of transport which will impact positively on air quality. The plan also promotes sustainable travel modes and seeks to reduce the requirements of long distance commuting to Dublin.

The plan is committed to the promotion of sustainable means of travel, and the encouragement of modal change from the private car. The emphasis will be on achieving a situation where the residents of the plan area are within reasonable walking/cycling distance of local services and public transport. The strategy proposes the improvement of cycling and pedestrian infrastructure.

8.11 Energy

Energy infrastructure is critical for the sustainable development of the plan area. The assessment of the policies and objectives contained within the draft Plan has resulted in a generally neutral impact on the environment of the plan area.

8.12 Climate Change

The fundamental objective of fostering sustainability and reducing the levels of pollution and emissions caused through development is central to the formulation of the policies and objectives of the LAP.

Thus the need to reduce the amount of energy generated as a result of transportation has been to the fore in the proposed transportation and settlement strategies pursued in this Local Area Plan.

Flooding is a natural phenomenon of the hydrological cycle which is predicted to increase as a result of ongoing climatic changes. An increase in rainfall intensity as a result of climate change could have severe consequences for flooding and in particular the severity of flood events.

Kildare is committed to pursuing sustainable energy policies in accordance with the White Paper, 'Towards a Sustainable Energy Future for Ireland 2007-2020'. Improving energy efficiency is a key step in a sustainable energy policy. Energy efficiency is internationally recognised as the most cost-effective means of reducing dependence on fossil fuels. The Local Area Plan in this regard contains policies and objectives to reduce further contribution to Climate Change.

8.13 Cultural Heritage

In general the policies and objectives contained within the LAP are positive to neutral for impacts on Cultural Heritage however the interaction between town centre consolidations through new development had indicated uncertain or potential negative impacts. Development (i.e. residential, commercial etc.) therefore should be in keeping with the character of the town. This is considered vital to protecting the heritage of the plan area. Maintaining the quality of the urban environment is key to protect this heritage and maximise its potential for tourism. The draft LAP contains policies and objectives in this regards.

The assessment identified the potential for localised impacts associated with the provision or improvement of transport infrastructure such as road widening, road construction etc and this should be considered on a case by case basis at the planning stage.

8.14 Landscape

The screening assessment identified a full spectrum of potential impacts on the landscape arising from the implementation of the Plan's policies and objectives on this aspect of the environment.

As with Biodiversity and Cultural Heritage potential negatives or uncertainties have been identified from the interaction between recreation and green infrastructure policies and objectives. Additionally Energy and communications and transport infrastructure can and do have an impact on the landscape.

Development proposals that arise as a result of these policies and objectives will be assessed on a case by case basis and any potential negative impacts on this aspect of the environment will be assessed during the planning process.

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
KS 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
KS 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
KS3	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
CSO 1	Green																Overall Neutral/ Positive Impact
CSO 2	Green											Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
SK1	Green																Overall Neutral/ Positive Impact
SK2	Green									Green							Overall Neutral/ Positive Impact
SK3	Green										Green						Overall Neutral/ Positive Impact
SK4	Green	Green															Overall Neutral/ Positive Impact
SK5	Green																Overall Neutral/ Positive Impact
SK6	Green																Overall Neutral/ Positive Impact
SK7	Green														Green		Overall Neutral/ Positive Impact
SK8	Green									Green	Green						Overall Neutral/ Positive Impact
SK9	Green									Green					Green		Overall Neutral/ Positive Impact
SK10	Green									Green					Green		Overall Neutral/ Positive Impact
SK11	Green	Green								Green							Overall Neutral/ Positive Impact
SK12	Green									Green	Green				Green		Overall Neutral/ Positive Impact
SK13	Green									Green	Green						Overall Neutral/ Positive Impact
SK14										Green	Green						Overall Neutral/ Positive Impact
SK15										Green	Green						Overall Neutral/ Positive Impact
SK16										Green	Green						Overall Neutral/ Positive Impact
SK17										Green	Green						Overall Neutral/ Positive Impact
SK18										Green	Green						Overall Neutral/ Positive Impact
SK19										Green	Green						Overall Neutral/ Positive Impact
SK20	Green									Green	Green						Overall Neutral/ Positive Impact
SK21	Green									Green	Green	Yellow					Mitigated by HC1, HC3 & HCO2
SK22										Green	Green						Overall Neutral/ Positive Impact
SK23	Green									Green	Green						Overall Neutral/ Positive Impact
SK24										Green	Green						Overall Neutral/ Positive Impact
SK25										Green	Green						Overall Neutral/ Positive Impact
SK26										Green	Green						Overall Neutral/ Positive Impact
SK27	Green									Green	Green				Green		Overall Neutral/ Positive Impact
SK28	Green									Green	Green	Yellow					Mitigated by HC1, HC2 & HCO4

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
SK29	Green									Green	Yellow						Mitigated by HC1, HC2 & HCO4
SK30	Green						Green								Green		Overall Neutral/ Positive Impact
SK31	Green																Overall Neutral/ Positive Impact
SK32	Green									Green	Green						Overall Neutral/ Positive Impact
SK33	Green									Green							Overall Neutral/ Positive Impact
SK34	Green									Green							Overall Neutral/ Positive Impact
SK35	Green									Green							Overall Neutral/ Positive Impact
SK36	Green									Green							Overall Neutral/ Positive Impact
SK37	Green									Green	Yellow						Mitigated by HC1, HC2 & HCO4
SK38	Green									Green	Green						Overall Neutral/ Positive Impact
SK39	Green						Green			Green	Green						Overall Neutral/ Positive Impact
SK40	Green						Green			Green							Overall Neutral/ Positive Impact
SKO1	Green																Overall Neutral/ Positive Impact
SKO2	Green																Overall Neutral/ Positive Impact
SKO3	Green	Green								Yellow	Yellow						Mitigated by HC1, HC2, HCO4 & GK13
SKO4	Green									Green	Green						Overall Neutral/ Positive Impact
SKO5	Green									Green	Green						Overall Neutral/ Positive Impact
SKO6	Green		Yellow				Green										Mitigated by GK17, GK18 & GK19
SKO7	Green									Green	Green						Overall Neutral/ Positive Impact
SKO8	Green									Green	Green						Overall Neutral/ Positive Impact
SKO9	Green									Green	Green						Overall Neutral/ Positive Impact
SKO10	Green									Green	Green						Overall Neutral/ Positive Impact
SKO11	Green									Green							Overall Neutral/ Positive Impact
SKO12	Green									Green							Overall Neutral/ Positive Impact
SKO13	Green									Green					Green		Overall Neutral/ Positive Impact
SKO14	Green									Green					Green		Overall Neutral/ Positive Impact
SKO15	Green									Green					Green		Overall Neutral/ Positive Impact
SKO16	Green									Green					Green		Overall Neutral/ Positive Impact
SKO17	Green									Green	Yellow				Green		Mitigated by GK17, GK04 & GK13
SKO18	Green									Green	Yellow				Green		Mitigated by GK17, GK04 & GK13
SKO19	Green									Green							Overall Neutral/ Positive Impact
SKO20	Green									Green							Overall Neutral/ Positive Impact
SKO21	Green									Green							Overall Neutral/ Positive Impact
SKO22	Green									Green							Overall Neutral/ Positive Impact
SKO23	Green														Green		Overall Neutral/ Positive Impact

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives contd.

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
SKO24	Green									Green							Overall Neutral/ Positive Impact
SKO25	Green														Green		Overall Neutral/ Positive Impact
SKO26										Green							Overall Neutral/ Positive Impact
SKO27										Green							Overall Neutral/ Positive Impact
SKO28										Green					Green		Overall Neutral/ Positive Impact
SKO29										Green							Overall Neutral/ Positive Impact
SKO30	Green									Green					Green		Overall Neutral/ Positive Impact
SKO31										Green							Overall Neutral/ Positive Impact
SKO32	Green									Green							Overall Neutral/ Positive Impact
SKO33	Green																Overall Neutral/ Positive Impact
SKO34	Green																Overall Neutral/ Positive Impact
SKO35	Green									Green	Yellow						Mitigated by HC1, HC3 & HCO2
SKO36										Green	Yellow						Mitigated by HC1, HC3 & HCO2
																	Overall Neutral/ Positive Impact

Potential Positive Impact Potential Neutral Impact Potential Negative Impact Uncertain Impact

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives contd.

Chapter 8: Connecting Infrastructure

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
MT1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT3	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT4	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT5	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT6	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT7	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT8	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow	Green	Green	Green	Green	Green	Mitigated by MTO 29, GK 10, GK13, HC5 & HC6
MT9	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT10	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT11	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT12	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT13	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT14	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT15	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT16	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT17	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT18	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT19	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT20	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT21	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT22	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT23	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MT24	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MTO1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MTO2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MTO3	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MTO4	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Mitigated by GK3, GK6
MTO5	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Mitigated by MTO 30, GK 10 & GK13
MTO6	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MTO7	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Mitigated by GK17, GK04 & GK13
MTO8	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
MTO9	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Mitigated by GK17 & GK04
MTO10	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives contd.

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural/Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
MTO11	Green									Green							Overall Neutral/ Positive Impact
MTO12	Green		Yellow							Green					Green		Mitigated by GK17 & GK04
MTO13	Green									Green					Green		Overall Neutral/ Positive Impact
MTO14	Green									Green					Green		Overall Neutral/ Positive Impact
MTO15	Green									Green	Yellow				Green		Mitigated by MTO 30, HC5 & HC6
MTO16	Green									Green					Green		Overall Neutral/ Positive Impact
MTO17	Green		Yellow							Green					Green		Mitigated by GK17 & GK04
MTO18	Green									Green	Green				Green		Overall Neutral/ Positive Impact
MTO19	Green									Green	Green				Green		Overall Neutral/ Positive Impact
MTO20	Green									Green					Green		Overall Neutral/ Positive Impact
MTO21															Green		Overall Neutral/ Positive Impact
MTO22															Green		Overall Neutral/ Positive Impact
MTO23															Green		Overall Neutral/ Positive Impact
MTO24															Green		Overall Neutral/ Positive Impact
MTO25			Yellow												Green		Mitigated by GK17 & GK04
MTO26			Yellow												Green		Mitigated by GK17 & GK04
MTO27										Green					Green		Overall Neutral/ Positive Impact
MTO28			Green							Green					Green		Overall Neutral/ Positive Impact
MTO29											Green				Green		Overall Neutral/ Positive Impact
MTO30	Green														Green		Overall Neutral/ Positive Impact
MTO31	Green														Green		Overall Neutral/ Positive Impact
MTO32	Green														Green		Overall Neutral/ Positive Impact
MTO33	Green									Green					Green		Overall Neutral/ Positive Impact
Water, Drainage, Waste Energy and Telecommunications Infrastructue																	
S11	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/ Positive Impact
S12																Green	Overall Neutral/ Positive Impact
S13																Green	Overall Neutral/ Positive Impact
S14																Green	Overall Neutral/ Positive Impact
S15																Green	Overall Neutral/ Positive Impact
S16																Green	Overall Neutral/ Positive Impact
S17														Green			Overall Neutral/ Positive Impact
S18														Green			Overall Neutral/ Positive Impact
S19														Green			Overall Neutral/ Positive Impact
S110														Green			Overall Neutral/ Positive Impact
S111														Green			Overall Neutral/ Positive Impact
S112														Green			Overall Neutral/ Positive Impact

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
SIO1	Green						Green										Overall Neutral/ Positive Impact
SIO2																	Overall Neutral/ Positive Impact
SIO3																	Overall Neutral/ Positive Impact
SIO4							Green										Overall Neutral/ Positive Impact
SIO5	Green									Green							Overall Neutral/ Positive Impact
SIO6	Green													Green			Overall Neutral/ Positive Impact
SIO7														Green			Overall Neutral/ Positive Impact
SIO8														Green			Overall Neutral/ Positive Impact
SIO9														Green			Overall Neutral/ Positive Impact
SIO10														Green			Overall Neutral/ Positive Impact
SIO11														Green			Overall Neutral/ Positive Impact
SIO12					Green									Green			Overall Neutral/ Positive Impact
SIO13														Green			Overall Neutral/ Positive Impact
SIO14														Green			Overall Neutral/ Positive Impact
SIO15			Green											Green			Overall Neutral/ Positive Impact
SIO16			Green		Green									Green			Overall Neutral/ Positive Impact
SIO17			Green		Green	Green								Green			Overall Neutral/ Positive Impact
SIO18					Green									Green			Overall Neutral/ Positive Impact
SIO19					Green								Green				Overall Neutral/ Positive Impact
SIO20													Green				Overall Neutral/ Positive Impact
SIO21													Green				Overall Neutral/ Positive Impact
SIO22													Green				Overall Neutral/ Positive Impact
SIO23													Green				Overall Neutral/ Positive Impact
SIO24			Green														Overall Neutral/ Positive Impact
SIO25				Green													Overall Neutral/ Positive Impact
SIO26				Green		Green											Overall Neutral/ Positive Impact
SIO27											Green						Overall Neutral/ Positive Impact
SIO28											Green						Overall Neutral/ Positive Impact
SIO29	Green							Green			Green						Overall Neutral/ Positive Impact
SIO30	Green							Green			Green						Overall Neutral/ Positive Impact



Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives contd.

Chapter 9: Greening Kilcock

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
GK1																	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK2																	Mitigated by GK7 & GK19
GK3																	
GK4																	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK5																	Overall Neutral/ Positive Impact
GK6																	Overall Neutral/ Positive Impact
GK7																	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK8																	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26, S141
GK9																	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK10																	Overall Neutral/ Positive Impact
GK11																	Overall Neutral/ Positive Impact
GK12																	Overall Neutral/ Positive Impact
GK13																	Overall Neutral/ Positive Impact
GK14																	Overall Neutral/ Positive Impact
GK15																	Overall Neutral/ Positive Impact
GK16																	Overall Neutral/ Positive Impact
GK17																	Overall Neutral/ Positive Impact
GK18																	Overall Neutral/ Positive Impact
GK19																	Overall Neutral/ Positive Impact
GK20																	Mitigated by GK7, GK19 & GK03
GK21																	Overall Neutral/ Positive Impact
GK22																	Overall Neutral/ Positive Impact
GK23																	Overall Neutral/ Positive Impact
GK24																	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK25																	Overall Neutral/ Positive Impact
GK26																	Overall Neutral/ Positive Impact
GK27																	Overall Neutral/ Positive Impact
GK28																	Overall Neutral/ Positive Impact
GK29																	Overall Neutral/ Positive Impact
GK30																	Overall Neutral/ Positive Impact
GK31																	Overall Neutral/ Positive Impact
GK32																	Overall Neutral/ Positive Impact
GK33																	Overall Neutral/ Positive Impact
GK34																	Mitigated by GK7, GK19 & GK03
GK35																	Overall Neutral/ Positive Impact
GK36																	Overall Neutral/ Positive Impact

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
GK37	Green																Overall Neutral/ Positive Impact
GK38	Green																Overall Neutral/ Positive Impact
GK39	Green																Overall Neutral/ Positive Impact
GKO1	Green		Yellow												Green		Mitigated by GK7, GK17. GK19, GK03, GK25, GK26
GKO2	Green		Yellow												Green		Mitigated by GK7, GK17. GK19, GK03, GK25, GK26
GKO3			Green							Green					Green		Overall Neutral/ Positive Impact
GKO4			Green							Green					Green		Overall Neutral/ Positive Impact
GKO5			Green							Green							Overall Neutral/ Positive Impact
GKO6			Green														Overall Neutral/ Positive Impact
GKO7			Green														Overall Neutral/ Positive Impact
GKO8	Green		Yellow												Green		Mitigated by GK7, GK19 & GK03
GKO9	Green													Green			Overall Neutral/ Positive Impact
GKO10	Green		Yellow														Mitigated by GK7, GK17. GK19, GK03, GK25, GK26
GKO11	Green		Yellow												Green		Mitigated by GK7, GK17. GK19, GK03, GK25, GK26
GKO12	Green		Yellow												Green		Mitigated by GK7, GK17. GK19, GK03, GK25, GK26
GKO13			Green														Overall Neutral/ Positive Impact
GKO14	Green		Yellow														Mitigated by GK7, GK17. GK19, GK03, GK25, GK26
GKO15	Green																Overall Neutral/ Positive Impact
																	Overall Neutral/ Positive Impact
																	Overall Neutral/ Positive Impact



Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Chapter 10: Promoting Heritage and Culture

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
HC1	■										■						Overall Neutral/ Positive Impact
HC2											■						Overall Neutral/ Positive Impact
HC3											■						Overall Neutral/ Positive Impact
HC4											■						Overall Neutral/ Positive Impact
HC5									■		■						Overall Neutral/ Positive Impact
HC6											■						Overall Neutral/ Positive Impact
HC7											■						Overall Neutral/ Positive Impact
HC8											■						Overall Neutral/ Positive Impact
HC9											■						Overall Neutral/ Positive Impact
HC10											■						Overall Neutral/ Positive Impact
HC11											■						Overall Neutral/ Positive Impact
HC12											■						Overall Neutral/ Positive Impact
HC13											■						Overall Neutral/ Positive Impact
HC14											■						Overall Neutral/ Positive Impact
HC15											■						Overall Neutral/ Positive Impact
HC16											■						Overall Neutral/ Positive Impact
HC17											■						Overall Neutral/ Positive Impact
HC18											■						Overall Neutral/ Positive Impact
HC19											■						Overall Neutral/ Positive Impact
HC20											■						Overall Neutral/ Positive Impact
HC21											■						Overall Neutral/ Positive Impact
HC22											■						Overall Neutral/ Positive Impact
HC23											■						Overall Neutral/ Positive Impact
HC24											■						Overall Neutral/ Positive Impact
HC25											■						Overall Neutral/ Positive Impact
HC26											■						Overall Neutral/ Positive Impact
HC01	■										■						Overall Neutral/ Positive Impact
HC02											■						Overall Neutral/ Positive Impact
HC03											■						Overall Neutral/ Positive Impact
HC04											■						Overall Neutral/ Positive Impact
HC05	■									■	■						Overall Neutral/ Positive Impact
HC06											■						Overall Neutral/ Positive Impact

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
HCO7																	Overall Neutral/ Positive Impact
HCO8																	Overall Neutral/ Positive Impact
HCO9																	Overall Neutral/ Positive Impact
HCO10																	Overall Neutral/ Positive Impact
HCO11																	Overall Neutral/ Positive Impact
HCO12																	Overall Neutral/ Positive Impact
HCO13																	Overall Neutral/ Positive Impact
HCO14																	Overall Neutral/ Positive Impact
HCO15																	Overall Neutral/ Positive Impact
																	Overall Neutral/ Positive Impact



Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Table 13: Strategic Environmental Assessment of Draft Policies and Objectives contd.

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
RE08	Green																Overall Neutral/ Positive Impact
RE09	Green									Green	Green				Green		Overall Neutral/ Positive Impact
RE10																	Overall Neutral/ Positive Impact
RE011	Green		Yellow												Yellow		Mitigated by GK03, GK25, MT21, MT0 21



RE8	Green		Yellow			Blue										Yellow	Mitigated by GK03, GK25, MT21, MT0 21, SI41
RE9	Green																Overall Neutral/ Positive Impact
RE10	Green																Overall Neutral/ Positive Impact
RE11	Green																Overall Neutral/ Positive Impact
RE12	Green																Overall Neutral/ Positive Impact
RE13	Green																Overall Neutral/ Positive Impact
RE14	Green																Overall Neutral/ Positive Impact
RE15	Green																Overall Neutral/ Positive Impact
RE16	Green																Overall Neutral/ Positive Impact
RE17	Green																Overall Neutral/ Positive Impact
RE18	Green																Overall Neutral/ Positive Impact
RE19	Green									Green	Green						Overall Neutral/ Positive Impact
RE20	Green									Green	Green						Overall Neutral/ Positive Impact
RE21	Green														Green		Overall Neutral/ Positive Impact
RE22	Green									Green							Overall Neutral/ Positive Impact
RE23	Green																Overall Neutral/ Positive Impact
RE24	Green																Overall Neutral/ Positive Impact
RE25	Green		Yellow							Green					Yellow		Mitigated by GK03, GK25, MT21, MT0 21
RE01	Green																Overall Neutral/ Positive Impact
RE02	Green		Yellow													Green	Mitigated by GK03, GK27
RE03	Green										Green						Overall Neutral/ Positive Impact
RE04	Green		Yellow							Green						Green	Mitigated by GK03, GK27, SI41
RE05	Green		Yellow							Green						Green	Mitigated by GK03, GK27, SI41
RE06	Green																Overall Neutral/ Positive Impact
RE07	Green																Overall Neutral/ Positive Impact

Environmental Report Chapter 8: Strategic Environmental Assessment of Draft Plan

Chapter 12: Quality Homes

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
QH1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Overall Neutral/Positive Impact
QH2	Green																Overall Neutral/Positive Impact
QH3	Green						Green										Overall Neutral/Positive Impact
QH4	Green									Green					Green		Overall Neutral/Positive Impact
QH5	Green						Green			Green							Overall Neutral/Positive Impact
QH6	Green											Green	Green	Green	Green	Green	Overall Neutral/Positive Impact
QH7	Green														Green		Overall Neutral/Positive Impact
QH8	Green																Overall Neutral/Positive Impact
QH9	Green																Overall Neutral/Positive Impact
QH10										Green							Overall Neutral/Positive Impact
QH11										Green							Overall Neutral/Positive Impact
QH12	Green																Overall Neutral/Positive Impact
QH13	Green						Green					Green					Overall Neutral/Positive Impact
QH14																	Overall Neutral/Positive Impact
QH15	Green							Green									Overall Neutral/Positive Impact
QH16	Green						Green					Green					Overall Neutral/Positive Impact
QH17																	Overall Neutral/Positive Impact
QH18	Green																Overall Neutral/Positive Impact
QH19						Green	Green					Green	Green	Green	Green	Green	Overall Neutral/Positive Impact
QH20	Green																Overall Neutral/Positive Impact
QH21	Green						Green								Green		Overall Neutral/Positive Impact
QH22	Green																Overall Neutral/Positive Impact
QH23																Green	Overall Neutral/Positive Impact
QH24	Green																Overall Neutral/Positive Impact
QH25	Green																Overall Neutral/Positive Impact
QH26	Green																Overall Neutral/Positive Impact

Potential Positive Impact	Potential Neutral Impact	Potential Negative Impact	Uncertain Impact
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Table 13: Strategic Environmental Assessment of Draft Policies and Objectives contd.

Chapter 13: Sustainable Neighbourhoods

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
SN1	Green									Green	Green						Overall Neutral/ Positive Impact
SN2	Green										Green	Green					Overall Neutral/ Positive Impact
SN3	Green						Green	Green	Green			Green					Overall Neutral/ Positive Impact
SN4	Green														Green		Overall Neutral/ Positive Impact
SN5	Green																Overall Neutral/ Positive Impact
SN6	Green																Overall Neutral/ Positive Impact
SN7	Green																Overall Neutral/ Positive Impact
SN8	Green																Overall Neutral/ Positive Impact
SN9	Green																Overall Neutral/ Positive Impact
SN10	Green																Overall Neutral/ Positive Impact
SN11	Green																Overall Neutral/ Positive Impact
SN12	Green																Overall Neutral/ Positive Impact
SN13	Green																Overall Neutral/ Positive Impact
SN14	Green																Overall Neutral/ Positive Impact
SN15	Green																Overall Neutral/ Positive Impact
SN16	Green																Overall Neutral/ Positive Impact
SN17	Green																Overall Neutral/ Positive Impact
SN18	Green																Overall Neutral/ Positive Impact
SN19	Green		Yellow												Green		Mitigated by GK17, GKO3, GKO4
SN20	Green																Overall Neutral/ Positive Impact
SN21	Green																Overall Neutral/ Positive Impact
SN22	Green																Overall Neutral/ Positive Impact
SN23	Green																Overall Neutral/ Positive Impact
SN24	Green																Overall Neutral/ Positive Impact
SN25	Green																Overall Neutral/ Positive Impact
SN01	Green																Overall Neutral/ Positive Impact
SN02	Green		Yellow														Mitigated by GK17, GKO3, GKO4
SN03	Green																Overall Neutral/ Positive Impact



9.0 Mitigation Measures

9.1 Introduction

The quality of the environment within plan area is an important issue for consideration by Kildare County Council. A green town is a healthy town. Protecting and enhancing open spaces for both biodiversity and recreational use has benefits for the town's sustainability and attractiveness as a place to live, work and visit. While it is a key priority of the Local Area Plan to consolidate Kilcock, this must be achieved by balancing the need for intensification of development with the need to protect and enhance vulnerable natural areas. This has been recognised throughout the SEA and Local Area Plan process and the Plan is framed within ideals of sustainability throughout its vibrant communities, tourism economy and unique cultural and natural heritage.

Article 5 of the SEA Directive requires that mitigation measures be proposed for all significant adverse effects on the environment as a result of the implementation of the Local Area Plan. The SEA is an iterative process prepared in tandem with the formulation of the policies and objectives of the Draft Local Area Plan. While not always possible to achieve, it is the aim of the process to ensure that sensitive environmental receptors are given adequate and appropriate consideration throughout.

9.2 How the SEA has Influenced the Draft Plan

As environmental considerations have informed all stages of the preparation of the Draft Kilcock Local Area Plan, the policies and objectives of the Plan have been framed to ensure that potential adverse impacts are avoided, eliminated or lessened to an acceptable level. As a result of this informed iterative process, it is the finding of the assessment of the Draft Local Area Plan as presented in Chapter 8 of this SEA Report, that the full implementation of the Plan, will have a neutral to positive impact on the environment as a whole.

Integration between SEA, AA and the preparation of the draft Plan was achieved through reviews of the emerging pre-draft Plan and through workshop meetings at the key stages with relevant SEA, AA and Plan team members. This process allowed for an iterative and proactive approach to the preparation of the draft plan with preliminary and on-going assessment and review of the emerging pre-draft plan.

9.3 Mitigation Measures

Given the plan area's environmental designations, landscape and cultural heritage sensitivities there were a number of uncertain and potential negative impacts identified as a result of interactions between the draft plan policies and objectives and the Strategic Environmental Objectives. In most instances potential uncertainties or negative impacts could be mitigated against by the protective policies already contained within the draft Plan.

A detailed assessment of the draft Plan policies/ objectives was undertaken (as per Chapter 8) and the proposed mitigation is presented in Table 14.

Environmental Report Chapter 9: Mitigation Measures

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
SK21	Green									Green	Yellow						Mitigated by HC1, HC3 & HCO2
SK28	Green									Green	Yellow						Mitigated by HC1, HC2 & HCO4
SK29	Green									Green	Yellow						Mitigated by HC1, HC2 & HCO4
SK37										Green	Yellow						Mitigated by HC1, HC2 & HCO4
SKO3	Green	Green								Yellow	Yellow						Mitigated by HC1, HC2, HCO4 & GK13
SKO6	Green		Yellow				Green										Mitigated by GK17, GK18 & GK19
SKO17	Green									Yellow					Green		Mitigated by GK17, GK04 & GK13
SKO18	Green		Yellow							Yellow					Green		Mitigated by GK17, GK04 & GK13
SKO35	Green									Green	Yellow						Mitigated by HC1, HC3 & HCO2
SKO36										Green	Yellow						Mitigated by HC1, HC3 & HCO2
MT8	Green									Yellow	Yellow					Green	Mitigated by MTO 30, GK 10, GK13, HCS & HC6
MTO4	Green		Yellow													Green	Mitigated by GK3, GK6
MTO5	Green		Yellow							Yellow	Yellow					Green	Mitigated by MTO 30, GK 10 & GK13
MTO7	Green		Yellow							Yellow	Yellow					Green	Mitigated by GK17, GK03, GK04 & GK13
MTO10	Green		Yellow													Green	Mitigated by GK17, GK03, GK04
MTO13	Green		Yellow							Green						Green	Mitigated by GK17, GK03, GK04
MTO16	Green									Green	Yellow						Mitigated by MTO 30, HCS & HC6
MTO18	Green		Yellow													Green	Mitigated by GK17, GK03, GK04
MTO26			Yellow													Green	Mitigated by GK17, GK03, GK04
MTO27			Yellow													Green	Mitigated by GK17, GK03, GK04
GK1	Green	Green	Yellow				Green			Green						Green	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK2			Yellow														Mitigated by GK7 & GK19
GK4	Green		Yellow													Green	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK7	Green		Yellow													Green	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK8	Green		Yellow	Blue		Blue										Green	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26, SI41
GK9	Green		Yellow													Green	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK36	Green		Yellow														Mitigated by GK7, GK19 & GK03
GK01	Green		Yellow													Green	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK02	Green		Yellow													Green	Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK08	Green		Yellow													Green	Mitigated by GK7, GK19 & GK03
GK010	Green		Yellow														Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
GK014	Green		Yellow														Mitigated by GK7, GK17, GK19, GK03, GK25, GK26
RE7	Green		Yellow			Blue									Yellow		Mitigated by GK03, GK25, MT21, MTO21, SI41
RE25	Green		Yellow							Green					Yellow		Mitigated by GK03, GK25, MT21, MTO21
RE02	Green		Yellow												Green		Mitigated by GK03, GK25

Table 14: Mitigation Measures contd.

Environmental Report Chapter 9: Mitigation Measures

Town Plan Objective/Policy	Human Beings	Soil and Geology	Biodiversity	Surface Water	Groundwater	Flooding	Air Quality	Climate Change	Noise	Landscape	Cultural Heritage	Energy	Wastewater	Water	Transport	Waste Management	Comments / Mitigation
REO4	Potential Positive Impact		Potential Negative Impact			Potential Negative Impact				Potential Positive Impact					Potential Positive Impact		Mitigated by GKO3, GK25, SI41
REO5	Potential Positive Impact		Potential Negative Impact														Mitigated by GKO3, GK25, SI41
REO11	Potential Positive Impact		Potential Negative Impact												Potential Negative Impact		Mitigated by GKO3, GK25, MT21, MTO21
SN19	Potential Positive Impact		Potential Negative Impact												Potential Positive Impact		Mitigated by GK17, GKO3, GKO4
SNO2	Potential Positive Impact		Potential Negative Impact														Mitigated by GK17, GKO3, GKO4

Potential Positive Impact Potential Neutral Impact Potential Negative Impact Uncertain Impact

Table 14: Mitigation Measures contd.

Environmental Report Chapter 9: Mitigation Measures

The mitigation included assumes requirements for environmental assessment in accordance with the normal development management process and EIA Directive as a given. These proposed amendments have been incorporated into the final Draft LAP and as such there are no residual impacts from these policies and objectives.

10.0 Local Area Plan Monitoring

10.1 Introduction

Under the Planning and Development Act, 2000 - 2014, the Local Authority is required to prepare a progress report on the implementation of the Plan. Given the environment is a significant consideration then the progress report will include the key findings of the environmental monitoring programme as outlined in this chapter of the Environmental Report.

Monitoring of the Kilcock Local Area Plan and its implications on the environment is paramount to ensure that the environment is not adversely affected through the implementation of the Plan. Under Article 10 of the SEA Directive monitoring must be carried out of the significant environmental effects directly related to the implementation of the Plan *“in order to, inter alia, identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action.”* The Department of the Environment, Community and Local Government Guidelines on SEA recommends that monitoring does not require new research activity; existing sources of information can be used and the task of data collection can be shared.

While considerable environmental data is directly available to the Council such as water quality, recycling rates etc, other sources of information will be accessed to provide a comprehensive view of the impact of the Plan. In this regard the Local Authority will work with other agencies with environmental mandates to gather data for the purposes of monitoring the implementation of the Plan. Therefore, while monitoring specific elements of the environment is not strictly the preserve of the Council, the Council will continue to liaise and work with the Environmental Protection Agency, The National Parks and Wildlife Service, The Fisheries Board, as well as others in the pursuit of environmental conservation and protection through existing environmental monitoring procedures.

10.2 Monitoring Indicators

It is proposed to base monitoring on a series of indicators which measure changes in the environment, especially changes which are critical in terms of environmental quality, for example water or air pollution levels. The indicators aim to simplify complex interrelationships and provide information about environmental issues which is easy to understand. A list of environmental indicators is provided in the table overleaf. The indicators are based on the Strategic Environmental Objectives presented in Chapter 6 and have been derived from knowledge of the existing environmental issues within the Plan area and also from legislation, guidelines and higher level Plans.

Furthermore it is proposed to use a Geographical Information System (GIS) based monitoring system to monitor and assess the implementation of the Plan. This GIS based system will attempt to overcome any limitations in spatial analysis, to achieve an improved and better informed decision-making process, and provide data for future Development Plan reviews and the associated SEA process requirements.

Environmental indicator assessment during monitoring can show positive/neutral impacts or negative impacts on the environment. Where an indicator value highlights a positive/neutral

Environmental Report Chapter 10: Local Area Plan Monitoring

impact on the environment, it is likely that the policies and objectives of the Plan are well defined with regard to the environment. Conversely where the objectives of the Plan have a negative impact on the environment, it may be necessary to review the objectives of the Plan or to take some other form of intervention. For example, if an objective or policy is having a significant adverse impact, a variation may be considered during the lifetime of the Plan.

Environmental Report Chapter 10: Local Area Plan Monitoring

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Biodiversity - Flora and Fauna	No loss of important and/or designated habitats	Number of sites.	Kildare County Council/National Parks and Wildlife Service/Fisheries Board (depending on available information from relevant statutory authorities)
	No deterioration in the quality of protected areas	Number of sites containing rare or threatened species.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)
	No loss of protected species	Number of rare or threatened species.	
	No fish kills during the lifetime of the plan	Details of major fish kills	
	All actions contained within the Biodiversity Plan to be achieved during the lifetime of the County Development Plan.	Number of actions achieved.	
	No net loss of green linkages established under the Green Infrastructure Strategy.	Net area of new green infrastructure established through the development management process.	
	No spread of invasive species within the County	Numbers of new cases identified.	Establish baseline, location and extent of invasive species in the county, to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)
	No adverse impacts on Natura 2000 sites	Numbers of planning applications accompanied by Stage 2 Appropriate Assessment	Kildare County Council Planning Department
Population (Human Beings)	Decrease in journey times to work, education and recreation.	Distance and mode of transport to work	Kildare County Council - Housing, Planning and Roads sections.
		Number and proportion of residential units permitted within 400m of centre of Settlement	Kildare County Council Planning Department
		Gross Floor Area (GFA) and proportion of employment use permitted within 400m of public transport stop.	Kildare County Council Planning Department

Table 15: Local Area Plan SEA Monitoring Indicators

Environmental Report Chapter 10: Local Area Plan Monitoring

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
	Applications for new developments in excess of fifteen residential units or over 0.02 Ha to be accompanied by Design Statement.	Number of design statements.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)
	Rural housing to accord with Rural Housing Design Guidelines	Number of planning permissions granted in the countryside.	
Population (Human Beings)	Decrease in journey times to work, education and recreation.	Distance and mode of transport to work	Kildare County Council - Housing, Planning and Roads sections.
		Number and proportion of residential units permitted within 400m of centre of Settlement	Kildare County Council Planning Department
		Gross Floor Area (GFA) and proportion of employment use permitted within 400m of public transport stop.	Kildare County Council Planning Department
	Applications for new developments in excess of fifteen residential units or over 0.02 Ha to be accompanied by Design Statement.	Number of design statements.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)
	Rural housing to accord with Rural Housing Design Guidelines	Number of planning permissions granted in the countryside.	
	Delivery of residential development in line with Meath County Settlement Strategy	Percentage of residential development within each level of the settlement hierarchy	Kildare County Council Planning Department
		Percentage of the residential planning permission target achieved in each settlement	Kildare County Council Planning Department
	Consolidation of Town / Settlement Centre	Density of development within each residential planning permission	Kildare County Council Planning Department
		Number of planning permissions granted within town / village centre zoned lands	Kildare County Council Planning Department

Environmental Report Chapter 10: Local Area Plan Monitoring

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)	
Soil	No incidences of soil contamination	Number/severity of recorded pollution incidences	Kildare County Council & EPA	
	Limited and controlled development of greenfield sites	Area of land lost through greenfield development as per Development Plan process	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress. (subject to available resources)	
Water	Implement fully the recommendations of the three relevant River Basin Districts River Basin Management Plans.	Number of recommendations achieved.	Kildare County Council Planning Department, Water Services Department. Also the Environmental Protection Agency.	
	Achieve 'good' quality status of surface waters in line with WFD	Percentage increase in the overall quality of surface waters.	Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress.(subject to available resources)	
	Comply and implement fully the most recent EPA guidelines on Septic Tank use and siting as well as other on-site treatment facilities.	Number of permissions granted complying with the guidelines.		
	Maintain and upgrade where necessary all Local Authority operated WWT plants to comply with the relevant legislation.	Compliance with discharge parameters.		
	Improvement in bathing water quality	Achieve and maintain Green Flag status on all beaches.		
	Reduction in development subject to Flood Risk		Number of residential planning applications / permission granted on sites identified as being in Flood Risk Zone A or B	Kildare County Council Planning Department
			Gross Floor Area (GFA) of employment development located on sites identified as being in Flood Risk Zone A or B	Kildare County Council Planning Department

Environmental Report Chapter 10: Local Area Plan Monitoring

Environmental Category	Targets	Selected indicators	Data Sources, Responsibility and Frequency (subject to available resources)
Air Quality	Improvement in the concentrations of measured parameters such as Particulate Matter, Sulphur Dioxide and nitrogen oxides.	Measurable reductions in concentrations.	EPA
			Initial monitoring to commence within two years of adoption as part of the County Manager's Report on progress.(subject to available resources)
Climate change	Increase in permissions granted for residential development within acceptable distance of public transport hubs.	Percentage of housing developments within specified distance to transport hubs.	Review of EPA standards and data to commence within two years of adoption as part of the County Manager's Report on progress.(subject to available resources)
Built Heritage	Reduction in impacts on Built Heritage	Number of planning permission affecting Protected Structures, Structures on the Record of Monuments and Places, Architectural Conservation Areas or NIAH Designed Landscapes	Kildare County Council – Planning

11.0 Conclusion

The Draft Kilcock Local Area Plan 2015-2021 its policies and supporting objectives are key to the future sustainable development of the plan area. The Plan aims to balance the needs of the future population with the preservation and conservation of environment as prescribed in the County Development Plan. The Plan has a strong focus towards sustainability.

The Strategic Environmental Assessment process has been carried out in conjunction with the Appropriate Assessment of the Plan and the preparation of the Plan itself. This allows for an early indication of the potential environmental effects likely to occur as a result of the implementation of the Plan. As a result changes or alterations to the Plan are made throughout the course of its preparation. Through this process of assessment and re-assessment, it was identified that particular objectives or policies could potentially have a negative environmental impact on particular environmental receptors or indeed on a number of them simultaneously. The benefit therefore of preparing the Plan, the Natura Impact Report, and the Environment Report ensures that these issues are highlighted at an early stage in the process. This allows the potential negative impacts of the Plan to be addressed early on and effectively eliminated from the Draft Plan.

The policies/objectives contained within the Plan were assessed against the Strategic Environmental Objectives and indicate that the full implementation of the Plan will not result in a significant negative or adverse impact on the environmental resources within the Plan area. It has been shown in this report that the Plan's policies and objectives are generally consistent with this summary and as a result the Plan will have a neutral to positive impact on the environment as a whole.

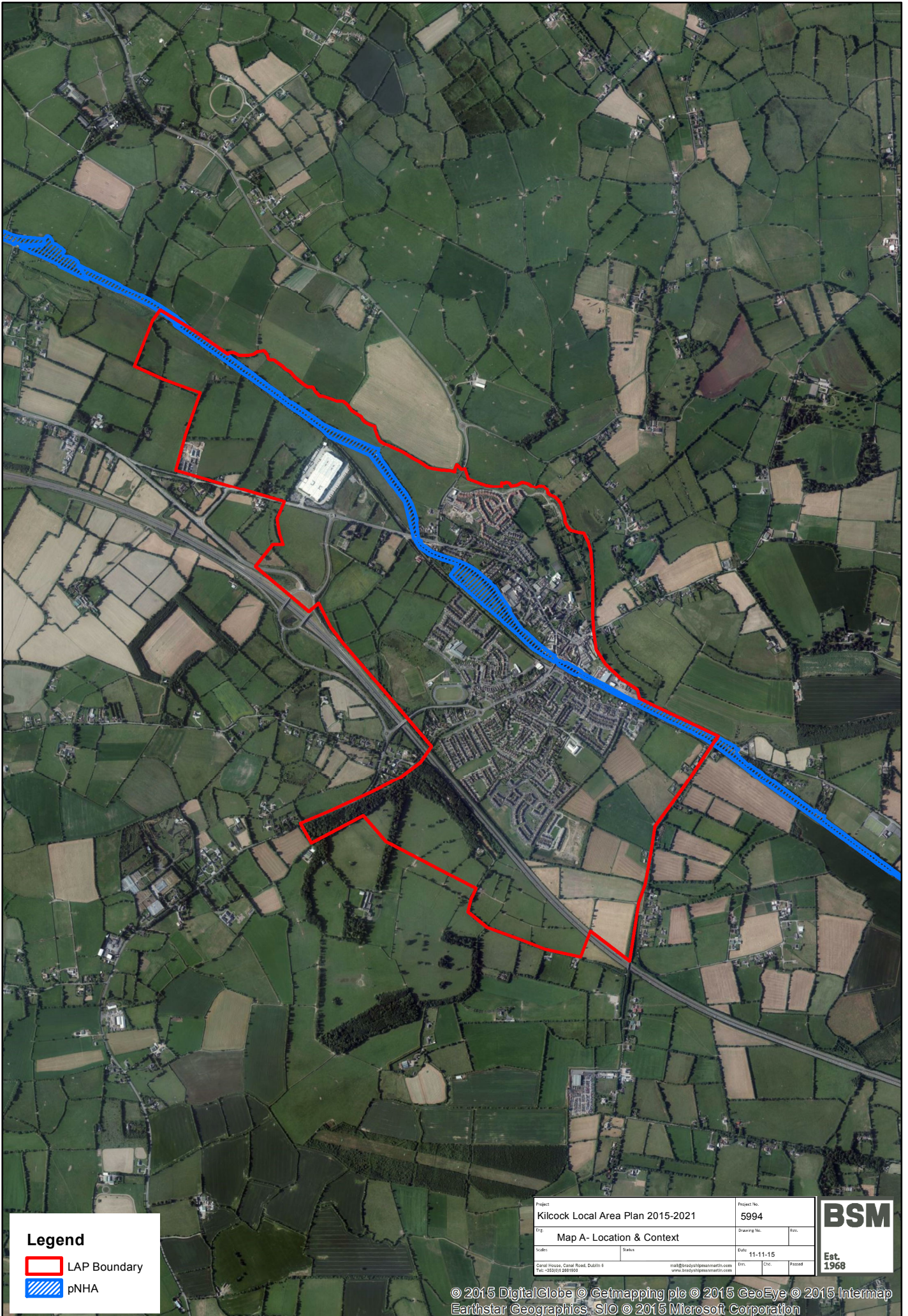
Where the SEA has found potential for negative impacts on the environment as a result of the Plan's implementation, mitigation as well as enhancement measures have been proposed. The implementation of these measures, coupled with the monitoring procedures will ensure the Draft Local Area Plan is acceptable from an environmental perspective.

In addition the Natura Impact Report of the Draft Local Area Plan was prepared to give information on and assess the potential of the Draft Local Area Plan to impact on sites of European-scale ecological importance. This Natura Impact Report records the decisions that were taken during the preparation of the Kilcock Local Area Plan 2015-2021. It determines that, assuming the successful implementation of the Policies and Objectives, there will be no likely significant effects on the European sites in the zone of influence of the Draft Plan in isolation or in combination with other Plans and Projects acting in the same area.

Finally at the outset of the assessment process, a number of environmental issues were identified. While these are and remain the key environmental challenges facing the Council over the lifetime of the plan, they also have complex interrelationships with other environmental receptors. Therefore, the imperative is to promote a holistic, all-inclusive response towards the protection of the natural assets within the Plan area. For example groundwater for human consumption can be improved if restrictions on inappropriate land uses and surface based activities are applied. Subsequently, efforts made to improve water quality also have beneficial impacts on soil quality, habitat conservation, landscape and visual quality etc. The potential synergies at play, if appropriately addressed, will lead to an improvement in the quality of life for the residents of the plan area.

Environmental Report Chapter 10: Local Area Plan Monitoring

In summary, the assessment of the Plan has concluded that its policies and objectives are acceptable and represent a balanced and fair approach to the sustainable development of Kilcock. Monitoring of the Plan throughout its lifetime will ensure that any potential adverse environmental impacts, unforeseen at this stage will be identified early, so as to prevent any deterioration of the environment. This Plan, as currently presented, balances growth with environmental protection and can deliver a sustainable future for the inhabitants of the area.



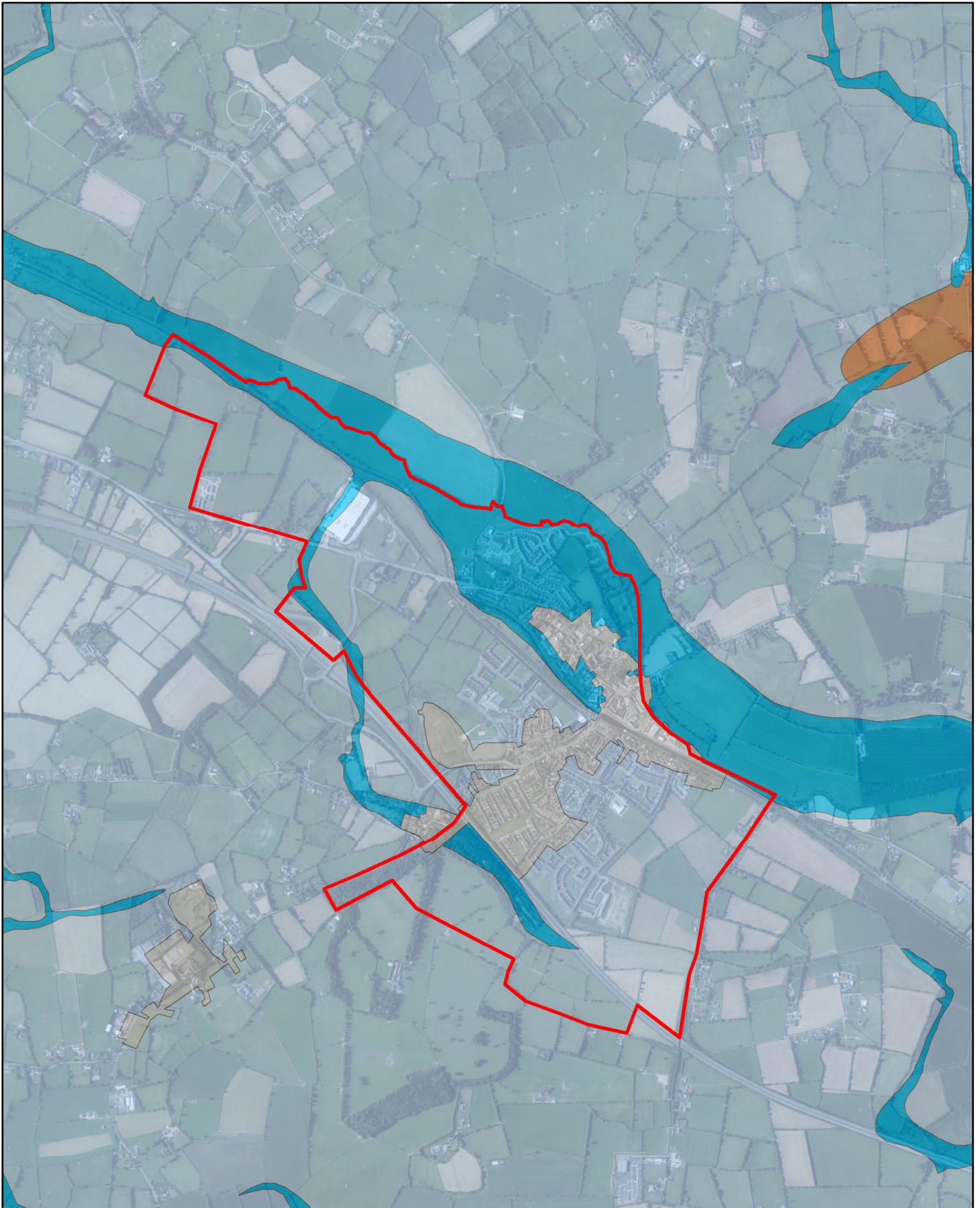
Legend

- LAP Boundary
- pNHA

Project: Kilcock Local Area Plan 2015-2021		Project No: 5994	
Map A- Location & Context		Drawing No:	Rev:
Scale:	Status:	Date:	11-11-15
<small> Spatial Photos: Canal Road, Dublin 6 Tel: +353(0)1 2691900 </small>		<small> mail@bsm.ie bsm@bsm.ie www.bsm.ie www.bsm.ie </small>	
Drawn:	Chk:	Printed:	

BSM

Est. 1968



Legend

LAP Boundary

Soils

05RIV River

0700d Straffan

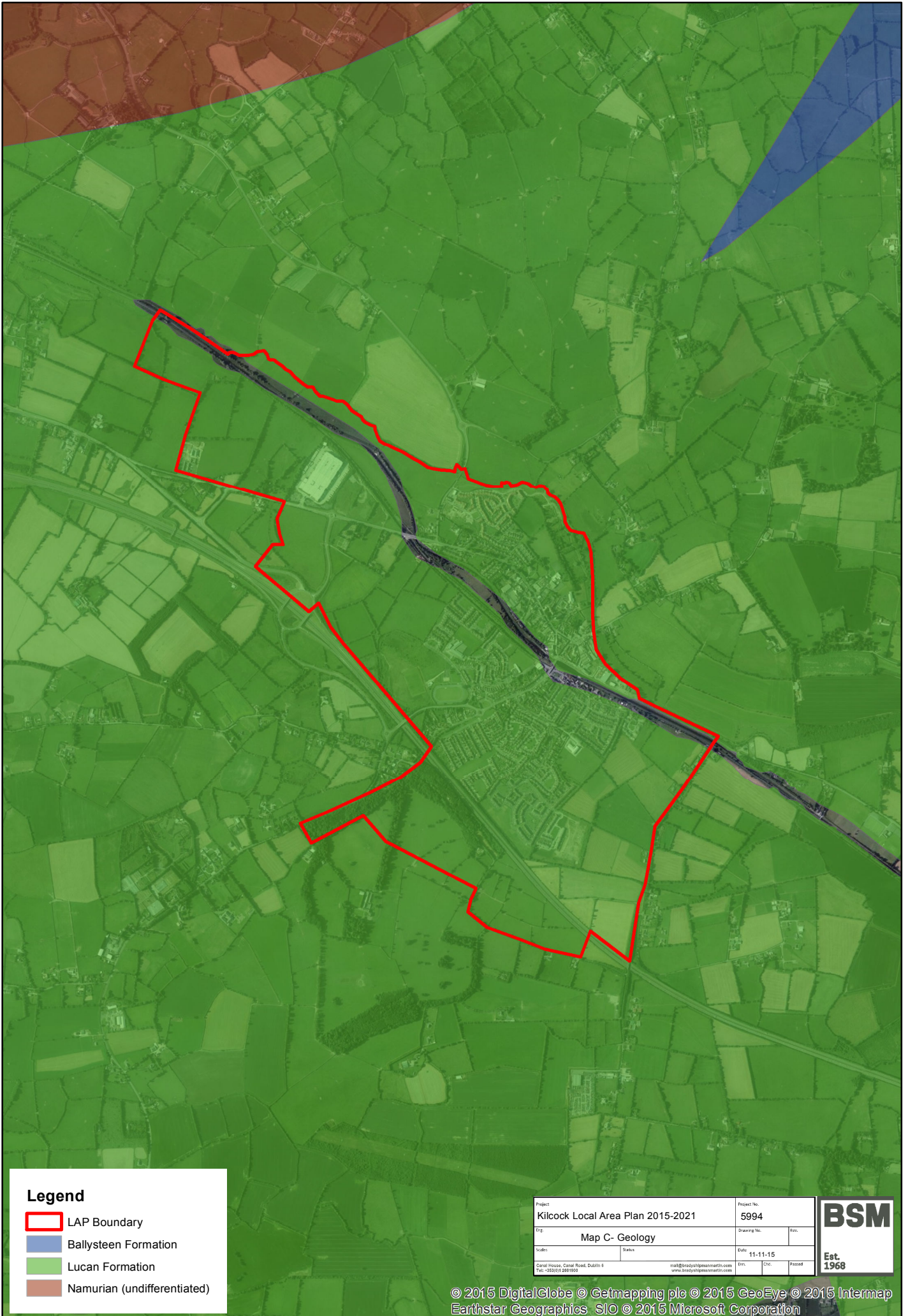
1000x Elton

Urban Urban

Project: Kilcock Local Area Plan 2015-2021		Project No: 5994	
Map B- Soils		Drawing No: / Rev:	
Scale:	Status:	Date:	11-11-15
Small Photos: Canal Road, Dublin 6 Tel: +353(0)1 2691900		mail@bsm.ie www.bsm.ie	
Drawn:	Chk:	Printed:	

BSM

Est. 1968

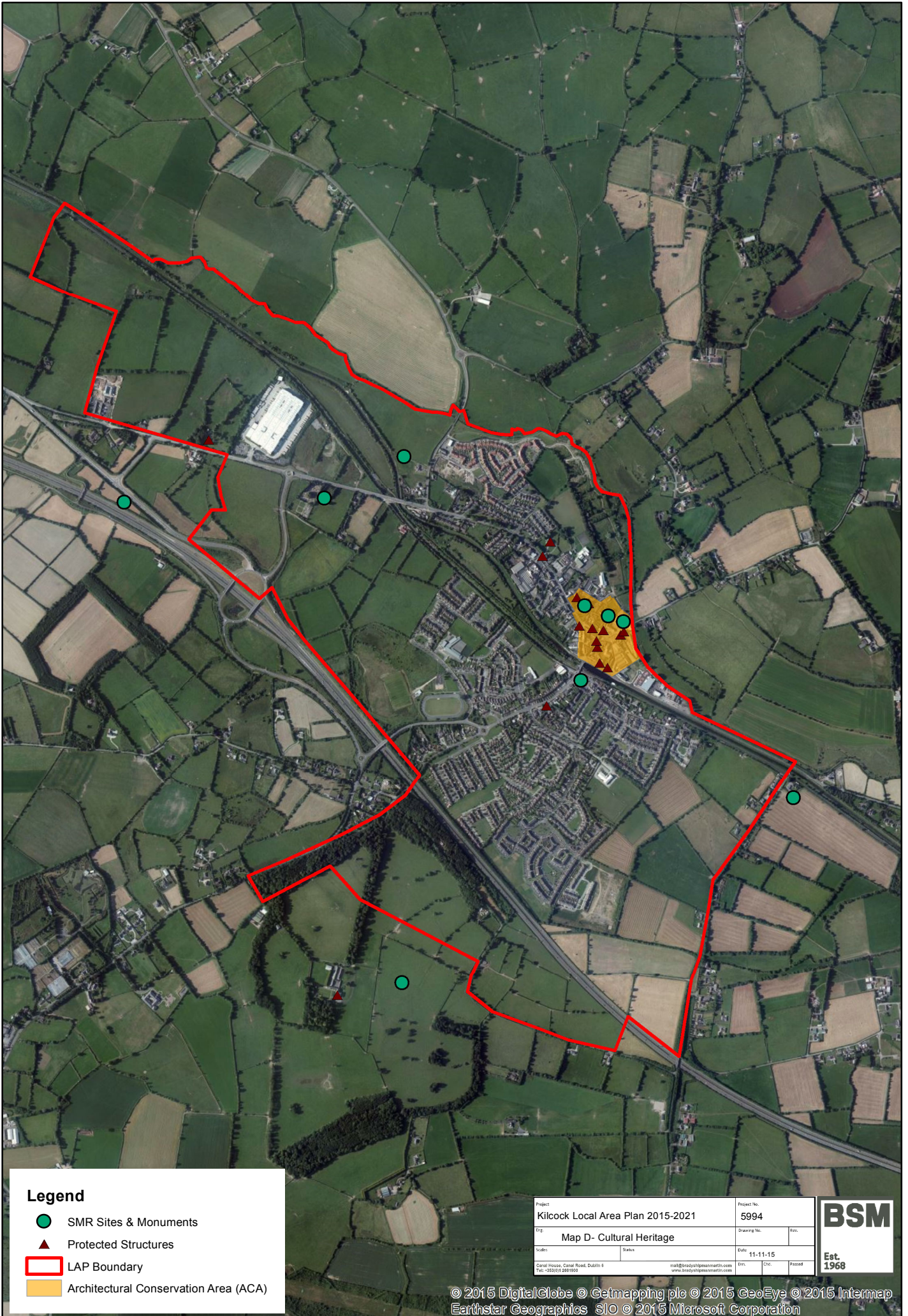


Legend

- LAP Boundary
- Ballysteen Formation
- Lucan Formation
- Namurian (undifferentiated)

Project Kilcock Local Area Plan 2015-2021		Project No. 5994	
Fig. Map C- Geology		Drawing No.	Rev.
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Legend

- SMR Sites & Monuments
- ▲ Protected Structures
- LAP Boundary
- Architectural Conservation Area (ACA)

Project Kilcock Local Area Plan 2015-2021		Project No. 5994	
Fig Map D- Cultural Heritage		Drawing No. / Rev.	
Scale:	Status:	Date 11-11-15	
<small> Email: mail@bsm.ie Tel: +353(0)1 2691900 </small>		<small> www.bsm.ie www.kilcockmap.com </small>	
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Legend

- Rivers & Streams
- LAP Boundary

Project: Kilcock Local Area Plan 2015-2021		Project No: 5994	
Map E - Waterbodies		Drawing No:	Rev:
Scale:	Status:	Date:	11-11-15
Small Photos: Canal Road, Dublin 6 Tel: +353(0)1 2691900	mail@bsm.ie bsm@bsm.ie www.bsm.ie www.bsm.ie		Drawn: [] Checked: [] Printed: []

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Est. 1968