# *Comhairle Bhaile Chill Dara* Kildare County Council



# DRAFT STRATEGIC FLOOD RISK ASSESSMENT

#### MONASTEREVIN DRAFT LOCAL AREA PLAN 2015 - 2021

Kildare County Council Planning Department Aras Chill Dara Devoy Park Naas County Kildare	11049-LAP Monast Issue No.02	Kilgallen & Partners Consulting Engineers Well Road, Kylekiproe Portlaoise Co. Laois
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### **REVISION HISTORY**

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#### **1.0** INTRODUCTION

#### **1.1** Requirement for Flood Risk Assessment

Kildare County Council is in the process of preparing the Monasterevin Draft Local Area Plan in accordance with the Core Strategy and the requirements and provisions of the Planning and Development Act 2000 (as amended).

In accordance with Section 28 of the Planning and Development Act 2000 as amended, the planning authority shall have regard to any guidelines issued by the Minister of the Environment, Heritage and Local Government to planning authorities in the performance of their functions including the preparation of Development Plans.

In response to the recommendations of the National Flood Policy Review Group the Minister published statutory planning guidelines entitled "*The Planning System and Flood Risk Management – Guidelines for Planning Authorities*" on 30 November 2009 ['the Guidelines'] which incorporate flood risk assessment and management into the planning system. The Guidelines focus on providing for comprehensive consideration of flood risk in preparing Regional Plans, Development Plans and Local Area Plans, and in determining applications for planning permission.

The Guidelines were issued under Section 28 of the Planning and Development Act 2000 as amended, and require Planning Authorities to introduce flood risk assessment as an integral and leading element of their development planning functions. This is achieved by ensuring that the various steps in the process of making or varying a development plan, together with the associated Strategic Environmental Assessment (SEA), are supported by an appropriate Strategic Flood Risk Assessment (SFRA).

Kilgallen and Partners Consulting Engineers have been appointed by Kildare County Council to undertake a Strategic Flood Risk Assessment (SFRA) for the Monasterevin Local Area Plan in accordance with the Core Strategy and in accordance with the Guidelines referenced above.

It is recommended that the SFRA is adopted as a 'Living Document' and reviewed regularly and updated with any new relevant information that may become available during the lifetime of the Monasterevin Local Area Plan.

It is the responsibility of each applicant for planning permission to determine the flood risk pertaining to the lands on which development is proposed and to include appropriate mitigation works as part of the proposed development for which permission is sought.

#### 1.2 The Planning Guidelines and Flood Risk Management

The assessment of flood risk requires an understanding of the source of the floodwaters, the process and direction of flow and the people and assets affected by flooding. The Guidelines introduce the mechanism of Flood Risk Assessment (FRA) into the planning process by the incorporation of flood risk identification, assessment and management.

The core objectives of the Guidelines are to:

- Avoid inappropriate development in areas at risk of flooding;
- Avoid new developments increasing flood risk elsewhere, including that which may arise from surface water run-off;
- Ensure effective management of residual risks for development permitted in floodplains;
- Avoid unnecessary restriction of national, regional or local economic growth;
- Improve the understanding of flood risk among relevant stakeholders;
- Ensure that the requirements of the EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management.

These core objectives are achieved through the process of Flood Risk Assessments. The level of detail required for a Flood Risk Assessment depends on the purpose of the FRA. In the subject case of the Monasterevin Local Area Plan, a Strategic Flood Risk Assessment (SFRA) is required to inform the plan making process.

To achieve the objectives of the Guidelines, the following principles are applied:

- Avoid the risk, where possible
- Substitute less vulnerable uses where avoidance is not possible, and
- Mitigate and manage the risk, where avoidance and substitution is not possible.

#### **1.3** Structure of a Flood Risk Assessment (FRA)

The Guidelines recommend that a staged approach is adopted when undertaking a Flood Risk Assessment (FRA). The recommended stages are briefly described below:

• **Stage 1** ~ Flood Risk Identification

To identify whether there may be any flooding or surface water management issues that will require further investigation. This stage mainly comprises a comprehensive desk study of available information to establish whether a flood risk issue exists or whether one may exist in the future.

• **Stage 2** ~ Initial Flood Risk Assessment

If a flood risk issue is deemed to exist arising from the Stage 1 Flood Risk Identification process, the assessment proceeds to Stage 2 which confirms the sources of flooding, appraises the adequacy of existing information and determines the extent of additional surveys and the degree of modelling that will be required. Stage 2 must be sufficiently detailed to allow the application of the sequential approach (as described in Section 1.4.2 herein) within the flood risk zone.

Stage 3 ~ Detailed Flood Risk Assessment
 Where Stages 1 and 2 indicate that a proposed area of possible zoning or development may be subject to a significant flood risk, a Stage 3 Detailed Flood Risk Assessment must be undertaken.

#### **1.4** The Flood Risk Assessment Process for the Planning Authority

#### 1.4.1 Scales of Flood Risk Assessments

Flood Risk Assessments are undertaken at different scales by different organisations for many different purposes. The scales are as follows:

- Regional Flood Risk Appraisal (RFRA): A Regional Flood Risk Appraisal provides a broad overview of the source and significance of all types of flood risk across a region and highlights areas where more detailed study will be required. These appraisals are undertaken by regional authorities.
- Strategic Flood Risk Assessment (SFRA): A Strategic Flood Risk Assessment provides a broad (area-wide or county-wide) assessment of all types of flood risk to inform strategic land use planning decisions. The SFRA allows the Planning Authority to undertake the sequential approach (described below) and identify how flood risk can be reduced as part of the development plan process.
- Site Flood Risk Assessment (Site FRA): A Site FRA is undertaken to assess all types of flood risk for a new development. This requires identification of the sources of flood risk, the effects of climate change on the flood risk, the impact of the proposed development, the effectiveness of flood mitigation and management measures and the residual risks that then remain.

### 1.4.2 The Sequential Approach

The sequential approach in terms of flood risk management is based on the following principles: **AVOID - SUBSTITUTE - JUSTIFY - MITIGATE – PROCEED.** 

The primary objective of the sequential approach is that development is primarily directed towards land that is at low risk of flooding (AVOID).

The next stage is to ensure that the type of development proposed is not especially vulnerable to the adverse impacts of flooding (SUBSTITUTION).

The Justification Test is designed to rigorously assess the appropriateness, or otherwise, of particular developments that, for various reasons, are being considered in areas of moderate or high flood risk (JUSTIFICATION). The test is comprised of two processes, namely The Plan-Making Justification Test and The Development Management Justification Test. Only the former (Plan-Making Justification Test) is relevant to a Strategic Flood Risk Assessment for a Development Plan, and this is described as follows.

#### The Plan-Making Justification Test

Where, as part of the preparation and adoption of a development / local area plan, a planning authority is considering the future development of areas in an urban settlement that are at moderate or high risk of flooding, for uses or development vulnerable to flooding that would generally be inappropriate as set out in the Guidelines, all of the criteria listed below, as stated in the Guidelines, must be satisfied. This is referred to as the "*Justification Test For Development Plans"*:

- (I) The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, a amended.
- (II) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement and in particular:
  - *(i)* Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;
  - (ii) Comprises significant previously developed and/or under-utilised lands;
  - *(iii)* Is within or adjoining the core of an established or designated urban settlement;
  - (iv) Will be essential in achieving compact or sustainable urban growth;
  - (v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.
- (III) A flood risk assessment to an appropriate level of detail has been carried out as part of the Strategic Environmental Assessment as part of the development plan preparation process, which demonstrates that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.

*N.B.* The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment."

MITIGATION is the process where the flood risk is reduced to acceptable levels by means of land use strategies or by means of detailed proposals for the management of flood risk and surface water, all as addressed in the Flood Risk Assessment.

The decision to PROCEED should only be taken after the Justification Test has been passed.

#### **1.5** Key Outputs from the SFRA

The key outputs are:

- To provide for an improved understanding of flood risk issues within the Development Plan and development management process, and to communicate this to a wide range of stakeholders;
- To produce an assessment of existing flood defence infrastructure and the consequences of failure of that infrastructure and to identify areas of natural floodplain to be safeguarded;
- To produce a suitably detailed flood risk assessment that supports the application of the sequential approach in key areas where there may be tension between development pressures and avoidance of flood risk;
- To inform, where necessary, the application of the Justification Test;
- To conclude whether measures to deal with flood risks to the area proposed for development can satisfactorily reduce the risks to an acceptable level while not increasing flood risk elsewhere;
- To produce guidance on mitigation measures, how surface water should be managed and appropriate criteria.

#### 2.0 FLOOD RISK

#### 2.1 Components of Flood Risk

Flood Risk is defined as a combination of the likelihood of flooding occurring and the potential consequences arising from that flooding.

The likelihood of flooding is defined in the Guidelines as follows:

"Likelihood of flooding is normally defined as the percentage probability of a flood of a given magnitude or severity occurring or being exceeded in any given year."

The consequences of flooding depend on the following:

"Consequences of flooding depend on the hazards associated with the flooding (e.g. depth of water, speed of flow, rate of onset, duration, wave action effects, water quality), and the vulnerability of people, property and the environment potentially affected by a flood (e.g. the age profile of the population, the type of development, presence and reliability of mitigation measures etc)."

#### 2.2 Source-Pathway-Receptor Model

The Source – Pathway – Receptor Model (SPR Model) is a widely applied model which is used to assess and inform the management of environmental risk.

- **Source** The origin of a hazard (for example, heavy rainfall, strong winds, surge etc).
- **Pathway** Route that a hazard takes to reach Receptors. A pathway must exist for a Hazard to be realised.
- **Receptor** Receptor refers to the entity that may be harmed (a person, property, habitat etc.).

For example, in the event of heavy rainfall *(the source) flood* water may propagate across the flood plain *(the pathway)* and inundate housing *(the receptor).* The vulnerability of a receptor can be modified by increasing its resilience to flooding.

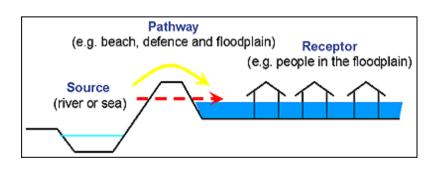


Figure 1: Source-Pathway-Receptor Model (adapted from <u>www.floodsite.net</u>)

#### 3.0 EUROPEAN, NATIONAL AND REGIONAL POLICY

#### 3.1 European Policy

#### 3.1.1 EU Floods Directive

http://ec.europa.eu/environment/water/flood\_risk/index.htm

Directive 2007/60/EC on the assessment and management of flood risks became operative on 26<sup>th</sup> November 2007. This Directive requires Member States to assess the risks of flooding along all watercourses and coast lines. It also requires Member States to map the extent of potential flooding in each case, determine the assets and humans at risk in the areas and to take adequate and coordinated measures to reduce this flood risk. The aim of the Directive is to reduce and manage the risks posed by flooding to human health, the environment, cultural heritage and economic activity.

Member States are required by 2011 to carry out a preliminary assessment identifying the river basins and the coastal areas at risk of flooding. For such zones, flood risk maps are required to be drawn up by 2013 and Member States are required to establish flood risk management plans focused on prevention, protection and preparedness by 2015. The Directive applies to inland waters and to all coastal waters across the whole territory of the EU.

#### 3.1.2 EU Water Framework Directive

#### www.wfdireland.ie

The Water Framework Directive, which came into force on December 22<sup>nd</sup> 2000, established a new and integrated approach to the protection, improvement and sustainable use of Europe's rivers, lakes, estuaries, coastal waters and groundwater. It impacts on the management of water quality and water resources and affects conservation, fisheries, flood defence, planning and environmental monitoring.

The primary focus of the Directive is to achieve 'good' ecological status for all waters by 2015.

### 3.2 National Policy

### 3.2.1 Planning Guidelines "The Planning System and Flood Risk Management"

The *Planning System and Flood Risk Management* Guidelines were prepared in response to the recommendations of the National Flood Policy Review Group and focused on providing for comprehensive consideration of flood risk in preparing Regional Plans, Development Plans and Local Area Plans, and in determining applications for planning permission.

The Guidelines generally require that development should not be permitted in flood risk areas, particularly floodplains, except where there are no alternative and appropriate sites available in lower risk areas that are consistent with the objectives of proper planning and sustainable development.

#### 3.2.2 Transposition and Implementation of the EU Floods Directive

On 19<sup>th</sup> March 2010, the Statutory Instrument transposing the EU 'Floods' Directive was signed into Irish law. The Statutory Instrument appointed the Commissioners of Public Works in Ireland as the Competent Authority under the Directive. The Statutory Instrument also identified roles for other organisations, such as the Local Authorities, Waterways Ireland and ESB, to undertake certain duties with respect to flood risk within their existing areas of responsibility.

#### 3.2.3 Office of Public Works

The Office of Public Works is the lead agency for flood risk management in Ireland and is responsible for the coordination and implementation of Government policy on this issue. It is the primary agency responsible for ensuring Ireland's compliance with the EU Floods Directive and particularly for the preparation of a preliminary assessment by 2011, preparation of flood risk mapping by 2013 and preparation of flood risk management plans by 2015. It is the principal agency involved in the preparation of Catchment Flood Risk Assessment and Management Studies.

#### 3.3 Regional Policy

#### 3.3.1 Introduction

For the purposes of regional planning, the Mid-East Regional Authority and the Dublin Regional Authority have partnered to produce Regional Planning Guidelines for the Greater Dublin Area (www.rpg.ie).

On the 15<sup>th</sup> of June 2010, Regional Planning Guidelines for the Greater Dublin Area 2010~2022 were made. The guidelines give regional effect to the National Spatial Strategy and guide the development plans in each Local Authority area. The guidelines have effect for six years.

The guidelines contain a Regional Flood Risk Appraisal (RFRA), which is a high-level broad-brush appraisal of flood risk across an entire regional authority area, based on existing readily available information.

Paragraphs 3.3.2 to 3.3.5 herein present a summary of the Regional Flood Risk Appraisal together with an outline of the main outputs of relevance to the Monasterevin Local Area Plan.

#### 3.3.2 Regional Flood Risk Appraisal Process

The RFRA process examines the issue of major flood risk from river, estuarine and coastal flooding and does not examine groundwater or artificial drainage flood events. The process of preparing the RFRA involved the mapping of historical flood events in the Greater Dublin Area (GDA) to provide a general indication at a regional scale of where flood vulnerable locations are located in the GDA.

The mapping of alluvial soils indicating flood plain locations in the GDA was also examined at a regional level.

The studies indicate that significant sections of the built up area of Dublin together with key towns in the GDA are vulnerable to flooding, particularly along the coast, near estuaries and lands proximate to the rivers flowing through the region.

#### 3.3.3 Strategic Policies and Recommendations for Regional Flood Risk Management

- **Strategic Policy FP1:** That flood risk be managed pro-actively at all stages in the planning process by avoiding development in flood risk areas where possible and by reducing the risks of flooding to and from existing and future development.
- **Strategic Recommendation FR1:** New development should be avoided in areas at risk of flooding. Alongside this, the Regional Flood Risk Appraisal recognises the need for continuing investment and development within the urban

centres of flood vulnerable designated growth towns and the City and for this to take place in tandem with the completion of Catchment Flood Risk Assessment and Management (CFRAM) Studies and investment in comprehensive flood protection and management.

- **Strategic Recommendation FR2:** Development and Local Area Plans should include a Strategic Flood Risk Assessment and all future zoning of land for development in areas at risk of flooding should follow the sequential approach set out in the Departmental Guidance on Flood Risk Management. All Flood Risk Assessments and CFRAM studies should take place in coordination and consultation with adjoining local authorities and regions and in coordination with the relevant River Basin Management Plans.
- **Strategic Recommendation FR3:** Local authorities should take the opportunities presented to optimise improvements in biodiversity and amenity when including policies and actions in development plans/local area plans (such as flood plain protection and SuDS) for existing and future developments.
- **Strategic Recommendation FR4:** Plans and projects associated with flood risk management that have the potential to negatively impact on Natura 2000 sites will be subject to a Habitats Directive Assessment (HDA) according to Article 6 of the habitats directive and in accordance with best practice and guidance.

### 3.3.4 Role of Local Authorities (from RFRA)

Local Authorities must take account of the issues raised in this Regional Flood Risk Appraisal and undertake Strategic Flood Risk Assessment for future Development and Local Area Plans in line with the Department's Guidance on the Planning System and Flood Risk Management Guidelines. Local Authorities should ensure that they adhere to the principles of avoiding risk where possible in preparing such future Plans.

The Regional Planning Guidelines seek to emphasise the need to protect across the Greater Dublin Area the natural flood plains and riparian corridors of all rivers that have not already been built on, and seek that this is explicitly stated and spatially designated in all future Development and Local Area plans following the completion of CFRAM studies for the area in question. In the absence of the CFRAM studies, Planning Authorities should identify the areas at risk using other data such as data that is available from the OPW, available historical information (mapped or otherwise), and if necessary, through additional studies or investigations.

Land required for current and future flood management should be safeguarded from development.

Allocation of future areas for development as extensions to existing built up areas, villages or towns should follow a sequential approach; be within the lowest risk sites appropriate for the development; and should include adequate provision for adaptation to, or protection against, the projected impacts of climate change.

#### 3.3.5 Recommendations from Regional Flood Risk Appraisals

In the preparation of future Development and Local Area Plans, Local Authorities are advised to:

- Identify and consider at the earliest stage in the planning process flood hazard and potential risk.
- Identify flood risk areas on the Development Plan and Local Area Plan maps.
- Review existing Development Plans and Local Area Plans to ensure that the issue of Flood Risk has been addressed in a manner consistent with the Flood Risk Management Guidelines.
- Where lands are already zoned for housing or other vulnerable development in flood risk areas, the Planning Authority should undertake a re-examination of the zoning in accordance with the sequential approach. Regional Planning Guidelines may need to identify Plans which will require a variation to take account of flood risk assessments.
- Include policies which ensure that flood risk areas targeted for development following the sequential approach should be planned, designed and constructed to reduce and manage flood risk and be adaptable to changes in climate.
- Include policies to ensure that flood risk and impact is considered as a key element in the assessment of future waste and mineral planning strategies and developments.
- Include policies that ensure that the location of key infrastructure will be subject to flood risk assessment.
- Include policies on the importance of the inclusion of Sustainable Drainage Systems (SuDS) in future developments, in accordance with the recommendations of the Greater Dublin Strategic Drainage Study Guidelines and Appendix B of the Planning System and Flood Risk Management Guidelines.

Flooding events, whether widespread or localised, can cause serious damage to key infrastructure (e.g. power stations, sub-stations, communication hubs, wastewater treatment plants etc.). The cost of such disruption is significant to business, causes hardship to residents and also can place people in "at risk" situations. For this reason, it is recommended that on completion of Catchment Flood Risk Assessment and Management Studies and upon identification of areas of high flood risk in each Planning Authority area, that key infrastructure suppliers are advised of the risk to such installations and encouraged to assess current infrastructure for risk and stress test future projects against flood risk, where this has not been previously undertaken.

#### 4.0 STRATEGIC FLOOD RISK ASSESSMENT-MONASTEREVIN DRAFT LOCAL AREA PLAN

#### 4.1 Introduction

The Strategic Flood Risk Assessment provides an appraisal and assessment of available flood risk data for the land-use proposals within the boundaries of the Monasterevin Draft Local Area Plan. This process identifies flood risk indicators in each area and, where it is demonstrated that lands may be at risk of flooding, recommends modifications to land-use proposals or the carrying out of more detailed flood risk assessment as appropriate.

#### 4.2 Available Flood Risk Data

Most of the data utilised is historically derived, not prescriptive in relation to flood return periods and not yet predictive or inclusive for climate change analysis.

#### 4.2.1 Office of Public Works

The OPW is currently undertaking flood risk assessment mapping showing Areas of Potential Significant Flood Risk in collaboration with local authorities and other key agencies. Upon completion, it will become an important and primary source of input into future flood risk assessment studies. A public consultation period for the Preliminary Flood Risk Assessment (PFRA) which identifies Areas of Potential Significant Risk has just concluded. A list designating a number of Areas for Further Assessment (AFA's) arising from the PFRA has recently been published by the OPW. These areas will now be the focus of the CFRAM (Catchment Flood Risk Assessment and Management) studies. Further information on the PFRA process is available on www.cfram.ie.

In addition, as part of the National Flood Risk Management Policy, the OPW developed the <u>www.floodmaps.ie</u> web based data set, which contains information concerning historical flood data and displays related mapped information and provides tools to search for and display information about selected flood events. (A summary report from this website for the Monasterevin Local Area Plan is reproduced in the Appendices).

Additional mapped information, such as the Ordnance Survey of Ireland background maps, rivers, hydrometric gauge stations, drainage districts and land benefiting from drainage schemes is included as additional contextual information.

### 4.2.2 6" (1:10560) Ordnance Survey Maps

6" Ordnance Survey maps include areas which are marked as being "Liable to Floods". Generally, these areas are only shown identified indicatively and suggest historical flooding, usually recurrent. In addition, the maps indicate areas of wet or hummocky ground, bog, marsh, springs, rises and wells as well as surface water features including rivers, streams, bridges, weirs and dams.

#### 4.2.3 Local Authority Personnel

Detailed consultations were held with Local Authority personnel regarding historical flooding and any flood relief works which either have been carried out or are proposed for the areas encompassed by the boundaries of the Monasterevin Local Area Plan.

#### 4.2.4 Flood Studies, Reports and Flood Relief Schemes

Flood reports have been completed for a number of areas within County Kildare and many areas with a history of flooding have undergone flood relief works in the recent past. A number of surface water / flood alleviation schemes are listed in the Capital Programme 2010  $\sim$  2012.

#### 4.3 Flood Risk Indicators

The extent of the existing boundaries of the Monasterevin Local Area Plan has been assessed for the presence of flood risk indicators by reference to the datasets described in Section 4.2. Table 1 provides a matrix showing these indicators at various locations throughout the Monasterevin Local Area Plan.

Location	Available data (by source)				
	www.floodmaps.ie / PFRA Maps	Local Authority	25″ & 6" OS maps		
Drogheda Row /Boland's Corner	PFRA shows localised flooding adjacent to watercourse. Floodmaps website shows flooding at Boland's corner.	Flood event at Boland's corner in 2008. Trash screen downstream of this event requires regular maintenance.			
Barrow River	PFRA shows significant floodplain area adjacent to the River Barrow as it flows through Monasterevin. Floodmaps website provides photographs from 2008 flood event.		Historic 6" maps show lands adjoining Barrow recorded as 'liable to floods'.		
Monasterevin Bog / Cowpasture / Gorteennoona	PFRA shows significant flooding in these lands. Floodmaps website provides photographs of flood events south of Dublin Road in 1997.			1:2 dra of	
Lands adjoining Mayfield Interchange and zoned H in the 2008 – 2014 LAP			Historic 25" maps show lands to be poorly drained and the existence of rises. Significant open drains through these lands.		

Table 1: Flood Risk Indicators for Monasterevin

Other
1:2500 scale OS Mapping shows significant
drainage infrastructure and pond, suggestive
of poorly draining land.

#### 4.4 Recommendations for modification to or additional assessment of landuse proposals

The SFRA for the Monasterevin Draft Local Area Plan carried out an Initial Flood Risk Assessment based on the flood risk indicators listed in Table 1 in relation to the Landuse map contained in the current Local Area Plan (a copy of this map is included in Appendix IV).

Monasterevin has been subject to repeated historical flooding as well as more recent flood events. Historical indicators suggested the potential for minor localised flooding at several locations as well as more extensive flooding along the River Barrow and the area near Monasterevin Bog. OPW flood-mapping also identified a recurrent flooding problem arising from inadequacies in the surface water drainage infrastructure.

In those areas where the Initial Assessment indicated a risk of minor localised flooding, the SFRA recommended that site-specific Flood Risk Assessment be carried out for any proposals for development of these lands. These site-specific assessments should be appropriate to the nature and scale of the development being proposed. (the areas for which Site-specific FRA was initially recommended is shown on the Drawing included in <u>Appendix IV</u>).

In a number of cases, the Initial Assessment indicated a more significant flood risk in lands which were being considered for types of development not generally compatible with flood risk areas *(i.e. development classed as vulnerable in accordance with the criteria set out in the Planning System and Flood Risk Management Guidelines)*. The SFRA recommended that Detailed Flood Risk Assessment (Detailed FRA) be carried out for these lands (the extent of Detail FRA is shown on the Drawing included in <u>Appendix IV</u>).

Detailed FRA was carried out for these areas in accordance with the Guidelines and Flood Zones established for the 1 in 100year and 1 in 1000year flood events (Flood Zones A and B respectively). Land parcels being considered for types of development not generally compatible with flood risk were found to be located within Flood Zones A and B. In accordance with the Guidelines, the Justification Test was carried out for each land parcel where the encroachment of Flood Zones A and B is significant. Records of these Justifications Tests are reproduced in <u>Appendix III</u>.

The Drawings included in <u>Appendix II</u> show the recommendations of the SFRA further to completion of this Detailed Flood Risk Assessment together with the flood risk zones established by the Detailed FRA.

Appendix I contains the Land-use Map proposed for the Draft Monasterevin LAP 2015 2021.

It is recommended that Development proposals in Monasterevin have regard to the general policies, requirements and objectives which are set out in Chapter 7 (Water, Drainage and Environmental Services) of the County Development Plan.

#### 4.5 Forthcoming Information to Inform Future Flood Risk Consideration

Ireland is required under the EU Floods Directive to carry out Preliminary Flood Risk Assessments of their river basins and associated coastal zones by 2011. The OPW has developed a Catchment Flood Risk Assessment and Management (CFRAM) Programme, which lies at the core of the assessment of flood risk and the long-term planning of the flood risk management measures throughout the country, including capital structural and non-structural measures. The CFRAM Programme will, as well as delivering on national policy, meet the requirements of the EU 'Floods' Directive that came into force in November 2007. This Directive required the production of flood maps for the Areas of Potentially Significant Risk by the end of 2013, and the development of Flood Risk Management Plans to manage risk within the Areas of Potentially Significant Risk by the end of 2015.

This SFRA is based on currently available data and in accordance with its status as a "living document" it will be subject to modification by emerging datasets of maps and plans as they become available.

#### 5.0 MONITORING AND REVIEW

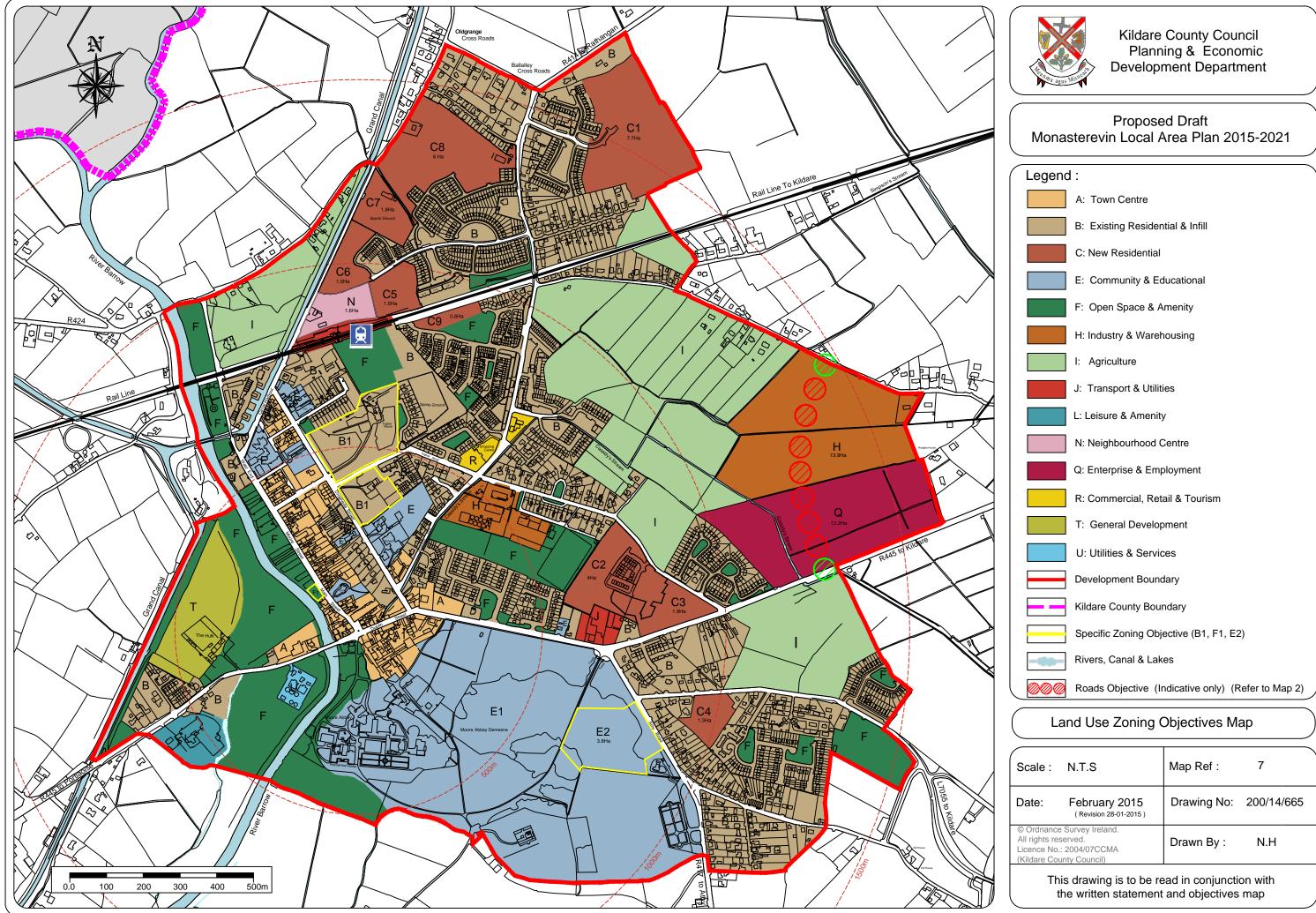
It is anticipated based on information available from the OPW that catchment-based Flood Planning Groups should be operational soon after adoption of the Monasterevin Local Area Plan.

The catchment-based Flood Planning Groups will monitor and review progress in addressing flood risk in the County with reference to the "The Planning System and Flood Risk Management Guidelines", the EU Floods Directive and this Strategic Flood Risk Assessment together with other data sources as they become available.

It is recommended that the relevant statutory bodies and the catchment based Flood Planning Groups are consulted, and that their progress in implementation of the requirements of the EU Flood Directive be reviewed prior to the preparation of any new Monasterevin Local Area Plan.

### **APPENDIX I**

### LAND-USE MAP FOR DRAFT MONASTEREVIN LAP 2015 - 2021

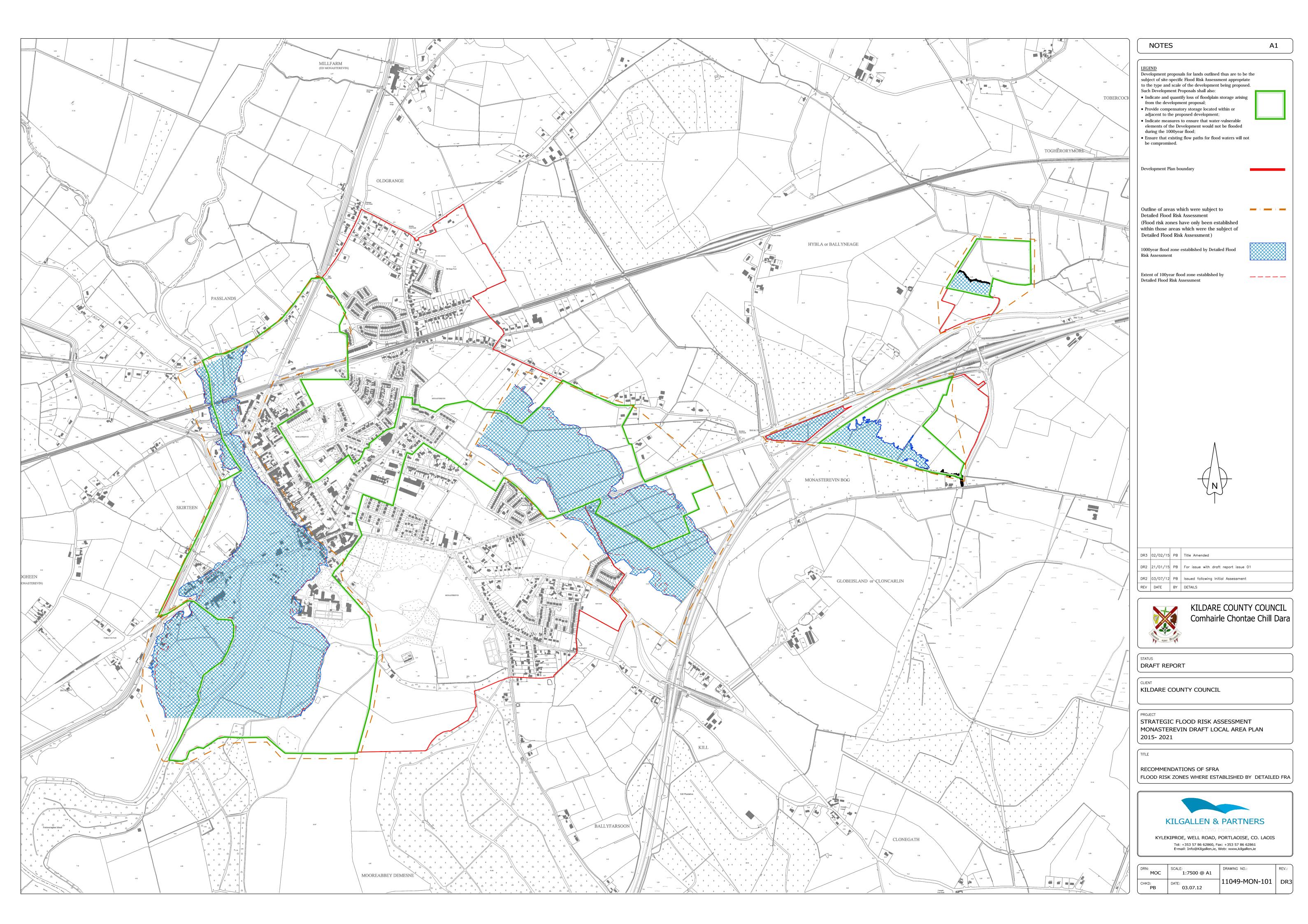




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Ordnance Survey Ireland. Il rights reserved. cence No.: 2004/07CCMA (ildare County Council)		Drawn By :	N.H
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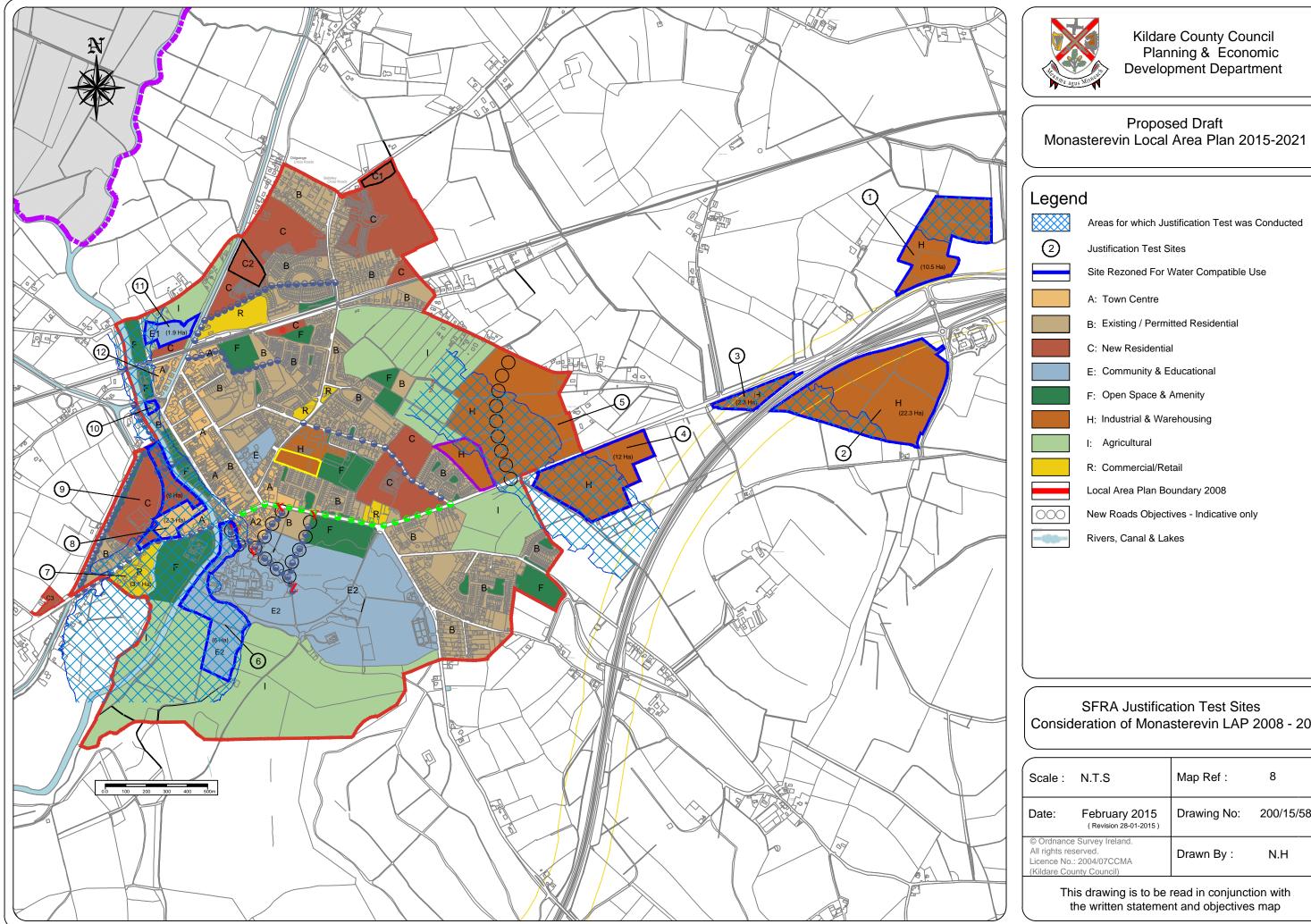
## **APPENDIX II**

# MAPS SHOWING RECOMMENDATIONS OF SFRA AND FLOOD RISK ZONES ESTABLISHED BY DETAILED FRA



## **APPENDIX III**

# **Records of Justification Tests**





# Consideration of Monasterevin LAP 2008 - 2014

cale :	N.T.S	Map Ref :	8
ate:	February 2015 (Revision 28-01-2015)	Drawing No:	200/15/588
rights re ence No	e Survey Ireland. served. .: 2004/07CCMA unty Council)	Drawn By :	N.H
This drawing is to be read in conjunction with			

	Monasterevin Local Area Plan 2014	Site No 1 H Industrial and Warehousing
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town situated in the Hinterland Area.	(Mayfield- north of the M7 interchange) Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of economic activity to cater for its urban area and large rural hinterland. Under the Monasterevin LAP 2008-2014 there remains c.72 ha of undeveloped Industrial and Warehousing zoned land in Monasterevin
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	<ul> <li>The subject site extends to c. 10.5 ha, is zoned H: Industrial and Warehousing and is located approximately 3.3km east of the town centre. This zoning provides for a wide range of uses including warehousing, HGV parking, industry, light industry, workshop, care repairs etc.</li> <li>The site is currently undeveloped. An Bord Pleanala recently refused planning permission for a mixed use industrial and commercial estate on this site for the following reasons: <ul> <li>Site is in a rural area removed from the settlement of Monasterevin.</li> <li>Access would require amending the existing motorway interchange junction.</li> <li>Proposed development would create additional traffic on the interechange</li> <li>Proposed development would compromise the level of service and carrying capacity of the national road network, would fail to protect public investment and would set an undesirable precedent.</li> <li>Availability of alternative lands within the LAP boundary.</li> <li>Lack of infrastructure to serve the site</li> <li>Distance from public transport services or residential areas, which will result in additional car dependency for future users of the site.</li> <li>Inappropriate design of the proposed new roundabout to facilitate access to the proposed development.</li> </ul> </li> </ul>

	<ul> <li>(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;</li> </ul>	The proposed zoning is significantly removed from the centre of Monasterevin and not considered necessary to facilitate regeneration and / or expansion of the centre of the urban settlement.
	<ul> <li>(ii) Comprises significant previously</li> <li>developed and / or under utilized lands;</li> </ul>	The lands do not comprise previously developed lands. The land appears to be in use for agricultural purposes.
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is not located within or adjoining the core The site is significantly removed from the edge of the settlement of Monasterevin, in an area characterised by agricultural uses.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	Given the location of the site, removed from the edge of the settlement, the development of this area is not considered essential in achieving compact and sustainable urban growth.
	<ul> <li>(v) There are no suitable alternative lands</li> <li>for the particular use or development</li> <li>type, in areas at lower risk of flooding</li> <li>within or adjoining the core of the urban</li> <li>settlement.</li> </ul>	There are other more suitable lands located closer to the urban settlement.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	While the SFRA does not anticipate that flood waters would rise significantly above ground level, the risk of flooding at part of the site remains. Having failed to pass the Justification Test, the SFRA recommends that the lands at risk of flooding be reclassified for water compatible development only in accordance with the Flood Risk Management Guidelines.
		<ul> <li>Development of the lands for water compatible uses must include such mitigation measure as are required to ensure that:</li> <li>(i) There is no net reduction in the volume of floodplain storage contained within the lands being developed:</li> <li>(ii) Existing flow paths will not be compromised;</li> <li>(iii) Surface water runoff from development to be limited to the existing Greenfield run off from the site in accordance with the GDSDS</li> </ul>

	Monasterevin Local Area Plan 2014	Site No 2 H: Industrial and Warehousing
		(Mayfield – south west of the M7 Interchange)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of economic activity to cater for its urban area and large rural hinterland. Under the Monasterevin LAP 2008-2014there remains c.72 ha of undeveloped Industrial and Warehousing zoned land exists in Monasterevin
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c. 22.3 ha and is zoned H: Industrial and Warehousing and is located approximately 3km east of the town centre and immediately to the west of the Motorway Service Station. The H zoning provides for a wide range of uses including warehousing, HGV parking, industry, light industry, workshop, care repairs etc. The site is currently undeveloped. There is no planning history associated with this site.
	<ul> <li>(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;</li> </ul>	The proposed zoning is significantly removed from the centre of Monasterevin and not considered necessary to facilitate regeneration and / or expansion of the centre of the urban settlement.
	(ii) Comprises significant previously developed and / or under utilized lands;	The lands do not comprise previously developed lands. The land appears to be in use for agricultural purposes.
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is not located within or adjoining the core of Monasterevin. The site is significantly removed from the edge of the settlement of Monasterevin, in an area mostly characterised by agricultural uses.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	Given the location of the site, removed from the edge of the settlement, the development of this area is not considered essential in achieving compact and sustainable urban growth.

	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	There are other more suitable lands located closer to the urban settlement.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	<ul> <li>While the SFRA does not anticipate that flood waters will rise significantly above ground level, the risk of flooding at part of the site remains. Having failed to pass the Justification Test, the SFRA recommends that the lands at risk of flooding be reclassified for water compatible development only in accordance with the Flood Risk Management Guidelines.</li> <li>Development of these lands for water compatible uses must include such mitigation measure as are required to ensure that: <ul> <li>(i) There is no net reduction in the volume of floodplain storage contained within the lands being developed:</li> <li>(ii) Existing flow paths will not be compromised;</li> <li>(iii) Surface water runoff from development to be limited to the existing Greenfield run off from the site in accordance with the GDSDS</li> </ul> </li> </ul>

	Monasterevin Local Area Plan 2014	Site No 3 H Industrial and Warehousing
		(located between M7 and the N7)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of economic activity to cater for its urban area and large rural hinterland. Under the Monasterevin LAP 2008-2014 there remains c.72 ha of undeveloped Industrial and Warehousing zoned land exists in Monasterevin.
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c. 2.3ha and is zoned H: Industrial and Warehousing and is located approximately 3km east of the town centre. The site is bounded to the south by the M7 and to the north by the N7. The H zoning provides for a wide range of uses including warehousing, HGV parking, industry, light industry, workshop, care repairs etc. The site currently remains undeveloped. The entire site is impacted by the flood zone.
	<ul> <li>(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;</li> </ul>	The proposed zoning is significantly removed from the centre of Monasterevin and not considered necessary to facilitate regeneration and / or expansion of the centre of the urban settlement.
	<ul> <li>(ii) Comprises significant previously</li> <li>developed and / or under utilized lands;</li> </ul>	The lands do not comprise previously developed lands. The land appears to be in use for agricultural purposes.
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is not located within or adjoining the core The site is significantly removed from the edge of the settlement of Monasterevin, in an area mostly characterised by agricultural uses.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	Given the location of the site, removed from the edge of the settlement, the development of this area is not considered essential in achieving compact and sustainable urban growth.

	(v) There are no suitable alternative lands	Due to location of the site removed from the town,
	for the particular use or development	the restricted nature of the site between the N7 and
	type, in areas at lower risk of flooding	M7, the availability of alternative sites and given the
	within or adjoining the core of the urban	site which is affected by flooding, the continued
	settlement.	zoning of this site is not considered necessary.
	SFRA	
3	SFRA must demonstrate that flood risk to	The site is significantly affected by Flood Risk. Having
	the development can be adequately	failed to pass the Justification Test, the SFRA
	managed and the use or development of	recommends that the subject lands be reclassified for
	the lands will not cause unacceptable	water compatible development only in accordance
	adverse impacts elsewhere.	with the Flood Risk Management Guidelines.
		Development of the lands for water compatible uses
		must include such mitigation measure as are required
		to ensure that:
		(i) There is no net reduction in the volume of
		floodplain storage contained within the lands being developed:
		(ii) Existing flow paths will not be compromised;
		(iii) Surface water runoff from development to be
		limited to the existing Greenfield run off from
		the site in accordance with the GDSDS
		(iv)

	Monasterevin Local Area Plan 2014	Site No 4 H Industrial and Warehousing (located
		south of the N7 on the eastern edge of town)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of economic activity to cater for its urban area and large rural hinterland. Under the Monasterevin LAP 2008-2014 there remains c.72 ha of of undeveloped Industrial and Warehousing land exists in Monasterevin.
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c. 12 ha and is zoned H: Industrial and Warehousing and is located on the eastern edge of the town boundary. The H zoning provides for a wide range of uses including warehousing, HGV parking, industry, light industry, workshop, care repairs etc. The site currently remains undeveloped.
	(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;	This site adjoins lands zoned B: Existing Residential and I: Agricultural and is within walking distance of the town centre. Cassidy's Stream runs along the western boundary of the site. The site is not considered necessary to facilitate regeneration and / or expansion of the centre of the urban settlement.
	(ii) Comprises significant previously developed and / or under utilized lands;	The site is undeveloped.
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is located on the eastern edge of the town boundary adjoining lands zoned for B: Existing Residential & Infill and I: Agricultural.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	Given the location of the site, removed from the edge of the settlement and separated from the town by an area of agricultural land, the development of this area is not considered essential in achieving compact

		and sustainable urban growth.
	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	There is an area of c. 25ha zoned Industrial and Warehousing land located closer to the urban centre of Monasterevin. Much of the lands are located within the floodlines.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	The SFRA does not anticipate that flood waters will rise substantially above ground level in the area at risk of flooding. Careful design should allow development which ensures that water vulnerable elements are not at risk of flooding without undermining the strategic land use envisaged in the Local Area Plan. It is recommended that development of these lands be accompanied by a Site Specific Flood Risk Assessment appropriate to the nature and scale of development being proposed. Such development proposals shall also: 1)Indicate and quantify loss of flooplain storage arising from the development proposal; 2) Provide compensatory storage located within or adjacent to the proposed development; 3) Indicate measures to ensure that water vulnerable elements of the development would not be flooded during the 1000 year flood (in this regard, a freeboard
		of 500,, shall be provided); 4) Ensure that existing flow paths for flood waters will not be compromised.

	Monasterevin Local Area Plan 2014	Site No 5 H Industrial and Warehousing
		(located to the north of N7 on the eastern edge of
		town boundary)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Maynooth as a Large Growth Town II situated in the Metropolitan Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of economic activity to cater for its urban area and large rural hinterland. Under the Monasterevin LAP 2008-2014 there
		remains c.72 ha of undeveloped Industrial and Warehousing land exists in Monasterevin .
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c. 25ha and is zoned H: Industrial and Warehousing and is located on the eastern edge of the town boundary. The H zoning provides for a wide range of uses including warehousing, HGV parking, industry, light industry, workshop, care repairs etc.
		The site currently remains undeveloped.
	<ul> <li>(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;</li> </ul>	Cassidy's Stream runs through the site. The site is located within easy walking distance of the Main Street, the train station and adjoining existing residential areas.
	<ul> <li>(ii) Comprises significant previously</li> <li>developed and / or under utilized lands;</li> </ul>	The site remains undeveloped.
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site adjoins an existing residential area. It also provides an opportunity for appropriate employment development providing for economic growth.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	The site provides a logical extension of the town due to its location proximate to the town centre close to shops and services, residential and amenity lands.
	<ul><li>(v) There are no suitable alternative lands</li><li>for the particular use or development</li><li>type, in areas at lower risk of flooding</li></ul>	These lands are required to be zoned in order for Monasterevin to provide sufficient lands at an appropriate location to accommodate economic

	within or adjoining the core of the urban settlement.	growth and development. These lands will facilitate the appropriate sustainable development of Monasterevin in line with the Core Strategy of the Kildare County Development Plan 2011-2017. Therefore it is considered appropriate to retain the zoning of this site subject to appropriate flood mitigation measures prior to development.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	The SFRA does not anticipate that flood waters will rise substantially above ground level n the area at risk of flooding. Careful design should allow development which ensures that water vulnerable elements are not at risk of flooding without undermining the strategic land use envisaged in the Local Area Plan. It is recommended that development of these lands be accompanied by a Site Specific Flood Risk Assessment appropriate to the nature and scale of development being proposed. Such development proposals shall also : 1)Indicate and quantify loss of floodplain storage arising from the development proposal; 2) Provide compensatory storage location within or adjacent to the proposed development; 3) Indicate measures to ensure that water vulnerable elements of the development would not be flooded during the 1000 year flood (in this regard a freeboard of 500m shall be provided) 4) Ensure that existing flow paths for flood water will not be compromised.

	Monasterevin Local Area Plan 2014	Site No 6 E2: Community and Education
		(Moore Abbey lands east of River Barrow)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have community and education facilities sufficient to cater for its urban area and large rural hinterland.
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c. 6ha and is zoned E2: Community and Education. This zoning specifically provides for local civic, religious, community and educational facilities including health care, sheltered housing, childcare, fire station, courthouse, schools, churches, meeting halls etc. These lands are to be the subject of a Masterplan. These lands adjoin the Moore Abbey complex, however are largely undeveloped. The River Barrow runs alongside the western boundary of the site. Moore Abbey has long standing established educational/community uses located in close proximity to the town centre area and to existing residential areas which is conducive to a sustainable and compact pattern of urban development.
	(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;	The site is removed from the town centre area. The promotion and encouragement of educational and community uses, in and around the town centre area leads to the creation of the most sustainable pattern of urban development. It should be noted that part of this site was originally identified to provide a secondary school, however in recent months an alternative site within Moore Abbey Demesne which is not affected by flooding has been identified.
	(ii) Comprises significant previously developed and / or under utilized lands;	The section of the site impacted by flood zones is largely undeveloped and forms part of the Moore Abbey lands.

	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is located within 1,000m of the centre of Monasterevin, which is characterised by commercial, residential and town centre uses.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	The site could facilitate the expansion of community related uses in the area, complimenting the existing established use of the Moore Abbey lands.
	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The entire site along the River Barrow is affected by flooding; however an alternative site has been identified for the provision of a school. Therefore it is considered appropriate to zone this site for water compatible uses.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	Having failed to pass other elements of the Justification Test, the SFRA recommends that the subject lands be reclassified for water compatible development only in accordance with the Flood Risk Management Guidelines.
		<ul> <li>Development of the lands for water compatible uses must include such mitigation measures as are required to ensure that:</li> <li>(i) There is no net reduction in the volume of floodplain storage contained within the lands being developed;</li> <li>(ii) Existing flow paths will not be compromised;</li> <li>(iii) Surface water runoff from development to be limited to the existing Greenfield run off from the site in accordance with the GDSDS.</li> </ul>

	Monasterevin Local Area Plan 2014	Site No 7 R: Commercial Retail Tourism
		(Site of Hazel Hotel east of River Barrow)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of commercial economic activity to cater for its urban area and large rural hinterland.
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to C. 3.1 ha and is zoned R: Commercial/ Retail/ Tourism. This zoning specifically provides for retail, office, hotel and other commercial development. This zoning provides for new commercial development and the expansion of the existing hotel. The River Barrow runs to the east of the site. The site has a long standing established hotel use located in relative close proximity to the town centre area and to existing residential areas which is conducive to a sustainable and compact pattern of urban development.
	(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;	The site is located in close proximity to the town centre area. The promotion and encouragement of commercial and retail uses, in and around the town centre leads to the creation of the most sustainable pattern of urban development. In light of sustainability principles and the established largely developed nature of the site the continued zoning of this site is appropriate.
	<ul> <li>(ii) Comprises significant previously developed and / or under utilized lands;</li> </ul>	The site is largely developed.
	(iii) Is within or adjoining the core of an established or designated urban	The site is located in relatively close proximity to the centre of Monasterevin, which is characterised by

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	settlement;	commercial, residential and town centre uses.
	(iv) Will be essential in achieving compact	The site could facilitate the continued
	and sustainable urban growth; and	hotel/commercial use in the area.
	(v) There are no suitable alternative lands	There is an established hotel use at this location.
	for the particular use or development	Much of the area located within the flood risk zone is
	type, in areas at lower risk of flooding	used for car parking associated with the hotel. Given
	within or adjoining the core of the urban	the foregoing and the established nature of the uses
	settlement.	relocation is not considered appropriate.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	<ul> <li>The SFRA notes that the site is already developed.</li> <li>It is recommended that re-development of these lands be accompanied by a Site Specific Flood Risk Assessment appropriate to the nature and scale of development being proposed. Such development proposals shall also:</li> <li>1) Indicate and quantify loss of floodplain storage arising from the development proposal;</li> <li>2) Provide compensatory storage located within or adjacent to the proposed development;</li> <li>3) Indicate measures to ensure that water vulnerable elements of the development would not be flooded during the 1000 year flood (in this regard a freeboard of 500mm shall be provided);</li> <li>4) Ensure the existing flow paths for flood waters</li> </ul>

	Monasterevin Local Area Plan 2014	Site No 8 A: Town Centre
		(Town Centre site west of River Barrow)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of economic activity to cater for its urban area and large rural hinterland.
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to C. 3.5ha and is zoned A: Town Centre. This zoning specifically provides for the development and improvement of appropriate town centre uses including retail, commercial, office, health, educational and civic uses. Thepurpose of this zoning is to protect and enhance the special character of Monasterevin town centre and to provide for and improve retailing, residential, commercial, office, cultural and appropriate other uses. The River Barrow runs to the east of the site. The site is located in relative close proximity to the town centre area and to existing residential areas which is conducive to a sustainable and compact pattern of urban development.
	(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;	The site is located in close proximity to the town centre area, with the river separating the site from the main town centre area. The promotion and encouragement of commercial and retail uses, in and around the town centre leads to the creation of the most sustainable pattern of urban development. In light of sustainability principles and the established nature of the site the continued zoning of this site is appropriate.
	<ul> <li>(ii) Comprises significant previously</li> <li>developed and / or under utilized lands;</li> </ul>	The site is largely underutilised with a semi derelict petrol station/car show room occupying the site.

	established or designated urban settlement;	centre of Monasterevin, which is characterised by commercial, residential and town centre uses. Much of the area to the rear of the site remains undeveloped.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	The site is located in close proximity to the town centre area providing essential services to the residents of the town centre and the wider area within the town. The promotion and encouragement of a variety of uses, including educational and community uses, in
		and around the town centre leads to the creation of the most sustainable pattern of urban development.
		In light of the location of this site close to the existing town centre, it is considered appropriate to retain part of the Town Centre zoning along the road way. The remainder of the site which is undeveloped should be zone for water compatible uses.
	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	There is an historical commercial use in operation at this location to the front of the site. However much of the area located within the flood risk zone remains undeveloped. It is considered appropriate to rezone the area to the rear of the site that is undeveloped and is located within the flood risk zone.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	In relation to the part of the site which is already developed, it is recommended that any re- development of the developed areas of the lands be accompanied by a Site Specific Flood Risk Assessment appropriate to the nature and scale of development being proposed. Such development proposals shall also:
		<ol> <li>Indicate and quantify loss of floodplain storage arising from the development proposal;</li> <li>Provide compensatory storage located within or adjacent to the proposed development</li> <li>Indicate measure to ensure that water vulnerable elements of the development would not be flooded during the 1000 year flood (in this regard, a freeboard of 500mm shall be provided)</li> <li>Ensure that existing flow paths for flood waters</li> </ol>

	wi	ll not be compromised.
	to pas theref undev for wa mitiga (i)	emainder of the site which is undeveloped failed as other elements of the Justification Test, fore, the SFRA recommends that the veloped area of the subject lands be reclassified ater compatible uses must include such ation measures as are required to ensure that: There is no net reduction in the volume of floodplain storage contained within the lands being developed;
	(ii)	Existing flow paths will not be compromised
	(iii)	Surface water runoff from development to be
		limited to the existing greenfield run off from
		the site in accordance with the GDSDS.

	Monasterevin Local Area Plan 2014	Site No 9 C: New Residential
		(The Hulk, west of the River Barrow)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. Arising from the RPGs and the County Development Plan 2011-2017, a growth target of an additional 475 residential units is prescribed for Monasterevin over the period 2006-2017. In achieving this figure regard must be had to the un-built units with valid permissions currently in existence as well as the residential units constructed since 2006.
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site is zoned C: New Residential and comprises c. 9 ha. This zoning specifically provides for new residential development as well as other services incidental to residential development. This purpose of this zoning is to protect and enhance the special character of Monasterevin town centre and to provide for and improve retailing, residential, commercial, office, cultural and appropriate other uses. The River Barrow runs to the east of the site. The site is located in close proximity to the town centre area and to new residential areas which is conducive to a sustainable and compact pattern of urban development.
	(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;	The site is located in close proximity to the town centre area, with the river separating the site from the main town centre area. The promotion and encouragement of residential uses, in and around the town centre leads to the creation of the most sustainable pattern of urban development. In light of the extent of the area of the site located within the flood risk area, it is considered appropriate

		to rezone part of the site to reflect the floodlines.
	<ul> <li>(ii) Comprises significant previously developed and / or under utilized lands;</li> </ul>	The site is undeveloped apart from The Hulk (Charter School) building and its associated structures located on the site.
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is located in relatively close proximity to the centre of Monasterevin, which is characterised by commercial, residential and town centre uses.
	(iv) Will be essential in achieving compact and sustainable urban growth; and	The site is located in close proximity to the town centre area. The promotion and encouragement of a variety of uses, including new residential, community and cultural deveopment, in and around the town centre leads to the creation of the most sustainable pattern of urban development.
		However, in light of the extent of the site which is located within the flood risk area it is considered appropriate to reclassify part of these lands that area located within the floodlines for water compatible development only.
	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The Hulk structure and its curtilage are located on the subject site. Apart from The Hulk, the site located both within and outside the flood risk zone remains undeveloped. Given the sensitive nature of The Hulk structure coupled with the extent of the site affected by flood risk, it is considered appropriate to reclassify the part of the lands located within the flood risk area for water compatible development only.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	That part of the lands located within the flood risk zone has failed to pass other elements of the Justification Test. Therefore the SFRA recommends that this part of the lands be reclassified for water compatible development only in accordance with the Flood Risk Management Guidelines.
		<ul> <li>Development of the lands for water compatible uses must include such mitigation measures as area required to ensure that :</li> <li>(i) There is no net reduction in the volume of floodplain storage contained within the lands</li> </ul>

being developed;
(ii) Existing flow paths will not be compromised;
(iii) Surface water runoff from development be
limited to the existing Greenfield run off from
the site in accordance with the GDSDS.
Where development of those lands located outside
the flood risk zones requires access
roads/footpaths/cycleways through the flood risk
zone, the development proposal must be
accompanied by a Site Specific Flood Risk Assessment
appropriate to the nature and scale of the access
being proposed. Such development proposals shall
also:
1) Indicate and quantify loss of floodplain
storage arising from the access;
2) Provide compensatory storage located
within or adjacent to the proposed
development;
3) Indicate measures to ensure that the access
would not be flooded during the 100 year
flood;
4) Ensure that existing flow paths for flood
waters will not be compromised.

	Monasterevin Local Area Plan 2013 Site No 10: B: Existing Residential and Infill	
	Wohasterevin Local Area Hail 2015	(Playground Site (part of) located east of River
		Barrow)
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of recreational development to cater for its urban area and large hinterland area. Arising from the RPGs and the County Development Plan 2011-2017, a growth target of an additional 475 residential units is prescribed for Monasterevin over the period 2006-2017. In achieving this figure regard must be had to the un-built units with valid permissions currently in existence as well as the residential units constructed since 2006.
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c.0.76 ha and is zoned B Existing Residential & Infill. The purpose of this zoning is to protect and improve existing residential amenity; to provide for appropriate infill residential development; to provide for new and improved ancillary services. The River Barrow runs to the west of the site. The playground is located on this site.
	<ul> <li>(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;</li> </ul>	The site is located in close proximity to the town centre area. In light of sustainability principles and the established nature of the site the continued zoning of this site is appropriate.
	(ii) Comprises significant previously developed and / or under utilized lands;	With the playground being completed, the site is developed.
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is located in relatively close proximity to the centre of Monasterevin, which is characterised by commercial, residential and town centre uses. Much of the area to the rear of the site remains undeveloped.

	(iv) Will be essential in achieving compact and sustainable urban growth; and	The site is located in close proximity to the town centre area providing essential services to the residents of the town centre and the wider area within the town. The promotion and encouragement of a variety of uses, including community uses, in and around the town centre leads to the creation of the most sustainable pattern of urban development. In light of the location of this site and it's largely developed nature, close to the existing town centre, it is considered appropriate to retain the zoning on the subject site with the area of the site that accommodates the playground changed to Open Space and Amenity to reflect its current usage.
	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	However given the developed nature of the southern part of the site and the relatively flood compatible land use established on the remainder of the site, its location in close proximity to the town centre and residential areas is considered appropriate to retain part of the site zoned as Residential and Infill and the remainder of the site zoned for Open Space and Amenity uses.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	<ul> <li>The SFRA notes that the site is already developed.</li> <li>It is recommended that the re-development of these lands be accompanied by a Site Specific Flood Risk</li> <li>Assessment appropriate to the nature and scale of development being proposed. Such development proposals shall also:</li> <li>1) Indicate and quantify loss of floodplain storage arising from the development proposal;</li> <li>2) Provide compensatory storage located within or adjacent to the proposed development;</li> <li>3) Indicate measures to ensure that water vulnerable elements of the development would not be flooded during the 1000 year flood (in this regard, a freeboard of 500mm shall be provided);</li> <li>4) Ensure that existing flow paths for flood waters will not be compromised.</li> </ul>

	Monasterevin Local Area Plan 2013	Site No 11 E1: Community and Education		
		(site north of the railway line)		
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of community and education facilities to cater for the urban area and its large hinterland area.		
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c. 1.95ha and is zoned E1: Community and Education. This zoning specifically provides for local civic, religious, community and educational facilities including health care, sheltered housing, childcare, fire station, courthouse, schools, churches, meeting halls etc. There is a specific objective for this site to provide for a retirement village and all ancillary services. This community and education site is located in close proximity to the town centre area and to existing residential areas which is conducive to a sustainable and compact pattern of urban development.		
	(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;	The site is located adjoining or in close proximity to the town centre area. The promotion and encouragement of community uses, in and around the town centre leads to the creation of the most sustainable pattern of urban development. In light of sustainability principles and small area affected by the risk, the continued zoning of this site is considered to be appropriate.		
	(ii) Comprises significant previously developed and / or under utilized lands;	The section of the site impacted by flood zones is undeveloped and forms part of a larger site.		
	(iii) Is within or adjoining the core of an established or designated urban settlement;	The site is located within 1,000m of the centre of Monasterevin, which is characterised by commercial, residential and town centre uses.		

	(iv) Will be essential in achieving compact and sustainable urban growth; and	The site is located in close proximity to other complimentary land uses.	
	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Only part of the site is affected by flooding. It is considered appropriate to retain the zoning of this site. It may be appropriate to ensure that the site is developed in such a way that ensures that all water compatible uses are located in the area affected by flooding.	
	SFRA		
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	<ul> <li>The extent of these lands which is at risk of flooding is not of such significance as to undermine strategically the land use proposed in the Local Area Plan.</li> <li>It is recommended that development of lands be accompanied by a site specific Flood Risk Assessment appropriate to the nature and scale of development being proposed. Such development proposals shall also: <ol> <li>Indicate and quantify loss of floodplain storage arising from the development proposal.</li> <li>Provide compensatory storage located within or adjacent to the proposed development;</li> <li>Indicate measures to ensure that water vulnerable elements of the development would not be flooded during the 1000 year flood (in this regard, a free boards of 500mm shall be provided)</li> <li>Ensure that existing flow paths for flood waters will not be compromised.</li> </ol> </li> </ul>	

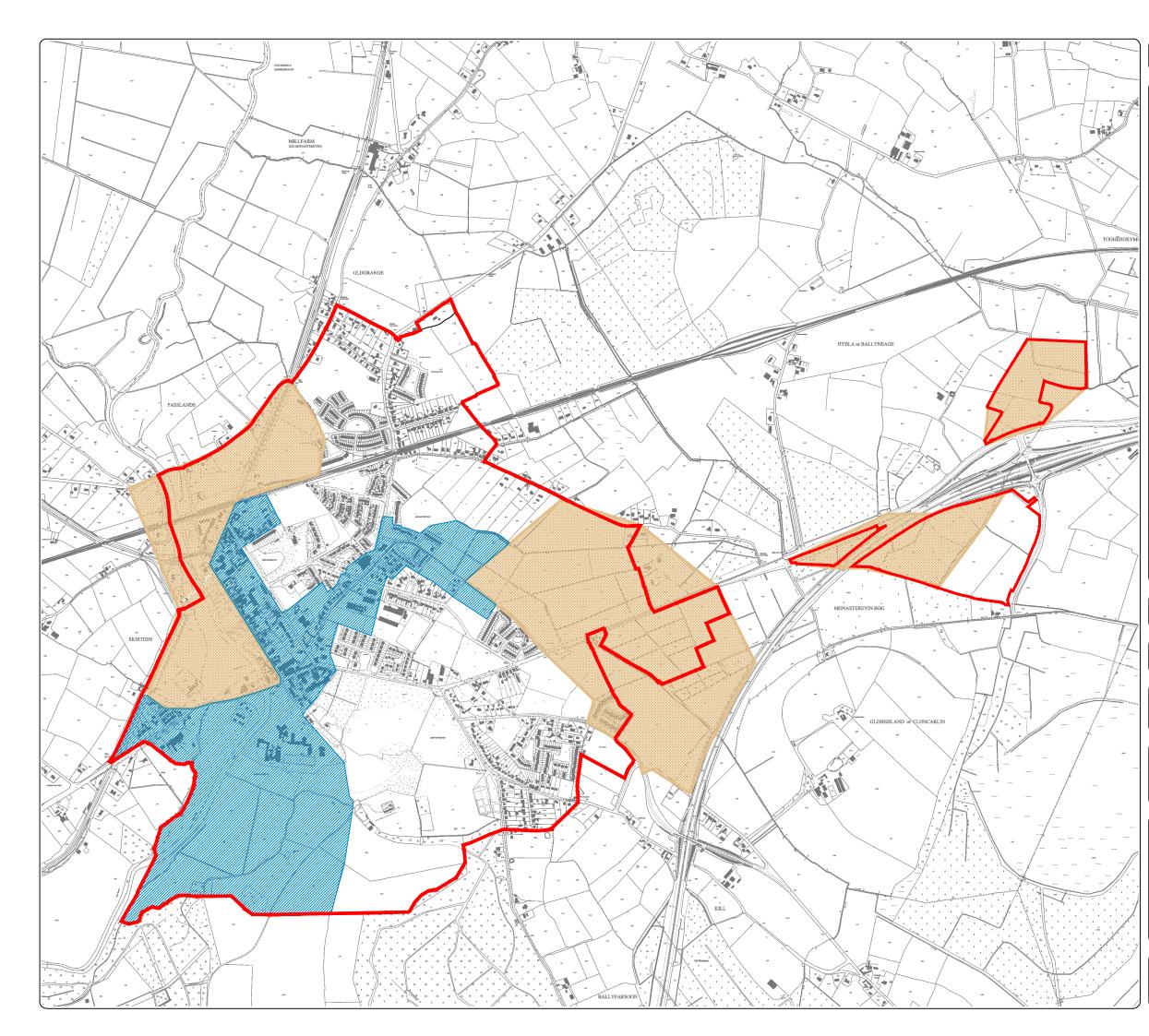
	Monasterevin Local Area Plan 2014	Site No 12 : Town Centre		
		(Town Centre site east of River Barrow)		
1	The Regional Planning Guidelines for the Greater Dublin Area 2010-2022 set out the planned direction for growth within the Greater Dublin Area up to 2022 by giving regional effect to national planning policy under the National Spatial Strategy (NSS). The RPG's have designated Monasterevin as a Moderate Sustainable Growth Town in the Hinterland Area.	Monasterevin's role as a Moderate Sustainable Growth Town is to develop in a self sufficient manner reducing commuting levels and ensuring sustainable levels of housing growth, providing a full range of local services adequate to meet local needs at district level and for surrounding rural areas. The town should have levels of economic activity to cater for its urban area and the large hinterland area.		
2	The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and in particular:	The subject site extends to c. 045ha and is zoned A: Town Centre. This zoning specifically provides for the development and improvement of appropriate town centre uses including retail, commercial, office, health, educational and civic uses. This purpose of this zoning is to protect and enhance the special character of Monasterevin town centre and to provide for and improve retailing, residential, commercial, office, cultural and appropriate other uses.		
		The River Barrow runs to the east of the site. The site is located adjacent to the main town centre area and to residential areas which is conducive to a sustainable and compact pattern of urban development.		
	<ul> <li>(i) Is essential to facilitate regeneration and / or expansion of the centre of the urban settlement;</li> </ul>	The site is located in the town centre area. The promotion and encouragement of commercial and retail uses, in and around the town centre leads to the creation of the most sustainable pattern of urban development. In light of sustainability principles and the established nature of the site the continued zoning of this site is appropriate.		
	<ul> <li>(ii) Comprises significant previously</li> <li>developed and / or under utilized lands;</li> </ul>	The site is largely developed.		
	<ul> <li>(iii) Is within or adjoining the core of an established or designated urban settlement;</li> </ul>	The site is located in the centre of Monasterevin, which is characterised by commercial, residential and town centre uses.		

	(iv) Will be essential in achieving compact and sustainable urban growth; and	The site is located in close proximity to the town centre area providing essential services to the residents of the town centre and the wider area within the town. The promotion and encouragement of a variety of uses in and around the town centre leads to the creation of the most sustainable pattern of urban development. In light of the location of this site close to the existing town centre, it is considered appropriate to retain the Town Centre zoning.
	(v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	The subject site is developed and there is an established commercial use in operation at this location. It is considered appropriate to retain the town centre zoning.
	SFRA	
3	SFRA must demonstrate that flood risk to the development can be adequately managed and the use or development of the lands will not cause unacceptable adverse impacts elsewhere.	<ul> <li>The SFRA notes that this site is already developed.</li> <li>It is recommended that the re-development of these lands be accompanied by a Site Specific Flood Risk Assessment appropriate to the nature and scale of development being proposed. Such development proposals shall also: <ol> <li>Indicate and quantify loss of floodplain storage arising from the development proposal;</li> </ol> </li> <li>Provide compensatory storage located within or adjacent to the proposed development;</li> <li>Indicate measures to ensure that water vulnerable elements of the development would not be flooded during the 1000 year flood (in this regard, a freeboard of 500mm shall be provided); Ensure that existing flow paths for flood waters will not be compromised.</li> </ul>

# **APPENDIX IV**

## MONASTEREVIN DRAFT LOCAL AREA PLAN - DRAFT LAND-USE MAP

# MAPS SHOWING FINDINGS INITIAL ASSESSMENT INCLUDING THOSE AREAS FOR WHICH SITE-SPECIFIC FLOOD RISK ASSESSMENT WAS RECOMMENDED



# NOTES

#### LEGEND

Development proposals for lands outlined thus are to be the subject of site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed.

Lands for which detailed FRA is required

Boundary of Plan

DR2	02/12/15	pb	Title amended
REV	DATE	BY	DETAILS

status PLANNING

CLIENT KILDARE COUNTY COUNCIL

PROJECT STRATEGIC FLOOD RISK ASSESSMENT MONASTEREVIN LOCAL AREA PLAN 2015 TO 2021

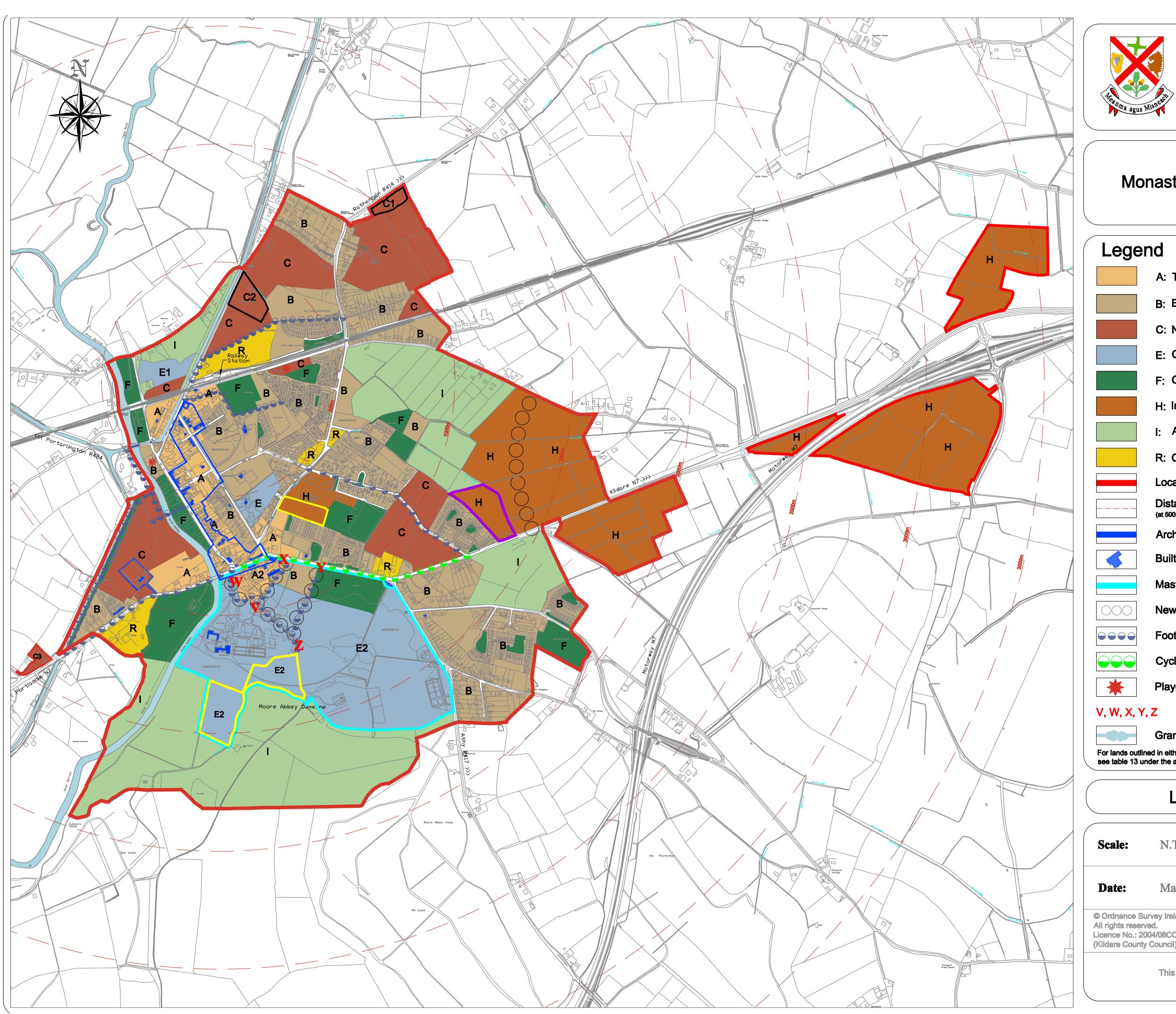
TITLE RECOMMENATIONS FOR MONASTEREVIN ARISING FROM INITIAL ASSESSMENT

KILGALLEN & PARTNERS

CONSULTING ENGINEERS

KYLEKIPROE, WELL ROAD, PORTLAOISE, CO. LAOIS Tel: +353 57 86 62860, Fax: +353 57 86 62861 E-mail: Info@Kilgallen.ie, Web: www.kilgallen.ie

DRN:	SCALE:	MAP No.	REV.:
PB	1:15,000@A3	3	
CHKD:	DATE:	11049-MONST-01	DR2
МК	03/07/2012		



Kildare County Council Planning Department Áras Chill Dara, Devoy Park Naas Co. Kildare

# Monasterevin Local Area Plan 2008

ege	nd
	A: Town Centre
	B: Existing / Permitted Residential
	C: New Residential
	E: Community & Educational
	F: Open Space & Amenity
	H: Industrial & Warehousing
	I: Agricultural
	R: Commercial/Retail
	Local Area Plan Boundary 2008
	Distance from Railway Station (at 500m intervals)
	Architectural Conservation Area
	Built Heritage Items
	Master Plan Objective (Moore Abbey Demesne)
$\bigcirc\bigcirc$	New Roads Objectives - Indicative only
	Footpath and Cycle Track Objectives - Indicative only
	Cycle Track Objective - Indicative only
	Playground
W, X, Y	, Z Refer to section 8.1 of text (Part B)
<b>00</b> -	Grand Canal and River Barrow
	ned in either purple or yellow please Inder the appropriate land use zoning

Land Use Zoning Map (As amended on 30-03-09)				
e:	N.T.S.	Map Ref:	3	
e:	March 30th 2009	<b>Drawing No:</b>	200/07/206	
ance Survey Ireland. ts reserved. No.: 2004/08CCMA County Council)		Drawn By:	D McNally	

This drawing is to be read in conjunction with the written statement