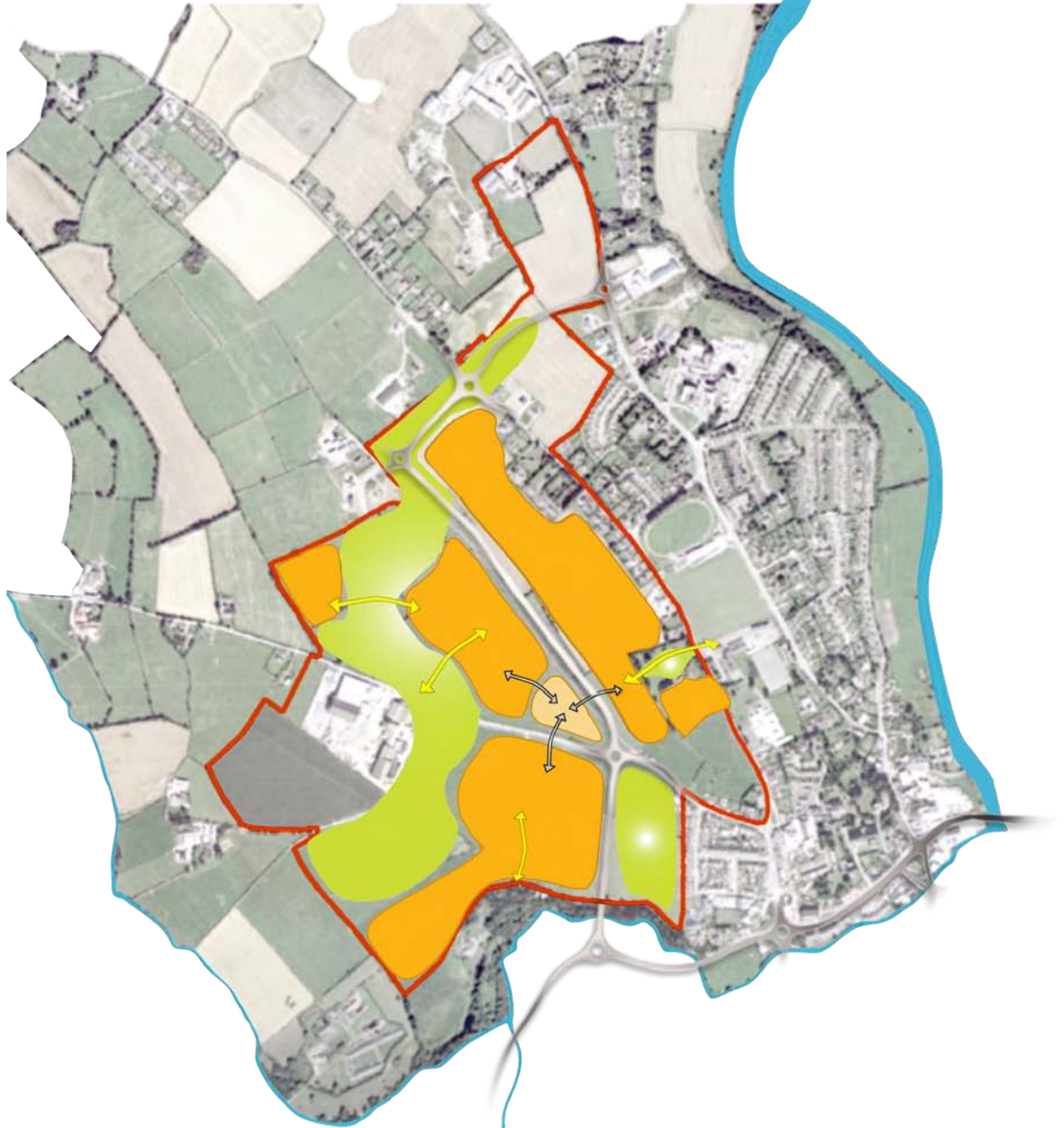


# *Loughmacask local area plan 2008 - 2014*



Adopted 14 April 2008



*Kilkenny County Council  
Kilkenny Borough Council*

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**MDR**  
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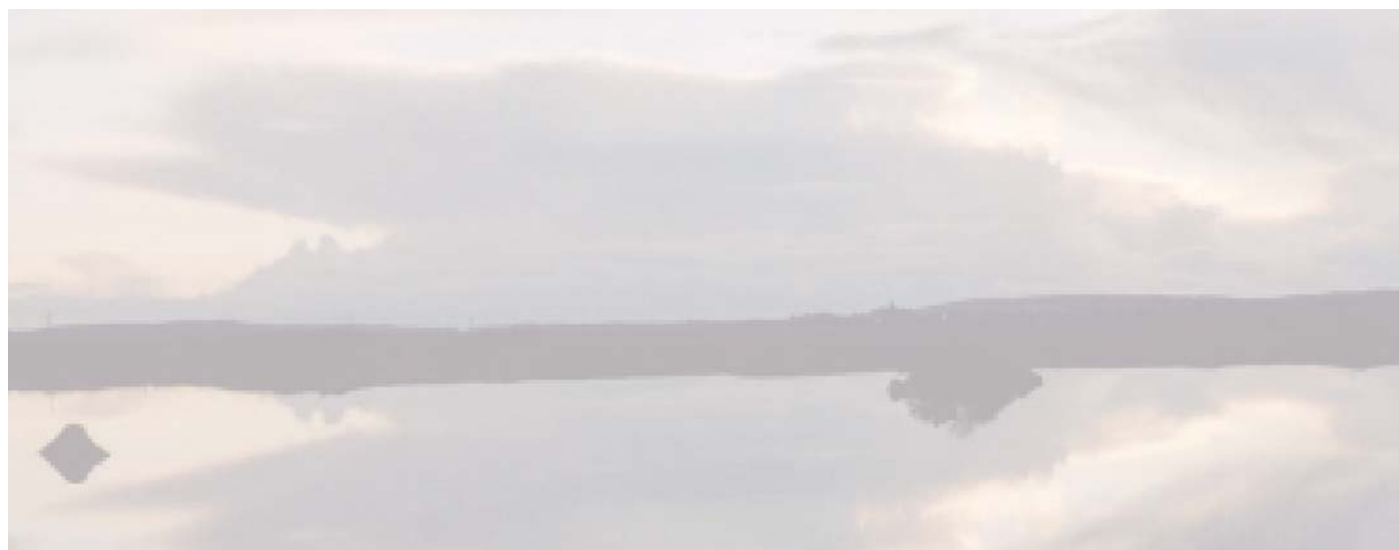
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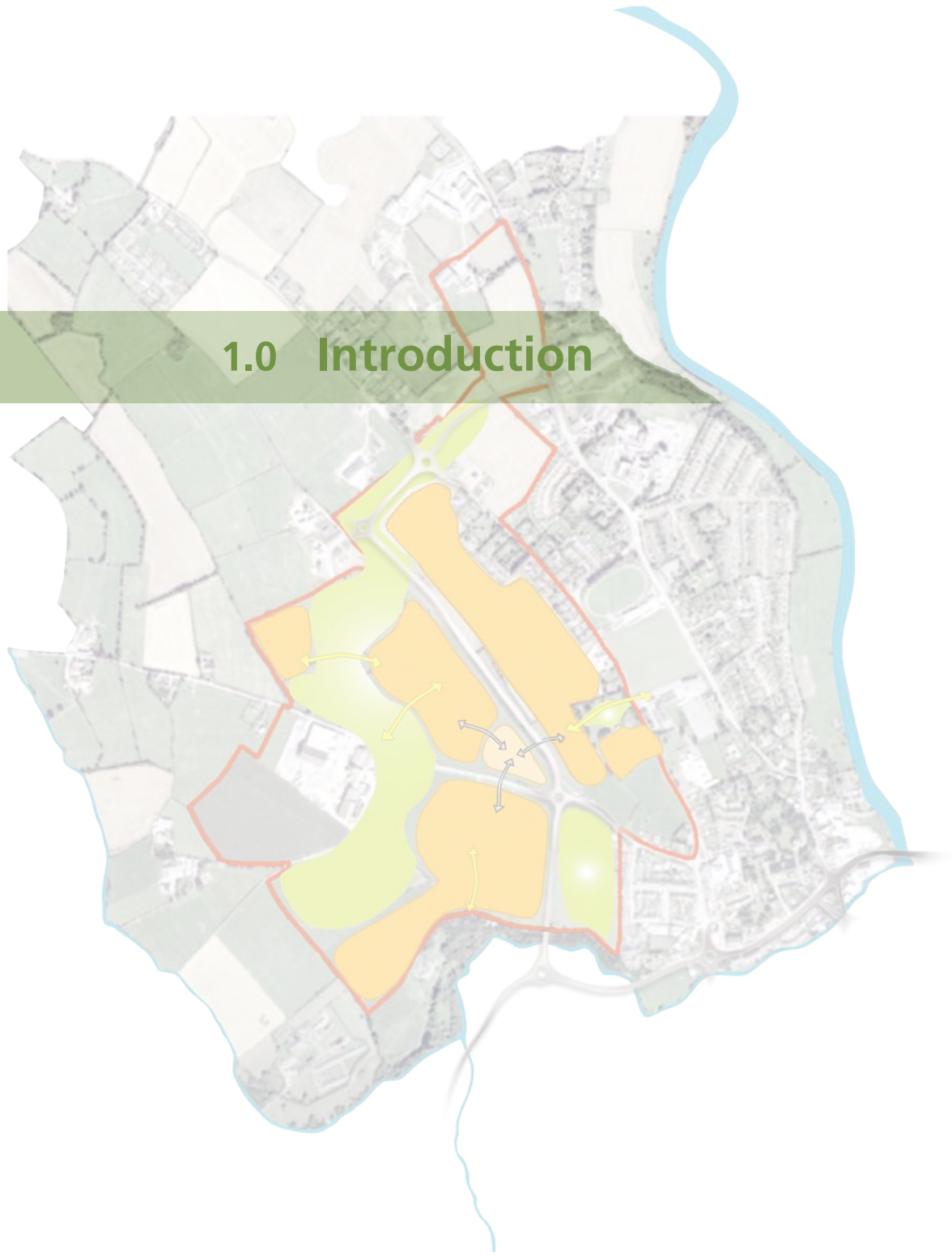
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**Note: All references to 'Inner Relief Road' should read 'Kilkenny Central Access Scheme'**



# 1.0 Introduction





## 1.0 Introduction

The following sections present an overview of the Loughmacask Local Area Plan (LAP), including a physical and historical description of the site and surrounding area, and the relevant local and national planning context.

### 1.1 What is an LAP and how does it work?

#### What is an LAP?

Section 19 of the Planning and Development Act 2000, as amended, provides that an LAP may be prepared in respect of any area which a planning authority considers suitable; and in particular for areas which require economic, physical and social renewal, and are likely to be the subject of large scale development within the life time of a Development Plan.

This LAP has been prepared in accordance with the requirements of the Planning and Development Act 2000, and takes on board the following;

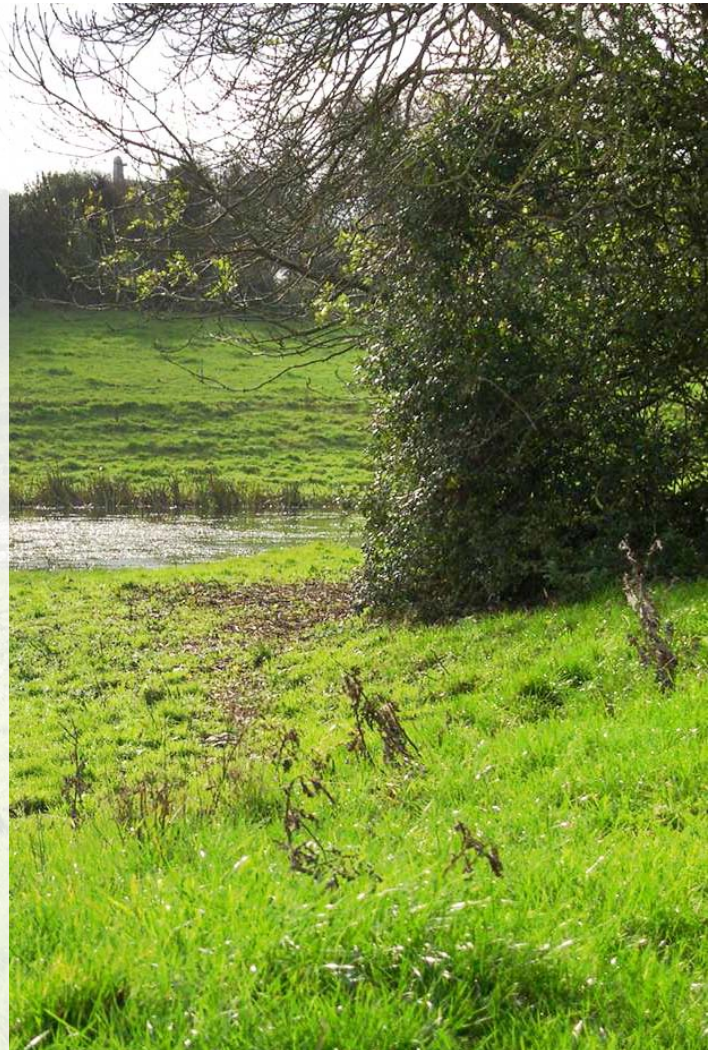
- 1) An LAP shall be consistent with the objectives of the County and or City Development Plan and shall consist of a written statement and may include policies and objectives for the zoning of land for particular purposes, and or objectives ensuring the proper planning and development of an area, including details on community facilities and on standards for design of development and structures.
- 2) An LAP shall contain information on the likely significant effects on the environment of implementing the plan.
- 3) A Planning Authority shall take whatever steps it considers necessary to consult the public and others before preparing, amending or revoking an LAP.

#### How does the LAP work?

The Kilkenny City and Environs Development Plan 2002-2008 contains specific objectives to prepare a detailed LAP for the Loughmacask area. To fulfil this objective, the LAP process for Loughmacask has been instigated under the direction of Kilkenny Borough Council and County Council (referred to hereon as the Councils').

The Local Area Plan develops the policies set out in the Kilkenny County Development Plan 2002 in more detail and specific to the Loughmacask area. This document includes a written statement with policies, objectives, and a design guide, accompanied by maps and appendices

The purpose of the Loughmacask LAP is to guide the proper planning and sustainable development of the outlined Loughmacask area through a detailed policy framework. The Plan, for the period 2008-2014 will be used by Planning Departments of both Councils' to assess planning applications for the LAP area. The plan will enable both planning authorities to adhere to detailed policy objectives and an implementation framework as set out and approved in the Loughmacask LAP.



Loughmacask Lake

## 1.2 Loughmacask Site Description

The area subject to the Loughmacask LAP is located to the northwest of Kilkenny city centre, within walking distance of the city's commercial core. The site's name is derived from a small wetland area, Lough Macask, which is located near the north western boundary and is designated as a proposed Nature Heritage Area (pNHA).

The site, approximately 114.8 hectares in area, comprises lands zoned for development between the Breaghagh River and the Freshford Road. The area lies adjacent to the existing neighbourhoods of St. Canice's and the Butts, the Western Environs / Poulgour area (currently under construction), and the River Nore, which runs on a north-south axis to the east of the plan area. A network of roads traverse the site, of which the future Inner Relief Road (IRR) forms an integral part of the transport infrastructure for future development within the area.

Within the site, the existing residential population comprises 47 residential units on the eastern boundary, and a further 259 units are currently under construction. On the western boundary of the site is located Grassland Fertilisers, an industrial plant undertaking the production of fertilisers. To the south of the industrial plant are located playing fields associated with the Dicksboro GAA club.

The site includes a number of known and potential archaeological and architectural heritage sites, such as terraced houses at the southeast boundary and architectural remains adjacent to Loughmacask. The balance of the site is primarily in agricultural use.

### Key Qualities of the Plan Area

The site is characterised by qualities that differentiate it from surrounding lands and give it a unique identity. These qualities include (inter alia) the following:

- Close proximity (within walking distance) to historical Kilkenny city and its retail and commercial core;
- Close proximity to existing physical and social infrastructure;
- Unique natural and cultural landscape qualities, such as Lough Macask, karstic topography, limestone walls, archaeological sites, and Lousybush Lane;
- Archaeological remains, dating from the late Bronze Age;
- Architectural heritage post dating the early 1700's;
- Scenic views to and from Kilkenny City and monuments such as St. Canice's Cathedral;
- High amenity values and scenic views within the site;
- Proximity to Kilcreen Lodge, the wooded Breaghagh Valley and the Nore Valley;
- Access to sporting and recreation grounds, such as the Dicksboro GAA club; and
- Local employment opportunities.



Fig. 1. Aerial map of LAP boundary and context



### 1.3 Local History

Located on the northwest periphery of Kilkenny, the LAP area's history is strongly linked with the development of the town and its rich fabric of cultural heritage. Kilkenny City has a nationally significant archaeological and architectural heritage, which provides a valuable cultural, tourism and educational resource both locally and nationally.

#### Kilkenny City

The origins of Kilkenny City date back to the late 6th, early 7th centuries when, during the medieval period, St. Canice founded a monastery. The Normans established a camp on the southern bank of the River Breagh and outside the precincts of the monastery after the invasion of 1169; this was later to form the nucleus for the development of the city. During the medieval period, Kilkenny developed into one of the most important political towns in Ireland and prospered as a result.

The city's fortunes declined in the mid 1600's due to the collapse of the Confederation of Kilkenny and Cromwellian siege. However, upon the restoration of Charles II this process was partially reversed and the late 16th and early 17th centuries proved to be a time of relative prosperity with an accompanying phase of building. Several of the surviving merchant houses such as Rothe House, Parliament Street, were built during this period. During the eighteenth and nineteenth centuries, Kilkenny operated as an important commercial and trade centre (See Fig. 2).

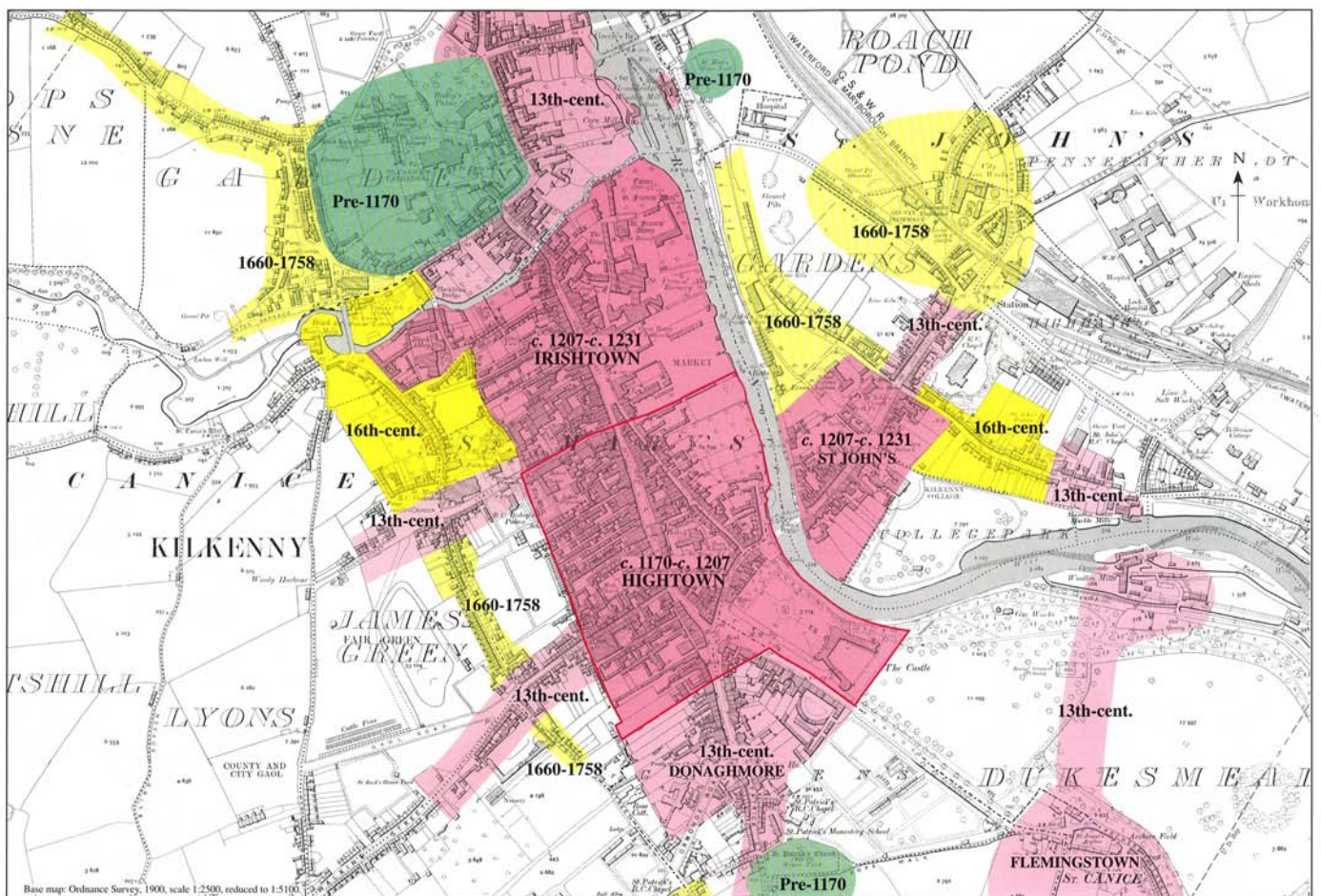


Fig. 2. Growth of Kilkenny to 1758

### Loughmacask LAP Area

The LAP area comprises of seven townlands. Each townland infers ownership of surrounding land in some form – Ayersfield or Ayer’s Bawns; Bishops Demesne, Palmerstown or Palmer’s homestead or pilgrim’s homestead; Loughmacask or Lake of MacCask (referred to hereon as Lough Macask); Talbotsinch or Talbot’s Holm. Kilcreen can be interpreted as a withered wood ‘coill chrion’. However, it has been suggested it translates into old church although no extant remains of a church exist. Lousybush has been recorded as a meeting place of beggars. It’s literal translation from ‘sreach na miol’ means ‘white thorn of the lice’. Talbotsinch was a planned village, built by Lady Desart in 1904 for the workers in her local woollen and woodwork factories.

St. Canice’s Parish borders Loughmacask to the east. Saint Canice, the patron saint of Kilkenny City, founded a monastery in the late 6th, early 7th century. The area contains several sites of archaeological interest; some possibly dating from the Late Bronze Age indicating that the area attracted human settlement for many centuries before. (See Fig. 3)

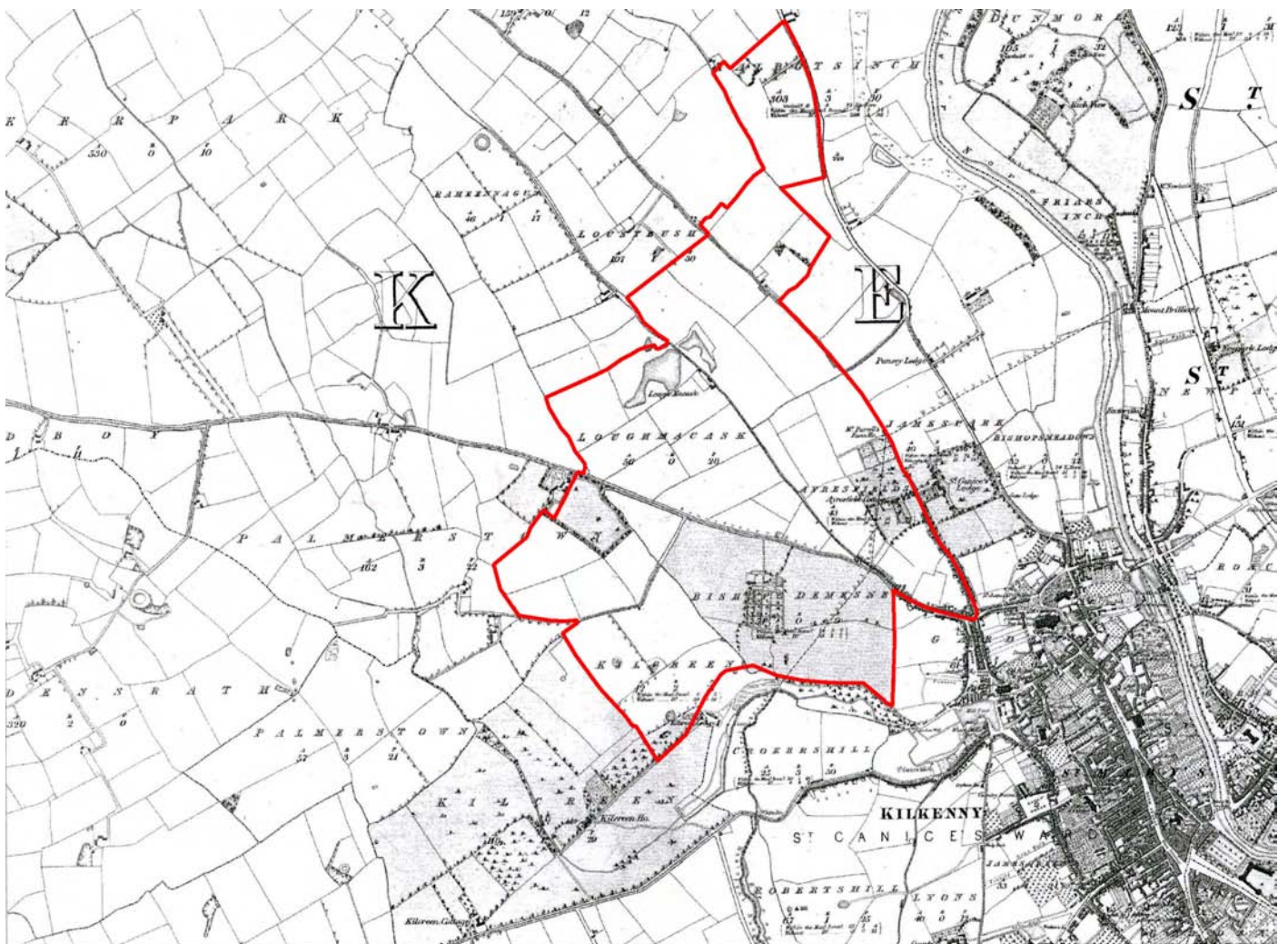


Fig. 3. Historical Map 1839

## 1.4 Strategic Planning Policy Documents

### 1.4.1 National and local strategic and planning documents

In the preparation of the LAP due regard has been given to the following (inter alia) national and local strategic and planning documents:

#### The National Development Plan

The National Development Plan was introduced as a mechanism to underpin the development of Ireland's dynamic and competitive economy, building on growth experienced over the past years. Aiming to strengthen the economic and social foundations for strong and sustainable progress in the years ahead, the National Development Plan 2007 – 2013 specifically aspires to continue sustainable national economic and employment growth and strengthen Ireland's international competitiveness, as well as fostering balanced regional growth.

Balanced regional development is a fundamental objective of the Plan. This commitment sets out policies specific to the development of regions but more importantly, this plan encompasses policies, which aim to ease the pressure on urban infrastructure, to tackle urban and rural poverty and, over the long term, to better integrate physical and economic planning through more effective land use. Urban centres, such as Kilkenny have a strong role to play in facilitating the above. This is recognised in the National Development Plan.

#### National Spatial Strategy

The purpose of this strategic plan is to aspire for a better balance of social, economic and physical development with population growth between regions. Focusing on people and places, the NSS wants to build communities where people can live where they work.

The National Spatial Strategy has placed Kilkenny City and Environs within the South East Region of the Country. Kilkenny is strategically positioned and forms part of a nationally strategic growth triangle. Driving regional growth and development, Kilkenny Hub is complemented by Carlow and Wexford Hubs. Having a population greater than 5,000 people, Kilkenny City and Environs falls within the category of County Towns. The National Spatial Strategy identifies these towns as important as they provide a strong platform for balanced development through out the region.

#### Regional Planning Guidelines

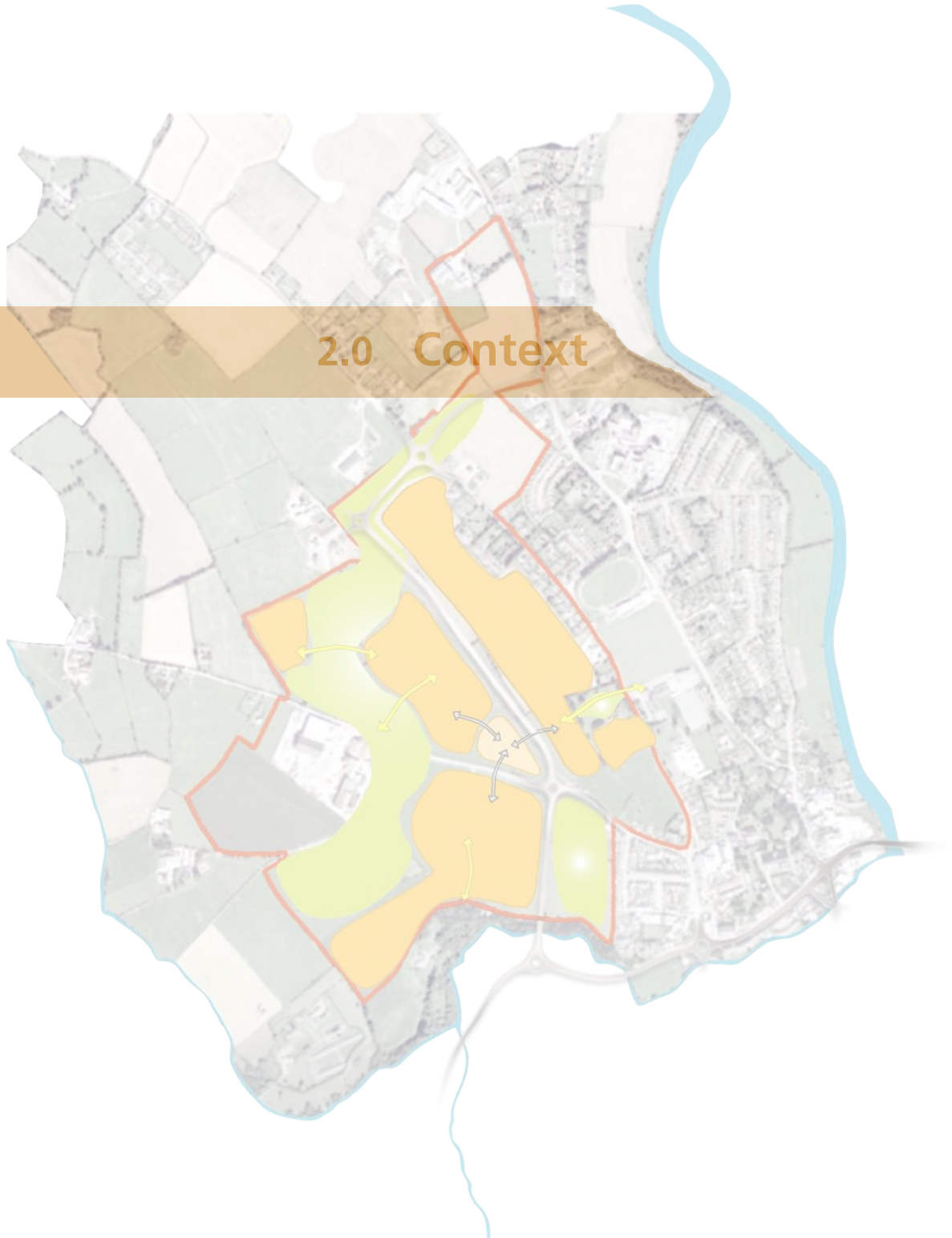
The Regional Planning Guidelines for the South East region, 2004-2016 provides a long-term strategic planning framework for the development of the southeast region and its constituent counties. In effect, this is the strategic policy for the implementation of the National Spatial Strategy for the same area.

The Regional Planning Guidelines provide a settlement hierarchy for each county of the South East. Kilkenny is designated as a Hub. The Guidelines envisage a "Hub" as being a strategic urban centre that supports and is supported by the Gateway of the region and that it reaches out to wider rural areas of the region that the RPG's are targeting for significant levels of growth.

As set out in this regional policy document, a "Hub" is supportive of a population in the region of 10,000 people.

The Regional Planning Guidelines set out that Hubs with a population greater than 10,000 persons would need to grow to a population of 30,000 persons or more in the years up to 2020 and beyond (See Fig. 4).

## 2.0 Context





## 2.0 Context

Critical to the preparation of an LAP that promotes sustainable development is gaining a comprehensive understanding of the local social, economic, cultural and environmental circumstances. The following sections seek to outline the research undertaken whilst preparing the Loughmacask LAP and, in doing so, provide an understanding of the issues to be addressed during the development of the LAP area.

### 2.1 Consultation

The initial stage of preparing the Loughmacask LAP involved a period of public consultation with the aim of informing the plan through the engagement of the local community.

Following the announcement of the intention to prepare the LAP through public notices in local newspapers and on local radio stations, an Issues Paper was made available on the Kilkenny County Council's website. Thereafter, stakeholder and public consultation meetings were held and submissions were called for from groups and individuals throughout the community.

#### Stakeholder Consultation

A series of Local Stakeholder meetings were held with representatives from the following sectors:

- Local Business and Community Groups
- Education, Sports and Recreation
- Heritage, Environmental and Youth
- Landowners

By dividing the stakeholders into different interest groups the Consultant Team were able to have more focused meetings dealing with key issues of the individual local stakeholders. The purpose of the meeting was to invite local stakeholders to share their suggestions, ideas and expertise with the Team.

#### Public Consultation Meeting

A Public Consultation Meeting was held with the aim of informing the public about the LAP and complementing a public call for pre-Plan submissions. The public meeting was commenced with an introduction to the plan making process and the various stages involved throughout the LAP, followed by an opportunity for both 'open forum' and 'informal' discussions. The forums were structured around the following four themes:

- Connections and Movement
- Environment
- Lifestyle
- Social Infrastructure



## Summary of Written Submissions

Kilkenny County Council received 16 written pre-Plan submissions to the Loughmacask LAP. Below is a summary of the main issues raised:

### Environment and Heritage:

- Preservation and protection of Lough Macask
- Preservation of mature trees
- Wildlife protection
- Occurrence of flooding to the east and west of Lough Macask

### Traffic and Movement:

- Traffic congestion on Tullaroan Road and Granges Road
- Design and layout of Inner Relief Road
- Safety concerns regarding Lough Macask

### Facilities and Services:

- Need for improved sports and recreation facilities
- Need for timely delivery of social infrastructure with new developments
- Need to increase provision of sewage infrastructure
- Insufficient capacity in local schools to cope with increase in population
- Need to increase and improve community facilities

### Residential Developments:

- Concerns raised over effects of large scale developments on existing city and environs



## 2.2 Landscape and Heritage

### 2.2.1 Landscape

#### Landscape Character and Views

The landscape of Loughmacask area is characterised by distinctive landscape features and a unique setting; the LAP area is enclosed by the wooded Breaghagh Valley to the south, the historic city of Kilkenny to the southeast and rural agricultural landscape to the west and north.

The landscape surrounding the LAP area to the west is rural in character, with field hedgerows forming the dominant structural element. To the north the land slopes upwards to the townlands of Oldpark and Coolgrange. To the south, near Kilcreen, the land slopes at a very gentle grade towards the Breaghagh Valley.

The topography of the area has a gentle undulating form which is derived from the underlying karstic landscape. The landscape around Lough Macask slopes to form a shallow basin in which wetlands are located.



Lousybush Lane

Agricultural processes have shaped the present structure of the landscape; the influence of farming is manifest in the field patterns and boundaries with large fields at Kilcreen and Bishop's Demesne. The edges of Lousybush Lane are defined by limestone rubble walls built in the local vernacular style. The fields to the west and south west of Lough Macask are bordered by mature hedgerows.

Another notable characteristic of the local landscape is the parkland setting associated with Ayresfield house which includes both mature trees and boundary hedgerows. Ayresfield is located along the Dunningstown Road to the south-east of the LAP lands.

The LAP area affords long views from the southeast, from Tullaroan Road and Lousybush Lane, to Kilkenny City, and beyond towards Mount Leinster and the Blackstairs Mountains. St. Mary's and St. Canice's cathedrals form prominent landmarks on the city skyline, clearly visible from the LAP area.



St. Canice's Cathedral



## Geology, Hydrogeology and Hydrology

According to the Geological Survey of Ireland (GSI) mapping, the Loughmacask LAP area is underlain by both the Ballyadams and Clongrenan limestone formations. These formations are principally clean coarse karstic limestones with clay wayboards. Numerous features, such as large springs, swallow holes, underground drainage and deep water tables, occur within the karst landscape.

Mapping shows that the bedrock within the LAP area is overlain by a regionally important sand and gravel aquifer of good development potential, categorised as being of high vulnerability

The Breagagh River flows along the outer side of the LAP area's southern boundary. The southern portion of the LAP area forms part of the Breagagh limestone catchment area, which has a characteristic underground and surface drainage system. Two principal tributary streams drain the Breagagh catchment. One of these streams, which discharges into a small lake in the grounds of Kilcreen Lodge, runs along a north south axis to the west of the LAP area. According to documentation held by the Office of Public Works (OPW) on the River Breagagh catchment, this stream is referred to as the Northern Stream and is fed substantially from underground springs.

In 2005 the Environmental Protection Agency (EPA) classified River Breagagh (River Code 15/B/02), stretching from Aughtananny to the confluence with the River Nore, as being moderately polluted (Biological Quality Rating – Q3). This likely due to agricultural activity in its upper reaches and sewage in its lower reaches at Kilkenny City. As part of the 2002 Nore Flood Relief Scheme contaminated sediments were removed from the River Breagagh to encourage rejuvenation of the river as a site for local fisheries (Lamprey, Trout, Salmon and Eel).

The Breagagh River is a tributary of the River Nore, a candidate Special Area of Conservation (cSAC). The River Nore flows to the east of the LAP area at a distance of approximately 1.2 km.

Given the lack of surface water drainage conduits within the Loughmacask LAP area, it appears that groundwater plays a key role in the hydrological functioning of the area, and in particular, that of Lough Macask pNHA. Other than Lough Macask and a small artificial pond along the southern boundary of Kilcreen Lodge, there are no other major surface water features in the LAP area.



North West views of Loughmacask Lake

## 2.2.2 Biodiversity

### Lough Macask

The Lough Macask is a proposed Natural Heritage Area<sup>1</sup> (pNHA) and represents a future development parameter in terms of the need for its appropriate future management, conservation and improvement. While the site has been greatly compromised in recent times, it nevertheless remains important for biodiversity in an intensively managed landscape and is considered of importance in a county context. Supporting its importance, the site also has valued amenity and educational potential, which can be utilised by existing and future residents living in the immediate vicinity and the wider city area.

Identifying and maintaining the hydrological functioning of Lough Macask pNHA will be critical to the sustainable development of Loughmacask. The small wetland has a good diversity of plant species, from pure aquatic species to marginal wetland species in the flood zone. Some species present are typical of those found in a turlough. The status of the lake, in terms of its hydrological functioning, is currently being investigated by means of a Hydrological Survey. Wildfowl use the site at various times throughout the year and the presence of dragonflies<sup>1</sup> has also been recorded in recent times.

Lough Macask, which is considered to be of county significance, is severely compromised with cattle having complete access, resulting in heavy poaching and nutrient enrichment. There is potential for enhancing the management of the area surrounding Lough Macask and, in doing so, enhancing the biodiversity value of the area.

### Hedgerows and other localised habitats

The other habitat features of the LAP area include the field boundary hedgerows which are in the main located to the west and south west of the Lough Macask pNHA. Their average heights range between 6-7 metres and some small trees (primarily ash) are present. Hawthorn is the principal hedge species while ivy is also frequent. Further hedgerows of moderate quality exist in the vicinity of Ayresfield House. All of these hedgerows are of biodiversity value in a local context.

Scattered trees and parkland occur at Ayresfield House. The trees present are typical demesne species, notably lime, beech and horse chestnut. An ecological investigation has concluded that some of the trees are of considerable maturity and could be expected to support bat roosts.

<sup>1</sup> Designated by the Department of the Environment, Heritage and Local Government under the Wildlife (Amendment) Act 2000.



### 2.2.3 Heritage

#### Archaeological Heritage

Given its proximity to Kilkenny City, the Loughmacask area contains a number of significant archaeological features, which indicate human activity dating from the late Bronze Age. These include six archaeological sites recorded in the national Record of Monuments and Places (refer Appendix D, Preliminary Archaeological & Architectural Assessment).

Through the combination of terrain potential assessment and an examination of the type, density and distribution of the archaeological sites within the landscape, general areas of archaeological potential have also been identified, as has a previously unrecorded possible enclosure in the Loughmacask townland.

Historically, the extent of the Lough Macask water body has been larger. This indicates the area is one of considerable archaeological potential. A second area at Bishop's Demesne and Kilcreen is also considered an area of archaeological potential due to its proximity to the River Breagagh and the occurrence of five recorded RMP sites.

#### Architectural Heritage

The LAP area does not contain any existing recorded protected structures, however it does neighbour the Kilcreen Lodge, which is of regional importance. The famous brewing Smithwick family of Kilkenny built Kilcreen Lodge c. 1860 in a contemporary Victorian style. The curtilage of the lodge and the stone walled avenue leading to the Lodge forms part of the southern boundary of the LAP area and was once also the borough boundary as indicated by a plaque dated 1844.

Notwithstanding the above, studies carried out during the preparation of the Loughmacask LAP identified seven sites of architectural significance within the area. For the most part, these architectural sites are upgraded cottages or farm buildings. They have most likely been built in the Irish vernacular tradition; a style that has been adapted by simplifying formal architectural styles, and built using local methods and materials.

Sites vary from small vernacular dwellings to larger sites of a relatively more complex layout. The variable layout and style of these buildings highlights the various levels of society that could be found in this rich agricultural landscape – ranging from farm labourer to landowner. The style, structure and size of the buildings indicate the levels of affluence that were to be found within the area.

The LAP area is also bordered by the Butts, which is a typical example of late 19th, early 20th century local authority housing comprising terraces of small single and two storey houses. These terraces were typically built on the outskirts of towns and cities and are models of the earliest public funded houses.



The Butts from Kilcreen Lodge

### 2.3 Population projections

A committed focus of the Kilkenny County and Borough Councils' is providing for and achieving balanced growth and development of an economic, physical and social environment. In light of a review of the current County Development Plan 2002-2008 and the recent release of Census 2006 population figures, indicative target population figures for the County and its key settlement areas provide a reliable framework for population projections as part of the Loughmacask LAP. In particular, the target population set out in the Loughmacask LAP provides for and facilitates the County Development Plan Settlement Strategy goals of achieving a balanced and coherent urban form whilst providing for the needs of existing and future residents.

On a national basis, there is a growing relationship between overall urban share of population and economic growth. The National Spatial Strategy (NSS) Review Paper presents the South East Region as one of the fastest growing regions in Ireland.

Key settlement areas of the South East region, primarily located along the north east fringes, have in recent years experienced significant economic and social growth changes. Proximity to the Dublin Region has been a primary factor contributing to these changes, with commuter communities establishing within centres including Carlow and Wexford.

The region's population is expected to continue to grow and the identified drivers for change include the strategic economic, infrastructural and social strengths of the urban centres of Waterford, Kilkenny and Wexford.

Kilkenny's strategic position within the South East Region is evidenced by its continued economic growth. Attributable factors to this include development of the financial services and healthcare sectors, which have in turn facilitated a growing population, particularly within the Kilkenny City and Environs area.

The 2006 Census of Population estimated the number of person's resident within Kilkenny City and Environs in 2006 to be 22,179, representing an increase of 6.9% from its 2002 figure of 20,735. For the same period, the County population increased from 80,339 in 2002 to 87,394 in 2006, marking an 8.8% increase.

*Table 2.3a Population Change in South East Region Counties, 2002-2006*

Area	2002	2006	% Change
Carlow	46,014	50,471	9.7%
Kilkenny	80,339	87,394	8.8%
South Tipperary	79,121	83,052	5.0%
Waterford	101,546	107,942	6.3%
Wexford	116,596	131,615	12.9%
South East Region	423,616	460,474	8.7%

*Source: Census of Population 2006 Preliminary Report. Central Statistics Office (CSO) and South East Regional Planning Guidelines, 2004-2020. South East Regional Authority*

*Table 2.3b Population Change of Primary Settlement areas of the South East Region, 2002-2006*

Settlement Area	2002	2006	% Change
Waterford City & Environs	44,594	45,775	2.6%
Kilkenny City & Environs	20,735	22,179	6.9%
Carlow Town & Environs	13,218	13,898	5.1%
Wexford Town & Environs	9,449	8,931	-5.5%

*Source: Census of Population 2006 Preliminary Report, CSO and Draft Kilkenny County Development Plan 2008-2014.*

Kilkenny City and Environs is identified as by far the largest urban growth centre within the South East. Growth and development is expected to continue into the future with a predicted population target of 30,000 persons by 2020 for the City Environs area. This indicative figure is underpinned by areas classification as an economic 'hub' whereby it will provide important regional bases for foreign direct investment projects, indigenous industrial and service activity and the provision of essential local facilities and amenities in areas such as public services, education and healthcare (NDP, 2007-2013, pp75).

The 2008-2014 Draft County Development Plan's Development Strategy envisages the establishment of a compact urban form for the Kilkenny City and Environs area. Loughmacask is identified as a key area that will accommodate future growth and, by way of creating new neighbourhoods with ancillary services and facilities within close proximity to the city centre, will assist in achieving the Development Strategy.

### Household Sizes

The average household size within Kilkenny has fallen through the years. In 2002, the average house size was 3.04 while in 2006 it reduced to 2.95. In 2006 the national average household size stood at 2.9.

Within Loughmacask LAP a hierarchy of densities, ranging from 15 to 40 units per hectare, will be provided to offer greater choice of location and diversity to the City's population. Using the current household size of 2.95, it is estimated that approximately 1540 units will be provided over the lifetime of the local area plan, providing for a population of up to 4,500 persons.

## 2.4 Social and cultural wellbeing

Population growth will result in ongoing effects on the social and cultural wellbeing of the community in and around Kilkenny City. As the resident population grows, demand for employment will increase, as will the need for education and recreation facilities in the community. Development of the Loughmacask area has the potential to assist in relieving pressures facing the community by providing the appropriate social and cultural infrastructure required to facilitate a healthy society.

### Housing

Adequate provision of housing numbers and typologies (densities) has been calculated from population projections. In terms of household sizes, the national fall in average household size has been examined and utilised as an indicator of requirements for the Loughmacask LAP area.

An analysis of neighbouring housing densities has been undertaken to ensure planning and development that is sensitive to its surroundings. The need for high density has not been found, rather, it is considered that it is appropriate that housing densities should be consistent with current trends, densities and patterns.

The need for social/affordable housing, detached, semi-detached, terrace, and estate housing, have been examined to determine appropriate typologies best suited to the plan area whilst taking the overall context into consideration. Given the varying social context of Kilkenny and the surrounding environs, it is considered that a variety of typologies will be necessary within the Loughmacask LAP area, an approach that will also assist in providing a diverse and healthy community.

Social and physical infrastructure, such as open space and recreation areas, community facilities, and services, are also necessary if a vibrant living community is to develop over time. Accordingly, such infrastructure shall be implemented at the time of and along side future development.

### Education

Adequate provision of pre-school, primary and secondary schools to cater for future population growth scenarios will be required within Kilkenny City and the surrounding area. While population projections for the County as a whole show a declining birth rate, and hence a decline in the number of children attending primary school, the projections for Kilkenny City and Environs show an ongoing increase in population. This increase in population will, over time, translate to an increase in children attending primary and secondary in the Kilkenny City area.

Pursuant to the National Guidelines on Childcare Facilities, community planning should seek to ensure that appropriate childcare facilities are provided that respond to the social circumstances of the area and foster childhood learning. Future development within the Loughmacask LAP area has the potential to respond the needs for childcare through the provision of appropriate facilities along side residential and commercial development.

In compiling population projections and examining relevant statistics, it has also been noted that one additional primary school may be required to cater for future population growth of Kilkenny City and Environs. Future discussion and planning will be required to identify a suitable school site if and when the need arises.



## Employment

Kilkenny City benefits from many economic advantages; serving Kilkenny City including its strategic location, proximity of Belview Port, a well developed independent local indigenous business base, the city's 'Information Age Town' status, and its well-educated and skilled workforce. Its long established tourism sector complements its economic base further. Key sectors include agriculture, manufacturing, financial services, retail, construction, food processing, mining and crafts enterprises.

The 2002 Census highlighted that growth in employment opportunities within the region have not kept pace with population growth and as a result there are increasing levels of commuting to employment centres outside of the region. Development within the Loughmacask LAP area, including a village centre area, will have the benefit of providing opportunities for employment close to the homes of local residents.

## Recreation and Community

Dicksboro Sports GAA Club is currently the only private sports facility providing for active recreation within the LAP area. The club, which is affiliated to St. Canice's parish, provides two grass GAA pitches as part of their facilities.

Both Tullaroan Road and Lousybush Lane are used for recreational walking; to a lesser extent the wetlands and farmlands are used for rambling and passive recreation. Other recreational facilities in the immediate adjoining area include the new playground at the Fr. Mc Grath Centre, a grass soccer pitch, outdoor handball alley and outdoor basketball court at the Waterbarracks. Use of the soccer facilities at the Waterbarracks is limited by seasonal flooding of the River Breagagh.

The Fr. Mc Grath Centre, which adjoins the southeastern edge of the LAP area, is the main provider of community facilities within the immediate vicinity of Loughmacask. The Centre provides pre-school facilities, an after school homework club, internet access, adult education and training as well as facilitating local community groups including the Butt's Residence Association.

East of the LAP area, an extensive sport facility has been developed on the grounds of Loreto School, including all weather playing pitches and associated facilities and the Loreto School gym.



Dicksboro Sports GAA Club

## 2.5 Infrastructure and movement

### Potable water supply

Kilkenny County Council currently abstracts approximately 8,000 m<sup>3</sup> / day from the river Nore's main channel at Troyswood. This supply needs to be augmented to support development in Loughmacask. The National Water Services Investment Programme includes the upgrading of the Kilkenny City water supply. The Council is at an advanced stage of finalising the Preliminary Report and Environmental Impact statement and work on the upgrading of the water supply will commence in the next two years. In addition it will be an objective of Kilkenny County Council and Kilkenny Borough Council to reduce leakage on the existing network and to encourage environmentally sound and sustainable initiatives for water supply

Existing water supply infrastructure to the Loughmacask area consists of:

- A 100mm diameter main on the Tullaroan road;
- A 75mm diameter and 100mm diameter water mains on the Granges Road;
- A 400mm diameter main terminating at Butts Green.

With the existing water supply network coming under pressure in supply and demand; provision will be made in the area to guarantee supply of potable water. In the long term it will be necessary to either upgrade the abstraction plant at Troyswood and / or provide alternative sources and reservoir storage elsewhere. Reservoir storage could also be provided in the LAP area.

### Waste Water

Foul sewage from Kilkenny City and its environs is treated at Kilkenny County Council's wastewater treatment plant at Purcellsinch. The wastewater treatment plant, which has a population equivalent capacity of 107,000, is working near capacity. The Smithwicks Brewery currently utilises 75% of the Biological Oxygen Demand (BOD) treatment capacity of the plant.

The Breagagh Valley foul trunk sewer has the capacity to service the Loughmacask area. The connection of the new drainage networks in the Loughmacask area to the Breagagh valley sewer will be necessary.

The nearest foul trunk sewer to the LAP area is the 675mm dia. Breagagh Valley sewer, which leads to the foul sewage pumping station at the Market Yard. While the capacity of the sewer offers no restriction, it will be necessary to upgrade the existing pumping capacity at Market Yard pump station. Furthermore, in the short to medium term the existing plant at Purcellsinch has capacity to meet demand. In the long term however, it will be necessary to either free up or upgrade the capacity in this plant.

### Surface Water Drainage and Flooding

The Loughmacask area lands are primarily in agricultural use and drain naturally to Loughmacask itself and to the Breagagh River via underground and overground watercourses.

According to the OPW, historically flooding of the River Breagagh occurred in the Irishtown area near the junction with the River Nore and upstream in the Blackmill / Waterbarracks area. Further upstream on the Nore over-bank flooding is experienced in the floodplain on a regular basis but this does not give rise to inundation of buildings.

In the Irishtown area, flooding has been caused by water levels in the Nore backing up the Breagagh channel and inundating the low lying area both overland and through the drainage system.

In the Blackmills area, severe flooding occurred in the low-lying area of Blackmill Street bordering the Breagagh. The floodwater inundated properties between Blackmill Street and Abbey Street. The flooding problems in this area were associated with flood conditions and restrictions in the Breagagh channel and are unrelated to River Nore flows.

Flood alleviation works have been carried to a small stretch of the Breagagh as part of the Kilkenny Main Drainage Scheme.



## Electricity Supply

The Electricity Supply Board proposes to double the capacity of Rosehill Station. This upgrade will increase the capacity in Rosehill Station to 20MVA and yield an additional capacity of 8 MVA. The Western Environs and other committed developments will absorb this additional capacity.

Provision should be made in the Kilcreen area for a new 38Kv station to service the estimated load from future development in the area. However, a substation may be required within the LAP area in the future.

## Gas Supply

There are a number of gas mains in the Loughmacask area. However there is little spare capacity in these mains and Bord Gais have no plans at this time to reinforce the network in the Loughmacask area. However proposed works along the Callan Road will aid the supply of gas to Loughmacask.

To supply gas for the full development in Loughmacask area it is anticipated that the laying of a new 250mm PE 4bar gas main along the Inner Relief Road will be required.

## Telecommunications

The Loughmacask area is partially serviced by Eircom's fixed line phone service. However, the existing networks have little spare capacity and Eircom have no short-term plans to reinforce the networks.

The Kilkenny Metropolitan Area Network (fibre optic network) and ESAT BT fibre routes run along Grange Road. There would be considerable interest in extending these into the heart of the development area. Wireless broadband services in the area are also being provided by a number of other companies.

## Roads

Loughmacask is currently accessed via the Tullaroan and Grange Roads. There are some 27,000 truck and other heavy goods vehicle (HGV) movements per annum to the Grasslands Fertilisers plant alone. Quarrying activities at Holdensrath generates further HGV traffic.

### Inner Relief Road

The current alignment for the Inner Relief Road (IRR), as shown in the Kilkenny County and City and Environs Development Plan, shows the new route running on the western side of the city, connecting the N76 Callan Road to the R693 Freshford Road south of the townland of Talbotsinch. The route will run through the Loughmacask plan area and will include a new east – west link to join the Water Barrack Roundabout. Dean Street will be upgraded and a new river crossing will be established at the eastern end of Dean Street. This will provide a link to Wolfe Tone Street and will then run through the Livestock Mart Site to provide access to the N77 Castlecomer Road.

It is envisaged that the IRR will be implemented in phases, with the first phase between N76 Callan Road and R695 to be completed by 2010. The remainder of the IRR will be implemented in phases over the Plan period. Kilkenny County and Borough Council envisages that the IRR will reduce city centre congestion and improve access to key development sites such as the Western Environs, the Mart Site and McDonagh Station to the east of the city.



Tullaroan Road

## Other Road Improvements

The Inner relief Road will be complemented by the construction of the following road improvement and traffic management schemes:

- N10 - N77 Ring Road Extension; (commenced)
- The Johnswell Road to Hebron Road link (Pennyfeather's way)
- Traffic management scheme in the John's Green area
- The change in status of the N77/New Road junction from traffic signals to a roundabout;
- The change in status of the N77/Barrack Street junction from a priority junction to traffic signals.

The following proposed road improvement schemes are expected to be in place by 2008:

- Upgrading of the Ring Road Extension approach roads, including the widening and realignment of Johnswell Road, Hebron Road and New Orchard Road to the intersections with the N77 Ring Road Extension;

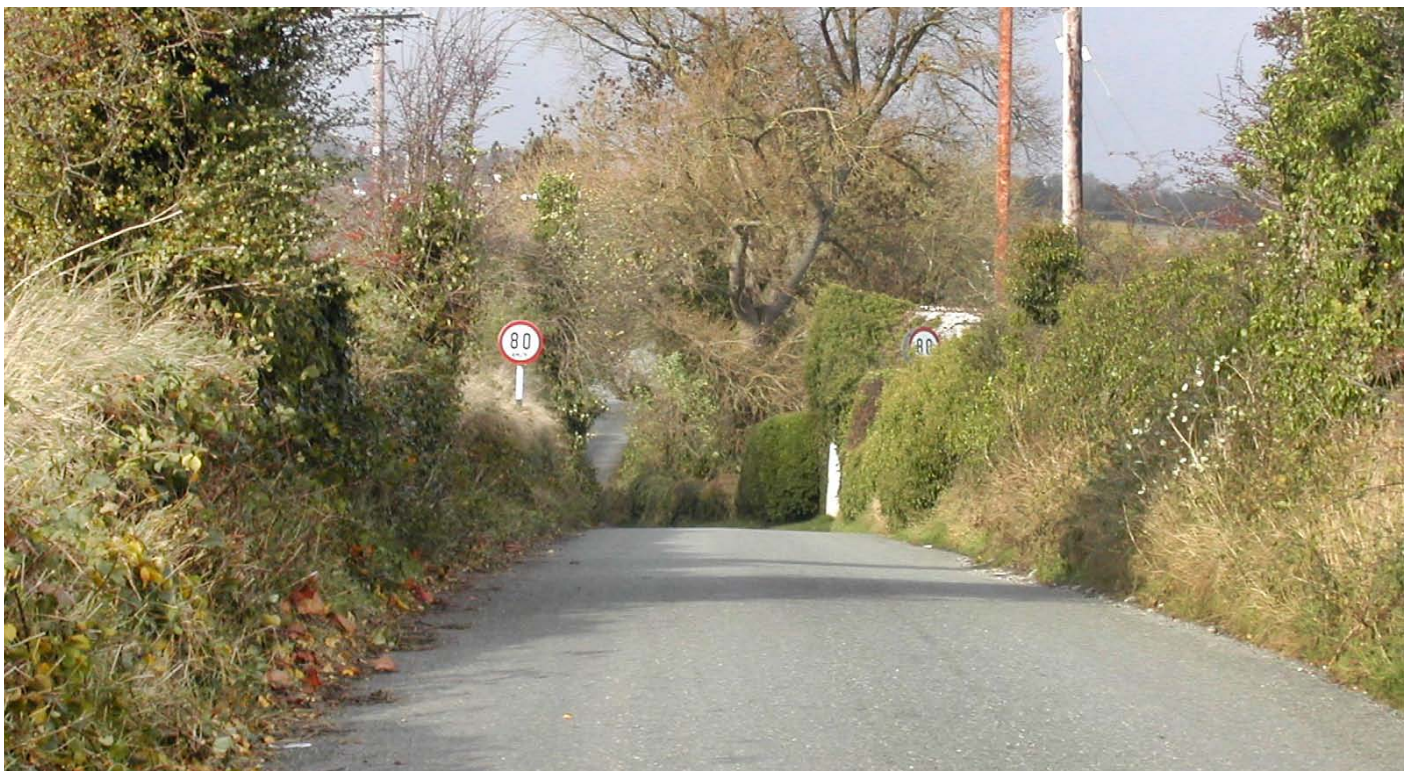
- Improvements to the junction of Bohernatounish Road junction with the N10 Ring Road; (commenced)

The capacity of the road network was most recently analysed to facilitate the design of the Inner Relief Road. The following conclusions that are pertinent to Loughmacask were derived:

- The full Inner Relief Road is required if the committed development outlined above is to be fully realised
- The Water Barrack Roundabout will have minor capacity problems if the committed development outlined above is fully realised

## Public Transport

The Loughmacask LAP area lies at the periphery of Kilkenny City and, subsequently, within close vicinity to existing public transport networks. Given the nature of development over the lands to date, no public transport routes have been set down over the area. Notwithstanding this, the extension of existing routes to encompass the area as population grows is plausible.



R693 Dunningstown Road

**2.6 Grassland Fertilizers Seveso Site**

The E.U. Directive 96/82 EC (known as the Seveso II Directive) of 9 December 1996 was introduced into Irish law through statutory instrument; the EC (Control of Major Accident Hazards Involving Dangerous Substances) Regulations (S.I. No. 476 of 2000). The Directive aims to prevent major accident hazards involving dangerous substances and chemicals and the limitation of their consequences for man and the environment.

These must be pursued through controls on the following:

- The siting of new establishments;
- Modifications to existing establishments; and
- Development in the vicinity of an establishment which which by virtue of its location and type is likely to increase the risk or consequences of a major accident.

At present there is one Seveso II site within the Kilkenny City & environs; Grassland Fertilizers (Kilkenny) Ltd Palmerstown, on the Tullaroan Road in Kilkenny.

It is an objective of the local authorities to reduce the risk and limit the consequences of major industrial accidents by, where appropriate, taking into account the advice of the Health and Safety Authority when proposals for development as outlined above are considered.

**Grassland Fertilizers – Irish Health and Safety Authority Advice**

Grassland Fertilizers is an Irish enterprise producing fertilizers for a range of farming enterprises. The company’s industrial site is located to the south of Tullaroan Road on the western side of the LAP area. Currently the Grassland Fertilizers site is surrounded by agricultural lands.

Grassland Fertilizer produces ammonium nitrate fertilizer, which has the potential to result in noxious fumes and explosiveness if caught in a fire. Given the nature of the activities undertaken by Grassland Fertilizers, Kilkenny County Council requested land use planning advice from the Irish Health and Safety Authority (HSA) to assist in the preparation of the Loughmacask LAP.

The resultant report (entitled ‘Land Use Planning Advice for Kilkenny City Council in relation to Grassland Fertilizers (Kilkenny) Ltd at Palmerstown’ and dated 20 October 2006) determined risk zones in relation to major potential accidents that have the potential to occur over the Grassland Fertilizers site and gave advice in regard to suitable future development for those zones (See Fig. 5).

The HSA has considered the potential risk to people within the surrounding area of the site should such an event occur, and has advised the following development parameters. (to be read in conjunction with figure opposite)

Should it be confirmed that Grassland Fertilizers and D Walsh & Sons will vacate their site in the future, the Councils shall, through a review of this LAP, give due consideration to the rezoning and use of the lands currently zoned for industrial purposes and the adjoining open space lands affected by the Seveso directive. Such consideration may include the potential use of the lands for residential purposes and/or local commercial uses, provided that the existing industrial uses have not compromised such future uses.

*Table 2.6 – Development Parameters around the Grassland Fertilizers site*

Zone 1	Limited to existing development.
Zone 2	Advise against residential, office and retail. Permit occasionally occupied development e.g. pump houses, transformer stations. Consult with HSA re Industrial development.
Zone 3	Permit workplace development. Permit residential densities from 28 to 90 persons per hectare, density increasing as risk decreases across the zone and in developed areas, and 22 to 70 persons per hectare in less developed areas. Permit modest retail and ancillary local services. Advise against shopping centres, large scale retail outlets, and undue concentration of restaurant and pub facilities.

Zone 4  
 No restrictions except for sensitive developments, which would be subject to consultation if within the zone and should not be at a risk greater than 0.3.10-6. Sensitive developments include crèches, schools, hospitals and nursing homes. Locations of major public assembly will be subject to individual assessment.

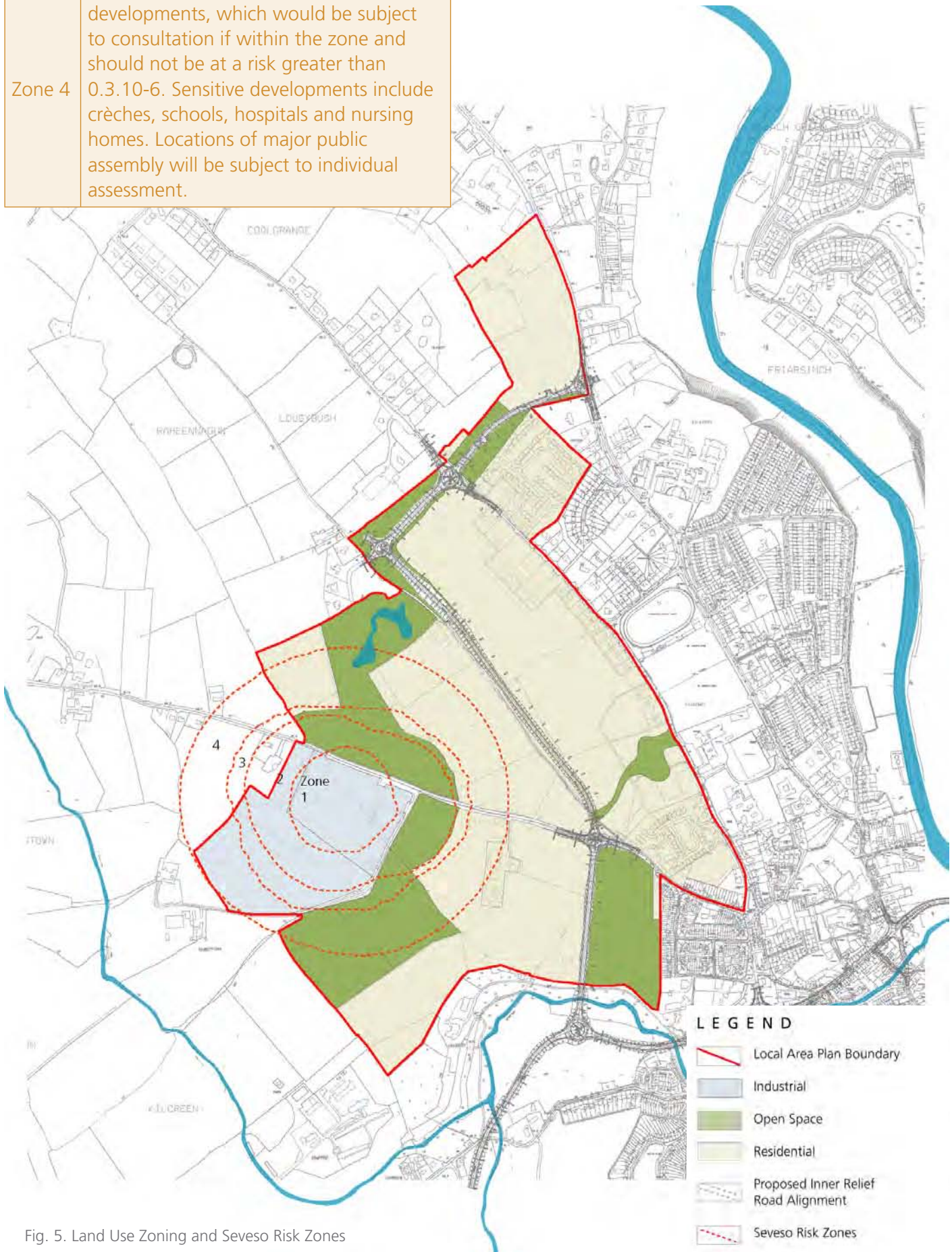


Fig. 5. Land Use Zoning and Seveso Risk Zones



# 3.0 Vision





### 3.0 A Vision for Loughmacask

As a part of Kilkenny City, it is the Kilkenny County and Borough Councils' vision to see Loughmacask's distinct landscape be developed as a sustainable collection of neighbourhoods, set around a green corridor and a village core, providing residents with a great place to live and a strong sense of community.

#### A Part of Kilkenny

Located on the edge of Kilkenny City, Loughmacask will have strong physical and cultural linkages to the city centre and to the surrounding countryside, including the Nore and Breagh River Valleys. Loughmacask will be connected to the city centre by a network of pedestrian and cycle ways, improved transport corridors and visually connected with views of landmarks such as St. Mary's and St. Canice's Cathedrals. The Loughmacask lake will be set into a parkland area and will be accessible along a pedestrianised Lousybush lane. The Loughmacask LAP is also being utilized as an opportunity to open connections to the Breagh River Valley.

#### A Distinct Landscape

The vision for Loughmacask is responsive to the distinct landscape of the area, creating an environment that locals and visitors will be able to relate to and identify with. The integration of existing landscape features such as the rolling landform, Lousybush Lane and hedgerows to the west and south-west of Lough Macask will assist in providing a structure for future development that commemorates historic land-uses.

Particular outstanding features, such as Lough Macask and a variety of archaeological and architectural heritage features unique to the Loughmacask area will be integrated where appropriate and their accessibility enhanced for enjoyment of the local residents and visitors to the area.

#### A Great Place to Live

Enabling people to move freely within and around their community, while undertaking their day to day activities, is integral to building a community that responds to the basic needs and desires of its people. The provision of excellent infrastructure at all levels – sports and recreation grounds, open space, pedestrian and cycle routes, safe roads, enhanced education facilities, and quality childcare – will assist Loughmacask in becoming a great place to live.

#### A Strong Community

The Loughmacask LAP will establish a well-balanced community, integrating and accommodating a diverse array of social and cultural backgrounds. Loughmacask will open up further choice for living in Kilkenny and, within itself, will offer a range of living options for young people, families and the elderly.

A defined village centre arranged around a public square offering local shops and services, will provide a strong sense of place and identity for the local community. Sports and recreation grounds, along with other community facilities will also facilitate opportunities for community groups to establish and grow. Employment opportunities will continue to be provided locally through existing industry and new business opportunities in and around the village centre.





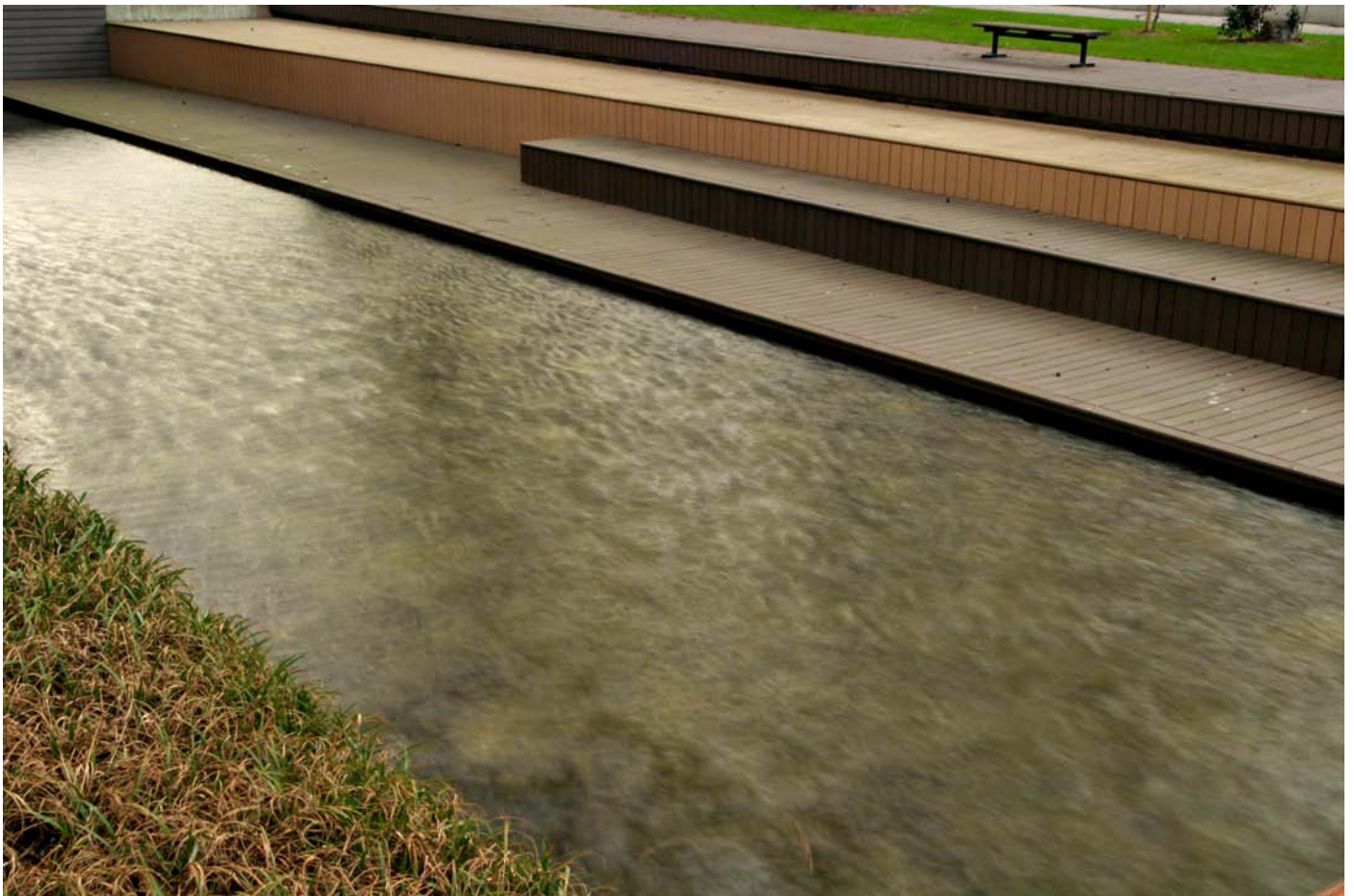
## A Sustainable Environment

The Loughmacask LAP envisages a sustainable environment developed with the assistance of design guidelines relating to such matters as open space, building design, local infrastructure (including roads, pedestrian and cycle ways, and the management of drainage patterns and flooding), and waste minimisation and recycling.

In particular, design guidance will seek to ensure that key public amenities, such as recreation grounds and childcare, are located within close proximity to key nodes (such as the village centre), with pedestrian and cycle routes linking them to adjoining neighbourhoods; energy efficient design and energy saving building technology will be promoted as an integral aspect of all future development; and particular attention will be given to implementing sustainable methods of water runoff management to protect the quality of natural water systems and habitats in the area.

With regard to movement, the LAP promotes interconnectivity between all modes of transport – vehicular, pedestrian, cycle and public transport – and seeks to assist in improving the efficiency and performance of connections between the LAP area and Kilkenny city.

The principles of waste minimisation and recycling will be key considerations in the design and construction of new developments.



Attenuation Pond

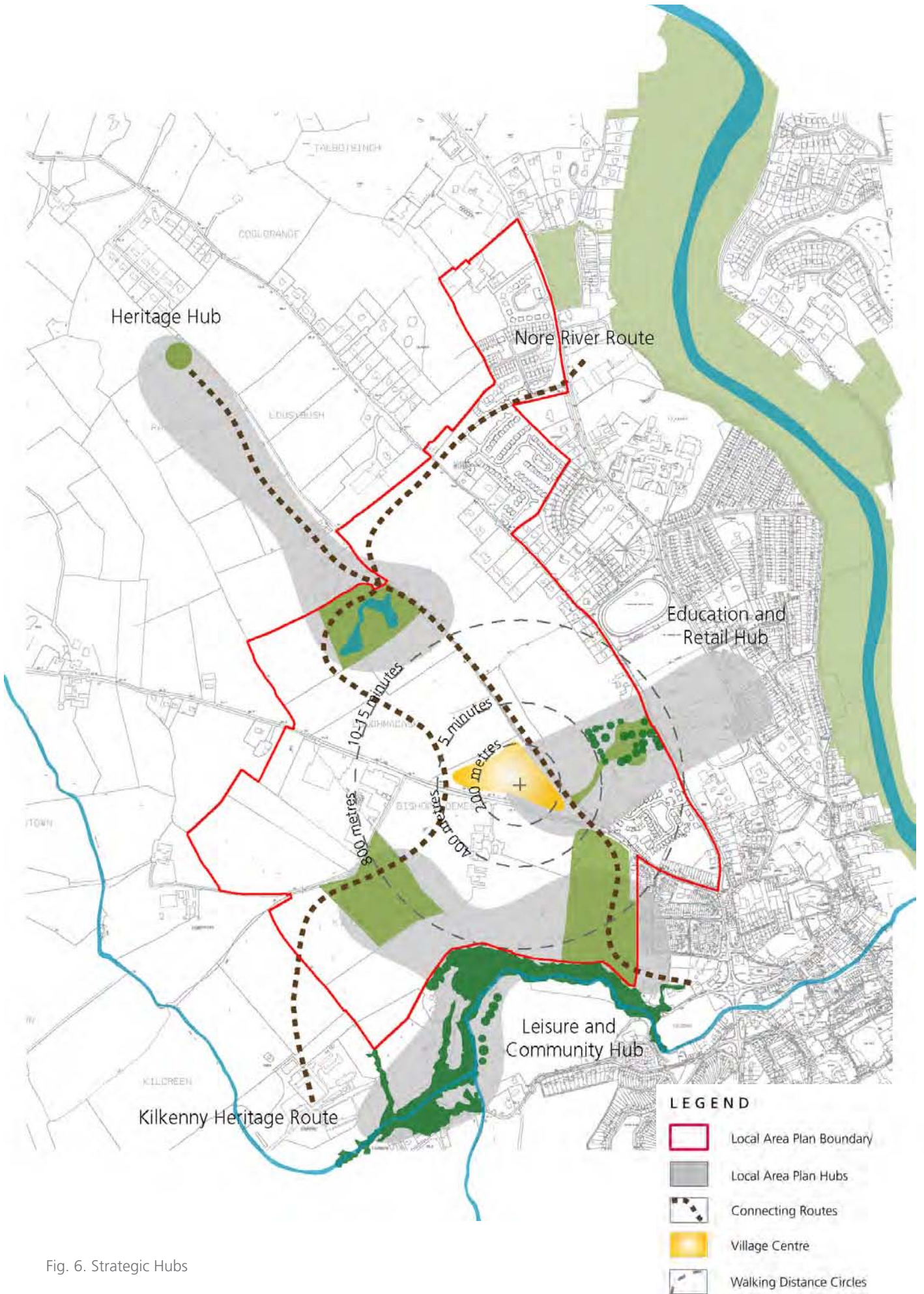


Fig. 6. Strategic Hubs

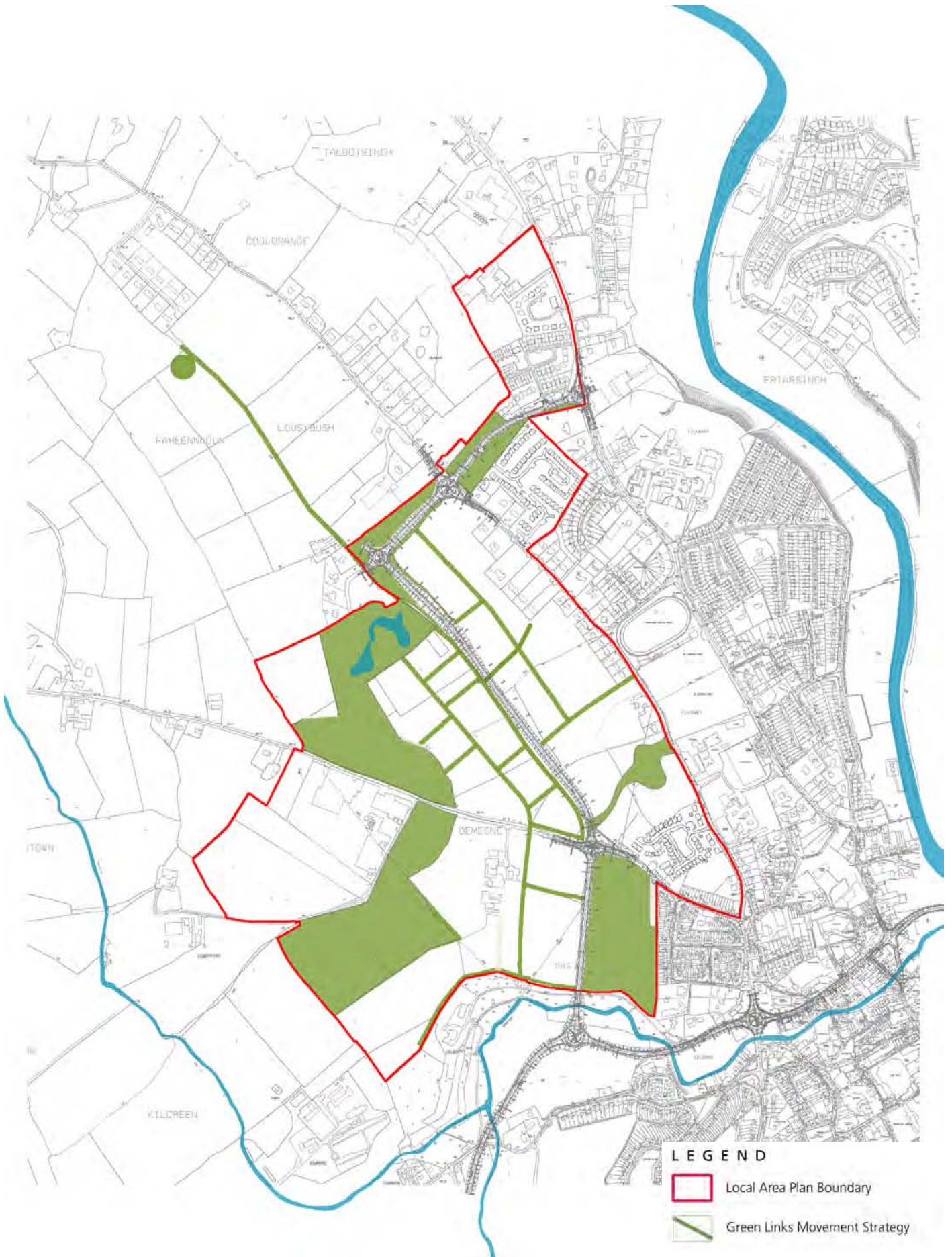


Fig. 7. Strategic Green Links

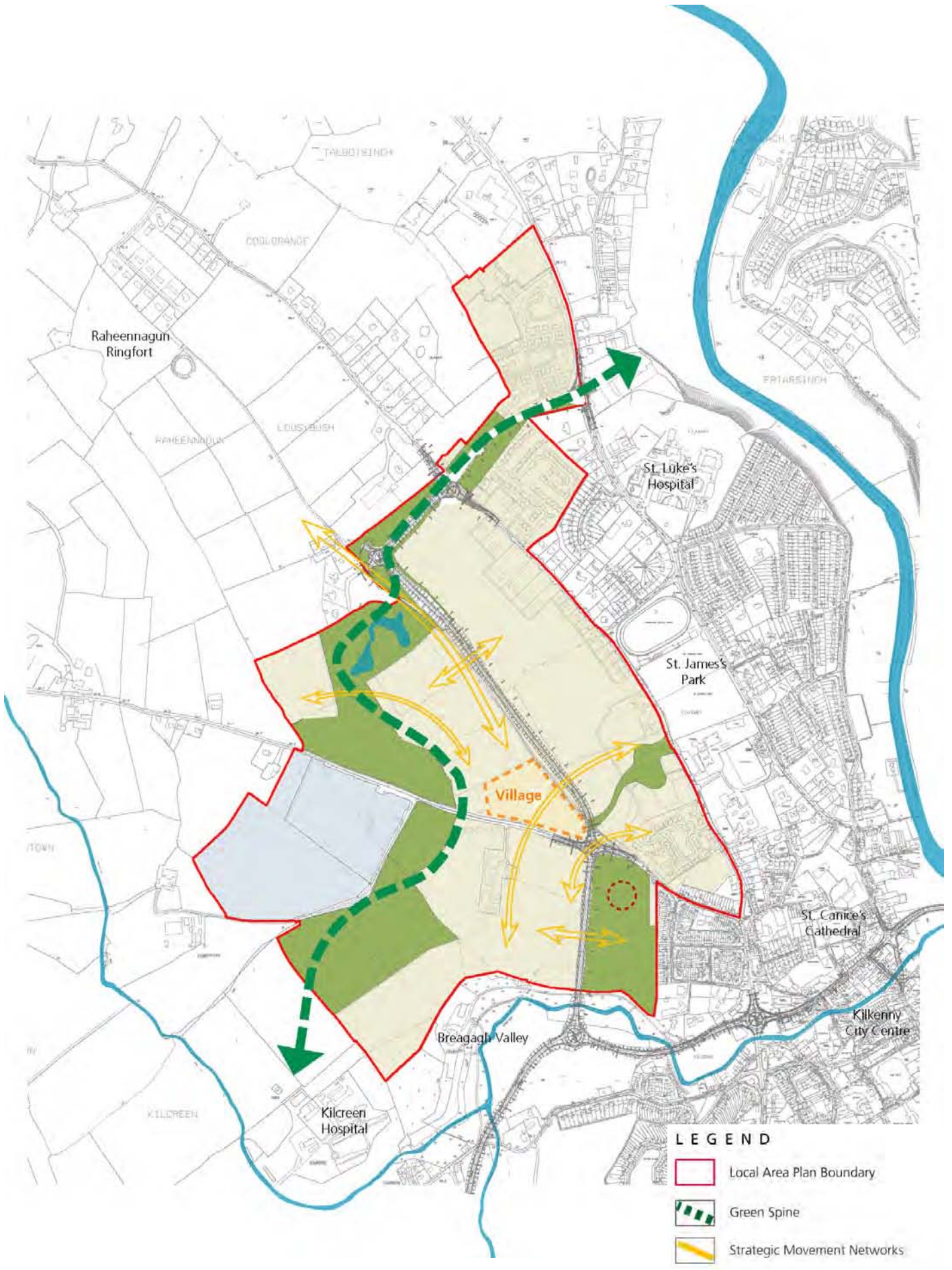
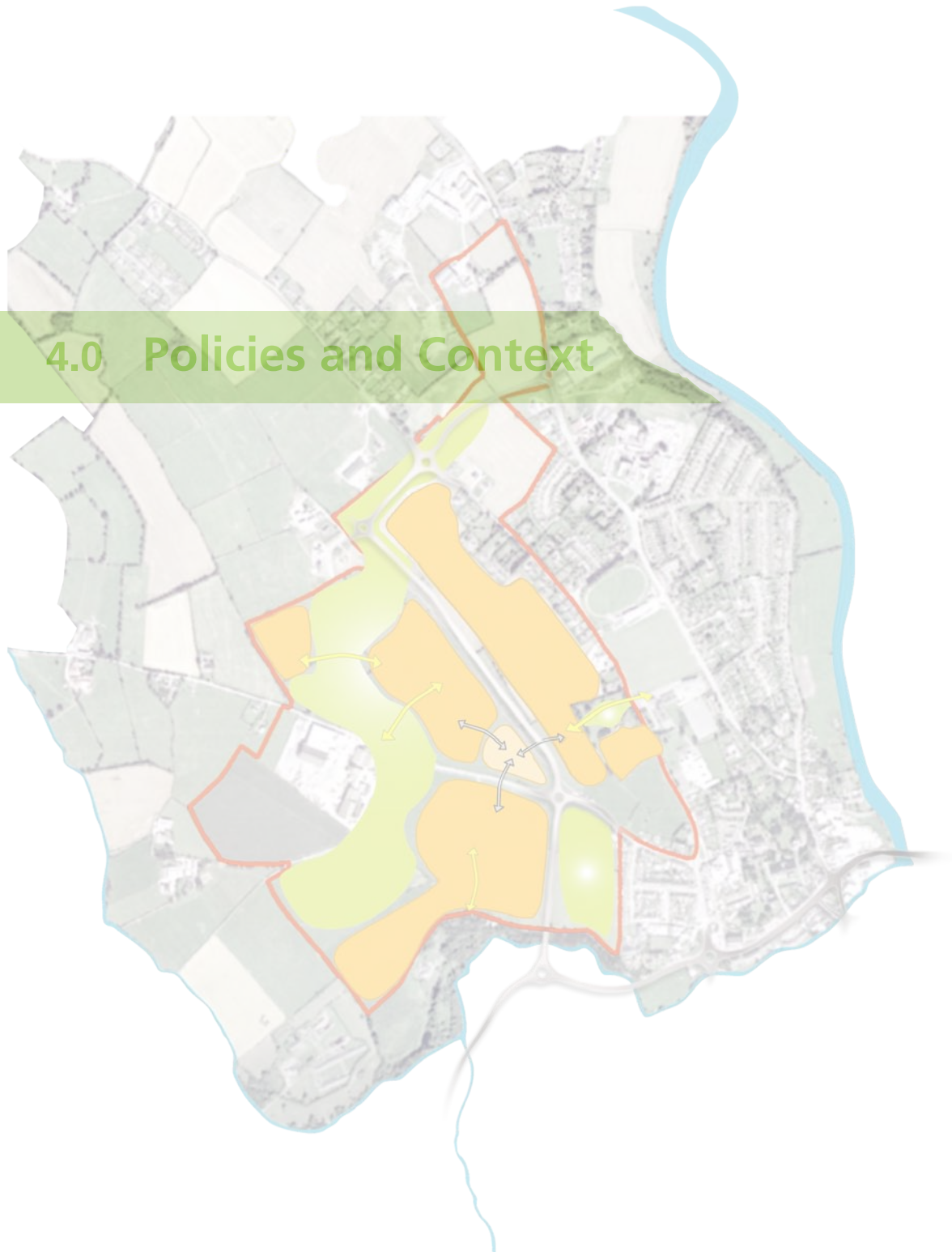


Fig. 8. Strategic Movement Corridors



## 4.0 Policies and Context





## 4.0 Loughmacask Local Area Plan Policy Framework

In this chapter policies and objectives are set out to provide for the proper planning and sustainable development of the Loughmacask Area over the six year lifetime of the plan.

The policies and objectives outlined are specific to the Loughmacask plan area and do not apply to locations outside of the LAP boundary. In addition the policies and objectives of the Kilkenny and Environs Development Plan and subsequent revisions and variations of that plan will continue to apply to the Loughmacask plan area.

From here in Kilkenny Borough and Kilkenny County Councils, will be collectively referred to as the Council.

### 4.1 Local Heritage, Landscape and Environment

The Loughmacask LAP area is underpinned by distinct local heritage and environmental attributes, both natural and cultural. The key challenge and opportunity for the Loughmacask LAP is to successfully form a new urban quarter, complementary to the city, which is characterised and enriched by the existing local heritage. The policies contained within the following sections set out to conserve, protect and enhance the existing local heritage, such that present and future communities may appreciate and benefit from it.

Habitats within the LAP area have been mapped according to the classification system recommended by the Heritage Council of Ireland.

#### 4.1.1 Natural Heritage

The principal natural heritage resource within the LAP area is Lough Macask, a proposed Natural Heritage Area (pNHA), and thus protected under the Wildlife (Amendment) Act 2000. While other natural heritage elements, such as mature trees and hedgerows, do not have formal protection under legislation, they are nonetheless of significance and contribute towards the character of the area.

Bio-diversity is a measure of the quantity of species and habitat variety present within an eco-system. It is an important indicator of the extent to which natural processes are functioning and contributes in many ways to the development of communities and their culture. Therefore the conservation of biodiversity is important from economic, cultural and educational perspectives.

The LAP area is underlain by karst limestone, which is characteristic of geological features including underground springs, rivers and swallow holes. The geology of the area has significance in that it underpins the Lough Macask wetland.

Lough Macask is a pNHA of county importance comprising flora species unknown elsewhere in County Kilkenny.

Ecological habitats are more effective when connected together, forming a green network. This can be assisted by connecting areas of open space to the existing ecological resources within the LAP area to form ecological greenways.

The following policies set out the Council's long-term view with regard to protection, conservation and enhancement of the natural heritage resources within the LAP area. It is the Council policy to:

NH01 Conserve, protect and manage the existing natural heritage resources in a sustainable manner and to develop measures and provide conditions to enhance bio-diversity where possible.

NH02 Provide for the protection, conservation and enhancement of wildlife habitats and natural resources, including Lough Macask pNHA and features such as ecologically important hedgerows and mature trees within the LAP area.

NH03 Provide ecological linkages such as wetland habitat, hedgerow, meadow or woodland to connect the existing habitats of importance within the LAP area adjoining areas of ecological interest, such as the Breaghagh Valley to the south, the rural agricultural hinterland to the west, and the Nore Valley to the east.



NH04 Establish areas of urban woodland planting that will provide shelter, bio-diversity and amenity, and will also assist in the effectiveness of using open space as ecological linkages.

05 Ensure that the requirements of the Wildlife (Amendment) Act 2000 in terms of the protection of flora species are complied with.

NH06 Protect and sustain the hydrological functioning of the LAP area and surrounds, particularly in relation to Lough Macask. The hydrology of the area has significance in that it underpins the Lough.

NH07 Ensure the protection and conservation and, where necessary, restoration and enhancement, of the quality and distinctiveness of geological and geomorphic systems, sites, and features that are deemed to be of hydrological and ecological importance.

NH08 The habitats of protected species (e.g. bats) should be preserved and if possible enhanced to increase their biodiversity value. Under the provisions of the Wildlife Acts bat roosts can only be destroyed under licence provided mitigation measures are implemented. Where protected species are roosting in buildings, the buildings should be retained or, if redeveloped, alternative roosts provided in a suitable location in close vicinity to the original location. The provision of alternative roosts must be supervised by a suitably qualified ecologist.

Council will use its planning powers to prevent the removal of trees, wild hedgerows and scrub during the nesting season (March 1st to August 31st).

### Lough Macask pNHA

Lough Macask is classified as a reed and large sedge swamp (Heritage Classification FS1) and a eutrophic lake habitat (Heritage Classification FL5), protected under the Wildlife (Amendment) Act 2000. In order to provide for the long-term conservation of the Lough, part of the formulation of this strategy will require a study of the hydrological processes that underpin

the pNHA and the existing ecological features. An ecological survey to benchmark the existing biodiversity and ecological condition will also be required. It is envisaged that the strategy will examine how to create conditions for ecological enhancement, propose measures for management and monitoring, and outline proposals for the development of the pNHA as an educational and amenity resource.

Lough Macask pNHA has two connected basins, both of which have muddy substructures. The eastern basin supports extensive swamp vegetation (Heritage Classification FS1). Within this basin there is a large single Willow tree. Overall, the lake has diverse vegetation, which includes greater duckweed, a species not known to occur elsewhere in the county.

While showing characteristics of a turlough due to water fluctuations and to some extent the vegetation, there are no exposed karst features. Also the changes in water levels apparently occur at a relatively slow rate untypical of turloughs.

Fauna of interest, which occurs within proximity to Lough Macask, include snipe, mallard, teal, moorhen and grey heron. The Common Frog has also been sighted.

Council propose complete the ongoing hydrological / hydrogeological studies, which will identify the processes and conditions pertinent to Lough Macask. The study may encompass lands outside the LAP area as necessary. In addition Council will carry out a detailed assessment of the ecology of the Loughmacask pNHA to include specialist botanical studies, where necessary, in order to identify ecological features and biodiversity of the pNHA.

Further to the above, Council will promote immediate measures for protection against the poaching of cattle, and nutrient enrichment. Subsequently, the Council will prepare a management strategy taking account of the hydrological and ecological functioning of the pNHA. The management strategy will typically include ecology and/or hydrological monitoring, development of Lough Macask as an amenity and educational resource and to ensure its protection and conservation.

Having regard to the above matters, it is Council Policy to:

NH09 Ensure that all developments proposed within or close to the pNHA avoid impact on the hydrological and ecological functioning of the pNHA and are referred to the National Parks and Wildlife Service for consideration and comment. In this regard the Planning Authority may request a developer to commission studies specifically designed to show the impact of a proposed development on the pNHA.

### Kilcreen

Along the southern boundary of the LAP in Kilcreen is a small artificial pond (Heritage Classification FL8) of minor ecological interest. Measuring approximately 15 metres by 6 metres it can be described as being stagnant with a muddy substructure. Of note is a retaining wall and inlet, both of which exist along the southern side. Species present include watercress and common bent. Two large alder trees occur at the southern boundary of the pond.

Having regard to the above matters, it is Council Policy to:

NH10 Retain and enhance the Kilcreen pond as an ecological resource as part of any future development.

### Hedgerows

Hedgerows (Heritage Classification WL1) of good quality, with an average height of between 6 and 7 meters are noted within the vicinity of Lough Macask pNHA. Hawthorn is the principal species and ivy is frequent. Further hedgerows of moderate quality exist to the northwest of Ayresfield House. Fig 12 identifies the hedgerows that are of importance from an ecological and landscape amenity perspective, some of which are of conservation value in a local context.

Fauna species associated with hedgerows in the LAP area include hedgerow bird, wren, song thrush, dunnock, coal tit, great tit and starling.

Having regard to the above matters, it is Council Policy to:

NH11 Treat ecologically significant hedgerows as ecological corridors and to provide for their retention and enhancement.

### Ayresfield House

The grounds of Ayresfield House contain numerous trees typical of a parkland demesne landscape (Heritage Classification WD5). Throughout the trees, notable species include Lime, Beech and Horse Chestnut. Some of the trees are of considerable maturity and could be expected to support bat roosts.

In addition to the above, the Ayresfield House site also offers a unique opportunity to provide a pedestrian linkage between existing activities along Grange Road (such as existing schools) and the future village centre within the Loughmacask LAP area. Combined with the heritage value of the trees on site, the link would add to the overall qualities of the Loughmacask area.

Having regard to the above matters, it is Council Policy to:

NH12 Seek the retention of the existing trees on the grounds of Ayresfield House. The Council may request that a bat roost survey be undertaken prior to considering future applications for development or tree felling.

NH13 Provide pedestrian access through the Ayresfield House site between Grange Road and the future Loughmacask village centre.

### 4.1.2 Archaeological Heritage

It is important that present and future generations can experience and enjoy the physical expressions of the past. Architectural heritage refers to structures and features of artistic, architectural and/or historic interest within the Loughmacask LAP area. It can be described as a finite, non-renewable physical and material resource and provides an invaluable record of cultural evolution and change over time, thus providing insight into societies of the past.

The Loughmacask LAP area comprises archaeological heritage dating from the late Bronze Age, including six archaeological sites recorded in the Record of Monuments and Places (RMP). In addition to the information detailed below, further detail can be found in the relevant preliminary archaeological and architectural assessment contained within Appendix D to this LAP. It is noted that the site codes referred to in the following text are derived from the assessment referred to above.

Two areas within the Loughmacask LAP area hold particular interest in relation to their archaeological potential. The first area (described as AP1 in the preliminary archaeological and architectural assessment) is an area extending along the Bonnetstown Road to the south, to the border of the LAP area to the west and above Lough Macask to the north. The second site (described as AP2 in the preliminary archaeological and architectural assessment) extends from the Bishops Demesne in the north, to the Butts area in the east and to Kilcreen in the south.

If and when development occurs within areas AP1 and AP2, it is recommended to undertake a non-intrusive survey to inform the location of site specific archaeological test trenching, in advance of any proposed works.

Further to the above, particular sites of archaeological interest within the Loughmacask LAP area include:

Site Code*	Description	RMP No.
Site Code A1	Linear Ditch	KK019-023
Site Code A2	Possible Enclosure	
Site Code A3	Archaeological Complex	
	Ring Ditch	KK019-02201
	Ring Ditch	KK019-02202
	Ring Ditch	KK019-02203
	Linear Ditch	KK019-02204
Site Code A5	Enclosure	KK019-07

Sites listed in the above table should be avoided and/or protected during construction. If these sites cannot be avoided, it is recommended to undertake an archaeological survey in advance of any development (carried out by a suitably qualified expert agreed upon by the Council). Other non-intrusive surveys are recommended in order to inform the location of site specific archaeological test trenching. Monitoring of all ground works within the area is recommended.

Sites that are located outside the LAP area but may be affected indirectly by any future development include:

Site Code*	Description	RMP No.
Site Code A4	Dwelling – Kilcreen Lodge	KK019-102
Site Code A6	Enclosure	KK019-08
Site Code A7	Holy Well	KK019-24
Site Code A8	City	KK019-026
Site Code A9	Ring fort	KK019-006

\*For maps showing the location of the sites, refer to Appendix D, Preliminary Archaeological & Architectural Assessment, figures 1 to 3.

It is Council Policy to:

AH01 Preserve and maintain the archaeological heritage and to safeguard the integrity and setting of recorded sites where possible.

AH02 Ensure that full consideration is given to the protection of the archaeological heritage when undertaking, approving or authorising development

AH03 Ensure that all significant development proposals within proximity to sites specified in the Recorded of Monuments and Places be referred to all relevant prescribed bodies.

AH04 Ensure when planning to undertake development or when considering the authorisation of development that the following procedures are applied:

- Pre-application consultations in relation to archaeological heritage;
- That a presumption in favour of preservation in situ of archaeological remains and settings, in accordance with Government policy; and
- Where deemed necessary, by either County and Borough Councils, an archaeological impact assessment of the proposed development be carried out at the design stage.

Where an archaeological impact assessment indicates the necessity for further investigation, the Planning Authority may require at the developers expense:

- Site investigations using trial trenches or excavation; and/or
- Alternations to the proposed design to mitigate the impact on the archaeological heritage and/or to facilitate its presentation to the public.

AH05 When deciding whether or not to grant permission for development, the Planning Authority may impose conditions in relation to:

- A requirement to carry out further archaeological monitoring and/or excavation;
- Require specific alteration to the design of the development arising from any archaeological assessment undertaken; and/or
- Require the planning authority's consent to the construction programme and the design and layout of the construction site, where deemed necessary.

#### 4.1.3 Architectural Heritage

Architectural heritage comprises of locally important building and settlement typologies such as houses constructed in the vernacular style. In particular, the LAP area is characterised by features of architectural heritage interest post dating from the 1700's.

Sites of Architectural Heritage interest within the Loughmacask LAP area include:

Site Code*	Description
Site Code AH1	Terraced Cottages
Site Code AH2	Vernacular Dwelling
Site Code AH3	Architectural Remains
Site Code AH5	Vernacular Dwelling
Site Code AH6	Vernacular Dwelling
Site Code AH7	Farm Complex
Site Code AH8	Vernacular Dwelling
Site Code AH9	Possible architectural complex

\*For maps showing the location of the sites, refer to Appendix D Preliminary Archaeological & Architectural Assessment, figures 1 to 3.

To uphold the existing heritage value of the Loughmacask LAP area, prior to development taking place over any of the above listed sites, an assessment of the architectural heritage value of the built form on the site should be carried out by a suitably qualified expert agreed upon by the Council.

Where any built form is found to have significant architectural heritage value, destruction and/or damage to that built form should be avoided and development proposed should seek retain and, where possible, enhance its heritage value.

Sites that are located outside the LAP area but may be affected indirectly by any future development include:

Site Code	Description
Site Code AH4	Farm Complex
Site Code AH10	Possible Architectural Complex
Site Code AH11	Vernacular Dwelling
Site Code AH12	Village
Site Code AH13	Country House

\*For maps showing the location of the sites, refer to Appendix D, Preliminary Archaeological & Architectural Assessment, figures 1 to 3.

It is Council Policy:

AH06 To preserve and protect the structure and curtilage of Kilcreen Lodge, which, located on the boundary of the LAP area, is contained in the Record of Protected Structures. To ensure that all significant development proposals relating to the Kilcreen Lodge or its setting be referred to the all relevant prescribed bodies and to ensure that full consideration is given to the protection of the architectural heritage when approving or undertaking development.

AH07 Where possible, to retain and protect the stone walls along Loushybush Lane, while also allowing for the future development of the IRR and surrounding pedestrian and cycle networks. Where removal of the wall is required, stone material shall be reutilised for future walls and similar built form within close vicinity of Loushybush Lane.

AH08 That where a site is listed within this LAP as having architectural heritage interest, an assessment of the architectural heritage value of the built form on the site shall be carried out by

a suitably qualified expert agreed upon by the Council. The cost of any such assessment shall be at the cost of the developer.

AH09 To protect (through the prevention of demolition, loss or damage) and, where possible, preserve and restore, walls, buildings and other built forms, that are found to be of significant architectural heritage value.

#### 4.1.4 Place Names

Places names offer a rich historical insight into places and, often, key physical features. Accordingly, it is Council Policy to:

PN01 Ensure that existing place names be utilised in the naming of new developments in the LAP area and that all place name proposals for new developments are referred to the Placenames Commission, the Government advisory body on policy matters relating to Irish-language placenames.

PN02 In granting permission Council may attach conditions in relation to the naming of new housing and mixed-use developments, streets, roads and public spaces.

#### 4.1.5 Public Open Space

As part of the open spaces strategy it is the Councils vision to develop a public park within the LAP lands to include Lough Macask and, potentially, another over the lands zoned open space to the south-east of the LAP lands adjacent to the Fr. Mc Grath centre. Both areas are located on lands which are zoned as public open space.

It is Council policy to:

OS01 Develop Lough Macask as an environmental park.

OS02 Develop the lands zoned open space to the south-east of the LAP lands adjacent to the Butts for active recreation and/or community purposes in response to the needs identified locally in consultation with the local community.

### 4.1.5 Landscape Views

Located in close proximity to Kilkenny City and adjoining rural lands, the Loughmacask LAP area has the potential to retain views into and out of the site that will assist in retaining and enhancing its distinct character.

By way of example, the Loughmacask LAP area affords good views of St Mary's and St Canice's cathedrals'. The incorporation of such views, either through established view corridors or from key buildings and places, has the potential to strengthen the areas relationship with Kilkenny City and the surrounding environs. The recognition of such connections also has the potential to assist in developing a built environment is engrained with cultural meaning, both for locals and visitors to the area, now and in the future.

Having regard to the above discussion, it is Council policy that:

LV01 Where the Council believes development has potential to either diminish or enhance significant views into and/or out of the Loughmacask LAP area, it may require that a visual assessment be carried out prior to development being undertaken on any site.

LV02 Where any assessment of significant views into and/or out of the Loughmacask LAP area shows that proposed development has the potential to significantly diminish or enhance such views, the Council may require the developer to amend its development proposal to ensure that an optimal outcome is achieved for the wider benefit of the community.

## 4.2 Transportation and Services Infrastructure

Fundamental to any community is reliable transportation and services infrastructure. Aimed at achieving the Councils' vision for the Loughmacask LAP area, this section outlines policy in regard to community infrastructure, including:

- Pedestrian, cycle and road ways
- Public Transport and Traffic Management
- Water Supply
- Waste Water
- Surface Water
- Energy
- Telecoms/Information Technology

### 4.2.1 Infrastructure

The Inner Relief Road (IRR) will act as a distributor road for the area and a relief road for the city. In order to allow for development of the area to proceed, protect the function of the IRR as a relief road and minimise severance it is envisaged that restrictions on the movement of traffic may be placed at various locations, which may include:

- Minimising the number of access road junctions on the IRR.
- Access to the lands to be predominantly via the IRR.
- Ensuring that generally no direct access to individual houses will be allowed from the IRR.
- Restricting access to improve road safety around the existing and proposed school.

The detail of these restrictions will be addressed at the detailed design stage of the individual developments.

Importantly, the IRR alignment will have to take account of the proximity of the Loughmacask and its associated hydrology.

Each development will have to take care to ensure pedestrian and cyclist safety, both actual and perceived, in accordance with DOEHLG Design Guide Traffic Management Guidelines. Pedestrian pathways and cycle-ways shall link the development area, Loughmacask and the City. The IRR will be designed to minimise severance between the Western Environs, the city centre and the LAP area, allowing safe crossing of the road by pedestrians and cyclists.

With regard to the above matters, it is Council Policy that:

IP01 In the interest of road safety Council will require the estate roads will be traffic calmed/low speed throughout with speed limits of 30mph. The design will be in accordance with DOEHLG Design Guide Traffic Management Guidelines.

IP02 A 'walking bus' scheme (a group of children who make their way to and from school on foot, supervised by participating adults) for the school going population of Kilkenny city and environs be facilitated, with assistance from Council.

IP03 A cycling and pedestrian movement network throughout the plan area, which will be integrated in a sustainable manner with future residential developments and adjoining city areas.

### 4.2.2 Public Transport and Traffic Management

The traffic management policy of this LAP recognises the varying future needs of the Loughmacask area, such as peak time traffic, shopping and business and delivery services. Transportation policies will be vital to ensure that the LAP area will grow and develop in a sustainable manner. The creation of connected transport modes is critical in linking the plan area to the inner city and wider hinterland.

The standards laid out in the DOEHLG Design Guide Traffic Management Guidelines, shall be incorporated as an integral design element, in the development of internal roads. Particular attention shall be given to the following:

- General traffic calming measures
- Access facilities for Mobility Impaired People and other vulnerable road users
- Reduction of the dominance of the motorised vehicles

The following are the County and Borough Councils policy objective regarding public transport and traffic management:

It is Council Policy to:

PT01 Promote interconnectivity between all modes of transport (vehicular, pedestrian, cycle and public transport) in order to link the LAP area with the city and its wider city networks.

PT02 Improve the efficiency, performance and attractiveness of transport facilities through provision of an integrated traffic management network which will offer wider benefits throughout the LAP, the city and environs areas.

PT03 Facilitate a sustainable movement network throughout the Loughmacask area that will encourage walking and cycling in place of the motorcar.

#### 4.2.3 Water Supply

Plans for the long term upgrade of water supplies in the city will be available shortly in the coming year.

It is Council Policy to:

WS01 Encourage the adoption of water saving measures throughout future development. This will increase the extent of development capable of being serviced by the existing water treatment plant. Such measures would include:

- Water butts to collect rainwater
- Low flush and dual flush toilets
- Low water use appliances
- Rainwater harvesting
- Greywater recycling

#### 4.2.4 Waste Water

Separate foul and surface water drainage will be required throughout the plan area. The proposed sewer network is illustrated within figure 37 of this LAP.

It is Council Policy to:

WW01 Actively encourage the separation and reduction of wastes at source to reduce the overall load on the municipal waste water treatment plant at Purcellsinch.

#### 4.2.5 Surface Water

It is important that the area's hydrology and geology, be understood in the overall context of the Loughmacask before a surface water policy can be fully completed. A study of the Loughmacask pNHA will inform the formulation of the surface water policy to ensure that its existing hydrology is maintained.

The Breaghagh River flows along but outside the southern boundary of the LAP area. The southern portion of the LAP area forms part of the Breaghagh catchment area.

It is envisaged that areas within the Breaghagh catchment (pending the hydrology study of Loughmacask pNHA) will be drained to the river. A network of surface water sewers will be constructed to carry surface water run-off to the Breaghagh.



SW01 It is the County and Borough Councils policy objective to implement SUDS (Sustainable Urban Drainage Systems) as the preferred solution for the disposal and treatment of surface water run-off for all proposed developments.

New developments will be required to adhere to the principles of Sustainable Urban Drainage. In the design of new developments consideration should be given to incorporating some of the following measures.

- On site water ponds to store and/or attenuate additional runoff from the development should be provided
- Soak-aways or French drains should be provided to increase infiltration and minimise additional runoff
- Surface water run-off should be passed through a litter screen and petrol/oil interceptor before discharged off site to watercourses.

Attenuation measures should be designed such that the SUDS features will not overflow during a 30-year return period rainfall event. Overflow from the attenuation measures is to be retained within the site area up to the 100 year event.

SW02 The County and Borough Councils will seek to promote the sustainable use, management and disposal of water. The County and Borough Councils shall encourage the use of alternative techniques for the conservation, treatment, collection and disposal of surface and waste water.

SW03 It is a policy that any development that is sensitive to the effects of flooding will generally not be permitted in flood prone or marginal areas.

SW04 It will be Council policy to discourage the culverting of existing streams and open drains. Where culverts are deemed necessary - the minimum permissible culvert diameter shall be 900mm and access should be provided for maintenance as appropriate.

SW05 For developments adjacent to watercourses of a significant conveyance capacity any the following considerations will be addressed in the drainage design:

- All watercourses shall be maintained in their original, open and natural channel. There should be no interference with or widening of watercourses without prior consultation with the Office of public Works. Developments in the vicinity of watercourses should not alter the existing line of the watercourse.
- All developments maintain a buffer zone of at least 5 metres (19 metres in case of the Breaghagh River) from the riverbank along the length of the watercourse allow access for channel clearing/ maintenance.
- There must be no infilling within the buffer zone.
- Conservation of bank-side vegetation.
- There shall be no discharge of suspended solids or any other deleterious matter to watercourses during the construction phase and during any landscaping works. Particular care should be taken when using concrete or cement near watercourses.
- Fuels, oils, greases and hydraulic fluids must be stored in bunded compounds, well away from the watercourse. Refuelling of machinery must be carried out in bunded areas.
- Adequate grease traps should be installed.
- All surface waters from sites and access roads should be channelled through adequately sized petrol/oil interceptors and be subject to attenuation prior to discharge to the watercourse.
- All fuel and oil tanks must be adequately bunded.

SW06 All new development must be designed and constructed to meet the following minimum flood design standards:

- For development in general - the 100 year flood

SW07 Flood impact assessment and proposals for the storage or attenuation of run/off discharges (including foul drains) must accompany applications for planning permission for development of areas exceeding 1 hectare and development in areas of identified flood risk to ensure the development does not increase the flood risk in the relevant catchment.

The drainage strategy should include but not necessarily be limited to the following:

- An indication of the types of sustainable urban drainage techniques to be used;
- Take into account possible future development;
- Design calculations showing the attenuation required to ensure that post-development runoff volume does not exceed that for the critical rainfall events;
- Evidence of sub-soil porosity where infiltration techniques are to be used;
- Pre and post-development surface water runoff calculations;
- Assessment of flood risk where this is deemed appropriate;
- Proposals for integrating the drainage into the general landscape and the open space requirements for the development;
- A description of the design safety features to render the proposed attenuation systems safe;
- Demonstration of good environmental and ecological practices;
- Indicate proposed sediment control techniques are to be used;
- Identify the maintenance requirements of the proposed drainage system and the proposed management regime to oversee the maintenance;
- Indicate flow measurement and telemetric provisions to be used;
- A method statement detailing how contaminated water arising during construction will be dealt with;
- Identify drainage to be taken in charge by the local authority and provide details of construction for same.

A certificate or report from a competent person(s) that the development will not contribute to flooding within the relevant catchment must accompany all drainage impact assessments.

#### 4.2.6 Energy

The recently published Government White Paper entitled Delivering a Sustainable Energy Future for Ireland 2007-2020 and the National Climate Change Strategy 2007-2012 commit the Government to reviewing the Building Regulations with the aim of reducing energy demand by 40% relative to current standards. In addition, the Government is committed to providing 15% of electricity consumed from renewable sources by 2010 and 33% by 2020. The Council is committed to these targets.

Guidance and assistance on these and other matters pertaining to the sustainable use of energy is available from Sustainable Energy Ireland (SEI) and the Carlow Kilkenny Energy Agency. The Department Guidelines on Quality Housing for Sustainable Communities (2007) set out how sustainable energy considerations should be incorporated into all stages of the design process. These are outlined within the County Development Plan.

It is Council policy that:

EP01 All development shall be undertaken with the aim of meeting Government standards and in accordance with the relevant provisions of the County Development Plan (including assessment against any relevant Sustainability Checklist). In particular, the design of any building should consider the following:

- Site layout and associated bio-climatic/passive solar design measures
- Enhanced levels of insulation in walls, floors, glazing and doors
- Reduced uncontrolled air infiltration losses
- Use of healthy and controllable ventilation systems
- Heat recovery systems

- Use of daylight
- Water conservation measures
- More sustainable building materials
- Improved heat generation appliance efficiency, e.g. condensing boilers
- Intelligent heating system configuration and time/temperature/zone/function controls
- Efficient provision of domestic hot water
- Fuel switching to low or zero CO2 emitting fuels
- Energy efficient lighting systems
- Incorporation of renewable energy systems e.g. active solar, heat pumps, biomass
- Provision of appropriate group or district heating systems.

#### 4.2.7 Telecoms/Information Technology

Cabling for broadband and television must be provided underground to serve all residential and commercial development.

IT01 It is the Council's policy to promote access to and help develop information and telecommunication technology, including broadband in order to facilitate working from home, entertainment, education and business development. Cabling for broadband and television must be provided underground to serve all residential and commercial development.

#### 4.2.8 Waste Management

It is the Council Policy to:

WM01 Seek the provision of a collection point for recycling as part of the Village Centre development.

WM02 To require the preparation of Integrated Waste Management Plans for large scale residential and commercial developments. The purpose of the Integrated Waste Management Plan will be:

- Reducing the quantity of waste arising from development
- Minimising the energy expended in recycling waste and removing waste off site.
- Ensuring waste is being removed to appropriately licenced facilities.

### 4.3 Social infrastructure

#### 4.3.1 Social Sustainability

It is the intention that the Loughmacask LAP area will develop to become a socially cohesive, balanced community where all future residential developments will incorporate a mix and balance in unit size, type and tenure. Therefore it is important that residential units will vary in both size and type to accommodate single people, families and children and older people.

Affordable housing and social cohesion are vital for continued social, economic and cultural development. This LAP adopts a policy objective consistent to that of the Kilkenny County Council and Corporation Housing Strategy (2001), for social and affordable housing. It is considered appropriate that emphasis be made on participation of key advisory groups during the pre-design stage of all new development to ensure that the needs of families and children are met in terms of unit size and open space.

It is a policy of Council to:

SS01 Promote social inclusion. Council will require that all residential developments consist of a mix of unit types and sizes and that all developments incorporate social and affordable housing units as required under Part V of the Planning and Development Acts (2000 and 2002) and the Kilkenny Housing Strategy including the provision of sheltered housing for the elderly.

SS02 Ensure the principles of universal accessibility are adhered to in the design of community facilities, commercial buildings and apartment buildings

#### 4.3.2 Community Facilities

Location of accessible recreational space, suited to the needs of varying ages and abilities within Loughmacask will enhance the identity of a well-connected, developed and integrated local area.

Sports, such as hurling, soccer, camogie, handball and basketball, have traditionally played a strong role in the community identity and structure in Kilkenny.

Meeting the educational needs of the future population has been taken into account in the LAP. It has been predicted that one primary school will be required to accommodate the future school going population of Kilkenny City and Loughmacask.

However, the LAP does recognise the importance of going beyond education and sporting requirements. Varied needs will have to be catered for, in order to encompass the wider community, cultural and social demands of the existing and future population of Loughmacask.

Accordingly, it is Council policy:

CF01 To facilitate the educational needs of the future primary school going population of Kilkenny City and Environs by providing a suitable site for development of a new school and/or and expanding an existing school site.

CF02 To ensure childcare facilities be provided in all major residential and mixed-use developments. The design of all childcare facilities will have regard to the Childcare Facilities, Guidelines for Planning Authorities, June 2001.

The Council will require the provision of a minimum of 20 childcare places for every 75 new residential units. The Councils will operate this requirement in a flexible manner and, where possible, will encourage and facilitate cooperation between developers to jointly provide facilities, having regard to the Kilkenny County Childcare Strategy.

CF03 The Council will support the provision of childcare facilities in schools and in association with other community and recreational facilities such as sports clubs.

### 4.3.3 Local Economy

Grasslands Fertilisers is currently the only employment provider located within the Loughmacask LAP boundary. As a well-established firm, it has played a significant role towards the economic performance of Kilkenny City for over 50 years.

Loughmacask is within close walking proximity to the city centre, however it is envisaged that some form of small-scale retail facilities and services will be catered for within the LAP area. This will enable the area to develop as a vital and viable centre whilst maintaining an identifiable and individual yet complementary nucleus to Kilkenny City.

Having regard to the above, it is Council policy:

LE01 To provide local retail services within Loughmacask to cater for the typical daily needs of the local population.

LE02 That self contained employment use space be provided as part of any future development of the Village Centre.

LE03 That home based employment be permitted in residential areas where it can be demonstrated that the employment activity will not have adverse impacts on residential amenity, such as may be caused by significantly increased traffic volumes, deliveries from heavy goods vehicles, noise or air emissions.

### 4.3.4 Recreation: Sport and Public Parks, Tourism

It is important that provision be made for the necessary active and passive recreational facilities to sustain a high quality of life for the local community. In addition to the provision of additional facilities, the existing environmental resources and natural amenity of the Loughmacask LAP area can be used to provide a high quality leisure environment.

Enhancing the natural and physical connections and linkages with Kilkenny City is vital to the LAP. These include the integration of existing recreational and leisure links, and maximising use of tourist amenities and routes. The development of recreational walking and cycling routes within the study area to connect the river Nore walking trail to the Breagagh River by means of a linear park and green-route system in the Loughmacask area

Park facilities should encompass existing views and build upon the existing landscape attributes in order to enhance the area's identity.

It is Council policy to:

RP01 Ensure the timely provision of community facilities be made concurrent with the early phases of new residential development.

RP02 Ensure the provision of play facilities for younger children be made prior to the occupation of new residential developments.

RP03 Ensure the provision of an active and passive recreational space be made prior to the occupation of new residential developments.

RP04 All weather recreational facilities with lighting such as multi-use games areas (MUGAs) be provided in residential developments.

#### 4.4 Urban Design

The purpose of the following urban design policy is to assist in facilitating the Councils' vision for the Loughmacask LAP area.

Sustainability has emerged as a guiding paradigm to create a new kind of built environment, one that meets the needs of present communities without compromising the ability of future generations to meet their own needs. Through the responsible development of our built environments, we can live more sustainably than we do now. We can be more productive with our natural resources and land, and reduce our impact on the natural environment, while improving the social and economic well-being of our communities. The guidelines set out for Loughmacask will facilitate sustainable design of the built environment that provides a balanced solution, offering optimum working/living conditions, alongside a reduced environmental impact.

The quality of landscape and open space within a community is also vital to its wellbeing. The provision of private open space that provides for the needs of a diverse range of people and groups is necessary in conjunction with all types of living environments. Public open space has the potential to provide a variety of benefits to a community, ranging from enhanced aesthetic and biodiversity qualities, through to social and cultural venues that provide opportunities for a range of community events.

While looking to provide such benefits to the community, it is also necessary to ensure that the intrinsic landscape values of the Loughmacask area are retained, as such qualities will assist in creating a future living environment that remains meaningful to its residents and visitors.

Fundamental to a vibrant and healthy community is permeability and access. Green networks, such as pedestrian and cycle routes have the potential to provide for a variety of community uses, including circulation, connectivity (within and beyond the Loughmacask LAP area), enhanced biodiversity, and increased community health. Equally important is careful design of the street network and parking

areas, which have a high influence on the safety and aesthetics within a community. Accordingly, careful and integrated design of such networks is essential to ensure a quality environment.

Having regard to the above matters, it is the Councils' policy that:

UD01 Future development within the Loughmacask LAP area shall be undertaken in a manner that seeks to incorporate best practice urban design and infrastructure principles into all facets of design, such that it assists in the sustainable environmental, social and cultural growth of the Loughmacask community into the future.

In particular, development within the Loughmacask LAP area shall have due regard to the relevant urban design and infrastructure guidelines that form part of this LAP.

UD02 Parcels A and D must be dealt with as one single planning application addressing, inter alia, the following issues:

- (a) the overall development of the village centre in its entirety;
- (b) the contemporaneous delivery of the village centre with parcel A;
- (c) the delivery of parcel D in sequence after parcel A; and
- (d) delivery of the requirements set out in the Infrastructure and Use Matrix.

## 4.5 National and County Policy Context

In addition to the above policies, future development within the Loughmacask LAP area should be informed by national and county policy. Below are listed relevant policy documents that developers and landowners should consult, with checkmarks indicating to which aspect of development the policies are most relevant.

<b>National</b>	<b>Natural Environment</b>	<b>Built Environment</b>	<b>Cultural Environment</b>	<b>Infrastructure</b>	<b>Local Resources</b>
Planning & Development Act, 2000	✓	✓	✓		
Planning and Development Regulations, 2001	✓				
National Spatial Strategy, 2002	✓	✓		✓	✓
Regional Planning Guidelines for South East Region	✓	✓		✓	✓
National Development Plan, 2007-2013	✓	✓	✓	✓	✓
Sustainable Development: A Strategy for Ireland, 1997	✓	✓		✓	
Residential Density Guidelines, 1999		✓			✓
Retail Planning Guidelines, 2005					✓
Childcare Facilities Guidelines, 2001					
Building Regulations		✓			
Architectural Heritage Protection Guidelines, 2004	✓		✓		
Quality Housing for Sustainable Communities, 2007		✓			
Traffic Management Guidelines, 2003		✓		✓	
Sustainable Urban Housing: Design Standards for Apartments, 2007		✓			
<b>County</b>	<b>Natural Environment</b>	<b>Built Environment</b>	<b>Cultural Environment</b>	<b>Infrastructure</b>	<b>Local Resources</b>
Kilkenny City and Environs Development Plan, 2002-2008	✓	✓	✓	✓	✓
Draft Kilkenny City and Environs Development Plan, 2008-2014	✓	✓	✓	✓	✓
Kilkenny Housing Strategy, 2001	✓	✓			
Open Space and Recreation Study	✓	✓			✓
Joint Waste Management Plan for the South East Region, 2006-2011	✓	✓		✓	
Kilkenny Economic, Social and Cultural Strategy, 2002			✓	✓	✓
National Inventory of Architectural Heritage (NIAH) for Co. Kilkenny	✓		✓		





## 5.0 Urban Design Guidance





## 5.0 Design Guide

### 5.1 The Need for Good Urban Design

The aim of urban design guidelines is to promote environmentally sustainable development and to encourage the design of future urban areas that interact positively with the various elements of their local environment. The Kilkenny County and Borough Councils' have developed a strong vision for the Loughmacask LAP area that, with the aid of the right design tools, will see the area grow positively into the future.

These design guidelines have been developed to facilitate a forum for discussion between the Councils' and future developers on how best to achieve the vision promoted by the Loughmacask LAP. Based around principles of best practice, the design guidelines are specific to the unique characteristics of the Loughmacask area, particularly its strong relationship with Kilkenny City, heritage values, and distinct landscape features. Through the use of these design guidelines, it is hoped that opportunities will be created for creative design that responds to qualities of a given site, while ensuring that sustainable development is fostered through best practice design approaches to future development.

The design guide builds on the Councils' vision for Loughmacask and the policies and objectives of this Local Area Plan. As a guidance document, the design guidelines will also assist in the planning process by providing landowners and developers with additional guidance developed specifically for the Loughmacask plan area.

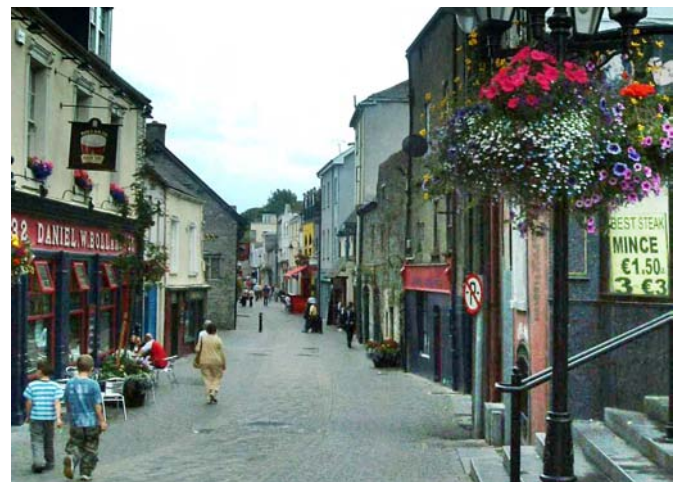
The design of each future phase of development should contribute to the making of a great place for people to live and visit. Each future development must be carefully considered and should be measured against its adherence in relation to the vision, policies and guidance of the Local Area Plan.

The design guide is set under a series of themes:

- Urban Arrangement
- Apartment and Housing Design
- Architectural Design Statement
- Sustainable Building Design and Technology
- Parks and Greenlinks
- Getting Around
- Sustainable Urban Drainage (SUDS)
- Dark Skies

The themes above consist of guidance of varying specificity, from accepted best design practice applicable throughout the Loughmacask area, to area specific guidance or a description of a core proposal, such as a the Loughmacask Park and Village Centre.

As a tool for planning and design it is recommended that users read the design guide in full to avoid oversight of important guidance, related to their projects.



Kierans Street Kilkenny



Kilkenny Castle and the Nore River - Kilkenny



Kilkenny panorama

### 5.1.1 A good mix of uses and densities

Achieving the appropriate level of density is important in order to generate a compact footprint that brings different land uses together in close proximity. This in turn allows for a more pedestrian friendly and accessible built urban area. Ideally all the central services, amenities and facilities that are communally used will be within five to ten minutes walking distance of where people live.

A compact urban footprint is also economically advantageous, as higher densities generate population catchments to support more services and community facilities and also generate the conditions for animated lively streets and open spaces.

It is important that future development be designed with a focus on 'integrated mixed-use components' as opposed to 'single use developments', such that social integration, via mixed tenure, housing types, community and commercial services within a compact area, is achieved.

The County and Borough Councils' seek to create an area of diversity, achieved in part through a blend of different uses and residential development within a range of densities and typologies.

- Sustainable urban densities that facilitate the creation of an amenable mixed use neighbourhood where precedence is given to pedestrian access and movement.
- The provision of public spaces, amenities, community facilities and commercial services within a five to ten minute walking distance of where people live.
- Mixed-use neighbourhoods that comprises a mix of housing types, sizes and tenures, facilities, services and amenities.
- A diverse range of services within close proximity in order to facilitate economic viability and social integration.

Accordingly, design of buildings and the surrounding site shall be undertaken to implement a locational approach to residential density such that:

- In principle higher residential density developments are located within close proximity (five minute walking distance) of the village centre and important transport routes which have the potential to accommodate public transport services (such as the proposed Inner Relief Road).
- Lower density residential development in general is located in peripheral areas, such as the north east perimeter of the LAP area, and in areas where by virtue of environmental and landscape character attributes, lower density development is preferable.

The recommended locational approach to density for Loughmacask is described in figure 9.

Within lower density areas, dwellings will predominantly consist of house units, while in higher density areas there will be a larger proportion of townhouse, duplex and apartment units.

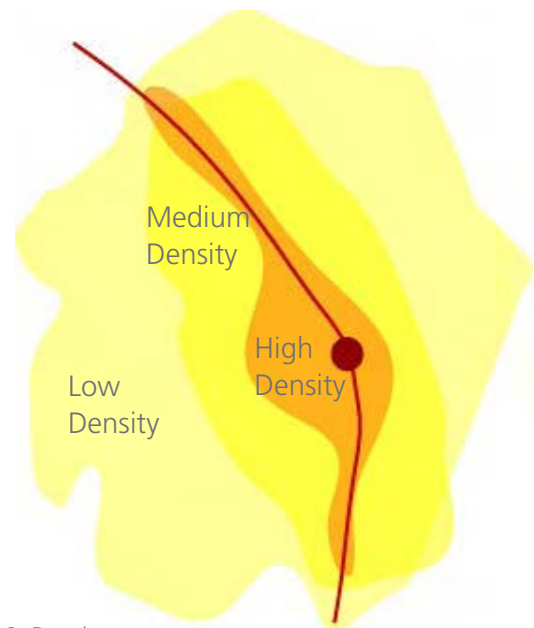
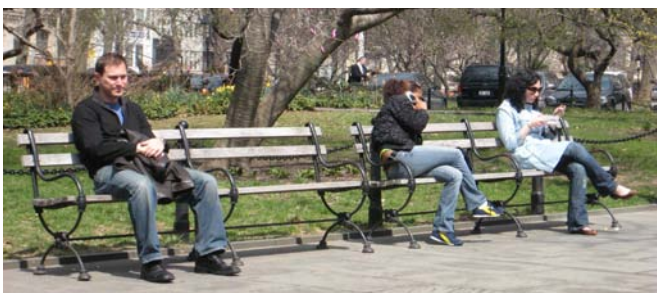


Fig. 9. Density concept



Public open space with seating



Pedestrianised retail area

### 5.1.2 A Permeable Urban Grain

A core urban design principle underlying the vision for Loughmacask is that of a permeable urban grain. A permeable urban grain describes urban areas where the buildings and private spaces are arranged in modest sized blocks of development (typically 70-120metres in the longest dimension), therefore creating a frequent and extensive network of routes (See Fig. 10).

The network will provide:

- A choice of routes on foot through the area.
- Avoids overly long routes for pedestrians.
- Seeks to inter-connect as many places as possible.

Each future development must be carefully considered in relation to the overall Local Area Plan and should contribute to opening up of predominantly pedestrian/cycle routes for people to get around the area.

In order to support this principle the following should generally apply to the design of developments:

- Development arranged along a network of long cul de sac or dead end routes will be discouraged.
- Overly large development blocks of buildings and private space will be avoided.

The arrangement, scale and form of public open space should be amongst the central considerations in the layout and design of urban areas. Personal security must be taken into consideration by way of orientating public space (roads, foot paths and open space) in relation to the surrounding built environment, while also allowing for a high degree of permeability for pedestrian, cyclists and vehicle traffic.

The public open spaces (streets, parks and squares) within an urban area form a key part of the movement network and are a means of permeating the urban area with many routes.

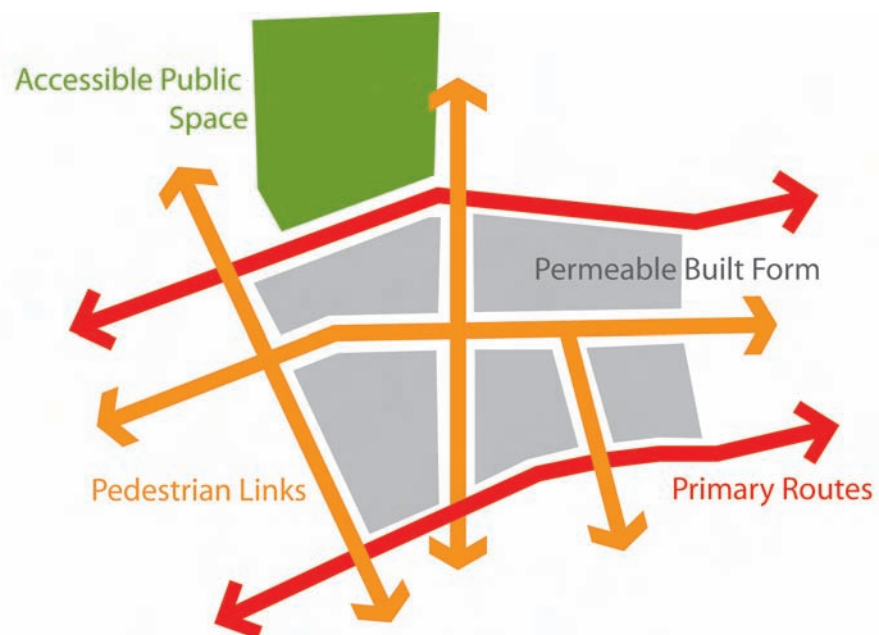


Fig. 10. Permeability

### 5.1.3 Responding to the topography

#### Topography

The Loughmacask LAP area has a varied topography, characterised by a landscape of hillocks, hollows and wetlands, with up to a 16m difference in heights between the highest and lowest points (See Fig. 11). The valley running towards the Bregagh Valley and the area around Loughmacask are the lowest areas. They are connected by a series of hollows running between them. The highest points are at the southern and northern ends of the site offering views of the area.

In addition to retaining the natural form and character of the site, designing with the slope helps prevent the loss of soil and mature vegetation. It also prevents the possibility of undermining adjacent structures, land and trees. Accordingly, the Councils' seek that the following guidelines be considered:

- Wherever possible, buildings, footpaths, streets, sewers and other watercourses should be aligned to follow slope contours. This allows building profiles to grow out of the ground, minimises cut and fill and enables natural gravity-flow drainage to be utilised.
- On sloping sites, building design should be undertaken to minimise earthworks. The Councils' seek that developers design to fit the slope.

#### Vegetation and Stone Walls

The landscape of the LAP area is defined by a number of significant hedgerows, stonewalls, and stands of mature trees (See Fig. 12). Each is significant in terms of the ecological and aesthetic value it brings with it and, accordingly, their retention has the potential to add positively to the future character of the Loughmacask area.

Well developed Hawthorne hedgerows are prevalent in the vicinity of Lough Macask and adjoining lands. Through the future design of the Lough Mascask parkland area and adjoining low density housing, the

Council encourages the retention and enhancement of these hedgerows, such that they add positively to the ecological and aesthetic value of the area. Such retention may be incorporated into boundary treatment or site features. Moderately developed hedgerows also exist within the vicinity of Lousybush Lane. For those reasons outlined above, the council would also encourage that, wherever viable, these hedgerows be retained and enhanced in conjunction with future development.

The heritage of Lousybush Lane is contained, at least in part, within its stone walls, which run along the western side. In addition to being a strong heritage feature of archaeological value, the stone walls have the potential to be incorporated into the design of the site as a meaningful aesthetic feature. The Council therefore encourages that the stone walls be retained and integrated with future development of the area. Use of the stone walls in their present or alternative forms is encouraged, so long as the approach is innovative, yet respectful to local values.

A large stand of mature trees exist on the lands around Ayresfield house. Like the hedgerows and stonewalls, these trees have the potential to add to the ecological and aesthetic value of the site. The trees are home to various birds and other fauna, and have the potential to provide for amenity routes between the LAP area and surrounding lands. Accordingly, the Council seeks that, where possible, mature trees be integrated into an overall landscape design for any future development, such that they are maintained and enhanced and, where necessary in the future, replaced with common species.



Building responding to topography



Fig. 11. Topography



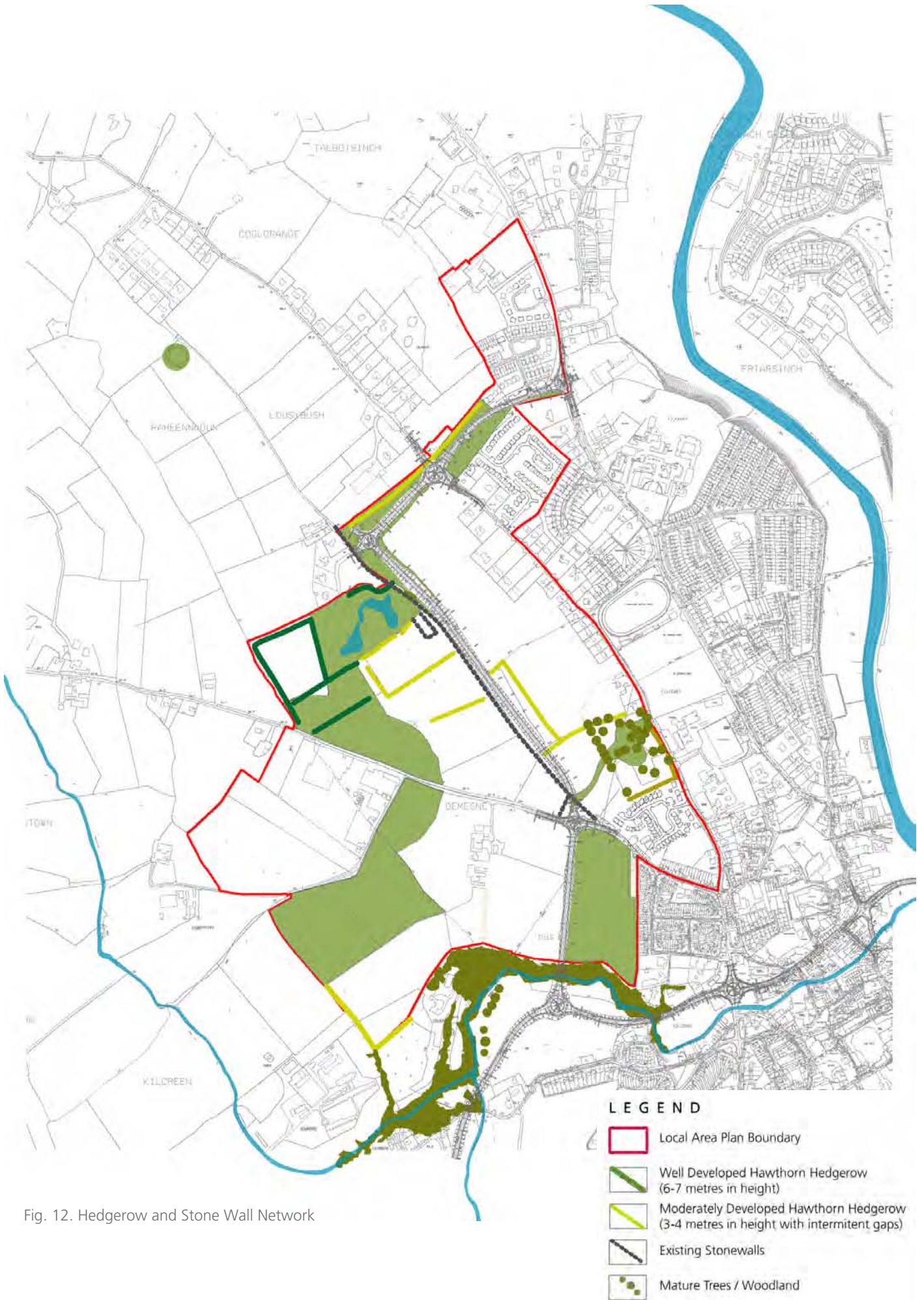


Fig. 12. Hedgerow and Stone Wall Network

## 5.2 Urban arrangement

### 5.2.1 Overall Structure

The overall structure for the Loughmacask plan is characterised by the following elements:

- A green spine of open space connecting from the Freshford Road around the perimeter of the plan area and southward to the Breaghagh River, incorporating the Lough Macask lake. The green spine is described in further detail in section 5.6 of the Design Guide.
- The primary element of transport infrastructure serving Loughmacask will be the proposed Inner Relief Road (IRR) which has been modified to provide access to the developable lands and to allow a number of safe pedestrian crossing points.
- The focal point for the built up areas will be the Loughmacask Village Centre. The Village centre is located such as to benefit from access from the Inner Relief Road and Bennettstown Road and to be accessible within short walking distance of all neighbourhoods.
- The housing areas are subdivided by the road network and greenspaces into three neighbourhoods, each neighbourhood demonstrates its own unique landscape and design attributes. For the purpose of description the three neighbourhoods are named as follows: Ayersfield, Lousybush, and Kilcreen.
- In addition a series of east/west greenlinks provide connectivity between neighbourhoods the village centre and the adjoining areas of the city. The green links are described in further detail in section 5.6 of the Design Guide.

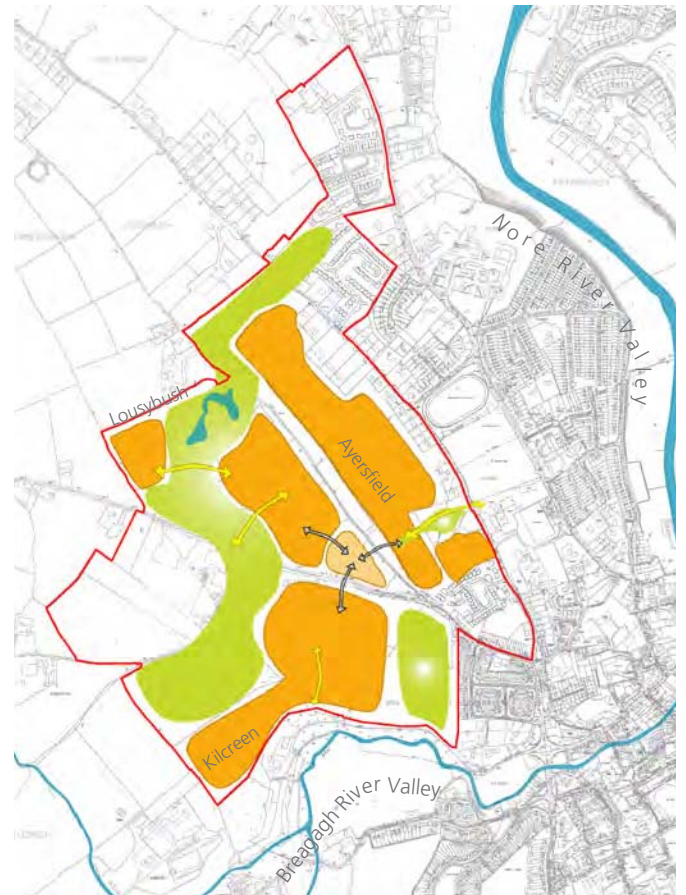


Fig. 13. Relationships between neighbourhoods

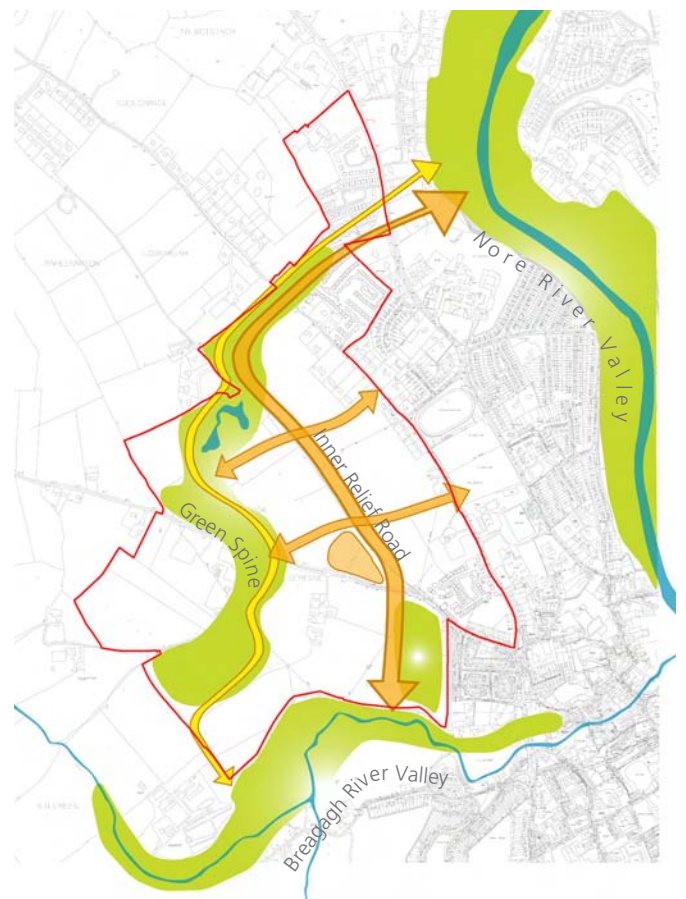


Fig. 14. Vehicular and pedestrian spines

### 5.2.2 Village Centre

#### Arrangement

The village centre is situated in the valley created by the low contours and is running from its highest points at the northern edges of the village towards the low points adjacent the IRR Roundabout (See Fig. 15). This creates possibilities for strong views and relationships between the highest and the lowest points.

The village square will become the urban centre for the LAP Area. It will act as the core for both green links to and from the surrounding parks, amenity areas and infrastructural links.

Creating good pedestrian connections and visual links across the roads from residential areas will be essential to the vitality of the village centre.



Village Centre use at night



Fig. 15. Village Topography

#### Public Realm

The central square should be formed and enclosed by new buildings and create a space which defines the identity of the village. The village square will be a meeting point, a plaza for events and a space which makes the village centre an attractive urban commercial area (See Fig. 16).

The central square should be linked to the roundabout creating a visual connection between the roundabout and the square. As this space by the roundabout is also the lowest point in the village it may be used as an area for stormwater attenuation (SUDS).

The surfaces in the village centre are mainly pedestrian or shared, which means that where roads enter the village they become pedestrian friendly, easy to cross and paved in such a way that cars lower their speed. Pedestrian areas should allow spaces for seating and meeting, and street furniture, paving and planting should be chosen to create a people friendly environment.

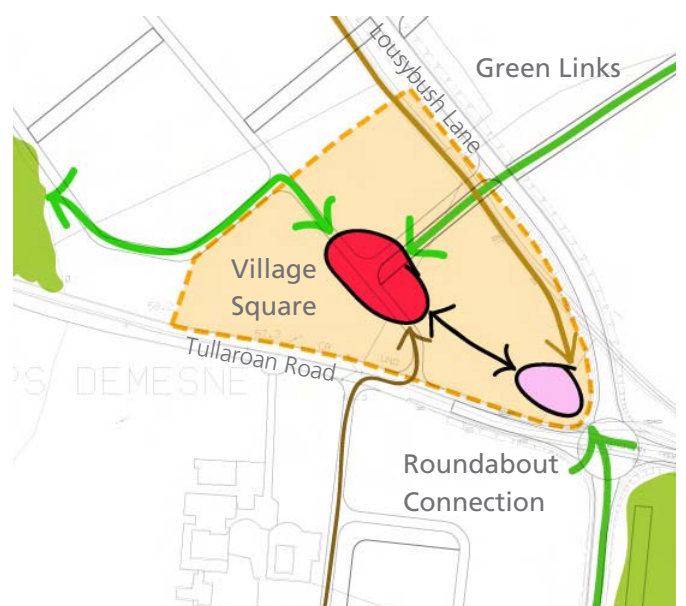


Fig. 16. Village Centre

Uses

The village centre offers both commercial, residential and community uses to support a lively and animated village centre daytime and evening, weekday and weekends.

Retail frontages should in order of priority be distributed as follows:

- Around the village square.
- Along the Access road running into the village.
- Along the pedestrian link towards the roundabout

The block of development beside the Roundabout on the IRR is suited to office uses. A mix of office and retail is proposed in the block facing Tullaroan Road.

Generally commercial uses will be located on the ground floor or street level with residential units overhead. It is also considered appropriate that residential units are at the edge of the parks and open spaces (See Fig. 18).

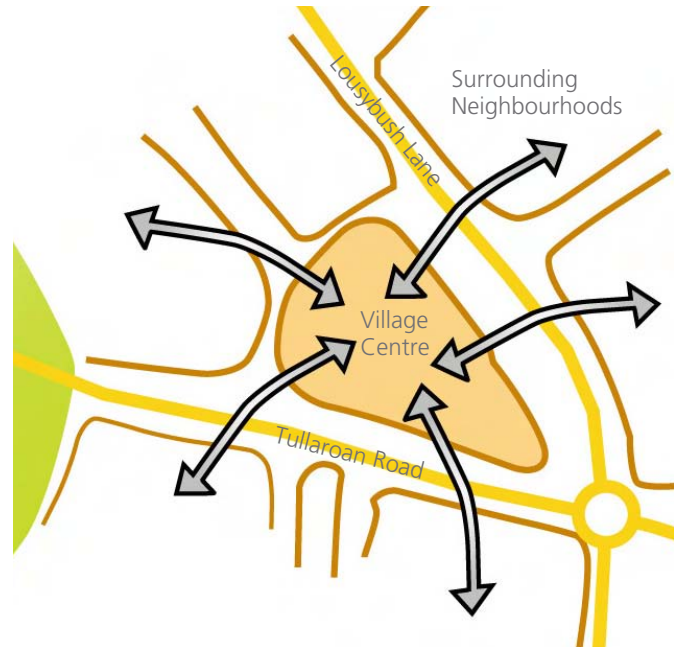
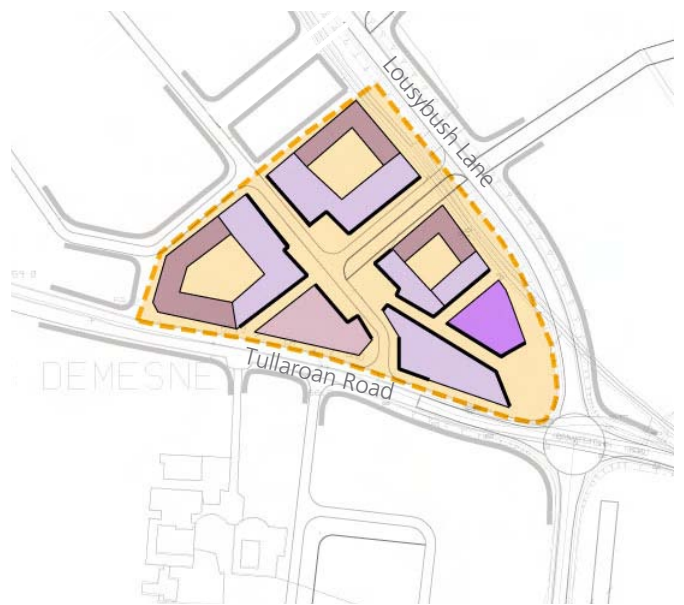


Fig. 17. Village Connections



Legend

- Retail
- Office / Residential
- Office
- Residential

Fig. 18. Primary Village Uses



Restaurant open towards the public realm

## Retail role

The retail role of the village centre is intended to serve local need and should not detract or draw from the Core Retail Area of Kilkenny city centre or other district and local centres on the outskirts of the city. Where possible, it is advised that the retail development component not be of a form or scale that would attract significant amounts of additional vehicular traffic into the Loughmacask area (See Fig. 19).

It is important that the retail floorspace provided is distributed amongst the typical shops and services required of a village centre and needed to provide for choice locally. It is acknowledged that a good convenient food supermarket is an essential ingredient in a thriving village centre, and one should be provided in the earliest phases of development. However, the village centre is not an appropriate location for a large city centre scale food supermarket anchor store. Therefore it is recommended that no single shop unit be larger than 3,000sqm in gross floor area (inclusive of storage and office space).

As an outline it is recommended that a total retail floorspace of up to 10,000 sqm gross floor area (inclusive of storage and ancillary office space) be provided for in the village centre, and that this floor area is distributed amongst 12-20 individual units with independent frontages and access from the public realm (street / square). Own door office units such as estate agencies can be provided additional to the 10,000sqm. In addition leisure uses such as a fitness centre / gym and community facilities (such as crèche) can be provided as additional commercial uses.

A typical range of shops and services which should be provided for in the village centre are as follows:

- Local food supermarket
- Butchers / Fish Mongers
- Greengrocers
- Delicatessan
- Pharmacy
- Café-bar
- Restaurant
- Medical Centre
- Take Away
- Restaurant
- Bank
- Post office
- Credit Union
- Newsagent
- Dry Cleaners
- Video Library
- Bakery
- Florist
- Wine shop / off licence
- Travel agency
- Print shop / business centre
- Internet cafe

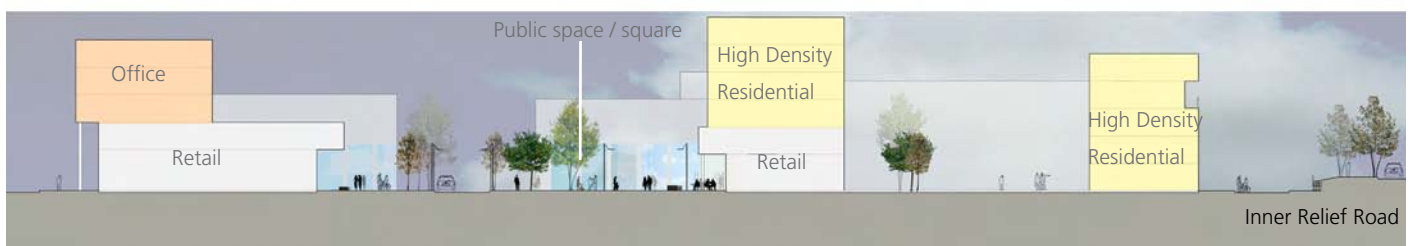


Fig. 19. Section A through Village Centre

The village centre is an appropriate location for some comparison retail floorscape, provided the cumulative comparison shopping provided or any single unit is not of a scale or form that would detract from the Core Retail Area of Kilkenny or attract significant levels of additional traffic into the area. As a guide comparison retail floor space should account for no more than 40% of the total retail floorspace provided in the village centre. Examples of such comparison retail units could be as follows:

- Bookshop
- Clothing boutique
- Jewellers
- Art gallery
- Music store

### Village Centre Parking

With regard to parking within commercial and mixed use areas, the Councils' aim is to obtain a balance between the provision of cycle and car parking near all popular destinations, and the need to have commercial off-street car parking. A minimum level of paid on-street car parking can be maintained to allow quick access to services while simultaneously providing multi-use communal off-street car parking (underground where viable and appropriate) that can serve different needs at different times.

Because of the sloping topography of the site underground parking can be easily accommodated along the northern edge of the village centre without requiring deep excavations. The design of off-street car parks should be considered as spaces in their own right and visually integrated into the urban landscape.



Village Centre



Parking close to the town centre

## Density

The area has been divided into 3 different densities: High, medium and low. High density is proposed along the Inner Relief Road creating a strong urban edge with an appropriate scale and openings along this main spine. Medium/Low Density is proposed along edges of the areas facing either existing residential developments or green areas. Low densities are proposed towards the edge zones where woodland housing and residential areas linked directly or situated in parkland will be able to adapt to the surrounding landscape (See Fig. 20).

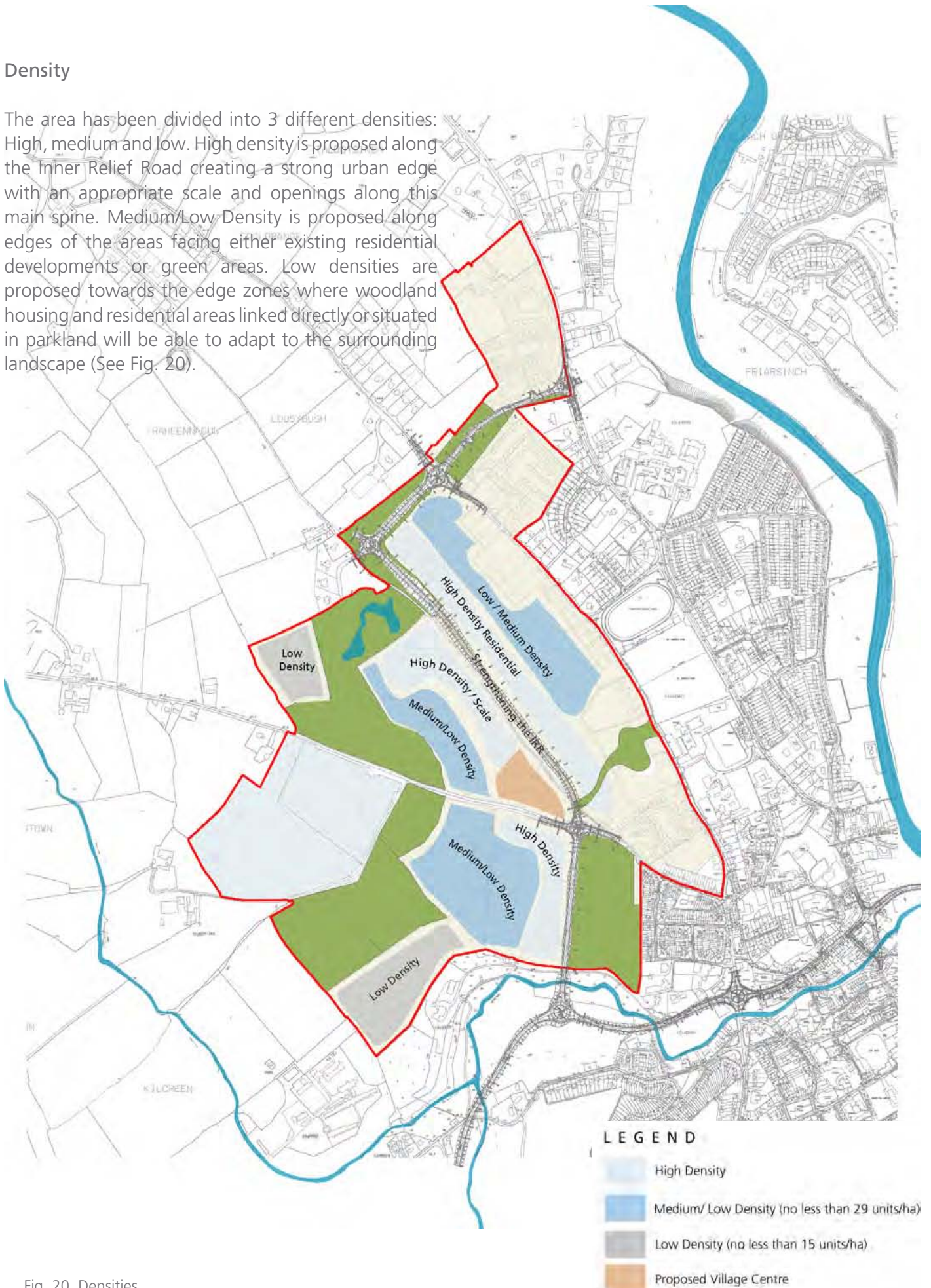


Fig. 20. Densities



Mix of uses incorporated into building



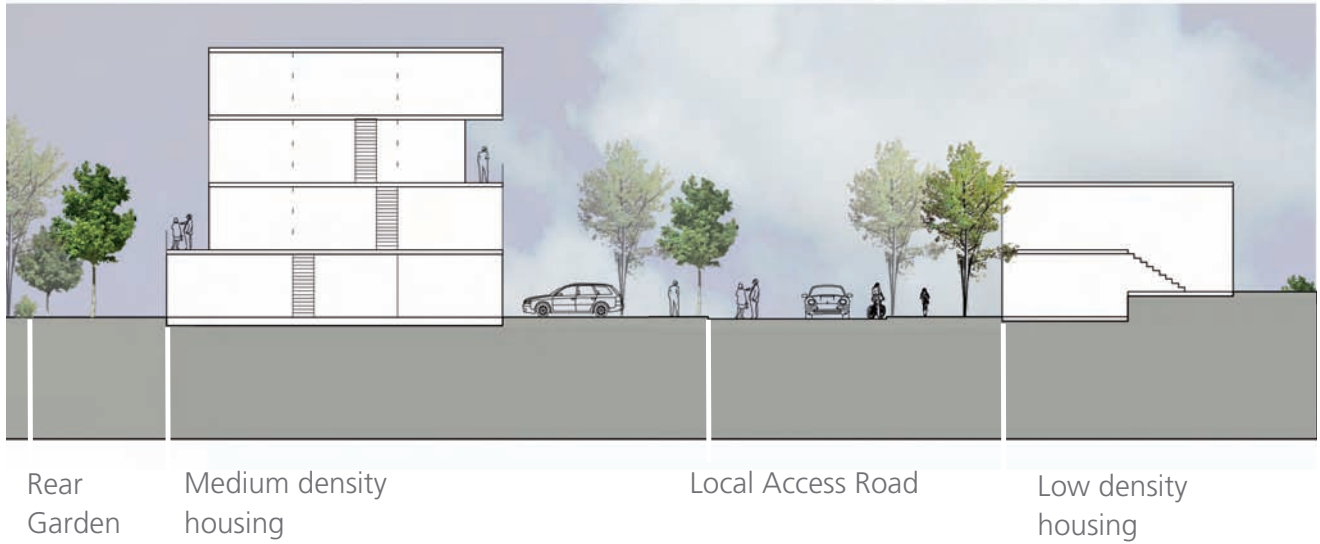
Local neighbourhood



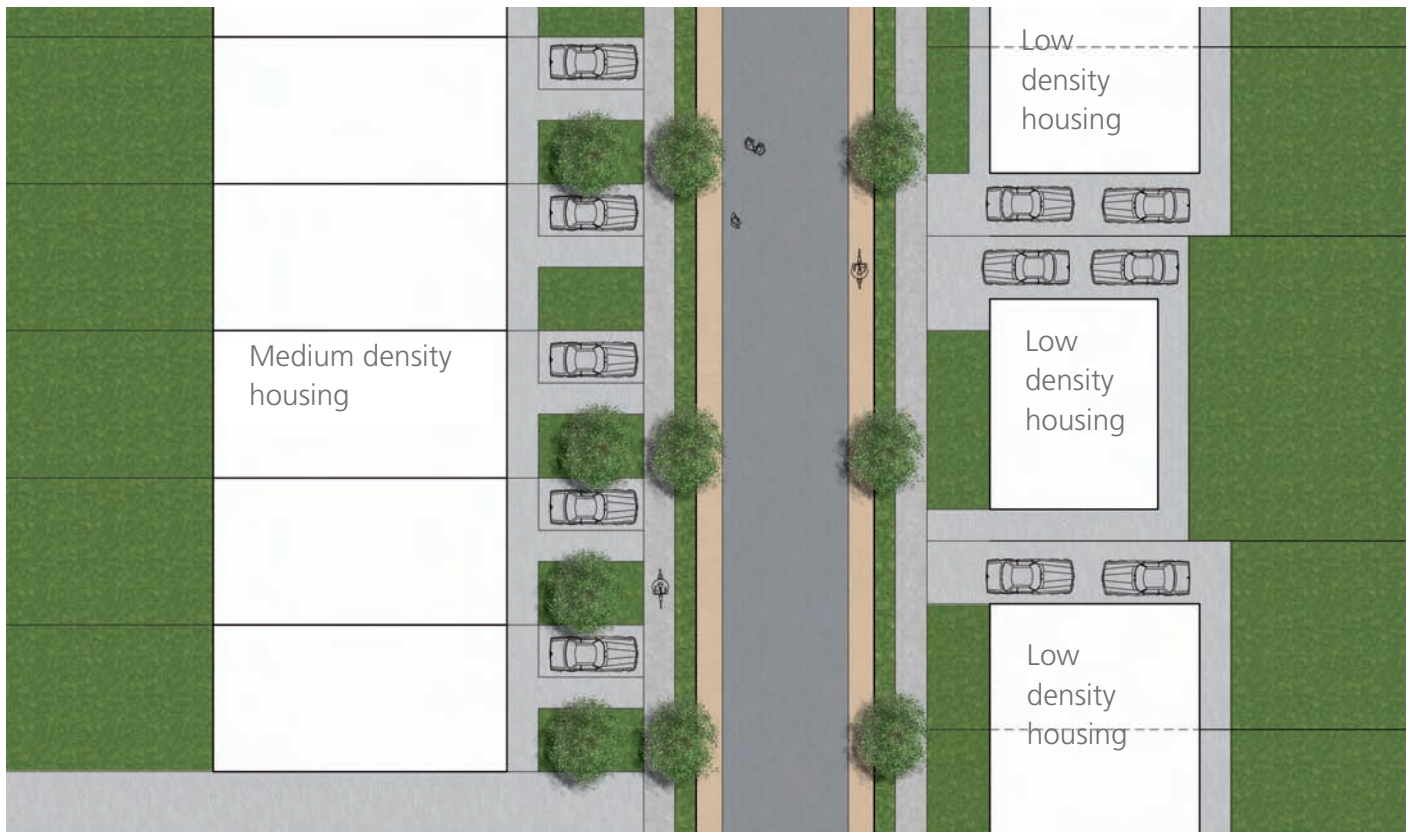
Fig. 21. Mixed Tenure Residential Development



Fig. 22



Section B - Local Access Road, showing medium and low density Housing

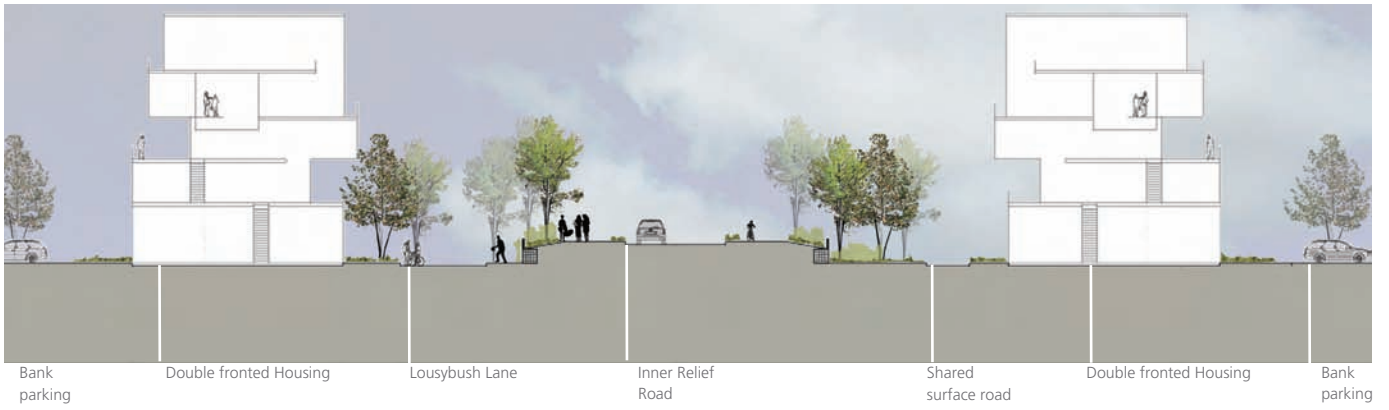


Plan B - Local Access Road, showing medium and low density Housing

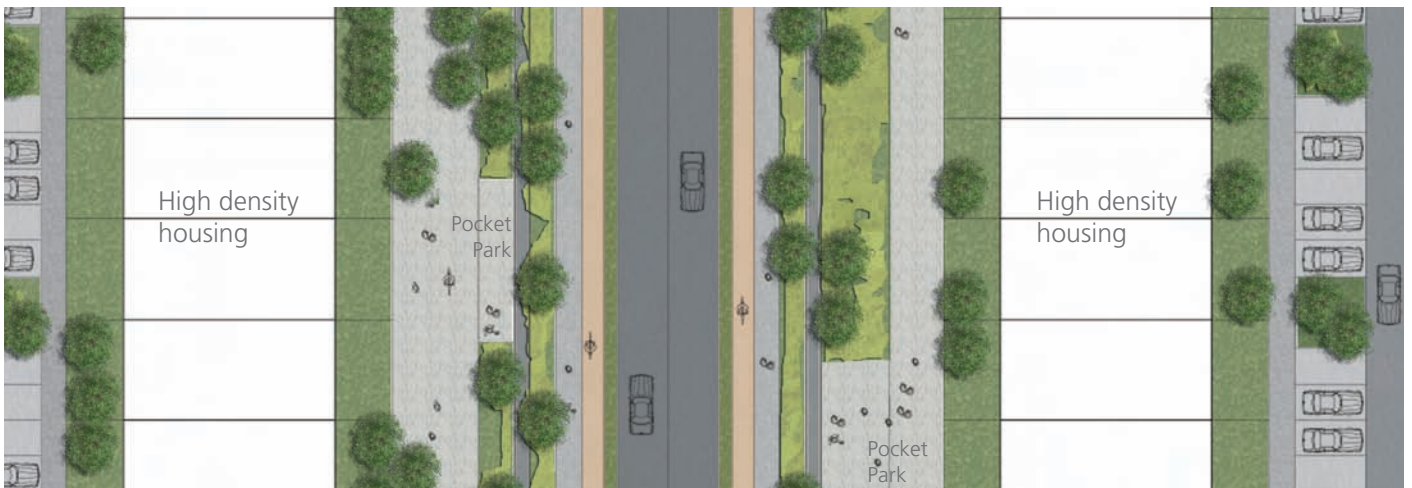
### Section Key Location of Sections A - H



Fig. 23



Section C - Inner Relief Road, showing high density housing



Plan C - Inner Relief Road, showing high density housing

### 5.2.3 Neighbourhoods

All of the neighbourhoods will have strong connection and orientation towards amenity spaces (See Fig. 13).

#### Ayersfield

This neighbourhood is closely linked with the community around the Dunningstown and Freshford Roads and the green and pedestrian links from the village centre towards the schools and Kilkenny City Centre. A number of green links will run through the neighbourhood from east to west to provide good connections for residents to the village centres and the park areas.

The Ayersfield neighbourhood is linked to the IRR by high density housing running along it. Openings are created by green links through the LAP area connecting with existing adjacent communities and the distributor roads.

The should change to medium and low when approaching the existing residential areas to scale new buildings to work with existing ones. Buildings proposed in this area should follow and work with the contours and views from this area to create a distinct neighbourhood.

#### Lousybush

An access road runs along the centre of the neighbourhood in the valley created by the low contours 'floating' between the Breaghagh valley and Loughmacask Lake and thus connecting the village centre to the lake. The access road will have the character of a street, fronted with housing and private gardens on both sides. The Lousybush neighbourhood will be criss-crossed by a number of pedestrian, cycle greenlinks which are important in providing interconnections between all of the neighbourhoods.

Low density housing is proposed in the area situated west of the green Spine. This should be a woodland landscape connecting to the landscape in the woodland areas around Grasslands Fertilisers. The landscaping of streets, public and private spaces should be in keeping and blend in with the surrounding landscape creating green and open spaces with the buildings set within this.

#### Kilcreen

Relates both to the village centre and the Breaghagh Valley connected to both by pedestrian/cycle green links.

Relates both to the village centre and the Breaghagh Valley connected to both by pedestrian/cycle green links. It is situated over partly sloping ground, between the Green Spine, the Breaghagh Valley and the designated community area adjacent to the Butts.

High density housing is, as in Lousybush and Ayersfield, proposed along the IRR, medium housing as the area moves towards the Green Spine and low density in the southern corner facing the Breaghagh Valley. Kilcreen connects the village with the Breaghagh Valley through the green swale running along the IRR.

## 5.3 Housing and Apartment Design

The following housing and apartment design standards seek to facilitate the development of high amenity sustainable neighbourhoods within the Loughmacask area and, therefore, where possible, should be incorporated into new developments at the time of design:

### 5.3.1 Choice

- To ensure there is provision of housing types for all aspects of the market, the Councils' will generally require the provision of several different dwelling types within any single development, consisting of a mix of dwelling sizes and styles.
- Apartment developments will contain a mix of apartment sizes, with a higher proportion of 2 and 3 bedroom apartments over 1 bedroom apartments.

### 5.3.2 The Dwelling

- All residential dwellings should be sited so as to receive adequate day-lighting within the dwelling and in the private open space of each dwelling.
- All dwellings shall have direct access to a private open space. In the case of apartments and duplex apartments, private open space shall be provided in the form of balconies, terraces or roof gardens. Each individual apartment / duplex unit should have a private open space sufficiently large to comfortably accommodate outdoor dining (table and chairs) in addition to additional amenity items such as potted plants and patios heaters. As a guide it is recommended that each dwelling be provided with a private open space of 12-15 sqm, with a typical minimum dimension of 2 metres.
- Private open space for houses is usually in the form of front, side and rear private gardens. In general the requirement will be 60 to 75 sq. m minimum for 3/4/5 bedroom houses, in order to ensure that a variety of household activities can be accommodated, while also adding to the visual amenity value of the surrounding neighbourhood. The maximum normal site coverage of any residential housing site shall be 65%.
- Dwellings (including apartments) should be pre-dominantly dual-aspect (with windows/openings on two or more elevations). Where single aspect dwellings are unavoidable, single aspect units should have a predominantly south facing aspect and north-facing elevations will not be permitted.
- Within apartments, long corridors are discouraged.
- Entrance halls, corridors and all habitable rooms within apartment complexes should be well designed with provisions made for natural ventilation and day lighting.
- Communal facilities for apartments (including open space, washing and drying areas, refuse storage and car parking) should be included with adequate and easy access.
- Externally accessible and covered storage space should also be considered for play equipment and bicycles.
- Within apartments, internal individual storage spaces/facilities will be provided in all apartments. These must be separate to those areas containing the water tank and hot water cylinder, and must be designed to permit easy access and use.



Sustainable architecture



Entrance corridor

- Service ducts serving two or more apartments should be accessible from common circulation areas for maintenance purposes.
- In the design of residential developments incorporating duplex and apartment units it is recommended that opportunities for own-door access to dwellings from streets and shared open spaces are maximised and the need for communal hallways and stair/lift cores are minimised.
- Where access to apartment and duplex units is provided via an open gallery it is recommended that the number of apartments accessed from the gallery is limited to 6 units.
- Where access to apartment and duplex units is provided via an enclosed stair and lift core, it is recommended that the number of dwellings accessed on each floor is limited to 4-5 units.
- The communal hallways and stair/lift core areas in apartment buildings should be naturally daylight and the need for artificial lighting of internal spaces minimised.
- Where apartment units are provided two levels or more above the street or ground level (for example on the second or third floor of an apartment building) it is advised that a lift be provided.



Views of surrounding landscape from dwellings

### 5.3.3 Car Parking

- Where car parking for dwellings is provided in on street form as oppose to being provided in front gardens; a landscaped strip of private garden space with a minimum depth of 1.5metres should be provided to the front of each house.
- Additional guidance on car-parking in general is provided under section 5.8 of the design guide.

### 5.3.4 Bin-storage & Recycling

- In apartment complexes and areas of terraced / duplex housing, designated communal bin storage shall be provided and suitable screen where located outdoors, as shall all composting and recycling facilities.
- Refuse storage, recycling and composting areas for apartment developments should be addressed at the design stage.

### Shared Open Space in Residential Development

Design guidance with regard to shared open space in residential development is provided under section 5.6 of the design guide.



Car parking screened by planting

### 5.4 Architectural Design Statement

New buildings should be of their own time in appearance and should not replicate the style and detailing of heritage buildings. The replication of historic architectural styles is considered to be counter productive to heritage conservation in principle as it blurs the distinction between what is historic and what is contemporary and can lead to the emergence of poorly considered and inauthentic buildings. Accordingly, as a general design principle, the Council shall encourage innovative and contemporary architectural design within the Loughmacask LAP area.

Within developments it is recommended that a select limited palette of architectural materials and patterns should prevail to give visual coherency and in turn an identifiable character to the area, whilst still accommodating a degree of visual diversity.

In considering materials it would inappropriate to prescribe an exact material palette for all architectural elements, as supply and cost of materials can vary significantly over short periods of time and new materials may be introduced into the market in the future, which maybe desirable in regard to visual quality, durability, energy saving and/or cost.

The use of limestone in public buildings (such as the Castle, Rothe House and Hibernian Hotel) and in the paving of city streets and spaces is a strong characteristic of Kilkenny. Typical of most Irish towns the dominant architectural language of the town is of 2-4 storey buildings with rendered facades, pitched slate roofs and windows with a vertical proportion.

Such a palette of materials (limestone, rendered with light tones and slate) could form an appropriate base palette for developments in Loughmacask, a palette that would resonate with the evolved architectural character of the city. However this does not suggest that new developments should imitate historic form, proportion and order. For example specifying the incorporation of modest scaled vertical orientated windows in the elevations of new buildings simply because it is an evolved tradition in the built fabric of Kilkenny, would be misguided, as it ignores the benefits and attraction of large windows, for day-light and views.



Framed historic view



Local historic pedestrianised street



Historic facade



Play area integrated in housing development



Residential access path



Contemporary building design

## 5.5 Sustainable Building Design and Technology

Buildings can be designed so as to respond intelligently to the existing topography and climate. For maximum effect and economy the aim should be for integration of appropriate design and technology into the overall building form and not simply to apply technology as an afterthought. The County and Borough Councils' seek that sustainable building technologies and sustainable use of resources in the construction of buildings be demonstrated within all new developments proposals within the Loughmacask LAP area. In this manner, new developments should, where possible, seek to maximise energy efficiency through their location, layout, design and/or make appropriate use of energy conservation techniques.

### 5.5.1 Long life use and adaptability

In areas close to the village centre, the Councils' will promote an approach to building design and technology that is flexible and allows for adaptation and for change of use in the long term, for example; the potential for office and retail space to be converted to living space and vice versa. Equally, the long term life of residential apartments should be considered through design that provides them with potential to be adapted over time (See Fig. 24).

A building should not become obsolete on cessation of an activity, but should be capable of facilitating new activities without onerous renovation.

Long life use and adaptability can be assisted through application of the following:

- Floor to ceiling height for residential developments can be higher than the norm (e.g. higher than 2.7 metres) to allow for possible conversion to office or retail use later, in particular at ground floor level.
- A preference for own door access (directly from the street) to residential units.
- Design devices such as demountable walls; movable partitions; retractable fixtures and fittings (bolts & screws rather than nails etc); recyclable materials, easy access to services, and space provision for future additions will also assist in a buildings adaptability.
- Good load bearing capacity in structural walls, floors and columns to facilitate change of use.

### 5.5.2 Microclimate

Urban design should be responsive to climatic factors in a manner that conserves the amount of energy used to light and heat buildings and creates sunlit and comfortable public open spaces. The design and arrangement of buildings on a site results in the creation of a microclimate, influencing the effects of temperature, sunlight and wind movement. Certain orientations and design can enhance comfort on exposed sites and maximise the potential of daylight and solar gain.

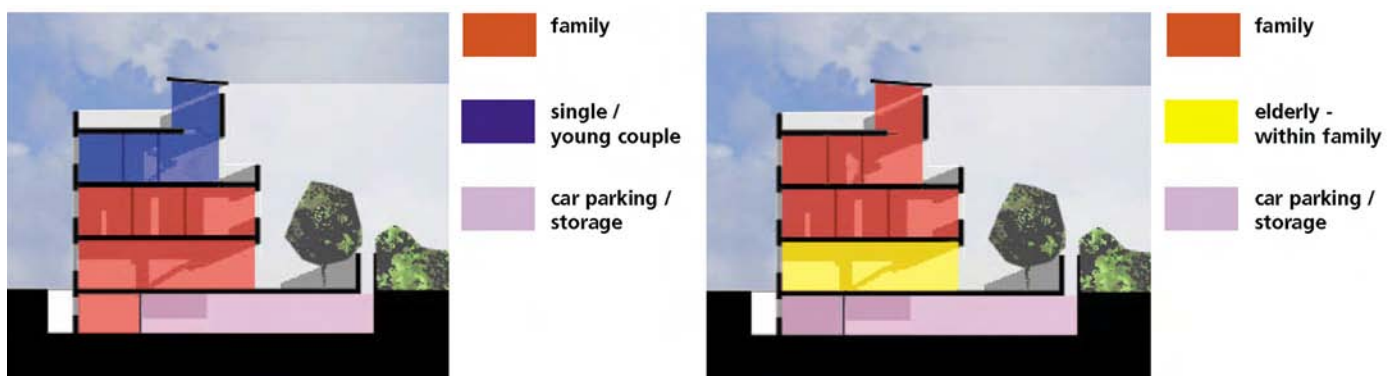


Fig. 24. Adaptability

### 5.5.3 Energy and Building Materials

Addressing the minimisation of heat loss, encouraging grey water recycling, minimisation of resources used to heat and light buildings, and the use of materials and construction processes that reduce the impact on environmental resources, will all assist in leading to greater sustainability and longevity of the Loughmacask community.

Particularly within housing developments, the Councils' seek to see opportunities for energy conservation applied within any design.

In contrast to passive solar design 'active' solar devices are usually separate pieces of technology with a single function such as to utilise solar radiation to produce hot water. The orientation of the roof to the sun will need to be considered if these items are to be easily roof mounted to gain maximum sunlight exposure. Where a proposed building design and site is determined to have particular good potential for active solar gain, the Council will seek to have it incorporated into building design.

The Councils' recommend that all new development is undertaken with high levels of thermal insulation in all walls, ceilings and under floors.

With regard to energy and materials, where viable, developers may choose to incorporate the following active technology and clean and efficient energy sources within their design:

- Solar, wind or geo-thermal sources of power.
- Minimising waste in construction and pollution in the use of the building.
- Minimising lifetime water consumption of the building by the fitting of low- water use equipment, rainwater harvesting and grey water recycling.
- Minimising necessity for energy consumption through provision of protected outdoor clothes drying areas.

- Incorporating Building Management Systems.
- Installing Solar Thermal Panels, for the production of heat.
- Installing Solar Photovoltaic Panels for the production of electricity.

### 5.5.4 Plant Rooms

Plant rooms should be adapted into the overall concept for the building; incorporated into the main body of the building or as well considered architectural addition. Provision of plant rooms on roofs is to be avoided, where plant is to be located on a roof, it must be housed in enclosures finished to the same standard and material as on the rest of the facades.

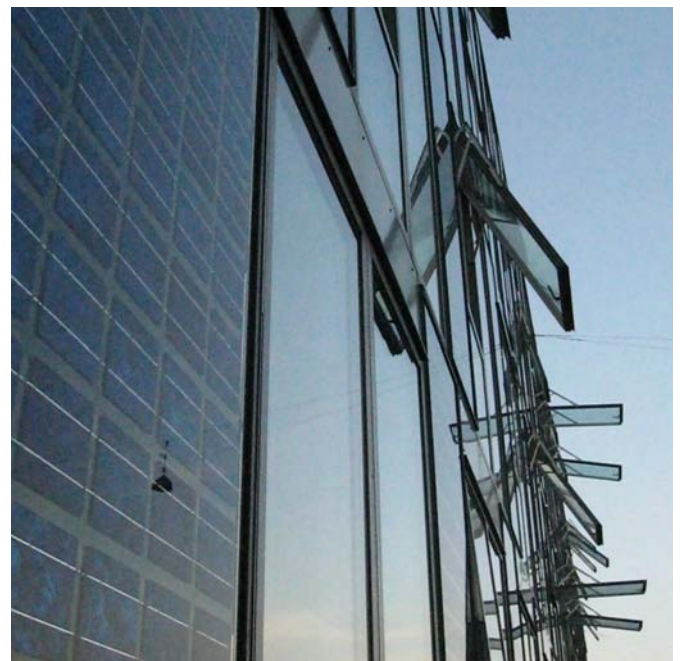
### 5.5.5 Fenestration

It is advised that the use of PVC framed windows and doors be avoided in preference for hard wood timber joinery and metal fenestration.

### 5.5.6 Rainwater harvesting and raingoods

It is advised that, where viable, all house units be provided with water butts to harvest rainwater from roofs and downpipes.

Where rainwater goods are external to the façade of the building, they should be of a sufficiently durable material; such as cast aluminium, stainless or galvanised steel.



Solar panels on building facade



## 5.6 Parks and green links

The identity and image of the Loughmacask LAP area will be derived, at least in part, from the future community's experience of the landscape and open space. It is important to carefully consider the arrangement and typology of open space and the character and function of the connecting networks. Of importance is the relationship between Loughmacask and the adjoining parts of Kilkenny City; the layout of the new urban area should be permeable and pedestrian friendly and be physically and visually integrated to the adjoining city.

As an integral part of the wider network of open space and community facilities, the Borough Council has purchased 2.05 hectares of land (zoned open space), located along the south-east edge of the LAP area. It is envisaged that these lands will be developed in the future for community purposes.

The Loughmacask area will be set apart as a distinct urban area by its network of greenspaces and green links; such as the Lough Macask Park and Lousybush Lane.

An overall approach to the design public open spaces in general is as follows:

- Provide a variety of types of open spaces that are usable and accessible and appropriate to their setting.
- Encourage a variation in the size, character and role of public open spaces, such as; courtyards, hard landscaped squares, leafy pocket parks, neighbourhood greens etc.
- Open spaces should be designed and constructed to a high standard making use of outdoor furniture, lighting and seating as appropriate.
- Provide safe spaces in central locations with adjoining dwellings to provide passive surveillance.
- Establish areas of native woodland planting that will provide shelter, bio-diversity and amenity value.
- Provide a public realm area that is pedestrian friendly and links Loughmacask to the historic city core.
- Provide sufficient lighting for safety.
- Provide open spaces that are universally accessible to people of all abilities.



Green public realm



Waterfeature integrated in public realm



Play



Play in residential area

## Shared Open Space in Residential Development

Open space in Residential Development should:

- Be usable and functional, catering for passive and active recreational activity; children's play, sports, social gathering.
- Be of ecological/biodiversity merit or value, by connecting to and extending adjoining habitat areas and green spaces; preserving habitat areas on site (existing trees, wetlands, hedgerows, ditches) and/or incorporating ecological planting of native species. The Council may require the adjoining of public open space with adjacent developments to facilitate wildlife corridors, connectivity and other such considerations.
- Be of benefit in implementing Sustainable Urban Drainage Systems.
- Be central as opposed to peripheral to the layout of the housing area as a whole.
- Be integrated with the pedestrian and cycle network of the local area.
- Be overlooked and positively addressed by adjacent housing and community facilities.
- Be visually and functionally accessible to all residents.
- Provide lighting at a low level, side lit, wall mounted or bollard type, in the interest of minimising ambient light pollution of the night sky and of overlooking dwellings.

### Ayresfield

Any future development of the Ayresfield site shall make provision for a walk and cycle way, and open space, over the site as depicted in Map 2 (Appendix A), and figure 28 of this LAP. To assist in creating a public network that is functional and inviting, future design of the site shall specifically seek to address the following matters:

- Night time illumination of walk and cycle ways;
- Ensuring that development adjacent to walk and cycle ways and open space is on-facing;
- Openness allowing for unimpeded views over long distances of the walk and cycle ways and to surrounding developed areas;
- Restrictions on fences and planting along the edge of the walk and cycle ways and open space to maximum 1.2m in height.

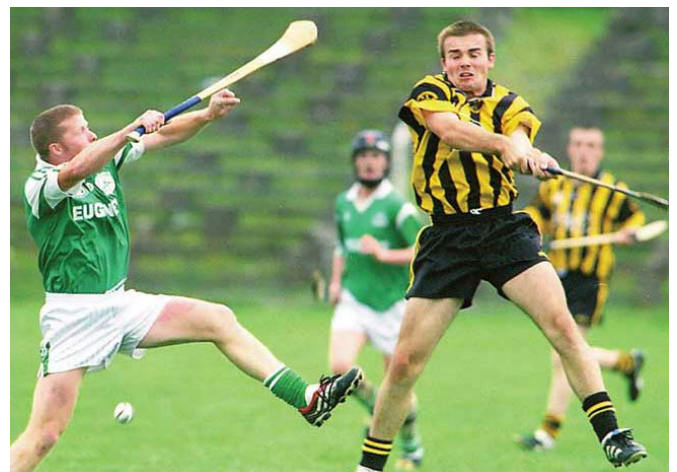
### Sports and play areas

Play areas and equipment provided within public open spaces, should reflect primarily the character of that space and the catchment population or role of that space. For example in a small courtyard space it may be preferable to only provide a modest scale play area focussed on providing for residential immediately adjoining the space. It is also important that the play areas and equipment provided in spaces with a very localised catchment provide for the needs of younger pre-teen children, who by virtue of their age do not have the ability to travel unaccompanied to park and sports facilities.

In general play areas within public open spaces can be described as follows:

#### Local Areas for Play (LAPs):

Approx. 100m<sup>2</sup> Play area for toddlers in 1 min proximity of and overlooked by housing. With small indicative items of equipment. The majority of public open spaces immediately adjacent housing areas should incorporate an LAP.



GAA Sports

**Local Equipped Areas for Play (LEAPs):**

For children of school age (4-8 years) within 5 mins of travelling time to home. The site should have a minimum of 5 different pieces of high quality play equipment and a small games area (grass) within the boundary of the playground. The site should be overlooked by housing, pedestrian routes or other well-used public facilities.

**Neighbourhood Equipped Areas for Play (NEAPs):**

For children of 4-12 years situated within 15 min. of travelling time to housing units. Each site should have a minimum of 8 different pieces of high quality play and a hard surfaced kickabout/ skating/ cycling area. It is recommended that there should be at least one NEAP in the Loughmacask Park.

Larger public spaces such as the Loughmacask Park can incorporate sports facilities and attractions for older children and teenagers in addition to providing for the younger generation. Such sports facilities could consist of multi-use games areas (MUGAS) incorporating all weather courts for ball games (such as basketball and 5 aside soccer). Consideration could also be given to incorporating a hurling wall and skate boarding ramps and a supervised adventure playground and/or scouting skills area.

**Loughmacask Park**

Loughmacask’s green spine is a parkland stretching from the north of the site through to the south, providing a future connection between the Breaghagh and Nore Valley’s. The Green Spine will consist of a number of smaller areas separated by the road network (See Fig. 25). However the spine must always be viewed as one integrated area and must be designed as such.

(i) Consistency

It is important to create consistency throughout the park both in the layout and design of the park and in the choice of materials, planting and street furniture.

(ii) A Layout for the Park

Area 1	Proposed Green Open Space. This area should be incorporated to become a green open space and bufferzone for the adjacent existing residential development.
Area 2	Cycle Link. The Northern edge of the IRR will have a cycle link connecting the Green Spine with the River Nore Valley Park.
Area 3	Bufferzone. This area should incorporate a green bufferzone (e.g. of dense planting) between the IRR and the residential area.
Area 4	Existing Green Open Space. This existing green should be incorporated into the design for the Loughmacask Park Area.
Area 5	Loughmacask Park Area. This is the main recreational area in the Green Spine. A park that relates to the surrounding residential areas should be created with Loughmacask Lake as the main feature.
Area 6	Woodland Area. The Seveso Areas should be planted with dense woodland planting. The Main Path runs along the edge of this area and makes it an area to look into rather than an area to enter. The planting should be designed to accommodate this.
Area 7	Dicksboro GAA. This area contains existing sports pitches.
Area 8	Expansion of Dicksboro GAA. The expansion of the Dicksboro GAA is the most southern green space is on sloping ground and should be treated as the end of the park offering a viewing area from the top of the slope across the site and the GAA Pitches.

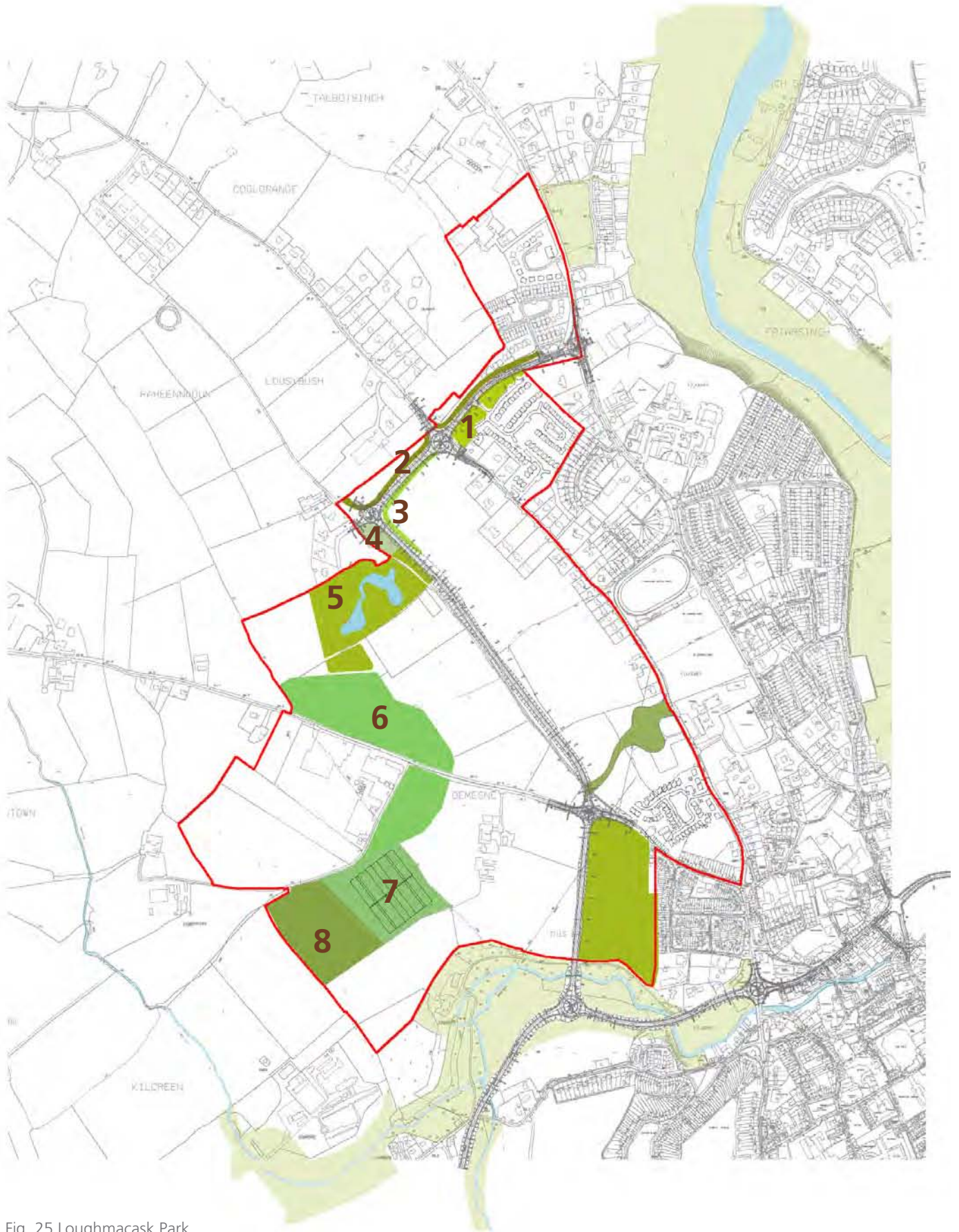


Fig. 25 Loughmacask Park

(iii) Connections to surrounding area

The park should interact with the surrounding areas both in the design of the layout and in the way the functions and the facilities of the park are distributed. Distinctive views within the parkland area towards Kilkenny City (such as those of the St Mary’s and St Canice’s Cathedral’s) should be assessed at the time of design and, where appropriate, protected and strengthened. This is primarily done in the initial phase when the park is designed. Where roads separate the different areas of the parkland, there should be easy and pedestrian friendly access across the road.

**Green Links**

Within residential areas, public spaces and green links have been located to coincide with the existing hollows (low points) in the topography. This allows for Stormwater run-off from hard areas to be drained to attenuation areas within greenspace.

In addition, the green links have been identified to increase connections with surrounding areas. In particular, the Ayresfield House site offers an opportunity to provide a pedestrian linkage between Grange Road and the future village centre within the Loughmacask LAP area.

Green links form a part of the public open space system, and can take a number of different forms:

1. A pedestrian/cycleway set in a green path, with trees shrubs and grass on either side.
2. A green open space to the front of buildings separating the built environment from the road, creating small neighbourhood pocket parks including small play areas.
3. A green open space to the back of buildings, created where back gardens offer connections and overlooking of green open spaces.

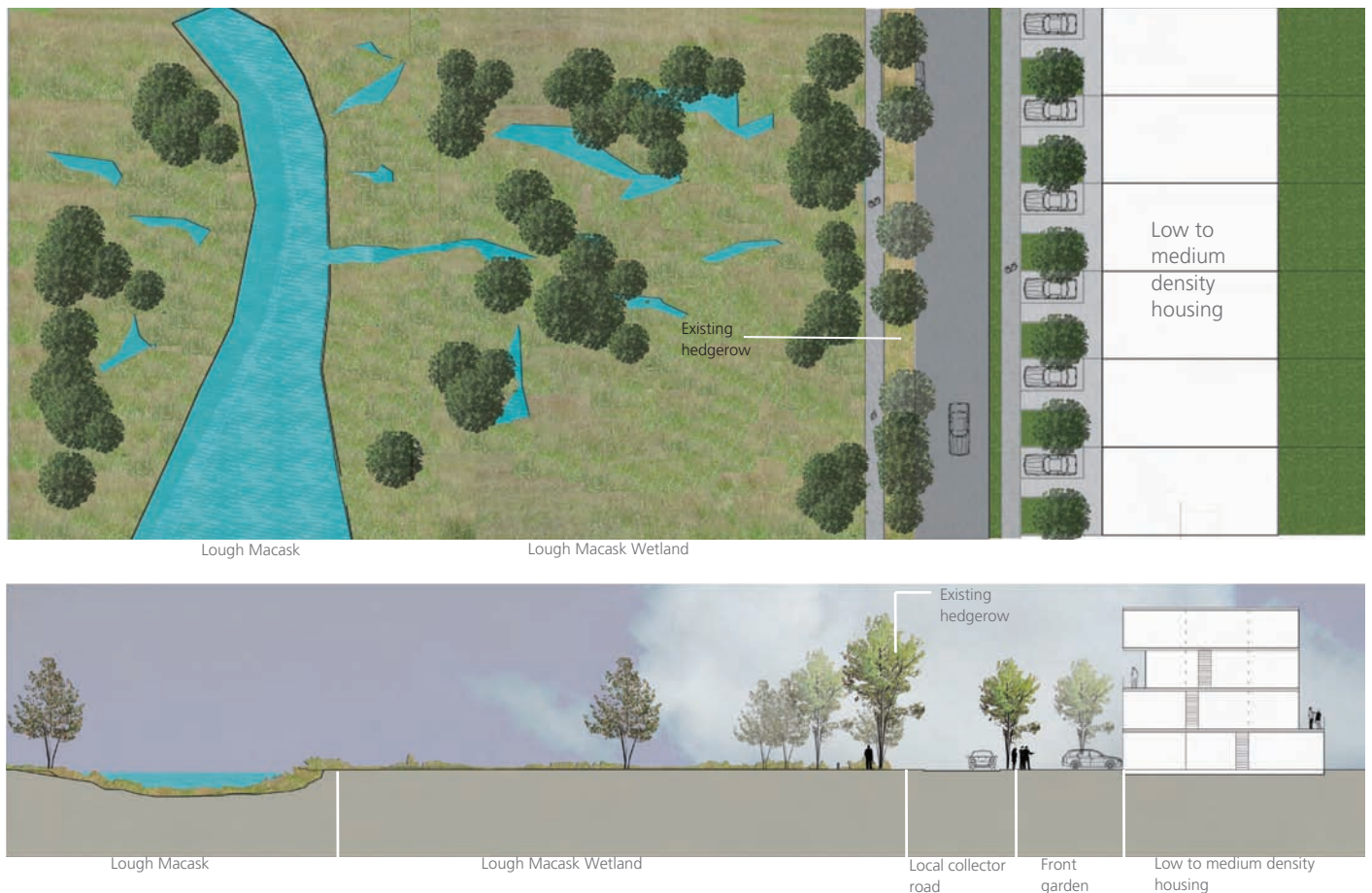


Fig. 26. Section D - Lough Macask, showing the relationship between the low / medium density housing and Lough Macask

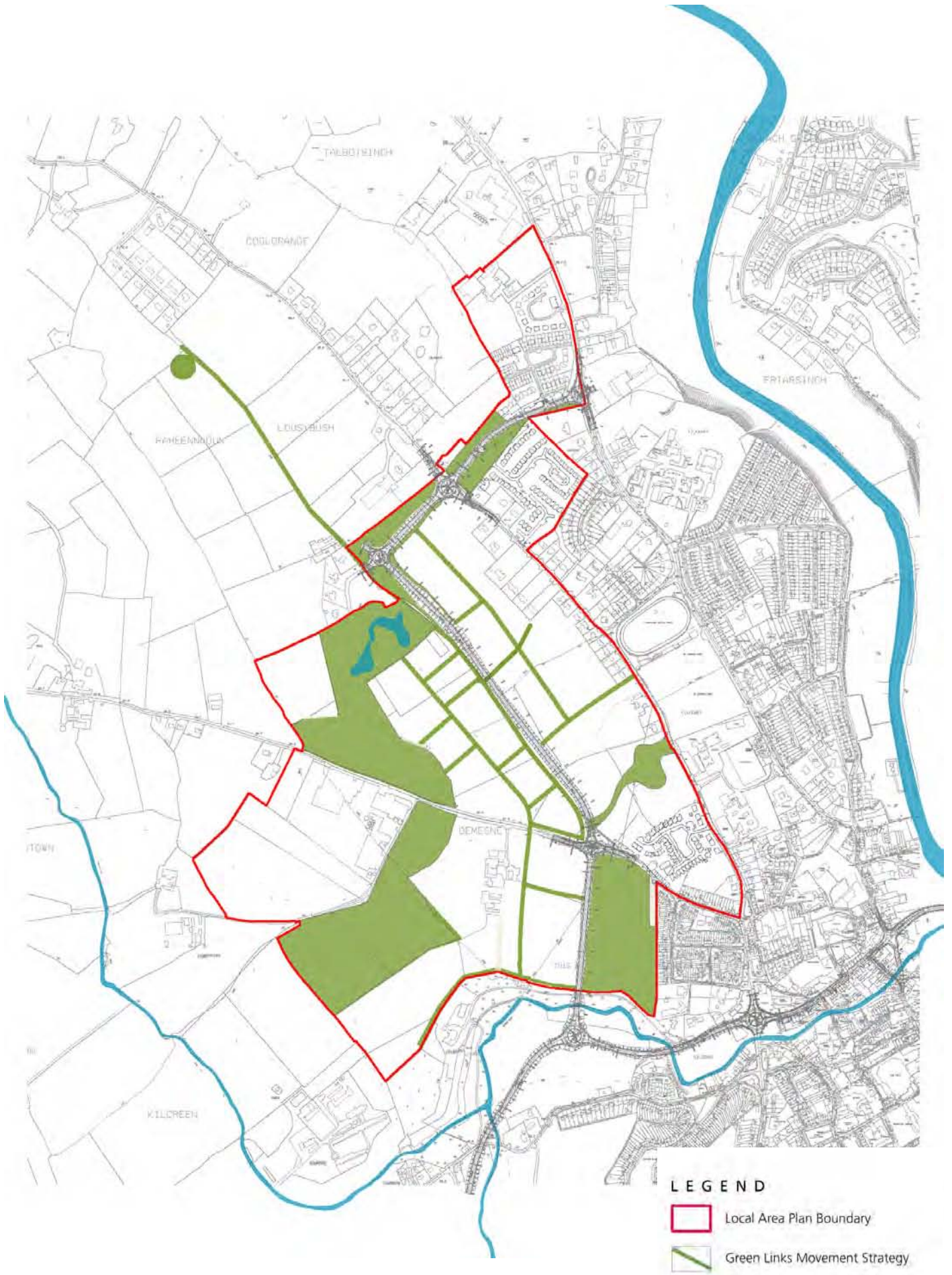


Fig. 27. Green Links

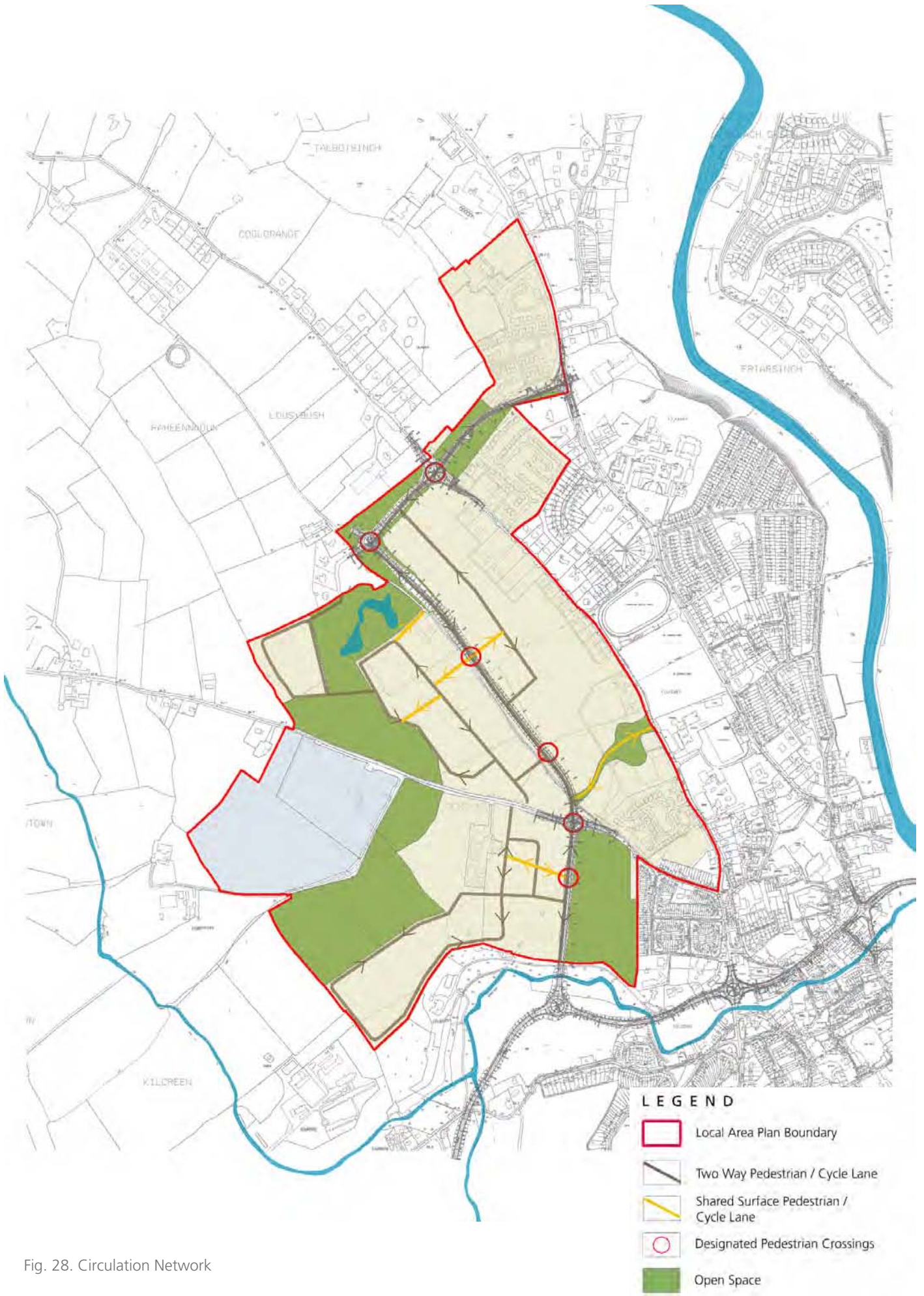


Fig. 28. Circulation Network

## 5.7 Getting Around

Fundamental to a vibrant and healthy community is permeability and access. The purpose of this section is to outline design guidance in relation to matters of movement, connectivity, and accessibility throughout the Loughmacask LAP area. In particular, this section outlines design guidance in regard to:

- Green Networks – Pedestrian and Cycle Routes
- Street Network and Design
- Parking

### Green Networks

Pedestrian and cycle routes are not only channels for circulation, they are also an integral part of green open-space network. The width and positioning of walking and cycle routes should not adhere to a rigid standard, but should respond to their particular location and function.

The open space zoning arrangement set out in the LAP offers the potential of creating a linear sequence of open space to link the Freshford Road to the Dicksboro GAA facilities. There is also the possibility of linking the Loughmacask LAP area to the existing historic core of Kilkenny.

Accordingly, where appropriate, developments should seek to establish and/or enhance the network of pedestrian and cycle ways throughout the Loughmacask LAP area. Adequate width should be ensured along paths for pedestrians and cyclist to pass one another safely and comfortably.

It is advantageous that pedestrian and cycle routes form part of the wider green network of the Loughmacask area, promoting enhanced opportunities for biodiversity and supporting sustainable urban drainage systems where possible (See Fig. 28).



Urban car parking area



Cycle path



Residential parking area



Integrated parking surface



## Street Network and Design

It is important to consider both the road capacity and the character of the road when designing. Road design should adhere to the proposed classification of street types (described above) which considers both character and capacity in the road design; the road types are inner relief road, high street, local access and shared surface. Road carriageways should form a coherent legible street network.

Road capacity requirements will therefore have a direct affect on design and, accordingly, the following classification and design guidelines are considered appropriate to the Loughmacask LAP area:



Pedestrian and cycle path

Road Type	Description
Inner Relief Road	This road will function as the primary vehicular distributor road allowing traffic movement both within Loughmacask and the city and Western Environs. The relationship and scale between fronting buildings and road width should be carefully considered. This road should have the character of an urban boulevard with streetscape and tree planting to a high quality design.
Local Access Road	This road type should accommodate a mix of uses with an active ground floor frontage. It should be pedestrian and cycle friendly using 2 way shared surface that permits vehicular movement at speeds not exceeding 30 kph.
Local Collector Road	Providing access to and from residential areas, this road type should encompass both on street parking with off street parking to the sides of houses or in garages. Frontage should address the road to create a sense of enclosure and scale. The streetscape should include on street tree planting and generous foot paths.
Shared surface – residential area	One or two way shared surface laneways facilitate pedestrian and cycle access but permit vehicles to access dwellings. Car parking should be off street, to the sides of houses, to facilitate the creation of a narrow street width at an intimate scale.

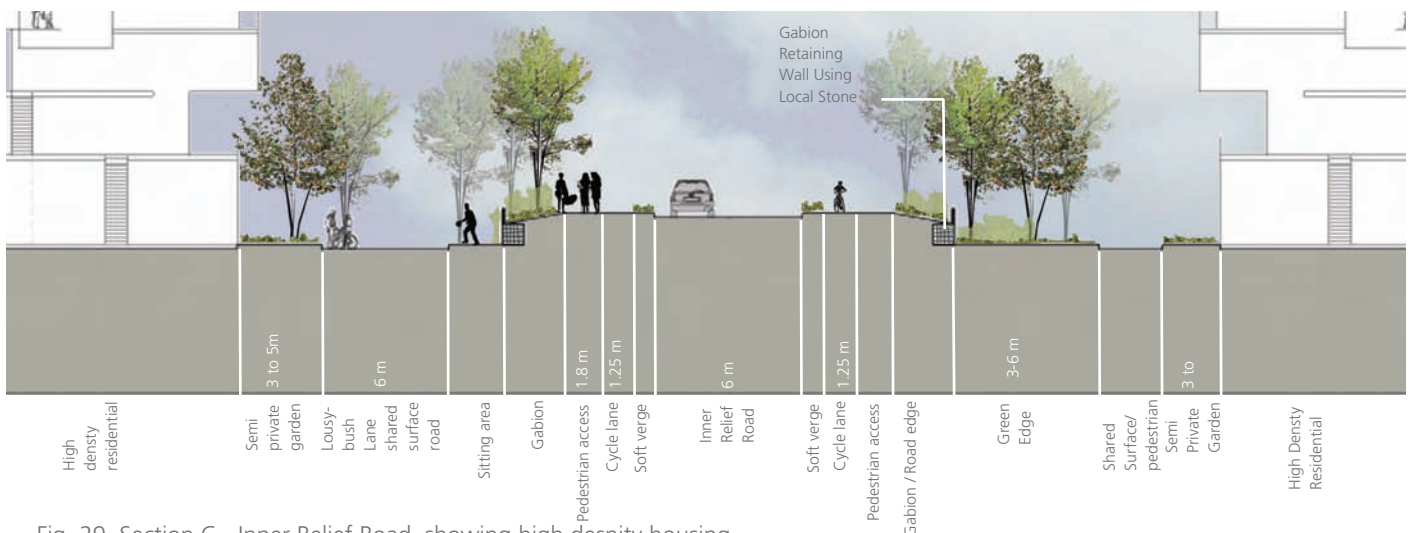


Fig. 29. Section C - Inner Relief Road, showing high density housing

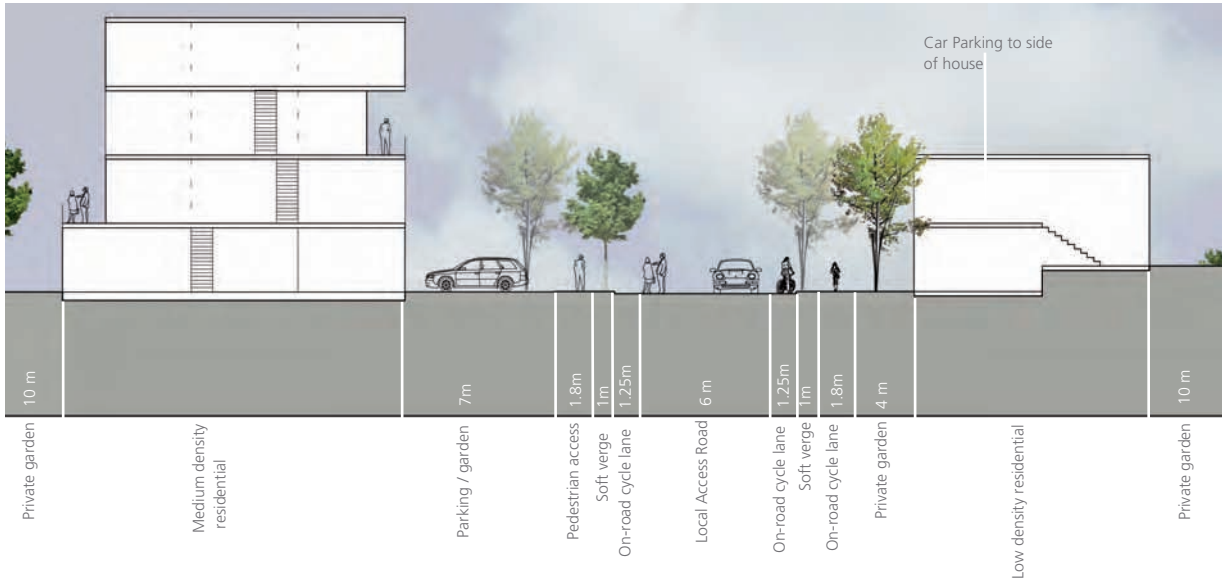


Fig. 30. Section B - Local Access Road

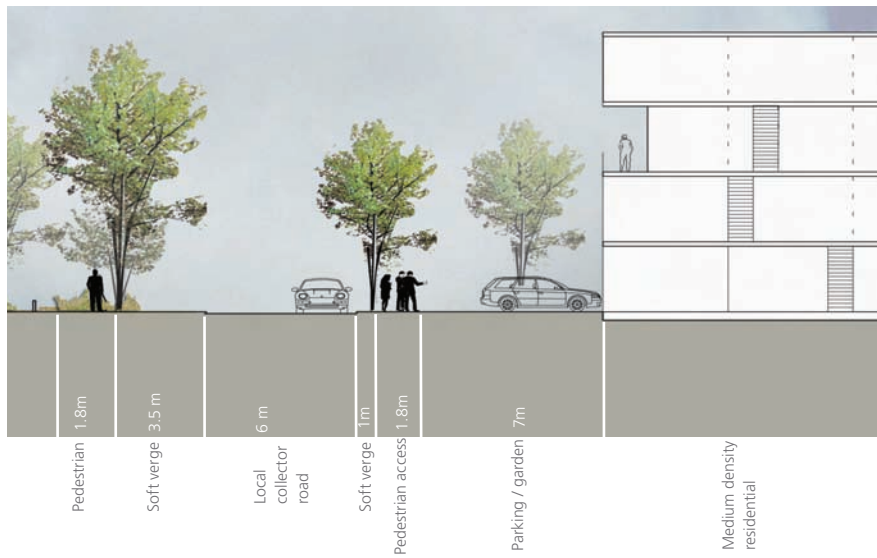


Fig. 31. Section D - Local Collector Road



Fig. 32. Section E - Shared Surface Road

## Parking

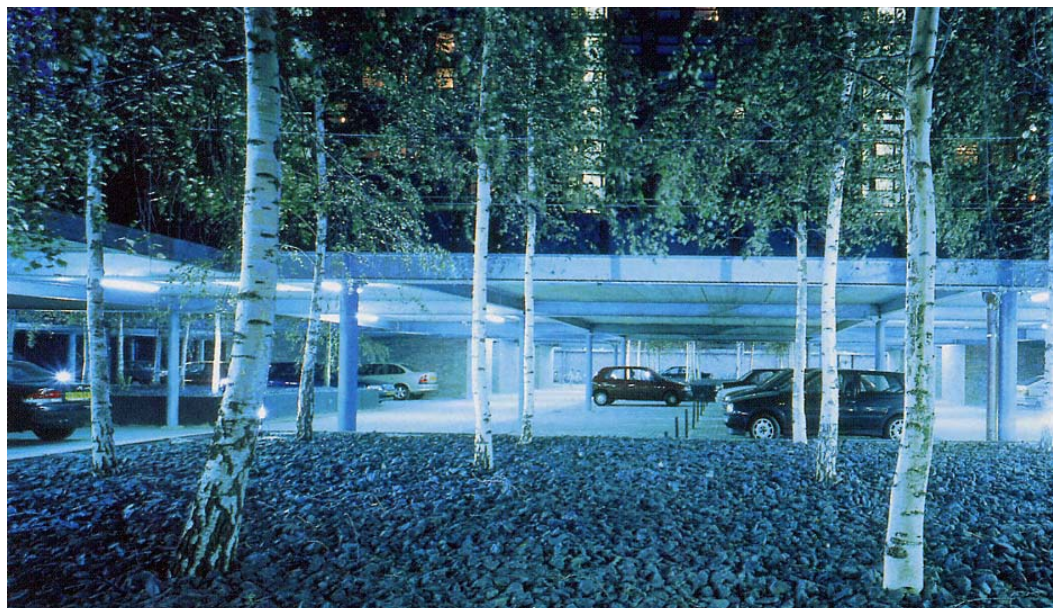
While vehicle parking is essential, it should be provided in such a manner that it does not diminish local amenity or dominate the frontage of buildings. Typically car parking in residential areas should be provided off street; to the side or front of the dwelling. This approach allows the appropriate scale and character of the street to be maintained. Garages or parking in front of the building line has the potential to undermine the relationship between dwellings and the street. Appropriately designed on-street parking or parking in courtyards/clustered parking can improve the visual and recreational quality of the surroundings.

In higher density residential developments where significant areas of car-parking are required it may not be possible to provide these in a discreet manner to the front of the building line and providing all of the parking space to the front of the buildings would cumulatively detract from the visual quality of the street and the urban area. As a rule car-parking to the front of the building line should be no more than a single row of side-on parking spaces, arranged in groups of no more than 4 spaces with breaks for tree planting and pedestrian access.

It is recommended under such circumstances additional car-parking spaces are provided to the rear of the building in courtyards or alternatively in basements or beneath a podium; where the space above the podium can be utilised as a shared open space.

In addition to the above, the Council promotes the following design guidelines for parking:

- To encourage multi-use communal car parking.
- To design off street car parks as integral parts of the urban streetscape.
- All communal parking areas should be well-lit, open to natural surveillance and have obvious pedestrian routes.
- Where possible and appropriate tree planting should be incorporated into car-parking areas.
- Where car-parking areas are viewed from above, it is suggested that consideration be given to incorporating pergola structure to support climbing plants as a screening to the car-park area.



Covered car parking

## 5.8 Sustainable Urban Drainage Systems

Sustainable urban drainage systems (SUDS) will be encouraged throughout the Loughmacask LAP area. Where viable these will operate on two broad levels – minimisation of water run-off from individual sites and a central storm water drainage system to attenuate to a large wetland prior to discharge to the Bregagh River.

### Minimise water run-off

The principle in this case is that each development area should endeavour where possible to minimise the volume of storm water to be discharged to the main storm water system. This can be implemented in two ways as follows:

#### Permeable paving surfaces:

Permeable surfaces such as gravel, grass-cretes or permeable paving systems can be used on driveways, parking places and pathways to allow storm water to percolate directly into the underlying sub-soil. These systems work on the principle of ground infiltration of storm water thus reducing the pressure on the main storm water drainage system. In addition rain water can be collected from roofs and used for watering gardens or flushing toilets.

Accordingly, the following guidelines should be applied to all development where possible:

- Design parking areas, paths and walkways, and garden areas to maximise water soaking into the ground.
- Collect water in water tanks and use for either watering gardens or flushing toilets.

## Swales

The use of swales for local attenuation of storm water is another method of reducing the storm water load to the main drainage system. Swales are drainage channels which are designed to locally attenuate storm water run-off from impervious surfaces such as the local residential road network, parking areas and small residential areas. Storm water is conveyed to the swale which typically runs alongside the road network; water is periodically stored within the swale and allowed to infiltrate into the underlying soil. The advantages of using swales are as follows:

- storm water velocity is reduced
- storm water discharge to the mains system is reduced
- pollutants can be removed by infiltration
- vegetation / planting of the swale contributes to local biodiversity

The undulating nature of the topography of the LAP lands affords the opportunity to use swales to effect by locating them alongside shared surface roads and local collector roads which are situated in localised low spots as shown on figure 37.

Swales can be used to attenuate storm water at a local or neighbourhood level. An over-flow discharge pipe can be provided to connect to the main storm water drainage system.



Swale

## Design Guidance

Swales should be provided within residential neighbourhoods at localised low spots where viable. Swales should be designed to adjoin shared surface streets or local collector roads. Swales should be integrated within the network of green links as described in section 5.6. In this regard pedestrian and cycle access should be provided alongside the swales; swales should also be used to form ecological connections where possible. A boundary swale could be provided to the southern edge of the LAP lands to adjoin the Bregagh River Valley as shown on figure 34.

Figure 33 shows a section through a swale. The base of the swale should be no wider than 3m. It is important that the appropriate soil matrix is used in the base of the swale to facilitate ground water infiltration. The swale can be planted with grass –meadow planting to include wetland flora which can tolerate periodic inundation. For more detailed technical guidance on the construction of swales refer to the Greater Dublin Strategic Drainage Study (Volume 3, Environmental Strategy, 2005).

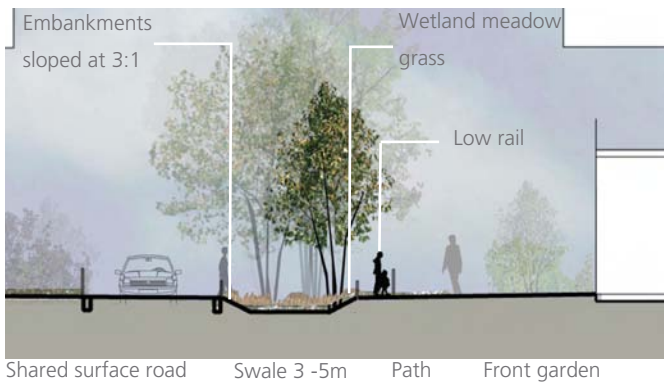


Fig. 33. Section E - Shared Surface Road, typical swale section



Fig. 34. Section F - Southern Boundary of the LAP Area (adjacent to the Bregagh River Valley), through swale

## IRR Storm Water Drainage System

The IRR transverses the LAP lands in a north south direction. The road system will include a main storm water drainage system which will collect and pipe water from the road surface and the adjoining residential areas. The storm-water collected from the IRR will need to be attenuated before discharge into Kilkenny City’s main drainage system. There are various design options for this including underground storm-water attenuation cells or a large scale attenuation pond.

Figure 35 shows the possibility of creating a large scale attenuation canal alongside the IRR adjacent to the Bregagh River Valley. The attenuation canal could be designed as an Integrated Constructed Wetland (ICW).

This proposal is viable from a drainage perspective as the proposed wetland canal is located on the lowest part of the LAP lands adjacent to the Bregagh River Valley.

The advantages of using an ICW are as follows:

- ICW would treat and cleanse storm-water before discharge into the Bregagh
- ICWs would have a high amenity and ecological value

A second consideration with regard to storm water run off from the IRR is the relationship between the IRR and the Lough Macask wetland system. It is necessary from a pollution prevention perspective that surface water drainage from the IRR is not discharged into the wetland.

Design Guidance: Integrated Constructed Wetland

An indicative section through the IRR and adjoining wetland canal is shown in figure 36.

The constructed wetland canal would form a landscaped edge to the IRR. Design of the constructed wetland canal should take into account the following:

- The constructed wetland could hold a standing level of water all year round with enough freeboard capacity to attenuate large volumes of storm water run-off. Hydrocarbon interceptors should be fitted to the IRR to remove pollutants before entering the constructed wetland.
- The constructed wetland would provide secondary treatment of storm water run-off; planting should be primarily with reeds, sedges and rushes which will trap pollutants and cleanse the water.
- *Alnus Glutinosa* and *Salix alba* could be planted along the embankments.
- The base of the wetland should be impervious to prevent contamination of the ground water and to hold water within the canal.
- Outflow from the constructed wetland would be discharged to the River Bregagh at a controlled rate.



Constructed wetland



Wetland area

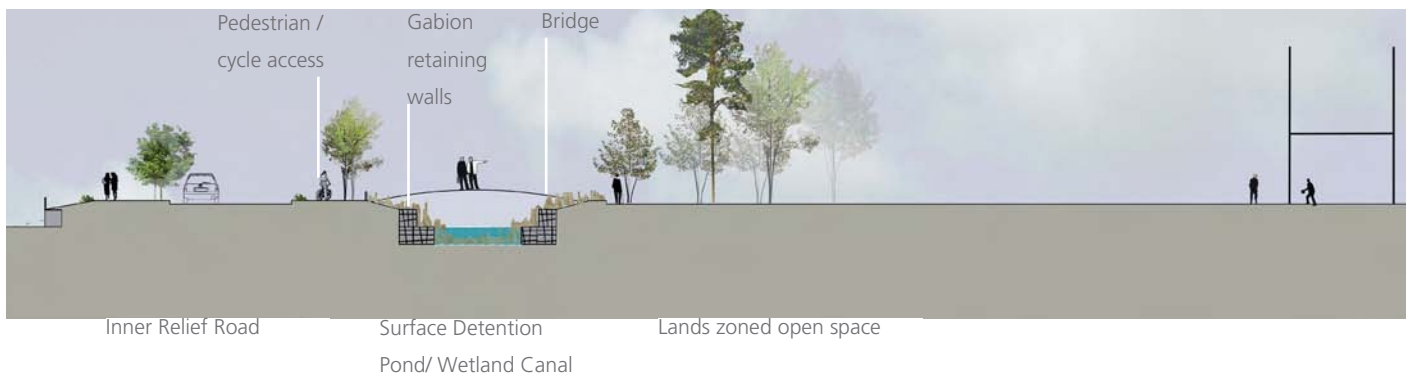


Fig. 35. Section G - Integrated Constructed Wetland (ICW) Canal

## Lough Macask:

Figure 37 shows the low lying topographical basin within which the Lough Macask wetland is situated. The low lying area extends to the north east of the IRR. An indicative section through the IRR is shown on figure 36. As outlined in the road section drainage could be provided under the road to connect the Lough Macask wetland to the low lying area to the north east of the IRR. The advantages of the under road drainage system are as follows:

- The IRR is designed to be independent from the hydrological functioning of the wetland; the road design allows for water levels to fluctuate providing additional flood capacity to the north –east of the IRR.
- The drainage pipes allow for both a hydrological and ecological connection either side of the IRR.

The indicative section shows how Lousybush lane could be re-configured as a raised deck to which would provide views of the wetland.

Development on the eastern side of the proposed Inner Relief Road and adjacent to the Loughmacask flood area (indicated on Fig 37 by a dashed blue line) shall have due regard to the natural drainage patterns of the site and, where possible, seek to maintain and enhance wetland features associated with the aforementioned Loughmacask flood area.



Fig. 36. Section H - Inner Relief Road, and Lough Macask



Fig. 37. SUDS Strategy



## 5.9 Dark Skies

Excessive lighting of the urban environment can have adverse impacts on local biodiversity and is wasteful of electrical energy. Many towns and cities suffer from skyglow where ambient light emissions are significant and air dust particles are illuminated to a level where they cause light pollution.

A Dark Sky approach in respect of lighting can assist reducing the effects of skyglow. Guidance in regard to the choice and use of lighting fixtures is provided to improve the experiential light at ground level, making the night space more legible, safer and more accessible to the public.

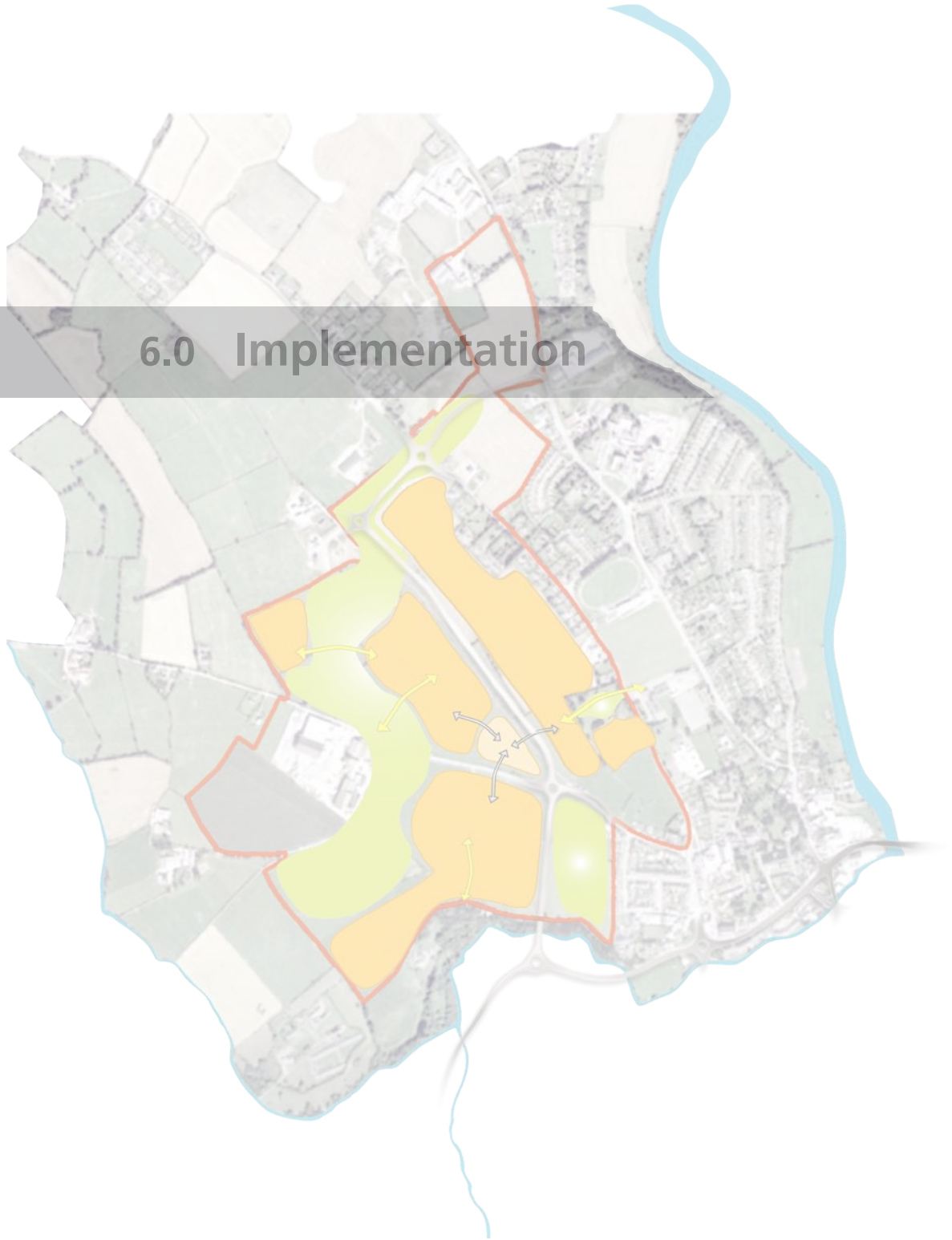
The principle design guidelines are outlined as follows:

- All high level pole mounted and wall mounted fittings should illuminate downwards.
- The illumination or floodlighting of buildings is to be restricted to buildings of local cultural or historical importance.
- Backlit signage should be avoided.
- Neon should not be used externally except where considered a part of the heritage of Protected Structures.
- All street lighting units should have a 100% cut off (having a deep shade for the lamp and having no spill over above 180 degrees).
- Within the village centre the lamps on pole-mounted streetlights should be set at a level no higher than 8metres from street level. This may require that lamp standards are set at closer offsets than typical for lighting urban roads.
- Consideration should be given to the use of low-level bollard or wall mounted lighting where appropriate in open spaces and along pedestrian/cycle paths.
- Light trespass can have significant negative impacts on the amenity of adjoining properties: reducing privacy, hindering sleep, and giving the area an unattractive look. Light trespass onto neighbouring properties and into habitable rooms should therefore be avoided.
- Many outdoor lights waste energy by spilling much of their light where it is not needed, such as up into the sky. This waste results in high electricity costs and should therefore be minimised.
- It is recommended that high-pressure sodium lamps (SON) are used rather than the low pressure sodium lamps (SOX). The tubes of SOX lamps have larger arc dimensions than SON lamps, making it very difficult to achieve full cut-off with SOX lamps. SON lamps also provide considerably improved colour rendering, with a white versus orange hue.



Urban area lit by night

## 6.0 Implementation





## 6.0 Implementation

A principle aim of Loughmacask LAP is to ensure that local residents and visitors to the area are provided with a high amenity environment that offers opportunities for recreation, leisure and day to day activities of living. Accordingly, it is necessary to ensure that, where appropriate and viable, infrastructure such as public parks and local shops have been implemented, along side the necessary services such as water supply, waste water and electricity.

Phasing of development within the Loughmacask area has been split into two phases, encompassing 10 development parcels. While the phasing primarily relates to the implementation of development aimed at achieving viable and sustainable growth, the development parcels also seek to create a balance between the required land use within the Loughmacask area and existing landownership. The Infrastructure and Use Matrix Table sets out the phasing and development criteria for each parcel, including: the requisite infrastructure for the development of each parcel; required non-residential development; and prescribed residential densities.

## 6.1 Phasing

Phasing for the Loughmacask LAP area will focus progressively on a balance of necessary infrastructure and public recreation and leisure facilities, alongside a phased programme of residential development.

Phase 1 is concerned with the development of the Loughmacask core, including primary movement networks, recreation and leisure facilities, and the development of the village centre (see figure 38). Within Phase 1, five development parcels have been identified (parcels A, B, and C, D, and I - see figure 38), each requiring the development of mixed density residential living areas with an average of 29 to 40 units per hectare. In conjunction with residential development, the following community development will also be required to be undertaken during phase 1 (inter alia):

- Small local scale retail services and facilities constituting the village centre (Parcel A only);
- Open space and recreation facilities;
- Community facilities inclusive of healthcare, social and civic facilities;
- Sports related Community facility;
- A public pedestrian and cycle access way running through the Ayresfield House site and adjacent lands between Grange Road and the Loughmacask village centre (as indicated on Map 2, Appendix A).
- Adult Education facility;
- Provision of defined pedestrian and cyclist paths, including enhanced access towards the city centre;
- Partial completion of the Inner Relief Road and upgrade of Tullaroan Road;
- Upgrade of water supply and waste water services; and
- Layout of sustainable urban drainage systems.

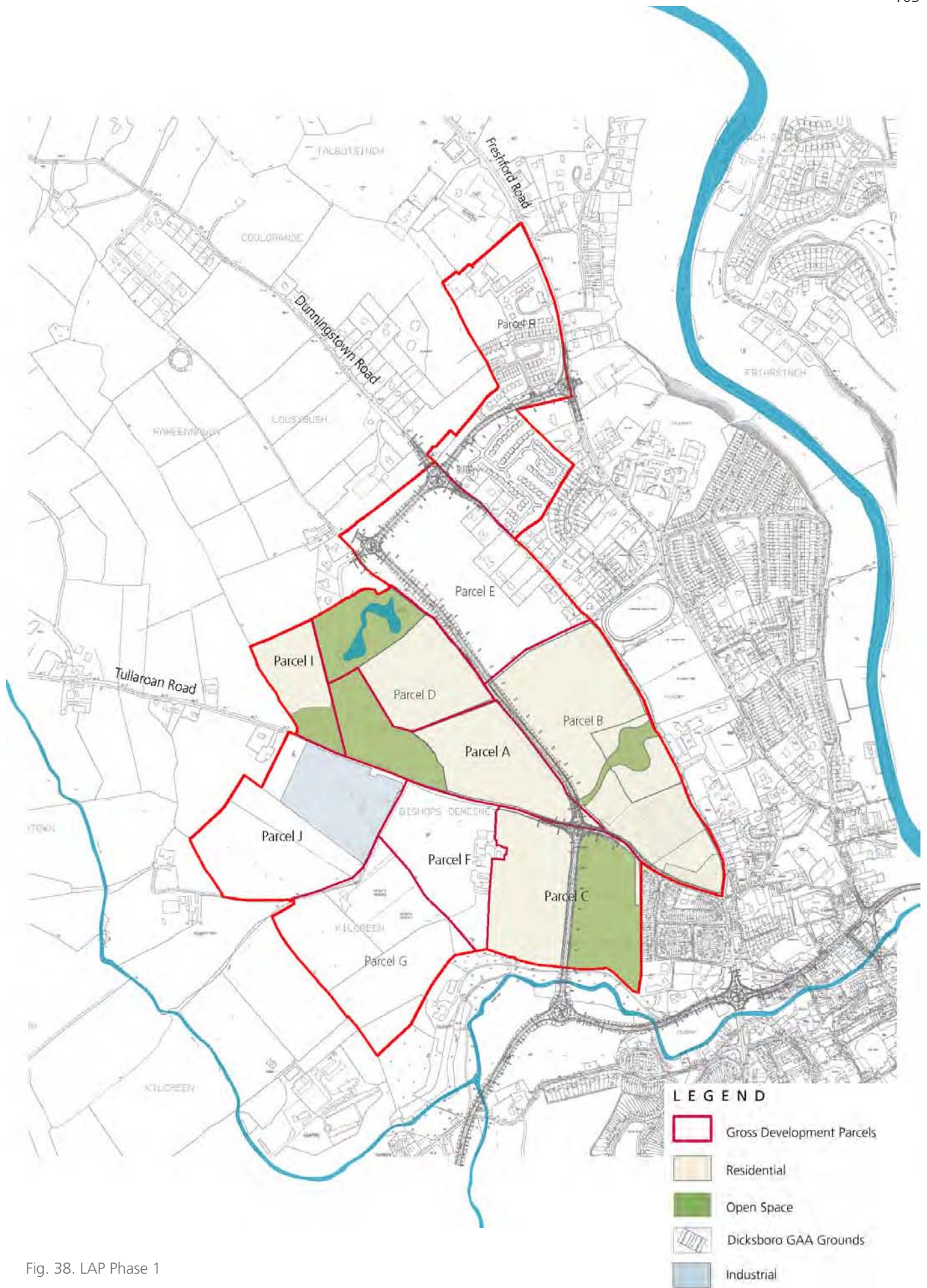


Fig. 38. LAP Phase 1

Phase 2 is concerned with the balance of development throughout the Loughmacask LAP area (parcels E, F, G, H, and J), to an end that will see the Councils' vision for the area achieved (See Fig. 39). Essential to this will be the establishment of further mixed density residential living areas (with an average of 15 to 40 units per hectare), along with the following community development initiatives (inter alia):

- Further development of open space and recreation facilities, including improved GAA pitches;
- Completion of a Loughmacask pedestrian and cycle loop;
- Enhanced pedestrian and cycle connections to the Nore and Breaghagh river valleys;
- Environmental Heritage / Education Facility;
- Flood mitigation measures where appropriate;
- Completion of the Inner Relief Road and internal roads network within the LAP area; and
- Continued upgrade of water supply and waste water services.

It is understood that development of the proposed GAA pitches may be found to be impracticable or unviable. Should redevelopment proposals for Dicksboro GAA Club come forward during the life of the Plan, the Councils will respond positively to any redevelopment proposal by way of amendment to the LAP subject to the proper planning and sustainable development of the area. Such positive response may include the potential use of a proportion of the lands for residential purposes and/or community uses. Integral to the consideration of any future rezoning shall be the retention of a proportion of the open space, such that the concept of the linear park and green links referred to in Fig 27 of this LAP is retained.

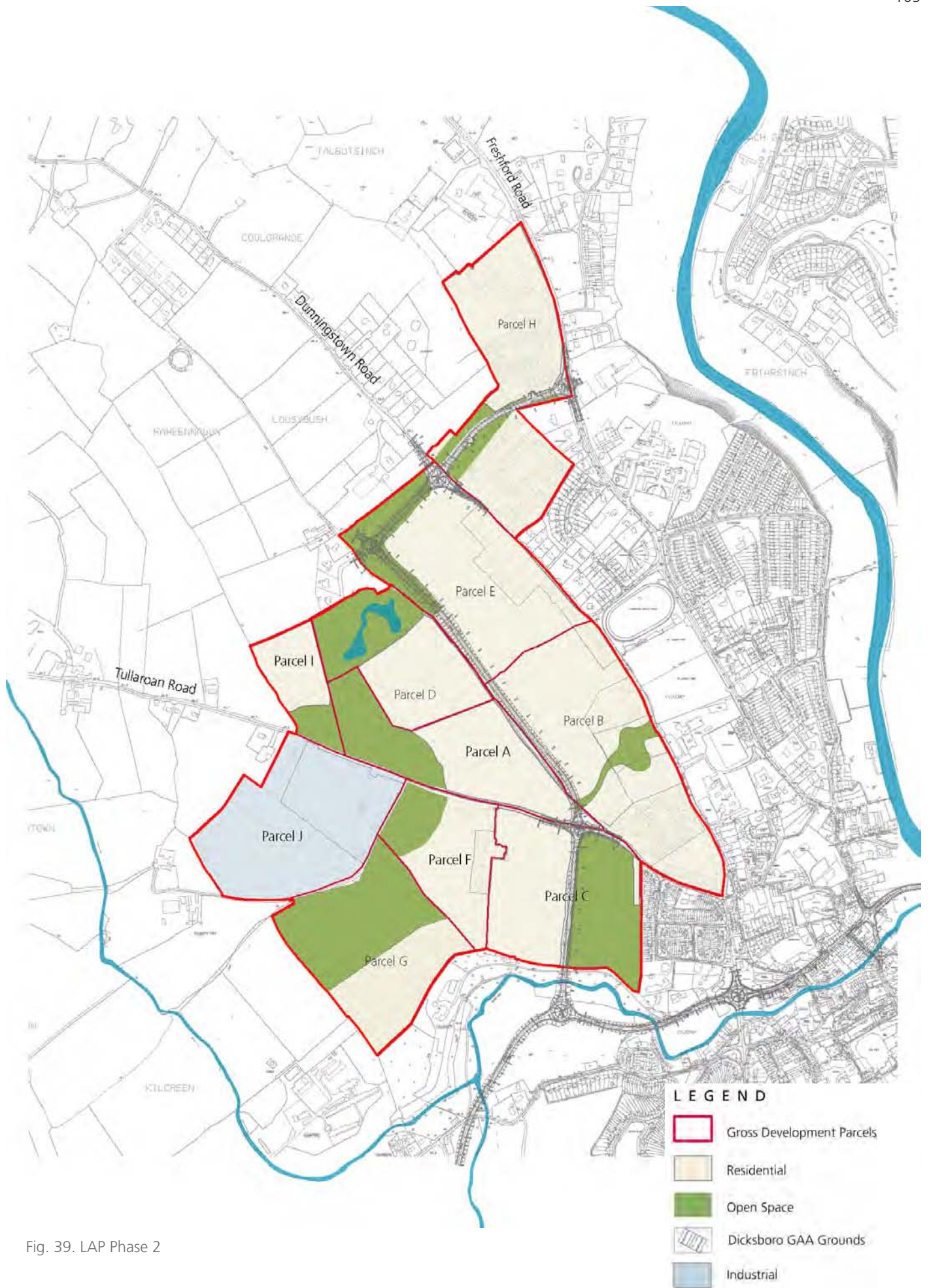


Fig. 39. LAP Phase 2



## **6.2 Parcels – Infrastructure, Community Facilities and Density of Housing**

As far as practicable, development parcels have been established with regard to existing landownership boundaries within the Loughmacask LAP area, such that the required development of infrastructure and community facilities may be undertaken in a comprehensive manner while minimising constraints that could otherwise arise through the actions (or lack thereof) of third parties (See Fig. 40).

The development of infrastructure and community facilities is integral to achieving the Councils' vision for the Loughmacask area. Accordingly, each development parcel will play an active role in delivering infrastructure and community facilities, as well as residential living areas. To ensure an integrated outcome is achieved, the Infrastructure and Use Matrix Table outlines the required development within each parcel. In essence, each parcel holder is required to undertake or make available installation and upgrades to local services, establish defined community infrastructure and facilities (such as pedestrian and cycle paths), and residential development living areas at prescribed densities.

The requirement for infrastructure and community facilities has been balanced with residential densities within each development parcel to assist in ensuring an overall sustainable development of the area.

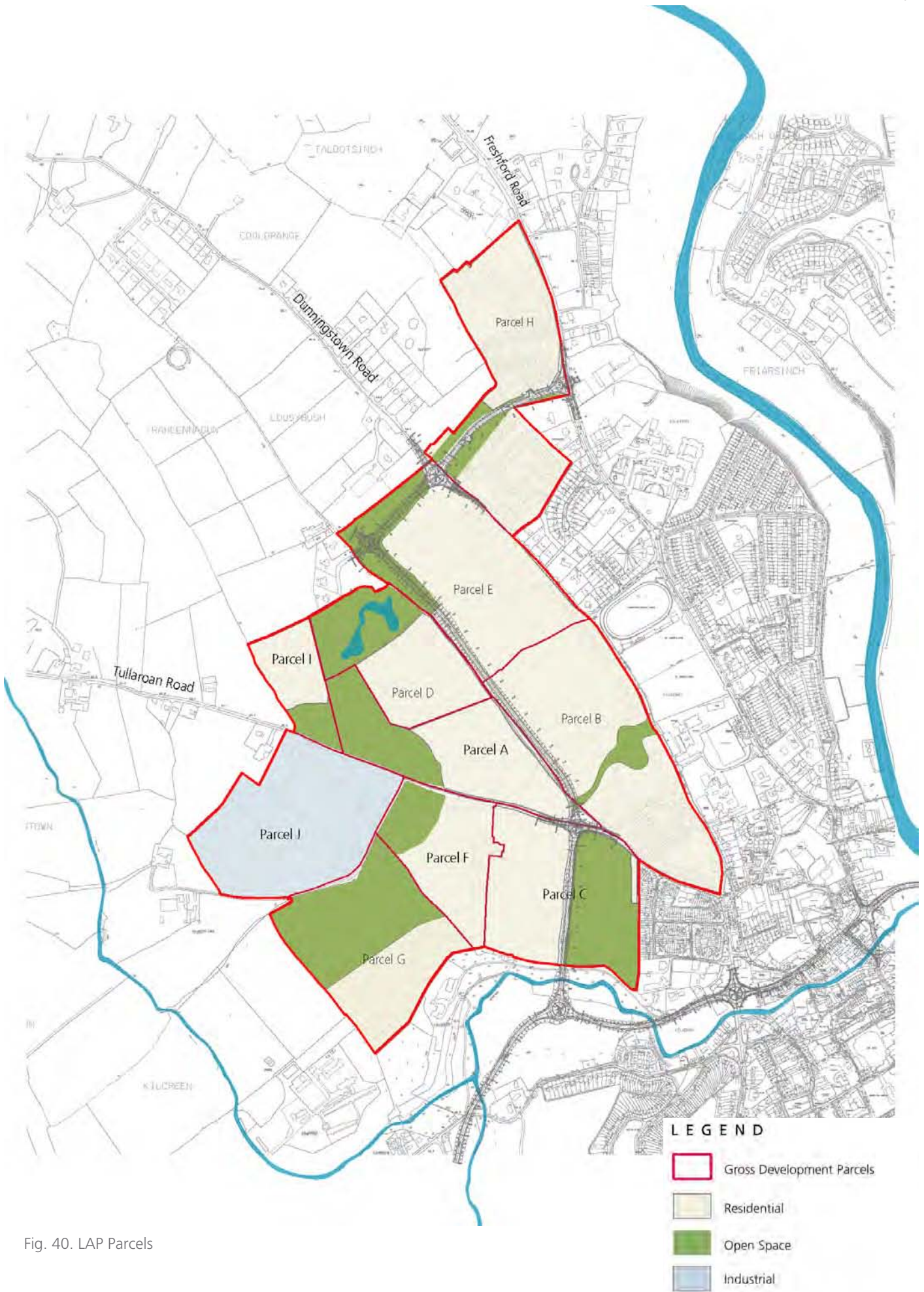


Fig. 40. LAP Parcels

### 6.2.1 Infrastructure and Use Matrix

The Infrastructure and Use Matrix sets out a clear criteria framework for development of each parcel within the LAP. Reference to the Infrastructure Matrix diagram facilitates identification of all relevant points set out in the table (See Fig. 41).

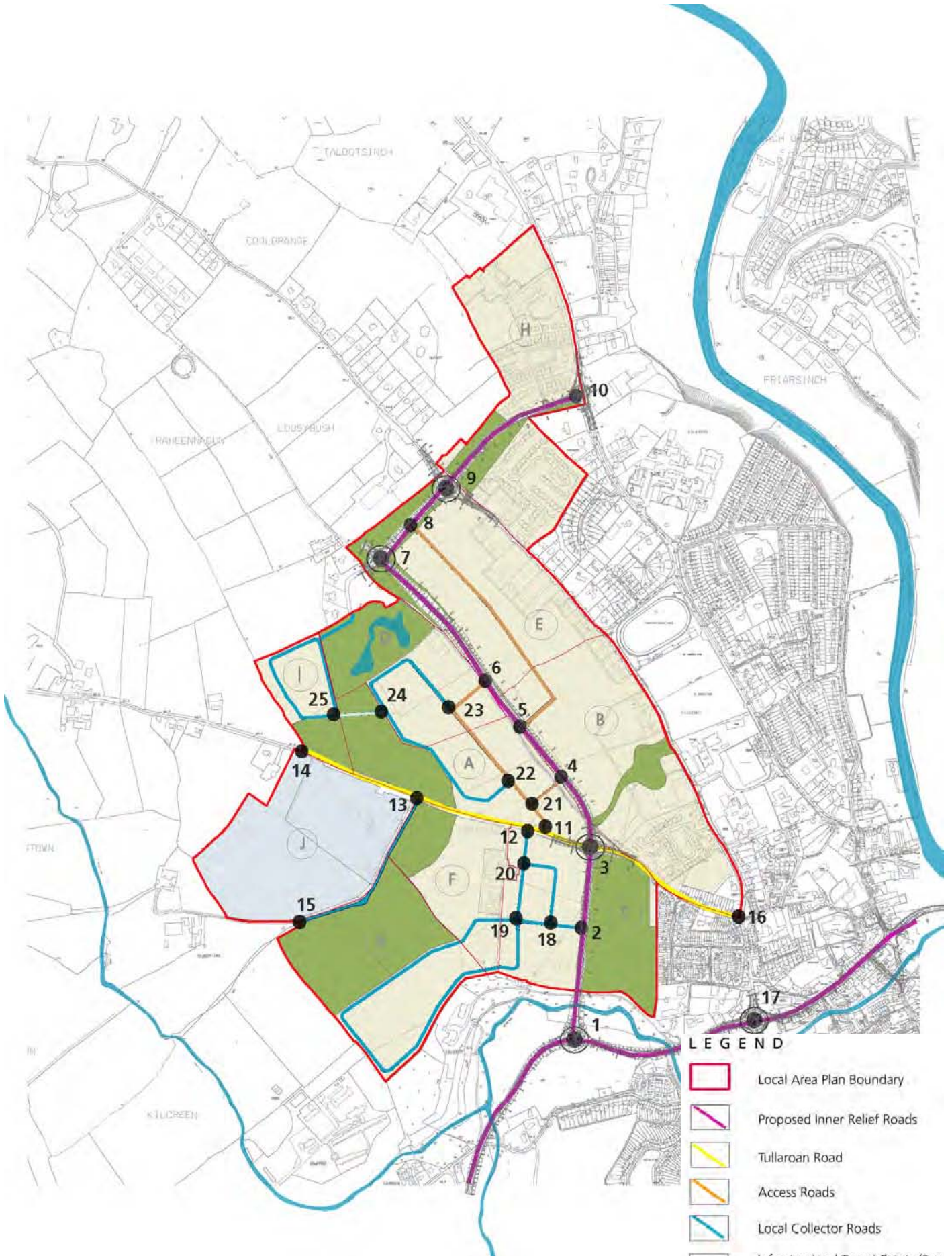


Fig. 41. Infrastructure and Use Matrix Diagram

## Infrastructure and Use Matrix

Parcel Name	Gross Area (Ha)	Development Character of parcel	Required infrastructure to be delivered in tandem with development in the parcel (Refer to Proposed Infrastructure Matrix diagram)
A	10.01	Low, Medium and High Density Residential  Village Centre  Passive Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete from Point 1 to Point 3 and Point 1 to Point 17 to be completed before phase 2 commences (subject to TIA).</li> <li>• Upgrade of Tullaroan Road from Inner Relief Road (Point 3) to Point 13.</li> <li>• Access Road linking the Tullaroan Road, Point 11, and the Inner Relief Road, Point 4.</li> <li>• Access Road from Point 11 to Point 23</li> <li>• Some development allowed onto Tullaroan Road if it can be justified by Transport Impact Assessment</li> <li>• Connection to Breagagh Valley Sewer via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Connection to 400mm diameter trunk public water main at Point 16 or alternative potable water supply (from wells) and storage.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>
B	14.39	Low, Medium and High Density Residential  Passive Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete from Point 1 to Point 5 and from Point 1 to Point 17 to be complete before phase 2 commences (subject to TIA).</li> <li>• Some Development allowed onto Grange 's Road if it can be justified by Transport Impact assessment</li> <li>• Access Road from Parcel B to Point 5 on Inner Relief Road.</li> <li>• Upgrade of Grange's Road to include footpaths, cycle tracks and public lighting</li> <li>• Connection to Breagagh Valley Sewer via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Connection to 400mm diameter trunk public water main at Point 16 or alternative potable water supply (from wells) and storage.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>
C	12.63	Medium and High Density Residential  Community  Active Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete from Point 1 to Point 3 and from Point 1 to Point 17</li> <li>• Upgrade of Tullaroan Road from Point 3 on Inner Relief Road to Point 13.</li> <li>• Access Roads from Points 2 to 19, Point 12 to Point 19, and Point 19 to boundary with Parcel F.</li> <li>• Some development allowed onto Tullaroan Road if it can be justified by Transport Impact Assessment</li> <li>• Connection to Breagagh Valley Sewer via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Connection to 400mm diameter trunk public water main at Point 16 or alternative potable water supply (from wells) and storage.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>

## Infrastructure and Use Matrix

Required non-residential facilities in conjunction with residential development per Parcel (Refer to Proposed Development Parcelss Diagram)	Uses which this parcel must contain	Uses which this parcel may contain	Phase Sequence	Delivery of Phase
<ul style="list-style-type: none"> <li>Village Centre type facilities. Small local scale retail services and facilities.</li> <li>Public open space with title transferred to the local authority laid out and landscaped.</li> <li>Movement network to facilitate pedestrian and cyclist movements.</li> <li>Lousybush Lane link to Lough Macask.</li> <li>Facilitation and deliver of Borough Council lands for Community in Parcel C.</li> </ul>	<p>Medium/Low and High-density residential development. Overall average density ranges from 29 to 40 units/Ha.</p> <p>Low Density to be no less than 29 units/Ha.</p> <p>Passive open space</p>	<p>Community facilities inclusive of health-care, social and civic facilities</p> <p>Public Service Installations</p> <p>Playgroups/ Crèche/ Pre-school facilities</p> <p>Live/Work units</p> <p>Nursing Home</p> <p>Café</p> <p>Typical uses ancillary to residential development include:</p>	Phase 1	Parcel to be complete by Phase 1
<ul style="list-style-type: none"> <li>Facilitation and delivery of Passive Open Space.</li> <li>Movement network to facilitate pedestrian and cyclist movements.</li> <li>Public open space and green route to Grange Road via Ayresfield delivered with title of open space area transferred to the local authority laid out and landscaped.</li> <li>Facilitation and deliver of Borough Council lands for Community in Parcel C.</li> </ul>	<p>Low/Medium and High-density residential development.</p> <p>Overall average density ranges from 29 to 40 units /Ha.</p> <p>Low Density to be no less than 29 units/Ha.</p>	<p>Live/Work Units</p> <p>Adult Education Facility</p>	Phase 1	Parcel to be complete by Phase 1
<ul style="list-style-type: none"> <li>Objective – School Site/community/recreation uses, with title transferred to the local authority.</li> <li>Facilitation and delivery of Active Open Space.</li> <li>Movement network to facilitate pedestrian and cyclist movements</li> <li>Facilitation and deliver of Borough Council lands for Community in Parcel C.</li> </ul>	<p>Medium and High-density residential development. Overall average density ranges from 35 to 40 units /Ha.</p> <p>Density to be no less than 35 units/Ha.</p> <p>Active Open Space</p>	<p>Live/Work Units</p> <p>Sports related community facility.</p>	Phase 1	<p>Parcel to be complete by Phase 1.</p> <p>Hydrological Study and Flood Study to be complete by Phase 1.</p>

## Infrastructure and Use Matrix

Parcel Name	Gross Area (Ha)	Development Character of parcel	Required infrastructure to be delivered in tandem with development in the parcel (Refer to Proposed Infrastructure Matrix diagram)
D	8.94	Low, Medium and High Density Residential  Passive Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete , including from Point 1 to point 10 and from Point 1 to Point 17</li> <li>• Access Roads from Point 6 to Point 23, and Point 22 to Point 24.</li> <li>• Connection to Breaghagh Valley Sewer via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Additional Waste Water Treatment capacity at Purcellsinch</li> <li>• Upgrade of Water Main on Tullaroan Road from Point 3 to Point 14.</li> <li>• Connection to 400mm diameter trunk public water main at Point 17 or alternative potable water supply (from wells) and storage.</li> <li>• Findings of Hydrological study of Loughmacask to be taken into account.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask</li> </ul>
E	17.79	Low, Medium and High Density Residential  Passive Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete, including from Point 1 to Point 10 and from Point 1 to Point 17 and Point 7 to Point 10</li> <li>• Access Road from Point 5 to Point 8</li> <li>• Upgrade of Grange's Road to include footpaths, cycle tracks and public lighting</li> <li>• Connection to Breaghagh Valley Sewer via new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Connection to 400mm diameter trunk public water main at Point 16 or alternative potable water supply (from wells) and storage.</li> <li>• Findings of Hydrological study of Loughmacask to be taken into account.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>
F	7.12	Low and Medium density Residential  Passive Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete from Point 1 to Point 3 and from Point 1 to Point 17</li> <li>• Upgrade of Tullaroan Road from Inner Relief Road (Point 3) to Point 13.</li> <li>• Access Roads from Points 2 to 19, Point 12 to Point 19, and Point 19 to boundary with Parcel G.</li> <li>• Some development allowed onto Tullaroan Road if it can be justified by Transport Impact Assessment</li> <li>• Connection to Breaghagh Valley Sewer via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Connection to 400mm diameter trunk public water main at Point 16 or alternative potable water supply (from wells) and storage.</li> <li>• Upgrade of Water Main on Tullaroan Road to Point 12.</li> <li>• Additional Water Storage at Troyswood or Loughmacask</li> <li>• Findings of Hydrological study of Loughmacask to be taken into account.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>

## Infrastructure and Use Matrix

Required non-residential facilities in conjunction with residential development per Parcel (Refer to Proposed Development Parcelss Diagram)	Uses which this parcel must contain	Uses which this parcel may contain	Phase Sequence	Delivery of Phase
<ul style="list-style-type: none"> <li>Public open space with title transferred to the local authority laid out and landscaped.</li> <li>Movement network to facilitate pedestrian and cyclist movements</li> </ul>	<p>High and Medium/Low-density residential development.</p> <p>Overall average density ranges from 29 to 40 units/Ha.</p> <p>Density to be no less than 29 units/Ha.</p>	<p>Environmental Heritage/Education facility.</p>	<p>Phase 1</p>	<p>Parcel to be complete by Phase 1</p>
<ul style="list-style-type: none"> <li>Public open space with title transferred to the local authority laid out and landscaped.</li> </ul>	<p>High and Low/Medium density residential development.</p> <p>Overall average density ranges from 29 to 40units /Ha.</p> <p>Density to be no less than 29 units/Ha.</p>	<p>Environmental Heritage/Education facility.</p>	<p>Phase 2</p>	<p>Parcel to be complete by Phase 2</p>
<ul style="list-style-type: none"> <li>Public open space with title transferred to the local authority laid out and landscaped.</li> </ul>	<p>Medium/Low density residential development.</p> <p>Overall, average density range from 29 to 35 units/Ha.</p> <p>Density to be no less than 29 units/Ha.</p>	<p>Option: green car park to facilitate Dicksboro Club</p>	<p>Phase 2</p>	<p>Parcel to be complete by Phase 2.</p>



## Infrastructure and Use Matrix

Parcel Name	Gross Area (Ha)	Development Character of parcel	Required infrastructure to be delivered in tandem with development in the parcel (Refer to Proposed Infrastructure Matrix diagram)
G	12.50	Low Density Residential Dicksboro GAA Club Passive Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete from Point 1 to Point 3 and from Point 1 to Point 17</li> <li>• Upgrade of Tullaroan Road from Inner Relief Road Point 3 to Point 10.</li> <li>• Access Roads from Points 2 to 19, Point 12 to Point 19, and looped Access Road from Point 19.</li> <li>• Connection to Breaghagh Valley Sewer at Point via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Access Road linking the Tullaroan Road, Point 11, and the Inner Relief Road, Point 4.</li> <li>• Connection to 400mm diameter trunk public water main at Point 16 or alternative potable water supply (from wells) and storage.</li> <li>• Upgrade of Water Main on Tullaroan Road to point 12.</li> <li>• Findings of Hydrological study of Loughmacask to be taken into account.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>
H	14.52	Medium Density Residential Passive Open Space	
I	3.75	Low Density Residential Passive Open Space	<ul style="list-style-type: none"> <li>• Inner Relief Road complete , including from point 1 to Point 10 and from Point 1 to Point 17</li> <li>• Upgrade of Tullaroan Road from Inner Relief Road (Point 3) to Point 14.</li> <li>• Access Roads from Point 6 to Point 23, Point 22 to Point 24, Point 24 to point 25 and looped Access Road from Point 25.</li> <li>• Local connector road from Parcel I to Cantwell Lane, as shown on Map 1 &amp; 2, Appendix A.</li> <li>• Connection to Breaghagh Valley Sewer at Point 17 via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Connection to 400mm diameter trunk public water main at point 16 or alternative potable water supply (from wells) and storage.</li> <li>• Upgrade of Water Main on Tullaroan Road from Point 3 to Point 14</li> <li>• Findings of Hydrological study of Loughmacask to be taken into account.</li> <li>• Access to Inner Relief Road at Point 6 and Point 8.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>
J	13.20	Industrial	<ul style="list-style-type: none"> <li>• Inner Relief Road complete, including from point 1 to point 13 and from point 1 to point 2.</li> <li>• Upgrade of Tullaroan Road from Inner Relief Road Point 3 to Point 14</li> <li>• Upgrade Access Road to Parcel J onto Tullaroan Road</li> <li>• Extend Water Main on Tullaroan Road.</li> <li>• Connection to Breaghagh Valley Sewer via a new trunk sewer on Inner Relief Road or alternative route by agreement with Kilkenny Borough Council.</li> <li>• Upgrade of Water Main on Tullaroan Road to Point 14.</li> <li>• Findings of Hydrological study of Loughmacask to be taken into account.</li> <li>• Layout of Surface Water drainage network and outfall subject to results of hydrological study of Loughmacask.</li> </ul>

## Infrastructure and Use Matrix

Required non-residential facilities in conjunction with residential development per Parcel (Refer to Proposed Development Parcelss Diagram)	Uses which this parcel must contain	Uses which this parcel may contain	Phase Sequence	Delivery of Phase
<ul style="list-style-type: none"> <li>• Extension of existing GAA pitches</li> <li>• Car parking provisions</li> <li>• Facilitate future linkage to site towards the Breagagh Valley.</li> </ul>	<p>Low Density residential development.</p> <p>Overall average density ranges from 15-29 units /Ha.</p> <p>Density to be no less than 15 units/Ha.</p>	Live/Work Units	Phase 2	Expansion of existing GAA playing pitches to be complete by Phase 2
<ul style="list-style-type: none"> <li>• Public open space with title transferred to the local authority laid out and landscaped.</li> <li>• Facilitate Nore River Route movement through parcel.</li> </ul>	Medium density residential development with an average density of 35 units/ha.	Live/Work Units	Phase 2	Parcel to be complete by Phase 2
<ul style="list-style-type: none"> <li>• Public open space with title transferred to the local authority laid out and landscaped.</li> </ul>	<p>Low Density residential development.</p> <p>Overall average density ranges from 15-29 units /Ha.</p> <p>Density to be no less than 15 units/Ha.</p>	Live/Work Units	Phase 1	Parcel to be complete by Phase 1.
	Industrial type development		Out of Phase.	

### **6.3 Levies, Cash Deposits and Bonds**

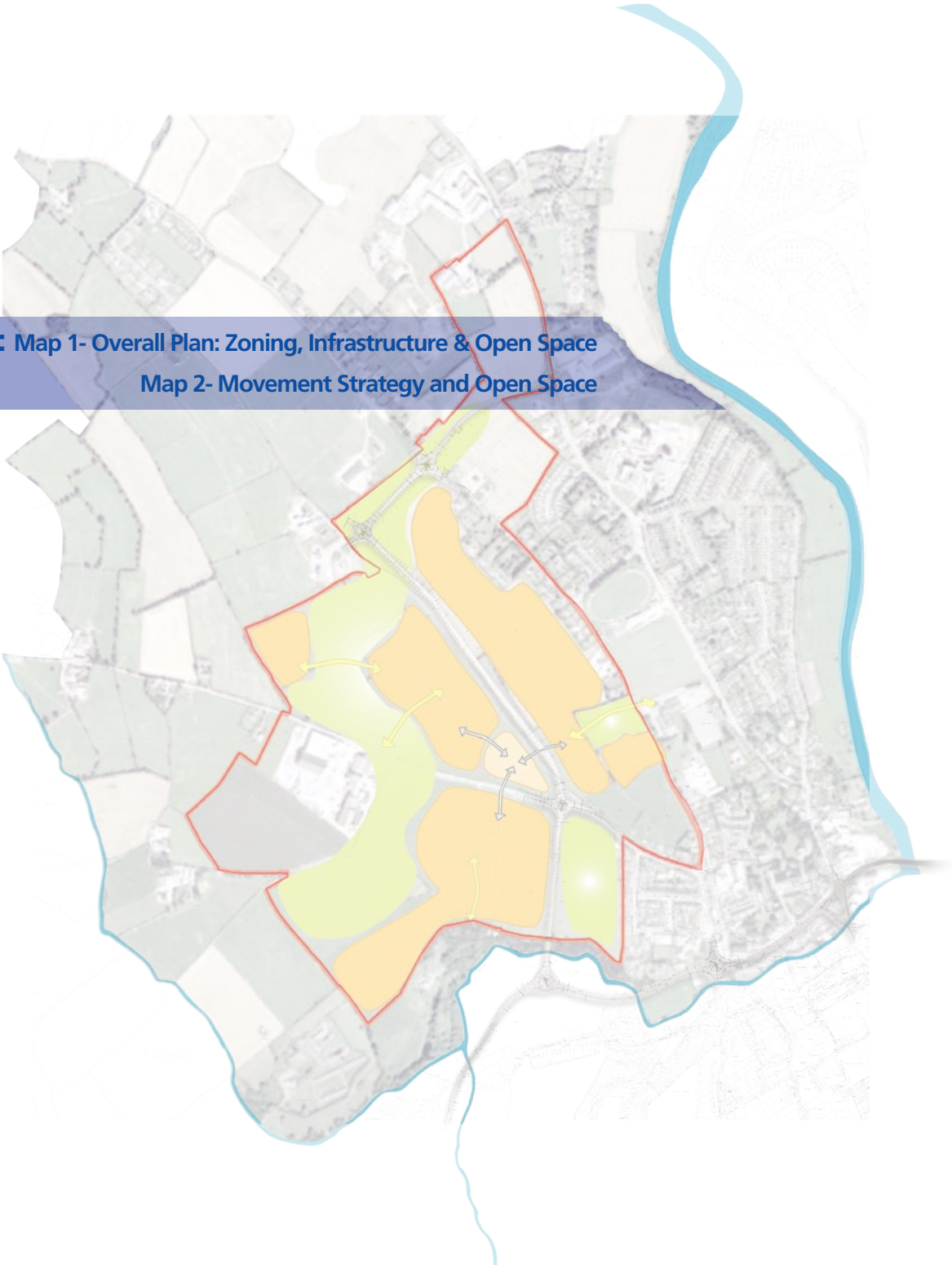
In accordance with Section 48 and/or Section 49 of the Planning and Development Act 2000, the Council will require contributions from developments within the LAP area to assist in the development of physical and social infrastructure including wastewater treatment, water supply, roads, footpaths, traffic management, open spaces, car parking.

The Loughmacask LAP Infrastructure Guidance document will be produced in due course. This document will provide a schedule of estimated infrastructural costs associated with development of the LAP area. A requirement of the LAP, as set out in the Infrastructure Matrix, is that certain key infrastructure must be in place before commencement of development within certain parcels. Developers must either contribute towards the cost of infrastructure provision, through the development levy, or carry out the works directly themselves by agreements with the Councils. In the latter case the cost of the carrying out of these works can be offset against development levies that would otherwise be required.

#### **Cash Deposits and Bonds**

Developers will be required to lodge a cash deposit or insurance bond, prior to development, for the satisfactory completion of residential and other developments and their ancillary services, prior to their being taken in charge.

**Appendix A: Map 1- Overall Plan: Zoning, Infrastructure & Open Space**  
**Map 2- Movement Strategy and Open Space**














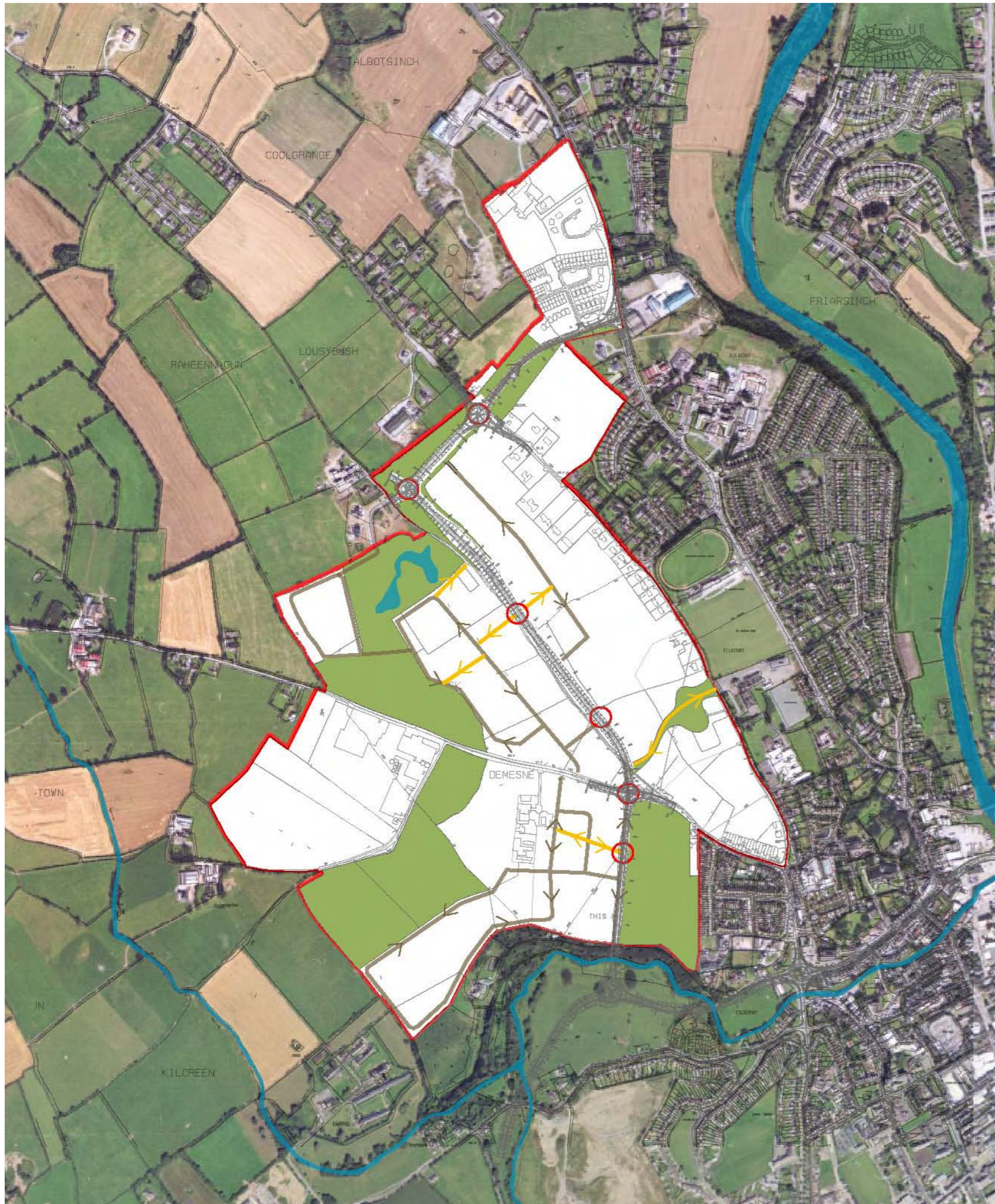
# Loughmacask

Local Area Plan  
Adopted 14 April 2008

## LEGEND

-  Local Area Plan Boundary
-  Industrial
-  Open Space
-  Residential
-  Proposed Inner Relief Road Alignment
-  Potential School site
-  Internal road network






**Map 1** Overall Plan:  
Zoning, Infrastructure, Open Space  
Scale 1:10000 on A3



# Loughmacask

Local Area Plan  
Adopted 14 April 2008

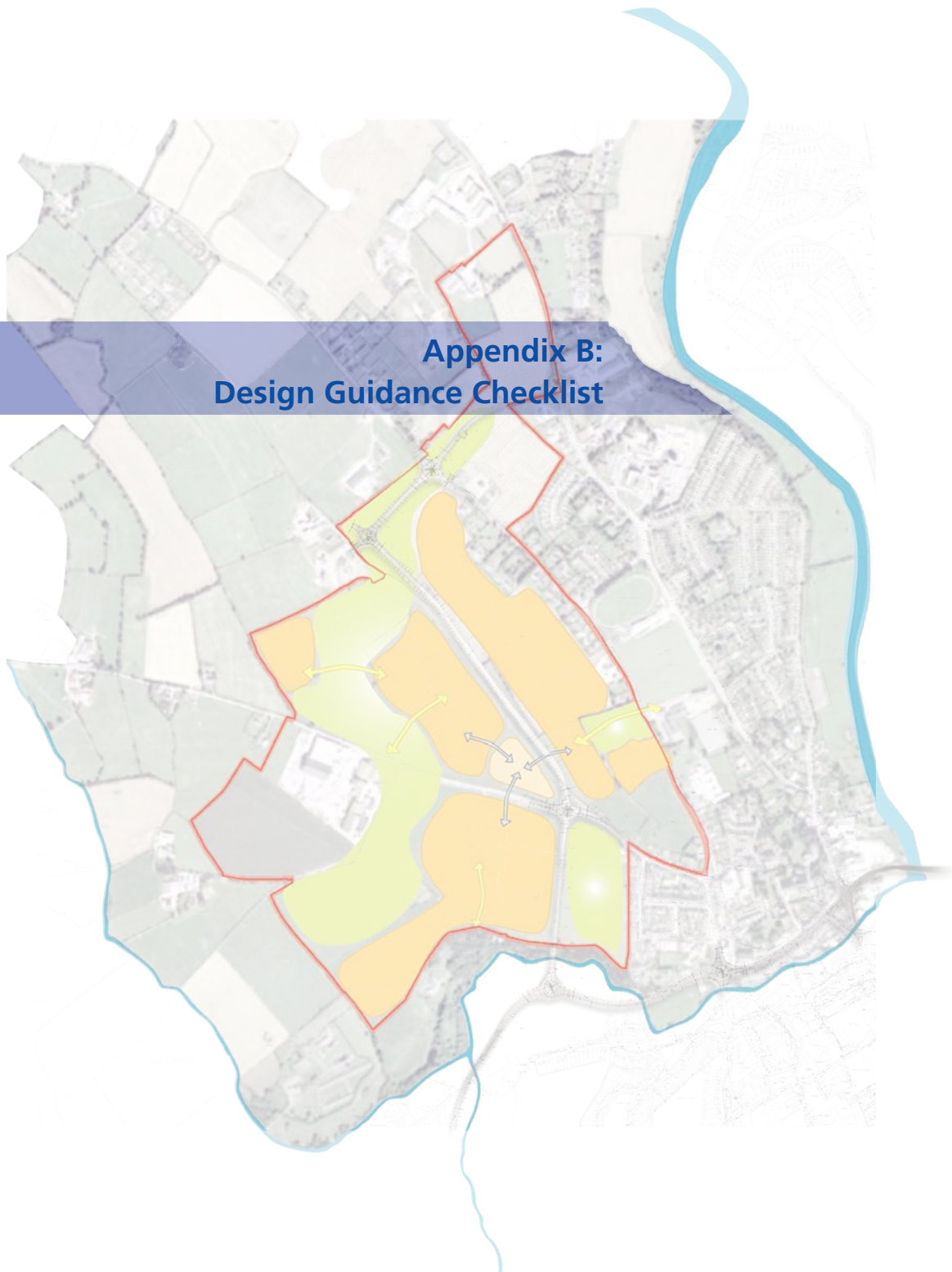
## LEGEND

-  Local Area Plan Boundary
-  Two Way Pedestrian / Cycle Lane
-  Shared Surface Pedestrian / Cycle Lane
-  Designated Pedestrian Crossings
-  Open Space

**Map 2** Movement Strategy and Open Space

Scale 1:10000 on A3

**Appendix B:  
Design Guidance Checklist**







Desired Features	Comments
<b>Existing Features</b>	
Is the design sensitive response to existing topographical conditions, minimising the need to import or export spoil?	
Does the layout incorporate natural water bodies?	
Is the proposed development sensitive to existing plant and wildlife habitats?	
Does the proposed development preserve important existing structures, walls, paving, and build compatibly with them?	
Is protection of areas liable to flooding promoted?	
Are potential views exploited?	
Does development have regard to vistas between the subject site and Kilkenny?	
Are existing trees, hedgerows and habitats of ecological value protected and incorporated into design?	
Are features and areas of archaeological interest protected and incorporated into design?	
<b>Layout and arrangement</b>	
Are dwellings clustered in an arrangement that creates a comfortable microclimate?	
Are key views to, from and across the site preserved?	
Are dwellings oriented so as to maximise daylight and passive solar gain?	
Does the layout afford a high degree of pedestrian and cycle access within the proposed development and with adjoining areas?	
Is the proposed layout easily understood by visitors; easy to find one's way?	
Is the public urban domain of streets and open spaces positively addressed and overlooked by buildings?	
Has consideration been given to open space areas central versus peripheral?	
Are the positive attributes of aspect are exploited?	
<b>Private Open space</b>	
Does the open space provided with each house type encourage frequent use? Is it easily accessible, adequately lit and sheltered and functional?	
Are open spaces well overlooked and dispersed through the site?	
Does design promote privacy?	
Are natural lighting and positive aspects utilised?	
Is open space usable?	
Is open space accessible?	

Desired Features	Comments
<b>Housing design</b>	
Is there a range of house types to cater to each user profile?	
Do construction and cladding materials respect and compliment local materials while remaining compatible with the contemporary context?	
Does design provide for natural day-lighting and ventilation?	
Are apartments dual aspect?	
Have energy saving technologies and design been incorporated?	
Have water saving technologies and design been incorporated?	
Are local materials used?	
Has use of durable and re-usable materials been promoted?	
Are bin storage and recycling facilities included within the proposed development?	
<b>Village Centre</b>	
How does the Village Centre connect with adjoining neighbourhoods and the Park; are the physical connections legible and convenient?	
Is the Village Centre pedestrian dominant or dominated by vehicular traffic?	
Do the proposed buildings enclose and define the Village Square and Village Centre Streets?	
Has the design of proposed buildings had regard to future adaptability to alternative uses?	
Does the on-street car parking dominate the streetscape visually?	
Is the proposed Village Square an attractive social space, meeting point and events space?	
Are proposed materials of a high visual quality and durability for the public realm?	
Are car parking areas set back from the building line or positioned under podiums where a large number is proposed?	
Are buildings characteristic of the present time?	
Do uses proposed within the Village Centre provide a vibrant urban public domain?	

Desired Features	Comments
<b>Landscape and Public Open Space</b>	
Are buildings, footpaths, streets, sewers and other watercourses aligned to follow slope contours?	
Do circulation patterns enhance, rather than restrict, the public realm, by connecting spaces along safe and secure routes?	
Is the proposed development sensitive to existing plant and wildlife habitats?	
Are safe and secure pedestrian pathways and cycle routes provided?	
Have earthworks been minimised?	
Does design promote strong connections with surrounding environment?	
Does the proposal support a hierarchy of open spaces within the Loughmacask LAP area?	
Does design promote provision of open space and recreation amenities that add to the overall variety of open space within the LAP area?	
Does the proposal add to and link with green corridors and/or open spaces in adjoining neighbourhoods?	
Is a biodiversity benefit (retention of existing habitat and native planting) promoted?	
Is use of outdoor furniture, lighting and seating proposed?	
Does the design promote passive surveillance?	
Does the design provide for native woodland planting with potential to provide shelter, bio-diversity and amenity value?	
Is the open space universally accessible?	
Does design promote low maintenance care?	
Are Sustainable Urban Drainage Systems promoted?	
Is excessive lighting avoided?	

Desired Features	Comments
<b>Green Networks</b>	
Does the width and positioning of walking and cycle routes respond to their particular location and function?	
Has the possibility of linking the Loughmacask LAP area to the existing historic core of Kilkenny been exploited?	
Does development enhance the network of pedestrian and cycle ways throughout the Loughmacask LAP area?	
Is adequate width provided along paths for pedestrians and cyclist to pass one another?	
Do proposed pedestrian and cycle routes form part of the wider green network of the Loughmacask area?	
<b>Street Network and Design</b>	
Does the proposed High Street accommodate a mix of uses with an active ground floor frontage?	
Has the relationship and scale between fronting buildings and road width been considered?	
Do local access roads provide for adequate street parking?	
Does the design of local access roads include on street tree planting and generous foot paths?	
<b>Parking and Accessibility</b>	
Is off street parking to the side or front of the house, or at basement level, with additional on street parking provided in residential areas?	
Are garages or parking in front of the building line avoided?	
Is clustered parking promoted in conjunction with apartments?	
Is multi-use communal car parking encouraged?	
Is off street car parking promoted as an integral part of the urban streetscape?	
Are communal parking areas well-lit, open to natural surveillance and containing obvious pedestrian routes?	
Is parking located in such a way that it does not dominate the space between buildings and the road?	



## Appendix C: Ecology

*Prepared for*

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*november 2005*



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### **1.0 General**

- 1.1 Background
- 1.2 Survey methods
- 1.3 Designated sites for conservation in area

### **2.0 Description of the existing environment**

- 2.1 Habitats, vegetation and flora
- 2.2 Fauna
- 2.3 Overview of ecological interests within survey area

### **3.0 Potential constraints to development and recommendations**

### **4.0 References**

*Appendix 1. Site Synopses for Lough Macask pNHA*

*Appendix 2. Photographic record*



## **1.0 GENERAL**

### **1.1 Background**

Biosphere Environmental Services was commissioned by Malone O'Regan, Consulting Engineers to carry out an ecological assessment for the proposed Lough Macask Local Area Plan. The work involved an assessment of habitats, flora and fauna by field survey and literature review. However, detailed surveys for specific interests, such as bats, badgers, and breeding birds, were not carried out as part of the study.

The study area is to the north-west of Kilkenny city and extends over an area of approximately 2 kilometres from north to south and up to 1 kilometre from east to west. The eastern and northern sectors appear to drain directly to the River Nore, while the southern and western sectors drain to the Breaghagh River, a tributary of the Nore which continues through Kilkenny city. The area comprises mostly agricultural land, though parts of the eastern and northern sectors are already developed or being developed for residential housing. A substantial grain depot occurs in the southern sector.

### **1.2 Survey methods**

A field survey of the site was carried out on 9th November 2005. This comprised a systematic walk-over of the study area. Habitats present were mapped according to the classification system recommended by The Heritage Council (Fossitt 2000). It is noted that the habitat survey was not intended as a comprehensive botanical survey of the area, which anyway would not have been possible at this time of year. Notes were made on bird species present within and around the site. For mammals, the main emphasis was on search for signs of activity or dwellings. During the survey, particular attention was given to the possible presence of habitats and/or species which are legally protected under Irish or European legislation (especially the Flora Protection Order 1999; Wildlife Act 1976; Wildlife Amendment Act 2000; EU Habitats Directive; EU Birds Directive).

The standard literature was checked for references to the site and locality, as were the listings and maps of sites of conservation importance in County Kilkenny held by the Department of the Environment, Heritage and Local Government.

Contact was made re. Lough Macask with Mr Jimi Conroy, NPWS Conservation Officer, and Mr Roger Goodwillie, ecologist based in Co. Kilkenny.

### **1.3 Designated sites for conservation in area**

The study area includes a proposed Natural Heritage Area, Lough Macask pNHA (code 01914). This is a small wetland site. The NPWS site synopsis is given in Appendix 1.

Otherwise, the principal site of conservation importance in the general Kilkenny area is the River Nore which is part of the River Barrow and River Nore candidate Special Area of Conservation (code 02137). A tributary of the Nore passes just south of the study area.

## 2.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

### 2.1 Habitats, vegetation and flora

The following habitats are present within the study area:

- Eutrophic lake FL5 (Lough Macask, preliminary classification)
- Artificial ponds FL8
- Reed and large sedge swamp FS1 (within Lough Macask)
- Improved agricultural grassland GA1
- Amenity grass GA2
- Wet grassland GS4
- Scattered trees and parkland WD5 (Ayrefield House)
- Hedgerows WL1
- Arable crops BC 1
- Stone walls BL1
- Recolonising bare ground ED3
- Buildings and artificial surfaces BL2

The distribution of the habitats is shown in Figure 1. A photographic record is presented in Appendix 2.

As already noted, the majority of the site is agricultural land that is intensively managed for grass (i.e. Improved agricultural grassland GA1) or cereal production (i.e. Arable land BC1). The grassland is regularly fertilised and reseeded and as expected has a low species diversity, with the usual species present such as perennial rye-grass *Lolium perenne*, meadow buttercup *Ranunculus acris*, and clovers *Trifolium* spp. The arable land was in stubble at the time of survey. Common weed species were present, including knotweed *Polygonum aviculare*, groundsel *Senecio vulgaris*, common field speedwell *Veronica persica*, red deadnettle *Lamium purpureum* and common fumitory *Fumaria muralis*.

Hedgerows (WL1) are fairly frequent in the area. They vary a lot in ecological interest, from mere remnants to ones of moderate quality as regards structure and species diversity.

In the southern sector (Bishops Demesne, Kilcreen), all hedgerows are maintained at approximately 2 metres in height. Tree standards are largely absent. Hawthorn *Crataegus monogyna* is by far the principal species, with elder *Sambucus nigra* and blackthorn *Prunus spinosa* also present. These hedgerows are presently of limited ecological value.

In the vicinity of Lough Macask, some of the hedgerows are well developed, especially those immediately north and west of the lough. The average height here is 6-7 metres and some tree standards (ash) are present. Hawthorn is still the principal hedge former and ivy *Hedera helix* is frequent. Further hedgerows of moderate quality exist to the north-west of Ayrefield House and there are some intact remnants at the extreme northern point of the study area. All of these hedgerows are of some conservation value in a Local context.

Elsewhere in the central and eastern part of the study area the hedgerows are remnants of Negligible ecological value.

Walls provide the other main field boundary type in the area. Old stone walls BL1 are present but some of these are just remnants, such as to the south-east of Lough Macask. Overall the stone walls have limited ecological value. Other walls are modern block walls of no ecological interest.

Scattered trees and parkland WD5 occurs at Ayrefield House. The trees present are typical demesne species, notably lime *Tilia* spp., beech *Fagus sylvatica* and horse chestnut *Aesculus hippocastanum*. Some of the trees are of considerable maturity and could be expected to support bat roosts.

Amenity grassland GA2 is present as sports grounds to the south of the grain depot and within the various residential gardens.

A small pond (Artificial ponds FL8) is present along the southern boundary of the study area. This is approximately 15 m by 6 m in size. There is a retaining wall and inlet at one end. The pond is fairly stagnant and has a muddy base. Species present include watercress *Nasturtium officinale* and common bent *Agrostis stolonifera*. Two large alder *Alnus glutinosa* trees occur at the southern end of the pond (part of property boundary). Cattle have open access to the pond.

While small in size, Lough Macask is probably best accommodated in the category of Eutrophic lakes FL5. It appears to be fed principally by ground water as there are no inlets or outlets. Water depth is known to fluctuate through the year though it does retain permanent water in summer. There are two connected basins, both with muddy bottoms. The eastern basin supports extensive swamp vegetation which could be classified as Reed and large sedge swamp FS1. A single, large willow tree occurs in the eastern basin, which appears to be crack willow *Salix fragilis*. Overall, the lake has a fairly diverse vegetation (see Appendix 1 for full vegetation description), which includes greater duckweed *Spirodela polyrhiza*, a species not known elsewhere in the county. Cattle have complete access to the lake and have caused severe poaching to the marginal areas and have undoubtedly raised the trophic status of the system.

While showing characters of a turlough due to the water fluctuations and to some extent the vegetation, this could hardly be considered a true turlough as there is no exposed limestone or other karstic features visible (although it is understood that the underlying bedrock is karstic and recent public consultation revealed that this may be shallow in places). Also, the changes in water levels apparently occur at a relatively slow rate (unlike most turloughs) (R. Goodwillie pers. comm.).

As Lough Macask is a proposed Natural Heritage Area, it is of significant conservation importance.

In the arable field to the east of Lough Macask (to the other side of the public road) there is an area of damp ground that is largely overgrown with weedy vegetation and especially willowherbs *Epilobium* spp. There is a single willow tree here. At least part of this patch appears to have been cultivated in the past. Principal habitats are considered to be Wet grassland GS4 and Recolonising bare ground ED3. It appears probable that this area was formerly a wetland connected to Lough Macask as shown on the os-maps dating from the 1940's and the 1800's.

The remainder of the study area comprises built land which falls into the category Buildings and artificial surfaces BL2.

## 2.2 Fauna

Fox *Vulpes vulpes* was the only mammal species observed during the present survey though it is certain that ubiquitous species such as brown rat *Rattus norvegicus*, pygmy shrew *Sorex minutus*, long-tailed field mouse *Apodemus sylvaticus* and house mouse *Mus domesticus* occur. The pasture grasslands are suitable for badger *Meles meles*. Ayrfield House and its grounds appear suitable for roosting bats.

The common frog *Rana temporaria* is possible at the pond or in the vicinity of Lough Macask.

The bird species present within the study area are all common countryside species. Woodpigeons *Columba palumbus* were particularly numerous with one flock of several hundred in a stubble field. The stubble also attracted finch flocks, including chaffinches *Fringilla coelebs*, greenfinches *Carduelis chloris*, linnets *Carduelis canabinnia* and goldfinches *Carduelis carduelis*. The usual range of hedgerow species was present, with robin *Erithacus rubecula*, wren *Troglodytes troglodytes*, blackbird *Turdus merula*, song thrush *Turdus philomelos*, dunnock *Prunella modularis*, coal tit *Parus ater*, great tit *Parus major* and starling *Sturnus vulgaris*.

Snipe *Gallinago gallinago* would be expected during winter in the damp ground around Lough Macask and it is probable that the lake may support a few mallard *Anas platyrhynchos* and teal *Anas crecca*. Apparently in past times it was a regular location for wildfowl (J. Conroy pers. comm.). Moorhen *Gallinula chloris* and grey heron *Ardea cinerea* would also be expected.

## 2.3 Overview of ecological interests within study area

Clearly, Lough Macask, a proposed Natural Heritage Area, is the focus of ecological interest in the study area. This small wetland has a good diversity of plant species, which vary from pure aquatic species to marginal wetland species in the flood zone. The lake also attracts insects such as dragonflies (J. Conroy pers. comm..) and probably some wetland bird species (though would not support concentrations of significance). The site, however, is presently severely compromised by cattle having complete access, resulting in heavy poaching and nutrient enrichment. Management is required urgently to preserve the remaining ecological interests at this site.

The small pond along the southern boundary of the study area is of minor ecological interest and could be a breeding site for the common frog. The quality and interest of the pond could be increased with management.

The hedgerows are not of particular note other than some of those in the central area which are rated of moderate quality (see habitat map) as regards structure and species diversity.

The mature trees associated with Ayrfield House could support roosting bats.

The remaining habitats within the study area are not of conservation value.

### 3.0 POTENTIAL CONSTRAINTS TO DEVELOPMENT AND RECOMMENDATIONS

1. The only significant constraint to future development in this area is Lough Macask. Presently, this wetland is a proposed NHA and may be designated as a NHA by the Department of the Environment, Heritage and Local Government under the Wildlife (Amendment) Act 2000. While the site has been greatly compromised in recent times, it is nevertheless still an important focal point for biodiversity in an intensively managed landscape and is considered of importance in a county context. It is noted that if cattle access was restricted, the quality of the wetland would probably improve in a relatively short time period. The site has obvious educational potential due to its proximity to the city.

For a full conservation assessment of the site, a botanical survey is required during summer. Also, investigation is required to determine the hydrological workings of Lough Macask. It is noted that construction activities in a wider vicinity than the field in which the lake is situated could have adverse impacts on this site should an underground water supply be disrupted.

2. If feasible, the small pond along the southern boundary of the study area should be retained as such ponds are becoming increasingly scarce. The source of water to the pond would need to be determined.
3. If feasible, the hedgerows indicated as being of moderate quality in the habitat map should be retained within future developments.
4. Should Ayrefield House and/or the mature trees in the grounds be demolished, a survey for bat presence would be required.

## 4.0 REFERENCES

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## APPENDIX 1.

### LOUGH MACASK SITE SYNOPSIS (SITE CODE 001914)

Lough Macask is a small pond north-west of Kilkenny that fluctuates in size over the year. It is isolated from the underlying limestone by glacial till with a shale content from the Slieve Ardagh Hills. The substrate is generally mineral without much content of peat, except, perhaps in the centre.

The permanently flooded part contains plant species such as Broad-leaved Pondweed (*Potamogeton natans*), Water Plantain (*Alisma plantago-aquatica*) and Water Crowfoot (*Ranunculus aquatilis*) with the floating duckweeds, *Lemna minor*, *L. trisulca* and *Spirodeia polyrhiza*. Towards the edge Bur Reed (*Sparganium erectum*) is important, leading into a zone of Flote Grass (*Glyceria fluitans*), Lesser Spearwort (*Ranunculus flammula*), Pink Water Speedwell (*Veronica catenata*), Mint (*Mentha aquatica*, *M. arvensis*) and Forget-me-not (*Myosotis scorpioides*, *M. laxa*). The surroundings of the pond are grazed and poached when the water levels are high. Silverweed (*Potentilla anserina*), Amphibious Bistort (*Persicaria amphibia*), Marsh Foxtail (*Alopecurus geniculatus*) and Marsh Ragwort (*Senecio aquatilis*) characterise this area.

The vegetation shows that the site is similar in some ways to a turlough. It therefore differs from most other wetlands around Kilkenny and has a certain interest for this reason. In addition it contains Greater Duckweed (*Spirodela polyrhiza*) which is not found elsewhere in the county.

15th February, 1995.

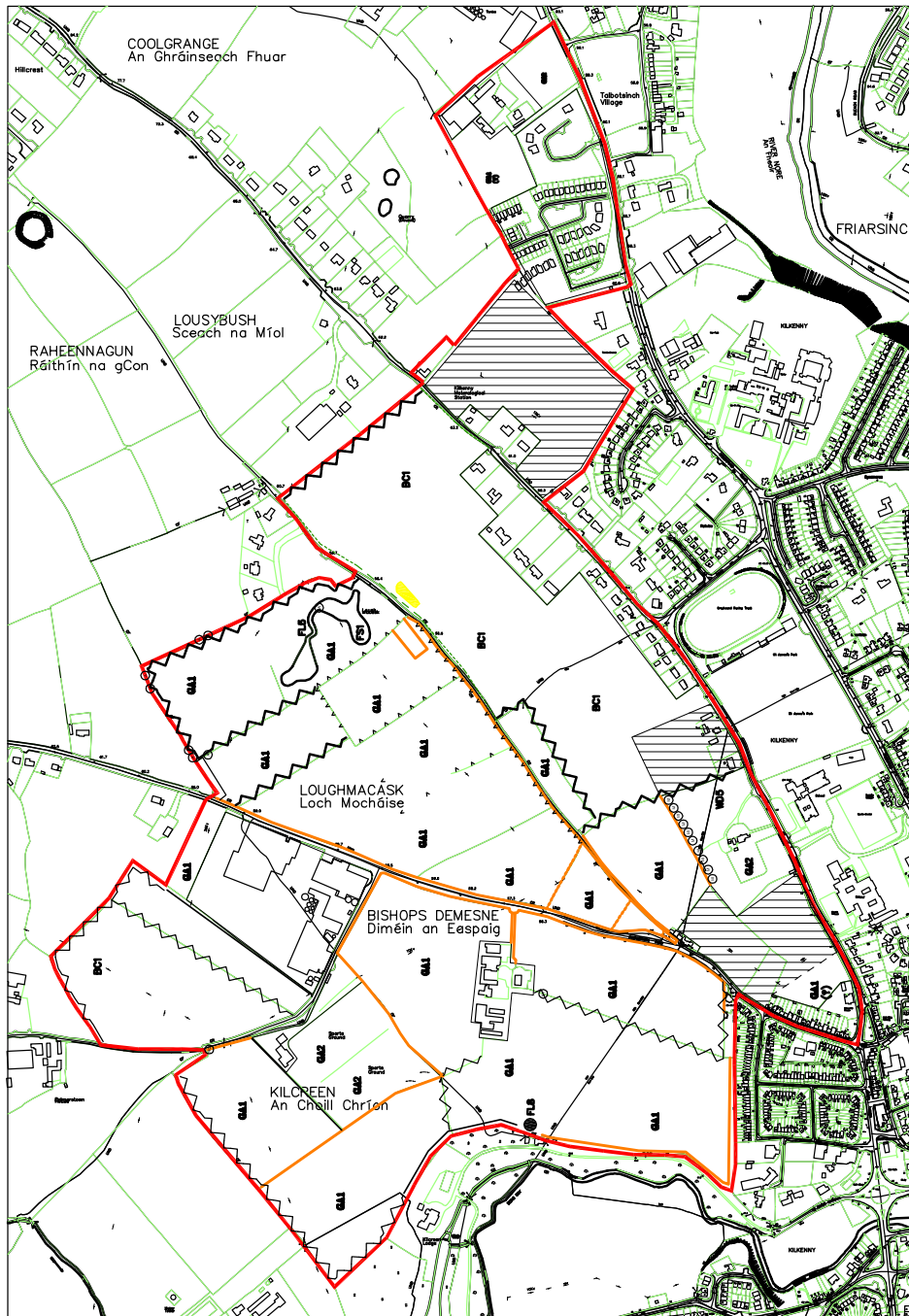
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- Plate 3. View is of intensively managed grassland in the Lough Macask area where hedgerows are often mere remnants.
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DON'T SCALE DIMENSIONS

DON'T FORGET SAFETY

**LOUGH MCCASK-ECOLOGY**

**KEY FOR HABITAT/LANDUSE MAP**

- EUTROPHIC LAKE FL5(LOUGH MCCASK)(PRELIMINARY CLASSIFICATION)
- ARTIFICIAL PONDS FL8
- REED AND LARGE SEDGE SWAMP FS1 (WITHIN LOUGH MCCASK)
- IMPROVED GRASSLAND GA1
- AMENITY GRASS GA2 (SPORTS GROUNDS, GARDENS)
- SCATTERED TREES AND PARKLAND W05 (W/REFIELD HOUSE)
- HEDGEROWS W1.1 (LOW/C.2M, WELL MAINTAINED-LOW VALUE)
- HEDGEROWS W1.1 (REMANANTS-NO ECO VALUE)
- HEDGEROWS W1.1 (MODERATE QUALITY,C.5-7M)
- FENCELINES

**BC1**

- ARABLE CROPS BC1 (STUBBLE)
- STONE WALLS BL1
- STONE WALLS BL1 (REMANANTS)
- BOUNDARY-WALL AND REMNANT HEDGE
- BOUNDARY-GRASSY BANK (PARTS IN ASSOCIATION WITH WALLS)
- AREA OF DAMP GROUND (GS4) THOUGH NOW DOMINATED BY WEEDY VEGETATION (ED3)
- BUILDINGS AND ARTIFICIAL SURFACES BL2 - CONSTRUCTION IN PROGRESS (HATCHED)
- TALL TREES**
- SYCAMORE
- ASH
- HORSE CHESTNUT
- WILLOW
- MIXED TREES (LIME, BEECH/HORSE CHESTNUT)

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Client KILKENNY COUNTY COUNCIL		Drawing ECOLOGICAL FEATURES OF STUDY AREA	
Job LOUGH MCCASK LAP			
Job Number E0392	Drawing Number	Sht. Size A3	Scale 1:8
Date NOV05	Drawn PK		



**Plate 1.** The Bishops Demesne/Kilcreen area is dominated by improved agricultural grassland. Hedgerows are low and well maintained.



**Plate 2.** Arable farming is a feature of the study area. Several fields were in stubble at the time of survey. View is of a large field at Kilcreen.



**Plate 3.** View is of intensively managed grassland in the Lough Macask area where hedgerows are often mere remnants.



**Plate 4.** Hedgerows along part of the north-western boundary are intact and of moderate quality. View is from arable field east of Lough Macask.



**Plate 5.** Tall, mixed woodland skirts part of the southern boundary of the study area. This is on the sloped ground above the adjoining river.



**Plate 6.** A small pond occurs along the southern boundary. This is of minor ecological interest.



**Plate 7.** Walls, including old stone walls, form some of the field boundaries. View is from south of Lough Macask looking south-eastwards.



**Plate 8.** Ayrfield House is set in typical parkland, with tall, mature trees of beech, lime and horse chestnut.



**Plate 9.** Lough Macask is a small eutrophic lake within a grassland field. View is of eastern basin showing large willow tree and swamp vegetation within lake.



**Plate 10.** View of western basin of Lough Macask.



**Plate 11.** Cattle have unrestricted access to Lough Macask and have caused severe poaching around the edges and nutrient enrichment.



**Plate 12.** An area of damp ground, now dominated by wet grassland and weedy vegetation, occurs in the field to the east of Lough Macask. This was probably formerly a wetland connected to Lough Macask.





An aerial photograph of a town area with a red outline. Overlaid on the map are several colored zones: a large central orange area, a green area to its left, and a smaller green area to its right. Yellow arrows point from the orange area towards the green areas. A blue line follows the right and bottom edges of the town. A dark blue horizontal bar is positioned across the middle of the map, containing the title text.

**Appendix D: Preliminary Archaeological & Architectural Assessment**

*Valerie J. Keeley Ltd  
Archaeological Consultancy  
November 2005*

*Project Directors:  
Project Archaeologist:  
Architectural Historian:*

*Valerie J. Keeley Ltd  
Tom Joyce  
Mary Teehan*



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## **SUMMARY**

This report comprises a preliminary archaeological and architectural assessment for the proposed Loughmacask Local Area Plan, as commissioned by Malone O' Regan Environmental Services Ltd.

The purpose of this report is to highlight any potential or recorded archaeological or architectural remains and thereby identify the cultural heritage constraints within the study area.

Nine archaeological sites are included in this report. Of these, eight are recorded in the Record of Monuments and Places (RMP). Four of these sites are within the study area. One potential archaeological site was identified during field inspection. Two areas of archaeological potential were identified.

Thirteen sites of architectural heritage are included in this assessment, two of these are recorded in the Register of Protected Structures.

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## **INTRODUCTION**

This report was commissioned as a preliminary assessment on the proposed Loughmacask LAP area by Malone O'Regan on behalf of Kilkenny County Council. The purpose of this report is to provide an overall assessment of the study area, evaluating all sites of significance within and bordering the receiving environment and offering recommendations as to how to merge any future development sustainably with archaeological or architectural heritage sites.

Known sites, potential sites and areas of archaeological potential are highlighted on the accompanying maps (Figures 1-3). The report provides information on three categories of sites/areas of potential: 1) recorded archaeological monuments within the study area 2) principal sites of architectural interest contained within the study area; 3) and areas of archaeological potential based on landscape type in general terms.

## **THE PROPOSED DEVELOPMENT**

Kilkenny County Council are setting out a LAP for the Loughmacask area covering future development and associated infrastructure.

## **ASSESSMENT METHODOLOGY**

This assessment was divided into two phases. Firstly, a paper survey identifying all recorded sites within and in close proximity to the study area of Loughmacask was carried out. Information from the paper survey included in this report is drawn from the Record of Monuments and Places, the Sites and Monuments Record and a series of relevant literary sources. This was followed by field inspection of the entire study area.

### **Paper Survey**

This is a document search utilising the following sources:

The Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Service with accompanying RMP maps, based on OS 6" Sheets, which indicate the location of each recorded site. The RMP list is based on the Sites and Monuments Record files housed in the National Monuments Service offices. The Department of the Environment, Heritage and Local Government, formerly known as Duchas, has focused on monuments that predate 1700A.D. Buildings belonging to the 17th century and later are not well represented in their archive, though they will be included as updating takes place.

The County Development Plan for County Kilkenny (2002) was compiled in accordance with the requirements of the Local Government (Planning and Development) Acts (1963-2000) and is an important source for identifying protected structures. It sets out the Council's policy for the conservation and enhancement of the county's natural and built environment and lists items of special environmental or archaeological/ artistic interest. It contains lists of recorded archaeological sites, historic buildings, country houses, vernacular structures, bridges and other items for preservation as compiled for the County Council by expert bodies.

A number of published secondary literary sources were consulted. These are a valuable means of completing the written archaeological and architectural record of an area and gaining insight into the history of the area of the proposed development. The principal sources consulted are listed in the bibliography.

The National Inventory of Architectural Heritage (NIAH) for Co. Kilkenny has not yet been published.



## Field Survey

The field inspection of the area proposed for development at Loughmacask was conducted on 8th November 2005 and 13th December by Tom Joyce on behalf of Valerie J. Keeley Ltd. Weather conditions were wet and overcast in November and bright, cold and dry in December. Field inspection is essential in determining the nature and extent of the surviving above-ground evidence and in highlighting any archaeological, architectural or industrial archaeological features that have not been noted in the paper survey. Field walking offers the opportunity of observations on the topography, which often leads to the discovery of hitherto unrecorded sites.

## THE RECEIVING ENVIRONMENT

### General

Kilkenny, the principal town of County Kilkenny, is situated on the confluence of the Bregagh and Nore rivers. This location has been of paramount importance to the development of the town, which has been a chartered city since the early seventeenth-century. Two separate derivations have been suggested for the name of the city, the Church of St. Canice, "or the wooded head or hill near the river." The origins of Kilkenny date back to the late 6th /early 7th centuries when St. Canice founded a monastery there. In subsequent years a town developed around the monastery. Remains of this monastic period may be identified in the presence of the round tower and the evidence of a previous Romanesque Cathedral.

After the Norman invasion of 1169, Strongbow established a camp outside the precincts of the Monastery, on the southern bank of the River Bregagh. This fortification was later to form the nucleus for the development of the city of Kilkenny. In 1173, Donald O'Brien forced Strongbow to retreat to Waterford. This was only a temporary setback for the Normans. In 1189, William Marshall came into possession of Strongbow's Leinster lands by marrying Strongbow's daughter. William Marshall was subsequently appointed to the Chief Governorship of Ireland. Through this appointment, Kilkenny was to become one of the most important political towns in Ireland in the medieval period. Marshall began building a castle in Kilkenny in 1195. This became the focal point for Kilkenny Hightown. The original town around the Monastery became known as Irishtown. Both areas had different municipal authorities. Irishtown was governed by the Bishops of Ossory, while Kilkenny Hightown was controlled by Marshall. In 1207, Kilkenny received its first charter, which protected its trading rights. During the early part of the thirteenth century, the town grew dramatically; three monasteries including the Black Abbey were built, as were the Cathedral and a parish church.

Throughout the thirteenth and fourteenth centuries Kilkenny was one of the major centres of political power, with at least three great councils of nobility assembling there and seven parliaments. Lord Roger Mortimer convened the council of 1317 to decide the most appropriate response to the Bruce Invasions. The parliament of 1367 decided to enact laws prohibiting intermarriage between the Anglo-Norman population and the Gaelic population. These laws were to become known as the Statutes of Kilkenny.

Kilkenny prospered as a result of its political involvement. The Burgages were granted the powers to construct and repair the city walls through letters of patent in 1375 and 1384, although Thomas has suggested that construction of the town walls had commenced at an earlier date. In 1391, James Butler, the third Earl of Ormond bought the Castle and it became the principal seat of the Butlers of Kilkenny. The Butlers were an old Anglo-Norman family who had many links to the King and his family. In 1399, Richard II stayed at the castle for two weeks. This link between the Butlers and the King was to prove beneficial to Kilkenny. In 1419, they received a grant of tolls for murage. The commanage, i.e. the land held in common by the burgesses of the town, stretched for two miles outside the town walls. Its use was strictly controlled. Digging was prohibited and tenants were required to keep the land 'playne and grene' so that it could be used for shooting and archery by the townspeople (Bradley 2000, 18). Grain-growing and flour-milling constituted an important part of the medieval economy of Kilkenny and its hinterland.

During the sixteenth century, Henry VIII dissolved the monasteries and granted Blackfriars to the Corporation of Kilkenny, on condition that they provide accommodation to the Chief Governor. Towards the end of the sixteenth-century, both municipalities in Kilkenny, Kilkenny Hightown and Irishtown, became a single municipal entity. Subsequently in 1690, James I made Kilkenny a free city.

The Confederation of Kilkenny was the title given to the alliance between the native Irish nobility and the Catholic Anglo-Irish lords of the Pale in support of Charles I against the Parliamentarians. The years of the Confederacy were to give Kilkenny enormous prosperity and wealth and it ended unable to come to an agreement, with one faction supporting the Papal Nuncios position of war and the other faction suing for peace. In the aftermath of the collapse of the Confederacy, Kilkenny began to decline in both economic and political powers. This process was further exacerbated by Cromwell's siege of 1650, when the city was ravaged by plague and was only able to put up a limited resistance. Due to the city's involvement with the Confederacy, much of the property was confiscated. On the restoration of Charles II in 1660, some of the property was returned to the citizens.

The late sixteenth and early seventeenth centuries had proven to be a time of relative prosperity with an accompanying phase of building. Several of the surviving merchant houses of Kilkenny, such as Rothe House, were built during this period. Economic development during the sixteenth and seventeenth centuries was based on Kilkenny's rich agricultural hinterland, and principally upon cattle and grain production. Industrial use of the rivers Nore and Bregagh intensified with the construction of several new mills and the development of a brewing industry. Concerted efforts to introduce the linen industry were ultimately unsuccessful given the lack of incentive to grow flax on land where corn flourished.

During the eighteenth and nineteenth centuries, Kilkenny remained a large provincial town but did not expand to a large extent. Kilkenny was never to regain the prestige or power that it had experienced during the medieval and later medieval periods.

## Study Area

The Loughmacask study area is located to the north western side of the city, within the Crannagh barony. This is interpreted as a place abundant with trees. Townland names are a valuable source of information on cultural elements of a landscape, including its history, archaeology and folklore. They may also reflect the topography of the environment, land use and ownership. The seven townlands, which are part of, or within the study area, are all of St. Canice's parish. The name honours the 6th century patron saint of Kilkenny city. Most of the townland names also refer to past residents and infer ownership of surrounding land in some form – Ayersfield or Ayer's bawns; Bishops Demesne, Palmerstown or Palmer's homestead or pilgrim's homestead; Loughmacask or Lake of MacCask; Talbotsinch or Talbot's holm (O'Kelly, 20-24). While Kilcreen can be interpreted as a withered wood 'coill chrion', it has been suggested it translate as an old church although no extant remains of a church exist. Lousybush has been recorded as a meeting place of beggars (O'Kelly, 23). It's literal translation from 'sceach na miol' means white thorn of the lice. Talbotsinch was a planned village, built by Lady Desart in 1904 for the workers in her local woollen and woodwork factories. The village was designed by Prof. William A. Scot and the houses show a Swiss influence through the contemporary Arts and Crafts movement.

## Archaeological Heritage

This report comprises nine archaeological sites in all, eight of which are archaeological sites recorded in the Record of Monuments and Places. These archaeological features consist of a ringfort, two enclosures, two linear ditches, three ring ditches, a possible turlough, a pathway of antiquity, a country house and its environs on the bank of the River Bregagh and the city of Kilkenny.

One ringfort is included in this report (A9). These are one of the most numerous and widely distributed monuments on the Irish landscape. A typical ringfort consists of a circular area with D-shaped or sub-circular examples also occurring. They are usually 20-50m in diameter and enclosed by one or more banks of earth, a combination of earth and stone or a drystone wall. These monuments served as enclosed homesteads, protecting houses, their inhabitants and livestock. Some of the more elaborate ringforts may have served as venues for social gatherings. Research and excavation have dated the majority of ringforts to between c. 500 –c. 1200 AD (Mitchell & Ryan 1997, 254-261; Edwards 1990, 6-33; Ó Ríordáin 1979, 29-59). Many of these sites as discussed above have been destroyed above ground and are now evidenced only by cartographic record and/or aerial photography.

Local sources have highlighted a possible ancient pathway or bohereen leading from Loughmacask northwest to the ringfort site. Ireland's system of roadways have gradually evolved since the movement of Stone Age hunter-gatherer society. This route system is highly significant as it was shaped by geographical, topographical and social obstacles that may not now be immediately apparent to us and could, therefore, offer insights into past archaeological activity. The paths and roads of antiquity differ to the planned routes of modern times. They tend to be windy, undulating and take sharp turns for reasons such as - river, lake, bog crossings; avoidance of once-extant archaeological sites; the skirting of a chief/ landlord's land; connection to economic centres. In between the major routes a system of smaller paths developed to connect field systems and settlements. These were known as toghers, bohers and bohereens. The Gaelic for road, bothair, translates as 'cow path'. Cattle and the agricultural community around them were the back bone of the Irish economy from the Iron Age to the 20th century. They determined the need and location of bohers and bohereens and have had a huge impact on modern Irish infrastructure.

Two enclosures, in Lousybush and Talbotsinch, are numbered as A5 and A6 respectively. Frequently these sites are partially destroyed through time, rendering it difficult to determine their exact nature. The term 'enclosure' is generally used to describe an enclosed area, with a rectilinear or circular morphology. The circular enclosures may represent destroyed or partially damaged ringforts. This site type has a wide span with examples dating from the Late Bronze Age to historic times. Earthworks, like enclosures, are classed based on morphology, and therefore their date and function cannot be easily defined.

Ring ditches are also not tied to a specific time period but can range from the Bronze age to early historic era. They are circular or almost circular ditches, sometimes discovered as cropmarks. They may be the remains of round barrows, or round houses. Research of ring ditches in Kilkenny has found most instances of ring ditches in the county dotted to the north along the valley of the River Nore. 23 ring ditches and eleven ring ditch clusters were found (Nolan & Whelan, 11). A ring ditch cluster, comprising three ring ditches, is recorded at Kilcreen (A3)

Linear ditches, such as the two at Kilcreen (A3) and Bishops Demesne (A1) are the building block of many archaeological features and are elusive when trying to establish date or typology. These features do indicate archaeological activity.

Holy wells are frequently associated with ecclesiastical remains. Any church in the immediate vicinity of St. Canice's Well (A7) is not now extant. This site type may consist of any water source, which is used as a focal point for devotion, divination or cure. They range from small natural springs or small hollows in bedrock to mortared stone well chambers with steps, canopies or wall niches. Most holy wells are associated with a particular person, mainly saints. Often found with holy wells are leachtanna (sl. leacht, small flat-topped stone altar), small cairns, bullaun stones, cross-slabs and architectural fragments of an ecclesiastical nature. The date and origin of the dedication of some wells is known from documentary evidence and many are still used for pilgrimage to this day. Consequently local interest in and awareness of such sites can often be very high.

Kilcreen Lodge (A4) is a recorded archaeological site – RMP KK-109-102. There is an impressive chimneypiece in the billiard room which was originally in Kilcreen House. It has been placed within a timeframe from late 17th to early 18th century (Bence-Jones, 166).

### Areas Of Archaeological Potential

Through the combination of terrain potential assessment and an examination of the type, density and distribution of the archaeological sites within that landscape, very general areas of high archaeological potential can be identified within the study area. Within the study area two areas of archaeological potential (AP1, AP2) have been highlighted. They were selected because the possibility of archaeological activity and recorded archaeological activity occurs within the two sections of the preliminary assessment areas.

The importance of rivers in archaeology was given added recognition in 1998 with the issuing of a memorandum from Dúchas The Heritage Service, requiring the inclusion of water bodies and associated features in archaeological assessments. This was due to the fact "that linear developments particularly roads often cross rivers and impact on mills, fords, old bridges and findspots of archaeological material. Other sites such as castles and longphort (Viking settlements) are also found beside rivers" (Memo from Dúchas re. River Crossings and Bridges, 23/04/98). Ponds, lakes, rivers and other water bodies in the past have attracted human activity for a variety of reasons, from their obvious use as a source of water to their use as a means of transport, as a source of energy and for their spiritual, religious or ritual associations. Additionally, the former flood plains of large waterways provided a fertile, well-irrigated and relatively flat landscape suitable for agricultural practices from the earliest times of Irish farming (c.4000 BC).

Loughmacask was almost dry when first inspected. The paper survey shows that the extents of the lake have been larger. The lake is located in an area in which was noted a previously unrecorded possible enclosure (A2). These factors point to the area as being one of considerable archaeological potential (AP1).

Area AP2 is an area in which five recorded RMP sites occur (A1 and A3, which is an archaeological complex of 4 recorded features). Also within this area is the northern bank of the River Bregagh, an area which should be considered to be of high archaeological potential.

## Architectural Heritage

Thirteen sites of architectural significance are identified in this report, seven of which are within the study area. These were identified through the consultation of cartographic sources and field inspection. Two of these structures are included in the Kilkenny County Development Plan. One (AH13) is of regional importance. For the most part, these architectural sites are upgraded cottages or farm buildings (AH4, AH5, AH7, AH9), which have probably been improved over generations. Attached to most of the sites are agricultural outhouses. They have most likely been built in the Irish vernacular tradition. A style that has adapted by simplifying the formal architectural styles and built using local building methods and materials. With the exception of Talbotsinch Village (AH12) and Kilcreen Lodge (AH13), most of the sites concerned with this study were not architecturally designed in a formal style. Site AH2 and AH6 are examples of small vernacular dwellings, whereas sites AH8 and AH11 are larger and of a relatively more complex layout. The form and function of these sites illustrates the various stratas of status within the county of a rich agricultural society. The 'ringmarks' of economic prosperity are also evident in the buildings. Site AH3, is an example of dilapidation of this vernacular tradition. AH10 possibly belongs to the larger class of agricultural farmhouses and outbuildings from the late 18th or early 19th century. It was identified on the 1st edition Ordnance Survey map. However, further assessment is necessary as access to the property was not possible on the day of field inspection.

While farmhouses may belong to any period, in terms of architectural heritage they can be taken as post-dating 1700. They are generally built of stone and there are many variations in the design, size and structure of farmhouses and their associated outbuildings. Stone cottages were traditionally built from random rubble covered with lime mortar or coats of whitewash, and roofed with locally quarried slate, thatch or corrugated iron. They were often grouped around the farmyard, forming a central courtyard. Smallholdings had a single-storey house, occasionally with a second storey extended from the original. Agricultural outbuildings are mostly single storey, again on a rectangular floor plan. They are generally built from roughly coursed rubble, with either thatched or slated roof coverings. In recent years, the erection of large metal haysheds with barrel roofs has been widespread. This has led to widespread dereliction of original farm buildings. It is therefore important to fully document the building materials, techniques and uses of any existing structures before this important part of our architectural heritage is completely obliterated.

According to Tighe's 1802 survey of the county, 'farm houses are generally built of stone, but oftener cemented with clay, than with mortar; some inferior ones are of mud, or of sods, and some few have the foundation or the lower part of the walls of stone, the upper of sods. Some of the best farmhouses are slated, and this improvement has increased latterly; some may be comfortable, but few are neat or cleanly. A decent house let to a common farmer, becomes in a year little better than a pig-stye. The houses of rich farmers are generally inferior to their means, and are such as exempt them from window tax, and often from hearth money' (Tighe 1802, 411-12).

There were always single storey dwellings in urban settings, although confined to the poorer quarters. Their origins come from the rural cottage-type. As the urban areas began to expand, state owned property was built for the poorer classes. These dwelling types are illustrative of the encroachment of urbanization on the agricultural classes in an increasingly industrial age. Terraces of small single storey houses were built on the outskirts of the towns and cities and are models of the earliest publicly funded housing. The Butts (AH1) is a typical example of such late 19th, early 20th century council housing. However, the workers' cottages at Talbotsinch (AH12) are examples of privately funded housing by enterprising landowners. Lady Desart provided accommodation for employees at her woodwork and woollen factories. It was common for the new middle-class industrialists to build housing on their land. It enabled financial stability and employee loyalty.

The famous brewing family of Kilkenny, Smithwicks, built Kilcreen Lodge c. 1860 (AH13). It is a product of the profits of the Industrial Revolution and is built in the contemporary Victorian style.

## STATUS OF MONUMENTS

### National Monuments

The term 'National Monument' as defined by the 1930 National Monuments Act is, 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic, or archaeological interest attaching thereto' (The National Monuments Act 1930, Part 1, Preliminary and General, Section 2). This definition does not restrict inclusion based on dating and includes land adjacent to a national monument, which is required to preserve the amenities of the monument. It is possible that should the relevant authority feel a site or monument is sufficiently endangered it can be assigned this level of protection. None of the sites included in this report are National Monuments currently in state ownership.

### Preservation Orders, Registered Sites & Sites Listed in County Development Plans

In certain circumstances that threaten an existing monument The Department of the Environment, Heritage & Local Government (DoEHLG) has, by order, undertaken the preservation of the monument. The effect of these Preservation Orders makes it unlawful to interfere with the monument in any way without the written consent of (DoEHLG). The 'Register of Historic Monuments' was established by Dúchas, The Heritage Service, following the introduction of the National Monuments (Amendment) Act of 1987. As a result of this Act it is unlawful to carry out work on a Registered Monument, except in a case of urgent necessity and with the consent of (DoEHLG). The number of inclusions in the Register is growing steadily as it is to include all recorded sites (RMPs), which are known to (DoEHLG). The majority of these sites are generally listed in the County Development Plans as being protected. In certain circumstances the County Councils highlight certain archaeological sites in their respective areas for protection from development under the provisions of the National Monuments (Amended) Acts. However, these methods of protection can be applied at any stage should the relevant authorities feel a site or monument is in sufficient danger. None of the archaeological sites included in this report is protected by Preservation Order or are included in the Register of Sites for Co. Kilkenny.

### Record of Monuments & Places

Eight of the archaeological sites listed this report are listed in the Record of Monuments and Places (RMPs), established under Section 12 of the 1994 National Monuments (Amendment) Act. Under the terms of this act, the Minister is required to establish and maintain a record of the monuments and places where the Minister believes there are monuments. This record gives protection to the monuments without having to establish a monument is in danger of falling into decay. The term 'monument' as used in this Act encompasses all artificial structures, regardless of date, whether or not they are of archaeological or architectural interest, but excludes buildings used for ecclesiastical purposes. All monuments, whether or not they are in state ownership or care, or be designated or subject to any legal protection, could potentially be classed as ' National Monuments'. A 'Historic Monument' includes 'a prehistoric monument and any monument associated with the commercial, cultural, economic, industrial, military, religious or social history of the place where it is situated or of the country'. Any monument dating prior to A.D.1700 is automatically a historic monument, but monuments post-dating A.D.1700 may also be included. Seven of the sites included in this report are recorded monuments.

## Architectural Heritage

Thirteen sites of architectural significance are included in this report. These were identified through the consultation of cartographic sources and field inspection. Two of the sites (AH12 and AH13) identified within the study area are referred to in the Kilkenny Development Plan. The 2000 Planning Act introduced a range of new measures for the protection of architectural heritage, including the provision for a Record of Protected Structures. This record will replace the system of listing buildings, which was in operation prior to 2000. The National Inventory of Architectural Heritage (NIAH) was set up to assist the local authorities in the compilation of the Record of Protected Structures. It is the policy of each County Council to seek the preservation of items listed in the Record of Protected Structures. No building or structure listed in this record may be demolished or materially altered without grant of permission under the Planning Acts. These sites include country houses, vernacular houses, churches, mills, bridges and other buildings of note. The NIAH for Kilkenny has not been conducted to date. However, the Kilkenny Development Plan includes a list of structures which rates protected sites in terms of their international, national, regional or local significance.

## Historic Towns

Kilkenny City has been identified as an Historic Town and appears in the Record of Monuments and Places. Historic towns have been identified by the Minister for Arts, Heritage, the Gaeltacht and the Islands for general protection. The guideline boundaries for historic towns are illustrated within the Record of Monuments and Places as zones of Archaeological potential and are areas where intense archaeology is present.

A zone of archaeological potential for Kilkenny City was identified in the Kilkenny County Archaeological Urban Survey. A portion of this zone of archaeological potential known as "the Butts" (A8) is located within the proposed development area.

## CONCLUSION

The purpose of this report is to highlight any sites of archaeological, industrial archaeological or architectural heritage significance. Four archaeological sites, seven architectural heritage sites and two areas of archaeological potential lie within the confines of the Lough Macask LAP study area. Five archaeological sites and six architectural heritage sites bordering the study area were also included as they may be affected indirectly by any future development.

It is recommended that all of the potential archaeological sites and areas and buildings of architectural merit and their environs, as highlighted in this report, be avoided and protected from any impact in the proposed development of Lough Macask LAP. If impact on sites cannot be avoided by the proposed development of this area, specific recommendations and mitigatory measures should be undertaken. All of the archaeological sites identified and catalogued within the study area at this stage are protected either under the National Monuments Act and its subsequent Amendment or by listing or Preservation Orders.

Detailed, development specific archaeological and architectural assessments should be undertaken in advance of any future development. These should include the results of or recommend the undertaking of non-intrusive surveys such as topographical, geophysical and architectural survey and intrusive investigations such as archaeological test trenching. Pre-construction archaeological monitoring of all ground works is also recommended for all areas within the Lough Macask LAP study area.

These recommendations will be subject to the approval of the statutory authorities.

## CATALOGUE OF ARCHAEOLOGICAL SITES

This catalogue details the archaeological sites within the study area. It consists of nine sites, eight of which are recorded in the Record of Monuments and Places (RMP) and one site of archaeological potential newly identified from field inspection. The catalogue entries provide locational and reference information, along with a brief description and recommended mitigatory measures. This preliminary assessment has used the methods of paper survey and field inspection to highlight known and potential archaeological sites. The known locations of all of the sites are indicated on Figure 1, 2 and 3.

<b>A1</b>	<b>Figure 1 – Plates 2 &amp; 3</b>
TOWNLAND	Bishops Demesne
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/03/04
NATIONAL GRID REFERENCE	24962 15651
IDENTIFICATION	Field Survey, RMP
SITE TYPE	Linear Ditch (site of)
R.M.P. NO.	KK019-023
REFERENCES	
PROXIMITY	Within the study area
DESCRIPTION	This site is located on the south side of the Bonnettstown road in a field of rolling pasture within Bishops Demesne. The site is recorded as that of a linear ditch, however no above ground remains were apparent during the field inspection.
RECOMMENDATIONS	If this site cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of site specific archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.



<b>A2</b>	<b>Figure 1 – Plates 4 &amp; 5</b>
TOWNLAND	Loughmacask
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Survey
SITE TYPE	Possible Enclosure
R.M.P. NO.	
REFERENCES	
PROXIMITY	Within the study area
DESCRIPTION	This possible site is located to the south of a narrow breen that runs southeast to northwest through Loughmacask townland. During the initial field inspection what appeared to be a ring of trees with an associated bank was observed in a field to the south of Lough Macask. On closer inspection it was apparent that the trees were arranged in a linear fashion on a low bank that ran northwest to southeast joining with an embanked and walled field boundary that runs southwest from the breen. The enclosed area corresponds to the field division depicted on the 1st ed. OS map (1837), is slightly raised and contains a number of undulations.
RECOMMENDATIONS	If this site cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of site specific archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.

<b>A3</b>	<b>Figure 1</b>
TOWNLAND	Kilcreen (Crannagh Barony)
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/07/04
NATIONAL GRID REFERENCE	24934 15626
IDENTIFICATION	Cartographic, RMP
SITE TYPE	Archaeological Complex - Ring Ditch (site of) 24937 15627 - Ring Ditch (site of) 24931 15623 - Ring Ditch (site of) 24936 15623 - Linear Ditch (site of) 24933 15625
R.M.P. NO.	KK019-02201 (ring ditch), /02 (ring ditch), /03 (ring ditch), /04 (linear ditch)
REFERENCES	
PROXIMITY	Within the study area
DESCRIPTION	This site is located at the towland boundary between Bishops Demesne and Kilcreen. The RMP records the presence of an archaeological complex that includes 3 ring ditches and a possible associated linear ditch, evidence for one ring ditch appearing on the 1st edition Ordnance Survey map. During the field inspection a number of mounds and undulations were observed in this area but none of them could be identified with the recorded features with any certainty.
RECOMMENDATIONS	If this site cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of site specific archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.

<b>A4</b>	<b>Figure 1</b>
TOWNLAND	Kilcreen
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/07/04
NATIONAL GRID REFERENCE	24940 15607
IDENTIFICATION	RMP
SITE TYPE	Dwelling - Kilcreen Lodge
R.M.P. NO.	KK019-102
REFERENCES	Glin, Griffin, Robinson (1988), O'Kelly (1969).
PROXIMITY	On the Border of the study area
DESCRIPTION	This is a private property, outside the area to the south. It was once the seat of the Smithwick family. It retains some impressive chimneypieces from the not demolished late 17th century Kilcreene House. It is also an Architectural Heritage site (AH13) and a protected structure.
RECOMMENDATIONS	No specific recommendations.

<b>A5</b>	<b>Figure 1 - Plates 6 &amp; 7</b>
TOWNLAND	Louseybush
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/03/04
NATIONAL GRID REFERENCE	24937 15735
IDENTIFICATION	RMP, Field Survey
SITE TYPE	Enclosure (site of)
R.M.P. NO.	KK019-07
REFERENCES	
PROXIMITY	Within the study area
DESCRIPTION	This site is located to the south of architectural site AH5. It is recorded in the RMP as an enclosure (site of). No above-ground remains of the site are obvious, however a slightly raised area was observed close to the recorded location of this during the field inspection (see Plate 7). This is a site most likely identified from cropmarks.
RECOMMENDATIONS	If this site cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of site specific archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.

<b>A6</b>	<b>Figure 1</b>
TOWNLAND	Talbotsinch
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/03/4
NATIONAL GRID REFERENCE	24985 15763
IDENTIFICATION	RMP, Field Survey
SITE TYPE	Enclosure
R.M.P. NO.	KK019-08
REFERENCES	
PROXIMITY	On the Border of the study area
DESCRIPTION	This site is located to the east of the area at Talbotsinch on the west bank of the River Nore as it bends from a northwest to north direction in the townland. The RMP notes an enclosure at this location.
RECOMMENDATIONS	No specific recommendations

<b>A7</b>	<b>Figure 1</b>
TOWNLAND	Gardens (St. Canice's Parish)
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/07/04
NATIONAL GRID REFERENCE	24996 15596
IDENTIFICATION	RMP, Cartographic, Field Survey
SITE TYPE	Holy Well
R.M.P. NO.	KK019-24
REFERENCES	
PROXIMITY	Outside the border of the study area
DESCRIPTION	This is known as St. Canice's Holy Well and is marked on the 1st edition Ordnance Survey map (1837).
RECOMMENDATIONS	No specific recommendations

<b>A8</b>	<b>Figure 1 - Plate 1</b>
TOWNLAND	Kilkenny
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/07/05
NATIONAL GRID REFERENCE	25050 15603
IDENTIFICATION	RMP, Cartographic
SITE TYPE	City
R.M.P. NO.	KK019-026
REFERENCES	O'Kelly (1969), Herity (2003), Nolan & Whelan (1990), Bradley (2000)
PROXIMITY	Bordering the study area
DESCRIPTION	Kilkenny city was identified as an area of archaeological potential by the Urban Archaeological Survey. This zone of archaeological potential borders the study area at the neighborhood known as "the Butts".
RECOMMENDATIONS	If this site cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of site specific archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.

<b>A9</b>	<b>Figure 1 – Plates 33, 7, 34</b>
TOWNLAND	Raheennagun.
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/02/06
NATIONAL GRID REFERENCE	24876 15766
IDENTIFICATION	RMP, Cartographic, Local Tradition
SITE TYPE	Ringfort & Pathway
R.M.P. NO.	KK019-006
REFERENCES	
PROXIMITY	C.450m from the border of the study area
DESCRIPTION	Raheennagun ringfort is situated to the northwest of Loughmacask, on the southern side of the lane from Loughmacask. There is an opening on the south eastern section of the ringfort. This is a recorded monument and noted on the 1st edition ordnance survey map (1837). Also evident on the 1st edition Ordnance Survey map is a pathway. There is no existing evidence of this route (see Plate 33 & 34). The pathway ran from the immediate right of the ringfort south-east to Loughmacask. There are intermittent extant walls along the northern limits of the road in AP1 which continue the line of this pathway towards Kilkenny.
RECOMMENDATIONS	If this site cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of site specific archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.

## CATALOGUE OF AREAS OF ARCHAEOLOGICAL POTENTIAL

The two entries in this catalogue contain a riverine bank, a water source, five recorded RMP sites and one previously unrecorded site. Together these factors highlight potential for archaeological activity until further investigation has eliminated these specific areas. The catalogue and plates illustrate both known and possible archaeological activity in the area. Each catalogue entry provides locational and reference information, along with a brief description and recommended mitigatory measures. The location of the sites is shown on Figure 2.

<b>AP1</b>	<b>Figure 2 – Plates 8, 9, 10, 11,12, 38, 39</b>
TOWNLAND	Loughmacask area & to south
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Survey
SITE TYPE	Area of archaeological potential
R.M.P. NO.	
REFERENCES	1st edition Ordnance Survey map (1837).
PROXIMITY	Within the study area
DESCRIPTION	This area extends along the Bonnetstown Road to the south, to the border of the study area in the west and above Loughmacask to the north. Loughmacask would have been a main water source for any surrounding settlement (see Plate 38). Cartographic sources show it previously had larger extents. Among local residents, Loughmacask is thought to be a meeting place for 1798 insurgents. Local sources also highlight old buildings with unspecified locations and ruins from the 17th/ 18th centuries in the assessment area. Intermittent stone walls to the north, running along the road follow the line of the pathway connected to Raheennagun ringfort (A9). The stone wall field boundaries and raised earthen banks throughout this area correspond to those depicted on the 1st ed. OS map (1837) and indicate a possible early field system (see Plate 39). A previously unrecorded possible archaeological site was also found in this area (Site A2).
RECOMMENDATIONS	If this area cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of controlled archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.

<b>AP2</b>	<b>Figure 2 – Plates 35 &amp; 36</b>
TOWNLAND	Bishops Demesne Area & to South
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	24934 15626
IDENTIFICATION	Field Survey, RMP
SITE TYPE	Area of archaeological potential
R.M.P. NO.	
REFERENCES	1st edition Ordnance Survey map (1837).
PROXIMITY	Within the study area
DESCRIPTION	This area includes Bishops Demesne (north) to the Butts (east and to Kilcreen (south). It is the location of Site A3 (RMP 019-022-Archaeological Complex) and Site A1 (RMP KK019-023 Linear Ditch). The land is undulating and elevated in parts (see Plate 35). It contains significant stone field boundaries of varying heights and lengths, some of which are extant demesne walls (see Plate 36) evident on the 1st edition Ordnance survey map (1837). Local sources highlight old buildings with unspecified locations and ruins from the 17th/ 18th centuries in the assessment area. The area also borders on the northern bank of the River Bregagh, a potential river crossing or settlement area.
RECOMMENDATIONS	If this area cannot be avoided it is recommended to undertake a non-intrusive survey so as to inform the location of controlled archaeological test trenching, in advance of any construction. Monitoring of all ground works within the area is also recommended.

## CATALOGUE OF ARCHITECTURAL HERITAGE

This catalogue details sites of architectural heritage (AH) significance within the preliminary assessment area. Thirteen sites were identified within the study area; eleven were from field inspection and two from cartographic sources. Two are recorded in the County Kilkenny Development Plan as Protected Structures. This study has used the methods of paper survey and field inspection to highlight known and potential architectural sites. The catalogue entries provide locational and reference information, along with a brief description of the sites and recommended mitigatory measures. The locations of all of the sites are indicated on Figures 3.

<b>SITE AH1</b>	<b>Figure 3 – Plate 13</b>
TOWNLAND	Ayresfield
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Terraced cottages
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	A cluster of structures is marked at this location on the 1837 1st edition Ordnance Survey map (Fig. 3). However, the current one-storey, three bay terrace with brick chimneys shows evidence of being built in the early 20th century.
RECOMMENDATIONS	This site should be avoided and protected during construction. If this site cannot be avoided it is recommended to undertake an architectural survey in advance of any construction.

<b>SITE AH2</b>	<b>Figure 3 – Plate 14</b>
TOWNLAND	Ayresfield
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Vernacular Dwelling
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	This site consists of two two-storey, three bay houses with limestone facades of rough coursing, rendered gables, brick window surrounds and brick chimney stacks. Structures are depicted at this location on the 1837 1st edition Ordnance Survey map.
RECOMMENDATIONS	This site should be avoided and protected during construction. If this site cannot be avoided it is recommended to undertake an architectural survey in advance of any construction.



<b>SITE AH3</b>	<b>Figure 3 – Plates 15,16 &amp; 17</b>
TOWNLAND	Loughmacask
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Architectural remains
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	Structures are marked at this location on the 1837 1st edition Ordnance Survey map. Extant remains at this site comprise an L-shaped length of limestone wall up to 2m high built to random courses. The ground within the L-shaped structure is a level rectangular surface and is revetted. Local oral sources suggest this may once have been an old fort.
RECOMMENDATIONS	This site should be avoided and protected during construction. If this site cannot be avoided it is recommended to undertake an architectural survey in advance of any construction.

<b>SITE AH4</b>	<b>Figure 3 – Plates 18 &amp; 19</b>
TOWNLAND	Loughmacask
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Farm Complex
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Bordering the study area
DESCRIPTION	There are two one-storey, four bay structures with large attics on this site. A complex of farm buildings is shown at this location on the 1837 1st edition Ordnance Survey map.
RECOMMENDATIONS	This site should be avoided and protected during construction

<b>SITE AH5</b>	<b>Figure 3 – Plate 20</b>
TOWNLAND	Lousybush
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Vernacular Dwelling
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	This is a two-storey dwelling and outbuilding. Three small structures are marked at this location on the 1837 1st edition Ordnance Survey map.
RECOMMENDATIONS	This site should be avoided and protected during construction

<b>SITE AH6</b>	<b>Figure 3 – Plates 21 &amp; 22</b>
TOWNLAND	Ayresfield
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Vernacular Dwelling
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	A structure is marked at this location on the 1837 1st edition Ordnance Survey map as Mr. Purcell's Farm Ho. There is a two-storey dwelling there now (Pl.10). There is a long rectangular one-storey building to the north of the house built of limestone blocks to random coursing. A brick archway to the west (rear) of the building has been interrupted by a modern extension.
RECOMMENDATIONS	This site should be avoided and protected during construction. If this site cannot be avoided it is recommended to undertake an architectural survey in advance of any construction.

<b>SITE AH7</b>	<b>Figure 3 – Plates 23 &amp; 24</b>
TOWNLAND	Ayresfield
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Farm Complex
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	On the 1837 1st edition Ordnance Survey map there is a short tree-lined avenue leading to 'Ayersfield Cottage'. A complex of farm buildings now surrounds the main house. This house was possibly quite a smaller structure and upgraded over generations, in the vernacular tradition.
RECOMMENDATIONS	This site should be avoided and protected during construction. If this site cannot be avoided it is recommended to undertake an architectural survey in advance of any construction.

<b>SITE AH8</b>	<b>Figure 3 – Plate 25</b>
TOWNLAND	The Butts
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Vernacular Dwelling
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	There is a structure marked at this location on the 1837 1st edition Ordnance Survey map. This is a large detached two-storey house with brick chimney stacks built in the vernacular style of the early 19th century.
RECOMMENDATIONS	This site should be avoided and protected during construction. If this site cannot be avoided it is recommended to undertake an architectural survey in advance of any construction.

<b>SITE AH9</b>	<b>Figure 3 – Plates 26 &amp; 27, 29, 37</b>
TOWNLAND	Bishops Demesne
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Architectural complex & Demesne
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	The boundaries of this site extend along the Bonnetstown Road to the north, the Butts to the east, along the northern bank of the Bregagh to the south east and skirt the Kilcreen football pitches to the south-west. Contained within is an early 19th century vernacular farmhouse. There is a semi-circular entrance to the avenue leading to the house. The house is depicted on the on the 1837 1st edition Ordnance Survey map, as are the stone outbuildings associated with the main structure. Bordering the west, south-west, south-east and east are intermittent stone walls of varying heights and lengths (see Plate 26, 27 & 37). These walls also cross the Demense from the south-west to the east wall. There is a revetted pond (see Plate 29) located on the southern boundaries of this site, which faces outbuildings within the curtilage of Kilcreen Lodge on the opposite side of the wall (AH13). The road leading to the Palmerstown Demesne cuts through the western section of the curtilage.
RECOMMENDATIONS	This site should be avoided and protected during construction. If this site cannot be avoided it is recommended to undertake an architectural survey in advance of any construction. Other non-intrusive surveys are recommended in order to inform the location of site specific archaeological test trenching. Monitoring of all ground works within the area is also recommended.

<b>SITE AH10</b>	<b>Figure 3</b>
TOWNLAND	Palmerstown
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Possible architectural complex
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	On the border of the study area
DESCRIPTION	A complex of buildings is shown at this location on the 1837 1st edition Ordnance Survey map.
RECOMMENDATIONS	This site should be avoided and protected during construction

<b>SITE AH11</b>	<b>Figure 3 – Plate 28</b>
TOWNLAND	Palmerstown
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Cartographic
SITE TYPE	Vernacular Dwelling
STATUS	
REFERENCES	1837 1st edition Ordnance Survey map
PROXIMITY	Within the study area
DESCRIPTION	This is a large vernacular house, with associated outbuildings. The avenue to the house is accessed through a stone walled entrance gate. A structure is marked at this location on the 1837 1st edition Ordnance Survey map.
RECOMMENDATIONS	This site should be avoided and protected during construction

<b>SITE AH12</b>	<b>Figure 3</b>
TOWNLAND	Talbotsinch
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Field Inspection, Cartographic
SITE TYPE	Village
STATUS	RPS KK-C217
REFERENCES	3rd edition Ordnance Survey map, County Kilkenny Development Plan (2002)
PROXIMITY	Bordering the study area
DESCRIPTION	This village is marked on the 3rd edition Ordnance Survey map. It is a designated Conservation Area in the County Kilkenny Development Plan, 2002 due to its unique aspects of residential planning. It was designed by Prof. William A. Scot for Lady Desart in 1904. The houses are influenced by the Arts & Crafts movement of the time and are distinctive.
RECOMMENDATIONS	This site should be avoided and protected during construction

<b>SITE AH13</b>	<b>Figure 3 – Plates 29, 30, 31 and 32</b>
TOWNLAND	Kilcreen
COUNTY	Kilkenny
O.S. 6" SHEET/PLAN/TRACE	19/-/-
NATIONAL GRID REFERENCE	
IDENTIFICATION	Cartographic
SITE TYPE	Country House
STATUS	RPS KK-C353, Regional Importance
REFERENCES	1837 1st edition Ordnance Survey map, Bence-Jones (1988), County Kilkenny Development Plan (2002)
PROXIMITY	Bordering the study area
DESCRIPTION	A structure is shown at this location on the 1837 1st edition Ordnance Survey map. Bence-Jones (1988, 166) described this as "a pleasant two storey stucco-faced Victorian house built c. 1860 by J.W. Smithwick, incorporating an older, smaller house. Four bay front with triangular pediments on console brackets over ground floor windows, and gabled wing at one end. Roof of main block on bracket cornice. Irregular adjoining garden front, with single-storey curved and balustraded bow; decorative ironwork cresting on ridge of roof. Ornate overdoors in the hall and drawing room, the latter being a large and handsome room in Louis Quinze style. Good late 17th or early 18th century chimneypiece brought from Kilcreene House in billiard room. Attractive garden with lake spanned by bridge. It is also a recorded archaeological site (A4, RMP KK019-102). The curtilage of the site includes a curved avenue, and outbuildings.
RECOMMENDATIONS	This site should be avoided and protected during construction

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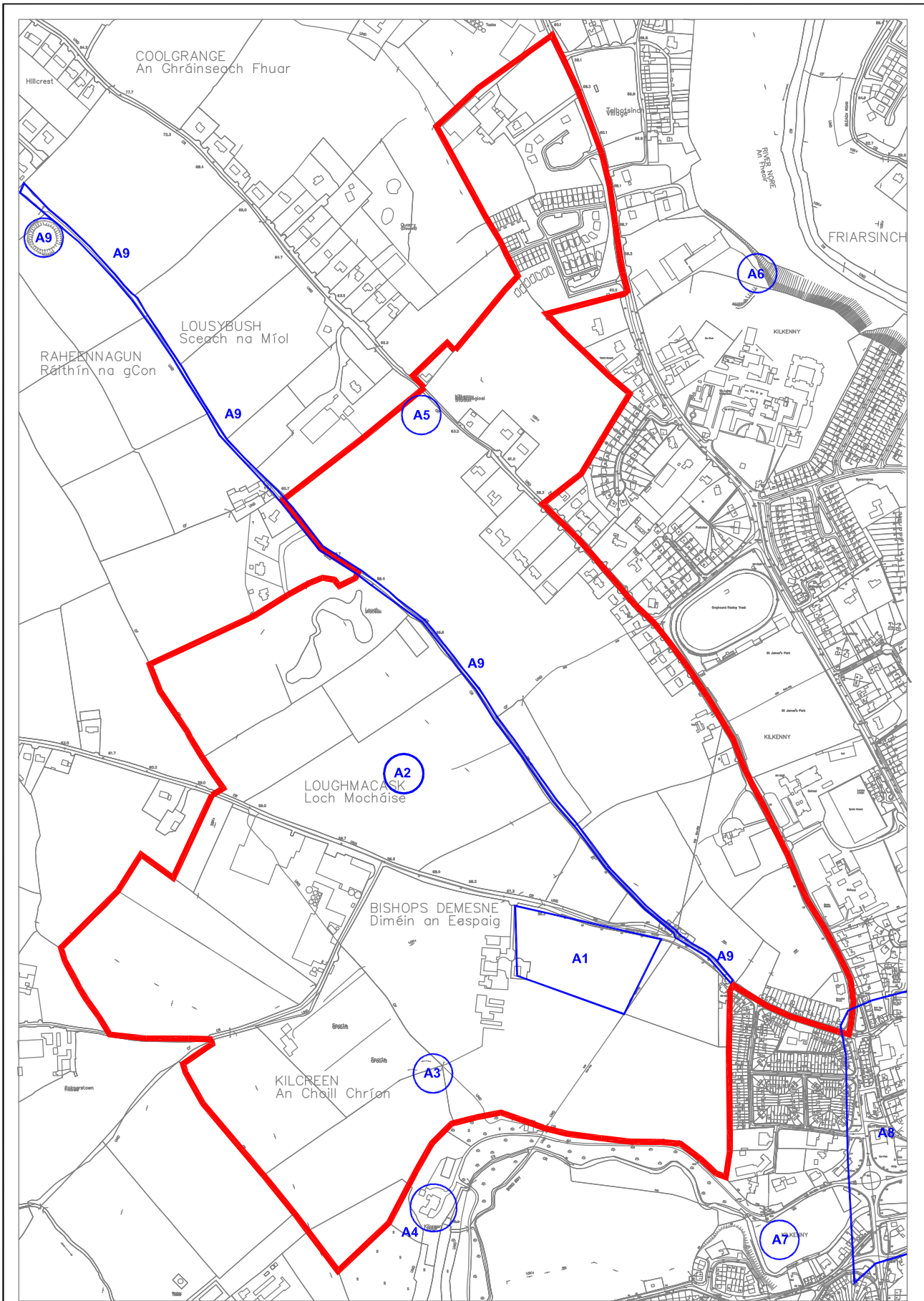
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**Title**  
 Figure 1 - Archaeological Sites within and bordering Loughmacask LAP Area.

**Notes**

 Limits of Constraints Study Area

 Archaeological Sites

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**Scale**  
 1:6000

**Drawing No.**  
 Fig. 1A

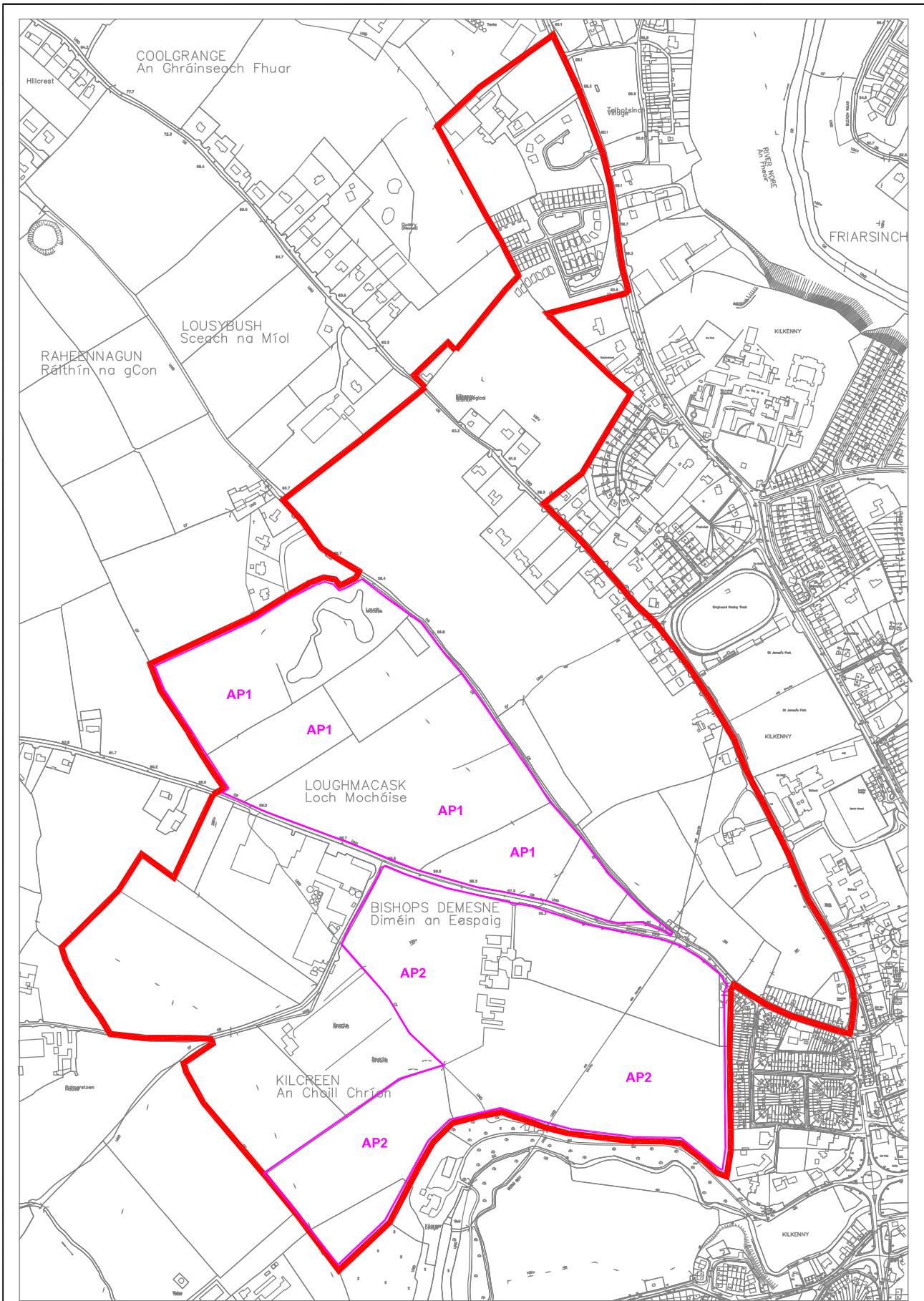
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 05-1225

**Compiled by**  
 M.Teehan

**CAD reference**  
 Report Figs.


**Project**  
 Loughmacask LAP






**Title**  
Figure 2 - Areas of Archaeological Potential within Loughmacask LAP Area.

**Notes**

 Limits of Constraints Study Area

 Area of Archaeological Potential

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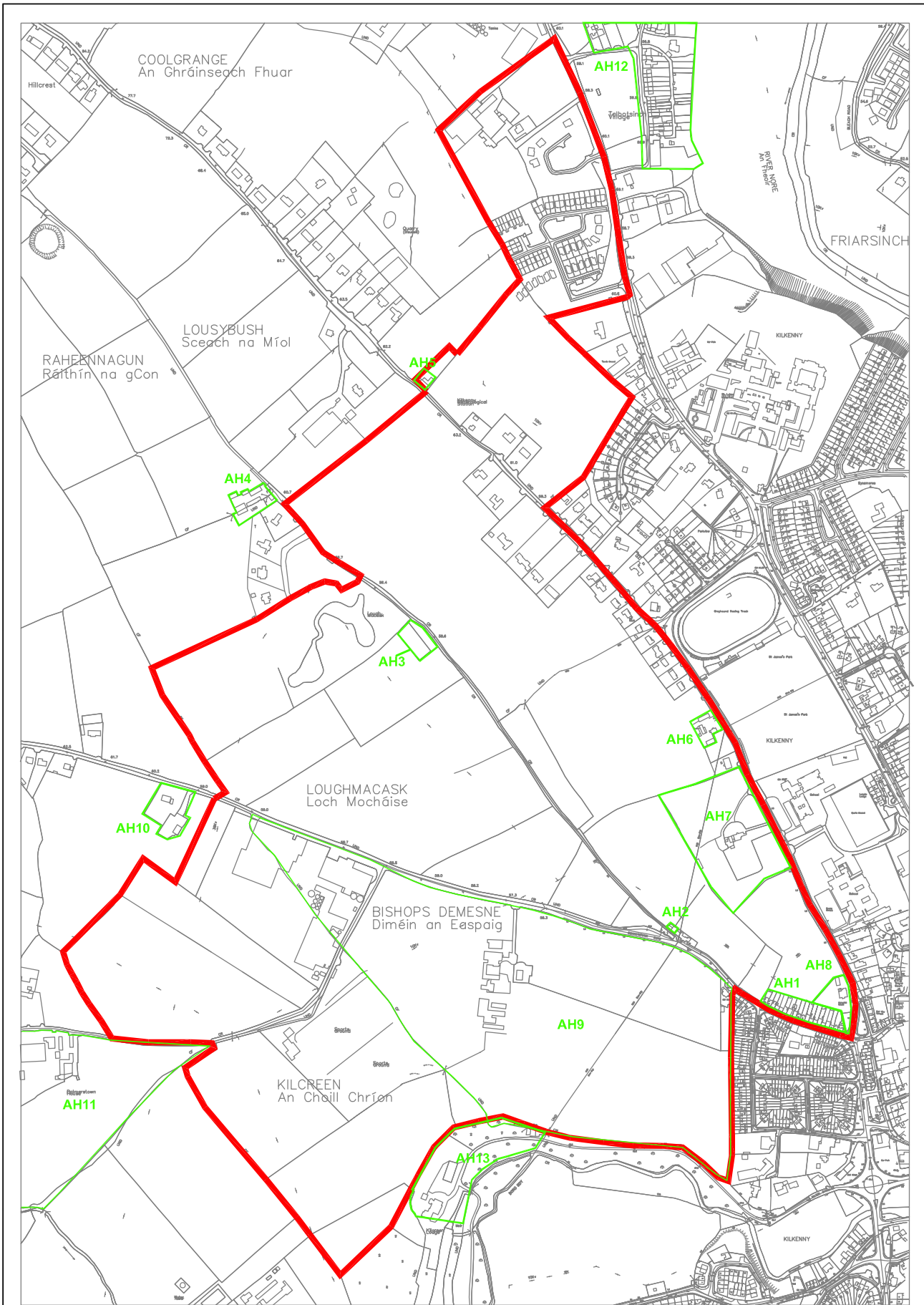
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**Job/Exc No.**  
05-1225

**Compiled by**  
M.Teehan


**CAD reference**  
Report Figs.


**Project**  
Loughmacask LAP



**Title**  
Figure 3 - Architectural Heritage Sites within and bordering the Loughmacask LAP Area.

**Notes**

 Limits of Constraints Study Area

 Architectural Heritage Sites

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Fig. 1A

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05-1225

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Report Figs.

**Project**  
Loughmacask LAP



**Plate 1.** Zone of archaeological potential (**Site A8**) enters study area at the Butts



**Plate 2.** Location of **Site A1**, RMP 019-023- Linear Ditch (site) (NGR24962/ 15651) in field of pasture within Bishops Demesne, looking southwest, no above ground remains apparent.



**Plate 3.** Location of **Site A1**, RMP 019-023- Linear Ditch (site) (NGR24962/ 15651) in field of pasture within Bishops Demesne, looking southwest, no above ground remains apparent.



**Plate 4.** Possible **Site A2** looking west



**Plate 5** Possible Site A2 looking west



**Plate 6** Possible location of Site A5 RMP 019-07- Enclosure (site)- (NGR 24937/15735) in field of tillage, looking southeast, no above ground remains apparent.



**Plate 7.** Field to north of previous, possible location of **Site A5** (Plates 4 & 5) RMP 019-07-Enclosure (site)- (NGR 24937/15735) looking north. Raised area (foreground)



**Plate 8. AP1-** Loughmacask and area to south



**Plate 9. AP1-** Loughmacask and area to south



**Plate 10. AP1-** Loughmacask and area to south



**Plate 11. AP1- Loughmacask and area to south**



**Plate 12. AP1- Loughmacask and area to south**





**Plate 13.** Terrace of one storey houses at the Butts, houses present at this location on 1<sup>st</sup> ed. Current cottages 1910-1930 (AH1)



**Plate 14.** Two- story houses, facade of limestone to rough courses, gables rendered, brick window surrounds, brick chimney stacks. (AH2).



**Plate 15.** Looking north at AH3



**Plate 16.** Looking west at AH3



**Plate 17.** Looking south west at AH3



**Plate 18.** Looking northwest at AH4



**Plate 19.** Looking southeast at AH4



**Plate 20.** Looking north at AH5



**Plate 21.** Looking west at AH6



**Plate 22.** Looking south at AH6



**Plate 23.** Looking west at AH7



**Plate 24.** Looking east at AH7 (rear)



**Plate 25.** Looking north at AH8



**Plate 26.** Looking south at AH9



**Plate 27.** Looking east at AH9



**Plate 28.** Looking west towards AH11.





**Plate 29.** Pond attached to outbuilding to the north of Kilcreen Lodge AVENUE (AH13)



**Plate 30.** Outbuilding, taken from the west (AH13).



**Plate 31.** Outbuilding, facing north (AH13).



**Plate 32.** Plaque on face of outbuilding (AH13).



**Plate 33.** View from south-east direction to ringfort (A9)



**Plate 34.** View from south-east direction to ringfort and remains of ancient pathway (A9)



**Plate 35.** View facing south-west of undulating land in AP2



**Plate 36.** View facing west of stone wall field boundaries within AP2



**Plate 37.** East boundary stone wall of AH9



**Plate 38.** Loughmacask, facing south-east (AP1)



**Plate 39.** View of stone field boundaries facing south **AP1**





## Appendix E: Environmental Appraisal Report

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## **CONTENTS**

Non Technical Summary

1.0 Introduction

2.0 Methodology

3.0 Assessment of LAP

4.0 Mitigation

5.0 Monitoring

6.0 Conclusions

## **NON TECHNICAL SUMMARY**

An environmental appraisal of the Loughmacask Local Area Plan (LAP) has been carried out using a systematic process of assessment against Strategic Environmental Objectives (SEOs). The purpose of this summary is to provide a clear understanding in non-technical language of the likely environmental consequences of decisions regarding the future development of lands at Loughmacask, Co. Kilkenny.

The lands at Loughmacask have been zoned for residential, industrial and open space uses. There are a number of environmental features of varying interest within the lands which could be potentially affected by the LAP such as Lough Macask pNHA, listed archaeological sites and landscape features such as the trees along the southern boundary with Kilcreen Lodge and at Ayrefield House. The groundwater within the area is a sustaining resource for the pNHA and the Breaghagh River borders the lands to the south. At the outset of the LAP development process, an approach was adopted whereby environmental matters were fully integrated and used to inform and develop the LAP. The aspirations of the LAP include the following:

- Integration of Lough Macask pNHA, existing landscape features and cultural heritage;
- Provision of a compact urban form with movement links to the city and Loughmacask centre with minimum car usage;
- Balanced provision of amenity both protecting and allowing enjoyment of existing natural heritage resources.

### **Biodiversity, Flora and Fauna – Potential Effects**

The lands within the LAP contain Loughmacask a pNHA. The site is currently within a poor eutrophic condition and is underlain by a sand and gravel aquifer. It is almost certain that the fluctuations in the water level of the lough are due to fluctuations in the groundwater table which in turn are influenced by rainfall levels. The zoning of the lands surrounding Loughmacask could potentially impact on the pNHA and further reduce the ecological value of the site through removing its sustaining resource (i.e. groundwater) and introducing increased human contact. However, the lands have been zoned to ensure that residential development will be set back from the pNHA. Furthermore, policies have been developed which require assessment of the impact of all future development on the pNHA, to ensure its hydrological functioning is maintained, to enhance the ecological value of it and to provide links with other ecological resources both inside and outside the LAP boundary.

### **Groundwater – Potential Effects**

In general, groundwater bodies close to locations in which development and settlement has and is likely to take place is probably at significant risk of failing to achieve the Water Framework Directive's objectives. The WFD requires that all member states implement the necessary measures to prevent deterioration of the status of all waters and protect, enhance and restore waters with the main objective of achieving good status by 2015. The sand and gravel aquifer underlying the LAP lands is classified as of high vulnerability and is regionally important. It is further underlain by a karstified bedrock aquifer also of regional importance. Therefore the policies and infrastructure guidance have been developed which take cognisance of the need to ensure that all future development avoids impact on the groundwater resources underlying the lands.

## Surface Water – Potential Effects

The LAP lands are located within the Breagagh river catchment area which would be classified as at significant risk of failing to achieve the Water Framework Directive's objectives due to development pressure. Development within the lands cannot be carried out without adequate wastewater treatment which is acknowledged within the LAP but the provision of same is addressed within the higher level plans for the city and environs and the county. The LAP also provides other policies and guidance to mitigate potential impacts on surfacewater and to prevent flooding as a result of the zoning.

## Cultural Heritage – Potential Effects

The Loughmacask lands, given their location close to Kilkenny City, inevitably have a rich cultural heritage; - there are a number of listed archaeological sites present. The LAP provides policies to ensure that the cultural heritage is protected.

## Landscape – Potential Effects

There are no designated scenic views into or out of the LAP lands. Nevertheless, there are features present which are representative of the landscape of Co. Kilkenny and which warrant retention to ensure that the zoned land has a positive amenity value and also to ensure that interrelated ecological functioning is maintained. The LAP zoning and policies ensure that best use is made of landscape features present and that the sense of place is not lost.

## Human Health – Potential Effects

The Loughmacask area contains a fertiliser manufacturing plant which is an established activity under the European Communities (Control of Major Accident Hazards Involving Dangerous Substances) Regulations, 2006. Consultations have taken place with the Health and Safety Authority in order to ensure that landuses and the zoning proposed are not incompatible based on current knowledge of risk scenarios likely to occur.

## 1.0 INTRODUCTION

Kilkenny Borough and County Council (referred to hereon as the Councils) instigated the Local Area Plan (LAP) process for Loughmacask. The LAP develops detailed policies specific to the Loughmacask area. In particular with regard to environmental aspects and assessment of the LAP, a process was instigated which covered the following:

- 1) Screening and Scoping for Strategic Environmental Assessment (SEA);
- 2) Commissioning of Baseline Reports;
- 3) Policy Development
- 4) Assessment of the LAP zoning, vision, policies against Strategic Environmental Objectives (SEOs)

This report deals in detail with Item 4 above. Items 1-3 are briefly discussed below.

### Screening and Scoping

Section 1.5 of the LAP details the screening for SEA that was carried out with regard to the LAP. It was concluded that the LAP will have environmental implications but these are not likely to be significant in terms of the criteria set out in Schedule 2A of S.I. No. 436/2004 and therefore an SEA was not deemed necessary.

### Commissioning of Baseline Reports

Baseline reports were commissioned for local ecology and cultural heritage in 2005. These are included in Appendices C and D of the LAP respectively. These reports were used to characterise the receiving environment and to inform Sections 2.0 (Context) and 4.0 (Policies) of the LAP. Furthermore, the landscape character and views and geology, hydrogeology and hydrology of the study area for the LAP were characterised and are presented in Section 2.0 of the LAP. Emerging environmental conditions were also identified.

### Policy Development

The baseline surveys commissioned were used to inform policy both directly and indirectly related to environmental aspects such as biodiversity, cultural heritage and water.

## 2.0 METHODOLOGY

In assessing the LAP, reference is made to the Strategic Environmental Objectives (SEOs) developed for the Draft City and Environs Development Plan (CEDP) 2008 -2014. SEOs are methodological measures which are developed from international, national and county policies which generally govern environmental protection objectives and are used as standards against which development strategies, policies and objectives of plans including the zoning provisions, can be evaluated in order to help identify areas in which significant adverse impacts are likely to occur, if unmitigated against. The methodology employed in assessing the City and Environs Plan has been employed for the LAP. Based on an understanding of the existing and emerging environmental conditions in the city and environs, the SEOs were developed to assess the likely affects of the CEDP. Table 1.0 below lists all the SEOs in the Draft Environmental Report for the CEDP.

**Table 1.0 Strategic Environmental Objectives**

<b>SEO Code</b>	<b>SEO</b>
B1	To avoid loss of relevant habitats, geological features, species or their sustaining resources in designated ecological sites.
B2	To avoid significant adverse impacts including direct, cumulative and indirect impacts to relevant habitats, geological features, species or their sustaining resources in designated ecological sites by development within or adjacent to these sites.
B3	To sustain, enhance or where relevant prevent the loss of ecological networks or parts thereof which provide significant connectivity between areas of local biodiversity.
HH1	To protect human health from hazards or nuisances arising from exposure to incompatible landuses.
S1	Maximise the sustainable re-use of brownfield lands and maximise the use of the existing built environment rather than developing Greenfield lands.
W1	To maintain or improve where possible the quality of rivers.
W2	To prevent pollution and contamination of groundwater.
A1	To minimise increases in travel related emissions to air.
M1	To serve new development under the CEDP with appropriate wastewater treatment
CH1	To protect the archaeological heritage of Kilkenny City and its Environs with regard to: entries to the Record of Monuments and Places; zones of archaeological, and; the context of the above within the surrounding landscape where relevant.
CH2	To preserve and protect the special interest and character of Kilkenny City and Environs architectural heritage with regard to: entries to the Record of Protected Structures; Architectural Conservation Areas; entries to the National Inventory of Architectural Heritage, and; the context of the above within the surrounding landscape where relevant.
L1	To protect Kilkenny City and Environs' sensitive landscape features and designated scenic views.

*Note: S1 is not considered relevant to the LAP lands.*

The compatibility criteria for appraising the effects of the CEDP provisions on SEOs are given in Table 2.0.

**Table 2.0 Criteria for Appraising the Effect of the CEDP Provisions on SEOs**

Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated	Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure

Where the appraisal identifies a likely conflict or agreement as the case may be with the status of an SEO the relevant SEO code is entered into the column. In the assessment of the LAP, mitigation measures may already be integrated into the LAP as, for example, in other policies. Where this is the case, the other policies will be referred to collectively or individually in the mitigation column using the Policy Code from the LAP where relevant.

### 3.0 ASSESMENT OF LAP

Tables 3.0 and 4.0 contain the assessment of the LAP policies, zoning and vision against the SEOs.

Table 3.0 Evaluation of the LAP Policies

LAP Policy Code	Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated	Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure
NH01	B1, B2, B3, W1, W2, L1					S1, A1, M1, CH1, CH2, HH1	
NH02	B1, B2, B3, W1, W2, L1				CH1	S1, A1, M1, HH1, CH2	
NH03	B2, B3				B1, L1, CH1	S1, A1, M1, W2, W1, HH1, CH2	
NH04	B3				B1, B2, L1, CH1	S1, A1, M1, W2, W1, CH2	
NH05	B1, B2, B3, L1					S1, A1, M1, CH1, CH2, W2, W1, HH1	
NH06	B1, B2, B3, L1				W1, W2	S1, A1, M1, CH1, CH2, HH1	
NH07	B1, B2, B3				L1, W1, W2	S1, A1, M1, HH1, CH2, CH1, W1	
NH08	B3, L1				B1, B2	S1, A1, M1, W1, W2, HH1, CH1, CH2	
NH09	B1, B2				B3, W2, L1	S1, A1, M1, W1, CH1, CH2, HH1	
NH10	B3				L1, W2	S1, A1, M1, W1, HH1, CH2, B1, B2, CH1	
NH11	B3, L1				B1, B2, CH1	S1, A1, M1, W1, HH1, W2, CH2	
NH12	B3, L1					S1, A1, M1, W1, HH1, W2, B1, B2, CH1, CH2	
NH13	A1					B1, B2, B3, HH1, S1, W1, W2, M1, CH1, CH2, L1	
AH01	CH1, L1					B1, B2, B3, HH1, S1, W1, W2, A1, CH2, M1	

LAP Policy Code	Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated	Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure
AH02	CH1, L1					B1, B2, B3, HH1, S1, W1, W2, A1, CH2, M1	
AH03					CH1, CH2, L1	B1, B2, B3, HH1, S1, W1, W2, A1, M1	
AH04					CH1, L1	B1, B2, B3, HH1, S1, W1, W2, A1, M1, CH2	
AH05					CH1, L1	B1, B2, B3, HH1, S1, W1, W2, A1, M1, CH2	
AH06	CH1,CH2, L1					B1, B2, B3, HH1, S1, W1, W2, A1, M1, CH2	
AH07					L1	B1, B2, B3, HH1, S1, W1, W2, A1, M1, CH1, CH2	
AH08					L1	B1, B2, B3, HH1, S1, W1, W2, A1, M1, CH1, CH2	
AH09					L1	B1, B2, B3, HH1, S1, W1W2, A1, M1, CH1, CH2	
PN01						B1, B2, B3, HH1, S1, W1, W2, A1, M1, CH1, CH2, L1	
PN02						B1, B2, B3, HH1, S1, W1, W2, A1, M1, CH1, CH2, L1	
OS01				B1, B2, B3, L1		HH1, S1, W1, W2, A1, M1, CH1, CH2	
OS02	B3				W1, W2, L1, HH1	B1,B2,S1, M1,CH1, CH2	
LV01					L1	B1,B2,B3, HH1,S1, W1,W2,A1, M1, CH1, CH2	



LAP Policy Code	Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated	Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure
LV02					L1	B1,B2,B3, HH1, S1, W1,W2, A1, M1, CH1, CH2	
IP01				A1		B1,B2,B3, HH1, S1, W1,W2, M1, CH1, CH2, L1	
IP02	A1					B1,B2,B3, HH1, S1, W1,W2,M1, CH1, CH2, L1	
IP03	A1			B1, B2		B3, HH1, S1, W1, W2, M1, CH1, CH2, L1	
PT01	A1			B1, B2		B3, HH1, S1, W1, W2, M1, CH1, CH2, L1	
PT02	A1					B1, B2, B3, HH1, S1, W1, W2, M1, CH1, CH2, L1	
PT03	A1					B1, B2, B3, HH1, S1, W1, W2, M1, CH1, CH2, L1	
WS01	M1					B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, L1, A1	
VVW01	M1					B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, L1, A1	
SW01	B1, B2, W1, W2					B3, HH1, S1, CH1, CH2, L1, A1, M1	
SW02	M1, B1, B2, W1, W2					B3, HH1, S1, CH1, CH2, L1,A1	
SW03	HH1					B1, B2, B3, S1, W1, W2, CH1, CH2, L1, A1,M1	
SW04	B1, B2					B3, S1, W1, W2, CH1, CH2, L1, A1, M1, HH1	
SW05	B1, B2, W1, W2					B3, S1, CH1, CH2, L1, A1, M1, HH1	

LAP Policy Code	Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated	Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure
SW06	HH1					B1, B2, B3, S1, W1, W2, CH1, CH2, L1, A1, M1	
SW07	HH1					B1, B2, B3, S1, W1, W2, CH1, CH2, L1, A1, M1	
EP01						B1, B2, B3, S1, W1, W2, CH1, CH2, L1, A1, M1, HH1	
IT01	A1					B1, B2, B3, S1, W1, W2, CH1, CH2, L1, M1, HH1	
WM01	HH1, B2, L1					B1, B3, S1, W1, W2, CH1, CH2, A1, M1	
WM02	HH1, B2, L1					B1, B3, S1, W1, W2, CH1, CH2, A1, M1	
SS01						B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, A1, M1, L1	
SS02						B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, A1, M1, L1	
CF01	A1					B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, M1, L1	
CF02	A1					B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, M1, L1	
CF03	A1					B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, M1, L1	
LE01	A1					B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, M1, L1	

LAP Policy Code	Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated	Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure
LE02	A1					B1, B2, B3, HH1, S1, W1, W2, CH1, CH2, M1, L1	
LE03	A1				HH1	B1, B2, B3, S1, W1, W2, CH1, CH2, M1, L1	
RP01	A1					B1, B2, B3, S1, W1, W2, CH1, CH2, M1, L1, HH1	
RP02						B1, B2, B3, S1, W1, W2, CH1, CH2, M1, L1, HH1, A1	
RP03						B1, B2, B3, S1, W1, W2, CH1, CH2, M1, L1, HH1, A1	
RP04				HH1, B2, L1		B1B3, S1, W1, W2, CH1, CH2, M1, L1, A1	
UD01	B1, B2, B3, HH1, W1, W2, A1, M1, CH1, L1					S1, CH2	



Table 4.0 Evaluation of the LAP Vision and Zoning

LAP Policy Code	Vision/Zoning	Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated
<b>Section 2.0 - Context of LAP</b>	Land Use Zoning and SEVESO Risk Zones Map		
<b>Section 3.0 - Vision</b>	<p>Located on the edge of Kilkenny City, Loughmacask will have strong physical and cultural linkages to the city centre and to the surrounding countryside, including the Nore and Breagagh River Valleys. Loughmacask will be connected to the city centre by a network of pedestrian and cycle ways, improved transport corridors and visually connected with views of landmarks such as St. Mary's and St. Canice's Cathedrals. The Loughmacask lake will be set into a parkland area and will be accessible along a pedestrianised Lousybush lane. The Loughmacask LAP is also being utilized as an opportunity to open connections to the Breagagh River Valley.</p>	B1, B2, B3, A1, L1	
<b>Section 3.0 - Vision</b>	<p>The vision for Loughmacask is responsive to the distinct landscape of the area, creating an environment that locals and visitors will be able to relate to and identify with. The integration of existing landscape features such as the rolling landform, Lousybush Lane and hedgerows to the west and south-west of Lough Macask will assist in providing a structure for future development that commemorates historic land - uses.</p> <p>Particular outstanding features, such as Lough Macask and a variety of archaeological and architectural heritage features unique to the Loughmacask area will be integrated where appropriate and their accessibility enhanced for enjoyment of the local residents and visitors to the area.</p>	B1, B2, B3, W2, CH1, L1	
<b>Section 3.0 - Vision</b>	<p>Enabling people to move freely within and around their community, while undertaking their day to day activities, is integral to building a community that responds to the basic needs and desires of its people. The provision of excellent infrastructure at all levels – sports and recreation grounds, open space, pedestrian and cycle routes, safe roads, enhanced education facilities, and quality childcare – will assist Loughmacask in becoming a great place to live.</p>		

Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure
B1, B2, B3, W1, W2, A1, CH1, L1, S1*		HH1	M1,CH2	NH01 – NH13, AH01-AH05; LV01-LV02; SW01, SW02, PT01-PT03, IP02, IP03, WS01, WW01.
B1, B2, B3, W1, W2, A1, CH1, L1			HH1, S1, M1, CH2	NH01 – NH13, AH01-AH05; LV01-LV02; SW01, SW02, PT01-PT03, IP02, IP03, WS01, WW01.
B1, B2, B3, W2, A1, CH1, L1			HH1, S1, W1, M1, CH2	NH01 – NH13, AH01-AH05; LV01-LV02; SW01, SW02, PT01-PT03, IP02, IP03, WS01, WW01
B1, B2, B3, A1CH1, L1			HH1, S1, W1, M1, CH2, W2	NH01 – NH13, AH01-AH05; LV01-LV02; SW01, SW02, PT01-PT03, IP02, IP03, WS01, WW01

\* This SEO is more relevant to the city and also county level. Nevertheless brownfield sites should be considered prior to lands in the Loughmacask area. Within the Loughmacask lands, there are two main types of existing landuse patterns;- Greenfield/agricultural and industrial.

LAP Policy Code	Vision/Zoning	Likely to Improve Status of SEOs	Probable Conflict with status of SEOs; unlikely to be mitigated
<b>Section 3.0 - Vision</b>	<p>The Loughmacask LAP will establish a well-balanced community, integrating and accommodating a diverse array of social and cultural backgrounds. Loughmacask will open up further choice for living in Kilkenny and, within itself, will offer a range of living options for young people, families and the elderly.</p> <p>A defined village centre arranged around a public square offering local shops and services, will provide a strong sense of place and identity for the local community. Sports and recreation grounds, along with other community facilities will also facilitate opportunities for community groups to establish and grow. Employment opportunities will continue to be provided locally through existing industry and new business opportunities in and around the village centre.</p>	A1	
<b>Section 3.0 - Vision</b>	<p>The Loughmacask LAP envisages a sustainable environment developed with the assistance of design guidelines relating to such matters as open space, building design, local infrastructure (including roads, pedestrian and cycle ways, and the management of drainage patterns and flooding), and waste minimisation and recycling. In particular, design guidance will seek to ensure that key public amenities, such as recreation grounds and childcare, are located within close proximity to key nodes (such as the village centre), with pedestrian and cycle routes linking them to adjoining neighbourhoods; energy efficient design and energy saving building technology will be promoted as an integral aspect of all future development; and particular attention will be given to implementing sustainable methods of water runoff management to protect the quality of natural water systems and habitats in the area.</p> <p>With regard to public transport, the LAP envisages and provides for the future introduction of a city wide public bus service. The principles of waste minimisation and recycling will be key considerations in the design and construction of new developments.</p>	B1, B2, B3, HH1, S1, W1W2, A1, M1, CH1, L1	

Potential Conflict with status of SEOs; likely to be mitigated	Uncertain interaction with status of SEOs	Neutral Interaction with status of SEOs	No Likely Interaction with status of SEOs	Mitigation Measure
B1, B2, B3, A1CH1, W2, L1			HH1, S1, W1, M1, CH2	NH01 – NH13, AH01-AH05; LV01-LV02; SW01, SW02, PT01-PT03, IP02, IP03, WS01, WW01
			CH2	



## 4.0 Mitigation

No specific further mitigation is required as measures have been implemented into the LAP policies as indicated in Table 3.0.

## 5.0 Monitoring

Monitoring using indicators specified in the CEDP will be carried out for the City and Environs as a whole. However, the following specific monitoring is proposed:

Table 4.0 Monitoring Measures and Suggested Indicators

Environmental Component	Selected Indicator(s)	Monitoring or Monitoring Source Proposed
Biodiversity, Flora and Fauna	B1: Percentage of relevant species lost in pNHA. B2: Loss of biodiversity within LAP lands.	Ecological survey including a botanical survey of pNHA. Study of hydrological functioning of the lough.
Water	W1: Decrease in biotic Quality Rating of Breagagh W2: Faecal coliform, nitrates and ammonia levels above EPA Interim Groundwater Values	EPA records on Breagagh or specific biological water quality monitoring. EPA records or groundwater quality monitoring.
Cultural Heritage	CH1: Number of recorded sites and monuments full or partially lost.	Tracking during planning permission applications. Monitoring during development.
Landscape	L1: Percentage of trees, hedgerows and stone walls lost/created.	Tree surveying as part of planning processes. Tracking trends in planning permission applications.

## 6.0 Conclusions

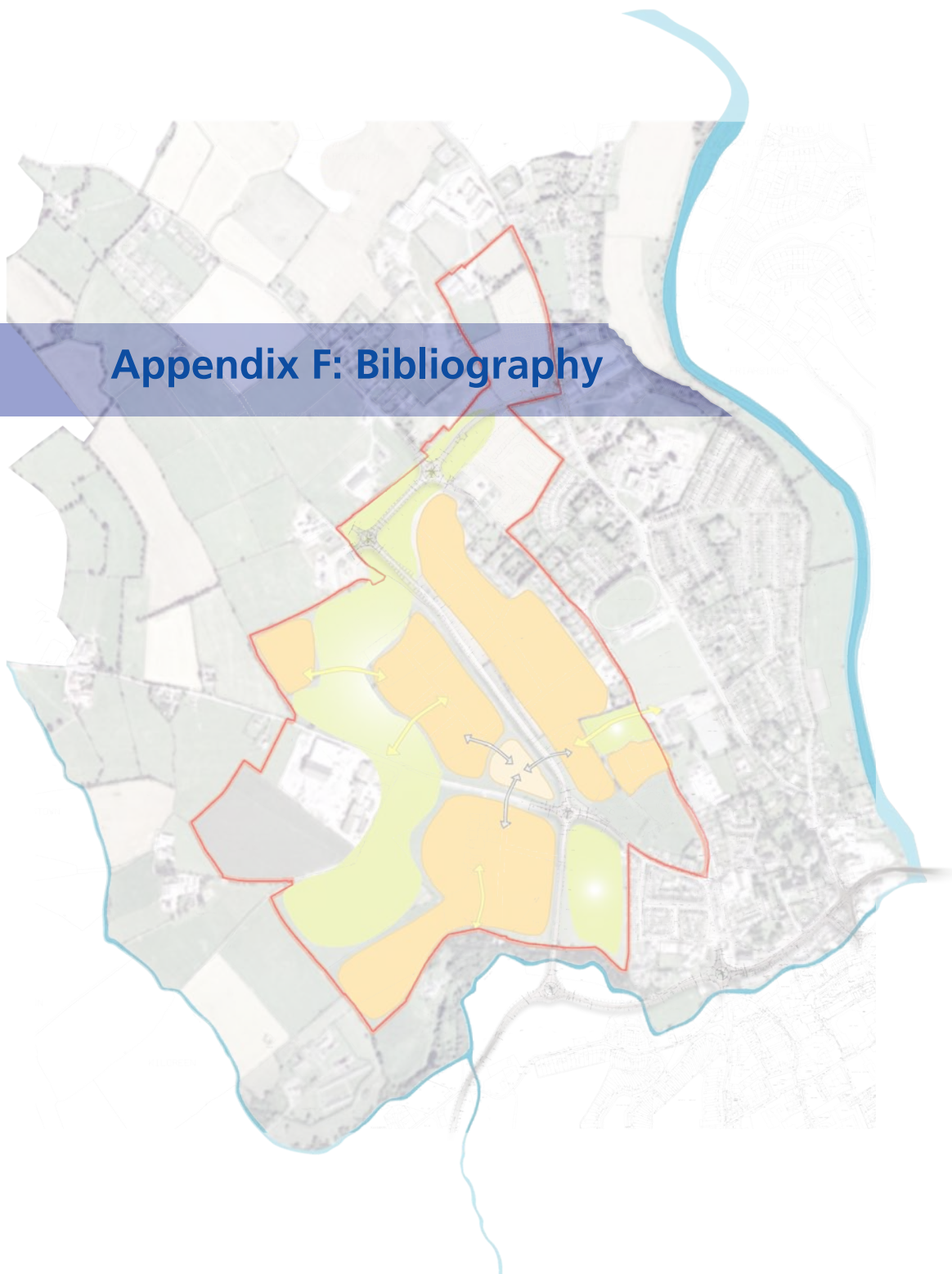
At the outset of the LAP development process, an approach was adopted whereby environmental matters were fully integrated and used to inform and develop the LAP. The aspirations for the area were to ensure the following:

- Integration of Lough Macask pNHA, existing landscape and cultural heritage;
- Provision of a compact urban form with movement links to the city and Loughmacask centre with minimum car usage;
- Balanced provision of amenity while both protecting and allowing enjoyment of natural heritage resources.

In order to achieve this, baseline surveys were completed to ensure a sufficient understanding of existing environmental conditions including potential threats and opportunities which could be avoided or realised within the Plan respectively. The policies for development of the LAP lands are tempered by the need to ensure sustainable development practises with environmental protection as a key criterion. Many of the policies act as mitigation measures to guard against deterioration in prevailing environmental conditions. As a result, the LAP has been found to be not incompatible with the SEOs set out in this report and taken from the draft Environmental Report for the CEDP 2008 – 2014.



## Appendix F: Bibliography





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