# DRAFT MAYNOOTH AND ENVIRONS JOINT LOCAL AREA PLAN 2025-2031

## STRATEGIC FLOOD RISK ASSESSMENT

MDW0873
SFRA
D02
14 June 2024

rpsgroup.com

## Document status

| Version | Purpose of document | Authored by | Reviewed by | Approved by | Review date |
|---|---|---|---|---|---|
| D01 | Draft | AT | TC | TC | 12/06/2024 |
| D02 | Draft | AT | TC | TC | 14/06/2024 |

## Approval for issue

| | |
|---|---|
| TC | 14 June 2024 |



Prepared by:

**RPS**

Prepared for:

**Kildare County Council**

Dublin | Cork | Galway | Sligo | Kilkenny
rpsgroup.com

RPS Group Limited, registered in Ireland No. 91911
RPS Consulting Engineers Limited, registered in Ireland No. 161581
RPS Engineering Services Limited, registered in Ireland No. 99795
The Registered office of each of the above companies is West Pier Business Campus, Dun Laoghaire, Co. Dublin, A96 N6T7

# Contents

## Tables

## Figures



## Appendices

# 1 INTRODUCTION

## 1.1 Background

Kildare County Council (KCC) and Meath County Council (MCC) have prepared a *Draft Maynooth and Environs Joint Local Area Plan 2025-2031*, referred to hereafter as "Draft Joint Plan", in accordance with the requirements and provisions of the Planning and Development Act 2000, (as amended) (the "Act"). The Draft Joint Plan sets out an overall strategy for the proper planning and sustainable development of the Maynooth and Environs area in the context of the Kildare County Development Plan 2023-2029, the Meath County Development Plan 2021-2027 (as varied), the Regional Spatial and Economic Strategy for the Eastern and Midland Region 2019-2031 and the National Planning Framework (2018). It is informed by Ministerial Guidelines issued pursuant to Section 28 of the Act together with EU requirements regarding Strategic Environmental Assessment (SEA), Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA). The Draft Joint Plan provides a new area plan to replace the Maynooth Local Area Plan 2013 – 2019 Incorporating Amendment No.1 and to replace the written statement for the Maynooth Environs contained in the Meath County Development Plan. The period of the Draft Joint Plan shall be taken as being six years from the date of its adoption or until it is reviewed, or another plan made, unless it is extended under section 19(d) of the Planning and Development Act 2000 (as amended).

KCC commissioned RPS to carry out an SFRA to support and inform the preparation of the Draft Joint Plan. The SFRA is prepared in accordance with the requirements of The Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014) referred to hereafter as "The Guidelines". The SFRA therefore informs policy regarding inappropriate development in areas at risk of flooding and identifies areas where Site Specific Flood Risk Assessments (SSFRAs) should be undertaken for development.

## 1.2 Report Objectives

The objective of this report is to prepare an SFRA for the Draft Joint Plan in accordance with The Guidelines. The SFRA provides an assessment of all types of flood risk within the Draft Joint Plan boundary and allows the Planning Authorities to make informed strategic land-use planning decisions and to formulate flood risk policies. A review of available flood risk information was undertaken to identify any flooding or surface water management issues related to the town that may warrant further investigation.

The best available data at the time of preparation was acquired from the Office of Public Works (OPW) Eastern Catchment Flood Risk Assessment Management (CFRAM) Study. The ECFRAM Study generated flood zone mapping enabled KCC to apply The Guidelines' sequential approach, to appraise sites for suitable land zoning, and identify how flood risk can be managed as part of the development / local area plan.

## 1.3 Disclaimer

The SFRA was prepared in compliance with The Guidelines. The SFRA remains a live document and is based on the best available data at the time of preparation. It is subject to change based on more up to date and relevant flood risk information becoming available during the lifetime of the Draft Joint Plan.

All information in relation to flood risk is provided for general policy guidance only. All landowners and developers are instructed that KCC, and their consultants can accept no responsibility for losses or damages arising due to assessments of the vulnerability to flooding of lands, uses and developments. Furthermore owners, users and developers are advised to take all reasonable measures to assess the vulnerability to flooding of lands in which they have an interest prior to making planning or development decisions.

It should be noted that the CFRAM mapping used to define the flood zones for this SFRA are bound by the disclaimer and other terms and conditions set out by the OPW on the website https://www.floodinfo.ie/map/floodplans/. The website http://www.floodinfo.ie provides access to the published Flood Plans along with the Flood Maps developed by the OPW as part of the CFRAM studies and information about flood risk management in Ireland. Further information on the CFRAM studies is available

at http://www.floodinfo.ie. The flood maps are 'predictive' flood maps, as they provide predicted flood extent and other information for a flood event that has an estimated probability of occurrence (the 1% Annual Exceedance Probability (AEP) and 0.1% AEP events – refer to Section 3.2.3), rather than information on floods that have occurred in the past.

KCC makes no representations, warranties or undertakings about any of the information provided on these maps including, without limitation, their accuracy, their completeness or their quality or fitness for any particular purpose. To the fullest extent permitted by applicable law, KCC nor any of its members, officers, associates, consultants, employees, affiliates, servants, agents or other representatives shall be liable for loss or damage arising out of, or in connection with, the use of, or the inability to use, the information provided on the flood maps including, but not limited to, indirect or consequential loss or damages, loss of data, income, profit, or opportunity, loss of, or damage to, property and claims of third parties, even if KCC has been advised of the possibility of such loss or damages, or such loss or damages were reasonably foreseeable.

KCC reserves the right to change the content and/or presentation of any of the information provided on the flood maps at its sole discretion, including these notes and disclaimer. This disclaimer, guidance notes and conditions of use shall be governed by, and construed in accordance with, the laws of the Republic of Ireland. If any provision of these disclaimer, guidance notes and conditions of use shall be unlawful, void or for any reason unenforceable, that provision shall be deemed severable and shall not affect the validity and enforceability of the remaining provisions.

## 1.4 Report Structure

The Draft Joint Plan area and its primary watercourses are identified in **Section 2**.

A summary of the Planning System and Flood Risk Management Guidelines and the procedure for undertaking an SFRA is presented in **Section 3**.

**Section 4** outlines a broad overview of the requirements of Flood Risk Assessments (FRA) which should accompany planning applications.

The detailed information and data collated as part of the Stage 1 Flood Risk Identification carried out for the study area is discussed in **Section 5**.

**Section 6** documents the Stage 2 Initial Flood Assessment to confirm the sources of flooding that affect Maynooth and presents the information used to prepare the flood zone maps.

Potential zoning areas at risk from flooding are examined and recommendations for Flood Risk Assessments are made in **Section 7**.

**Section 8** details the flood risk management policies and objectives being brought forward to the Draft Joint Plan and lastly **Section 9** provides a summary.

# 2 STUDY AREA

## 2.1 Introduction

The Draft Joint Plan covers the town of Maynooth (in County Kildare) and Maynooth Environs (in County Meath), with the plan area outlined in red as shown in **Figure 2-1**. Maynooth is in north County Kildare along the banks of the Rye Water River and Lyreen River. It is approximately 25km west from Dublin City Centre and north of M4 motorway. The Dublin-Sligo railway line passes through the centre of Maynooth. Census 2022 indicates the town has a population of 17,259.

The Maynooth Environs in County Meath are located on the northern periphery of Maynooth town. The lands are approximately 139 hectares of largely undeveloped zoned lands on the north side of the Rye Water River. It is split by the R157 road which links Maynooth to Dunboyne.

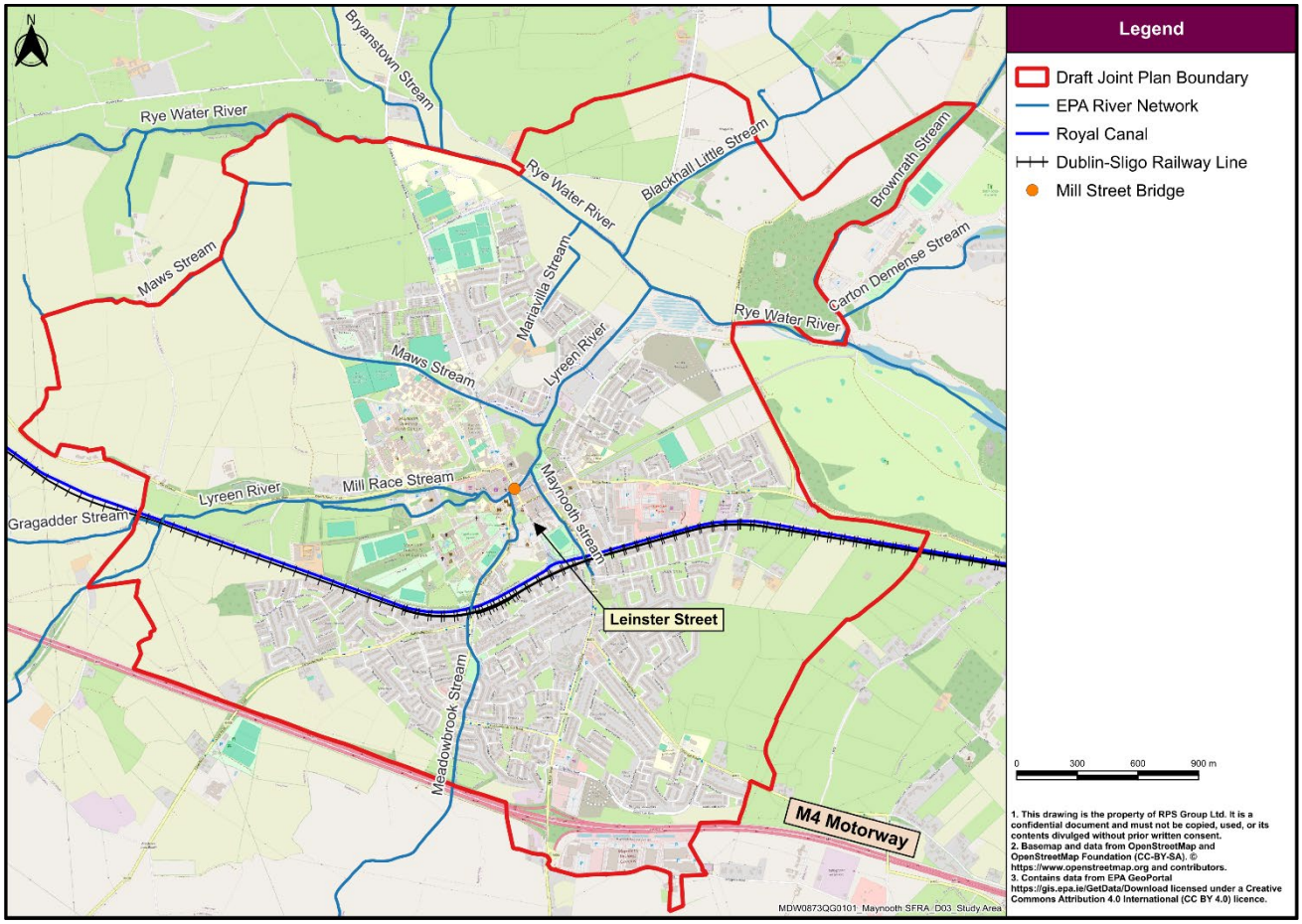



**Figure 2-1 The Draft Joint Plan Boundary and Watercourses**

## 2.2 Watercourses

Several watercourses flow through and around Maynooth including the Rye Water River, Lyreen River and Meadowbrook Stream. The Rye Water River flows west to east across the northern area of Maynooth separating County Kildare from County Meath. The river rises in southern Co. Meath and flows in a south easterly direction passing Kilcock to reach Maynooth, before entering the River Liffey at Leixlip. The Rye Water River catchment is relatively flat with an area of approximately 60.76 Km$^2$. The river forms the part of Arterial Drainage Scheme and immediately downstream of Maynooth, is classified as a Special Area of Conservation (SAC).

The Lyreen River passes through the centre of the town and has a catchment area of approximately 88 $km^2$. The Meadowbrook Stream and Mill Race joins the Lyreen River upstream of the bridge at Mill Street before joining the Rye Water River approximately 1.2km downstream in the north-east of Maynooth. Several smaller streams present in Maynooth include the Mill Race Stream, Maws Stream (also referred as Crewhill Stream), and Mariavilla Stream. Additionally, the Royal Canal passes through the centre of Maynooth.

Blackhall Little Stream flows in a north-south direction through the centre of the Maynooth Environs in County Meath. The Brownrath Stream, which also flows north to south, forms the eastern boundary of the Draft Joint Plan boundary. Carton Demesne Stream joins the Brownrath Stream before it merges into the Rye Water River.

# 3 THE PLANNING SYSTEM AND FLOOD RISK MANAGEMENT GUIDELINES FOR PLANNING AUTHORITIES

## 3.1 Introduction

In 2009 the Department of Environment, Heritage and Local Government in conjunction with the Office of Public Works published The Planning System and Flood Risk Management: Guidelines for Planning Authorities ('The Guidelines'). The purpose of The Guidelines is to ensure that flood risk is considered by all levels of government when preparing development plans and planning guidelines. They should also be used by developers when addressing flood risk in development proposals. The Guidelines should be implemented in conjunction with the relevant flooding and water quality EU Directives including the Water Framework Directive (River Basin Management Plans (RBMPs)) and the Floods Directive Catchment Flood Risk Assessment Management Studies (CFRAMS).

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 and social growth,
- Improve the understanding of flood risk among relevant stakeholders; and
- Ensure that the requirements of EU and national law in relation to the natural environment and nature conservation are complied with at all stages of flood risk management.

The Guidelines recommend that Flood Risk Assessments (FRAs) be carried out to identify the risk of flooding to land, property and people. FRAs should be carried out at different scales by government organisations, local authorities and for proposed developments appropriate to the level of information required to implement the core objectives of The Guidelines. The FRA scales are Regional Flood Risk Appraisal (RFRA), SFRA and SSFRA.

This section presents a brief summary of The Guidelines, for more detail refer to The Guidelines and the accompanying Technical Appendices at www.opw.ie.

## 3.2 Flood Risk Assessment

### 3.2.1 Flood Risk Assessment Approach

FRAs should use the Source-Pathway-Receptor (S-P-R) Model to identify the sources of flooding, the flow paths of the floodwaters, and the people and assets impacted by the flooding. **Figure 3-1** shows the SPR model that should be adopted in FRAs.

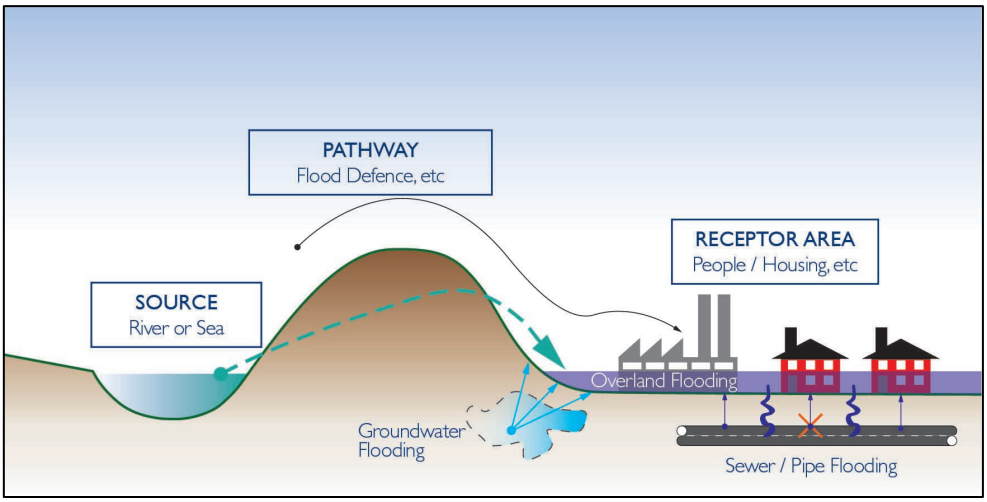



**Figure 3-1 Flood Risk Assessment Source – Pathway – Receptor Model**

FRAs should be carried out using the following staged approach:

- **Stage 1 Flood Risk Identification** – to identify whether there may be any flooding or surface water management issues related to either the area of regional planning guidelines development plans and LAP's or a proposed development site that may warrant further investigation at the appropriate lower-level plan or planning application levels.

- **Stage 2 Initial Flood Risk Assessment** – to confirm sources of flooding that may affect a plan area or proposed development site, to appraise the adequacy of existing information and to scope the extent of the risk of flooding which may involve preparing indicative flood zone maps. Where hydraulic models exist the potential impact of a development on flooding elsewhere and of the scope of possible mitigation measures can be assessed. In addition, the requirements of the detailed assessment should be scoped.

- **Stage 3 Detailed Flood Risk Assessment** – to assess flood risk issues in sufficient detail and to provide a quantitative appraisal of potential flood risk to a proposed or existing development or land to be zoned, of its potential impact on flood risk elsewhere and of the effectiveness of any proposed mitigation measures.

### 3.2.2 Types of Flooding

There are two main sources of flooding: inland and coastal. Inland flooding is caused by prolonged and/or intense rainfall. This results in fluvial, pluvial or groundwater flooding acting independently or in combination. Coastal flooding is not a concern for the Maynooth area as the watercourses within County Kildare do not experience any tidal influence from the Irish Sea.

- Fluvial flooding occurs when a river overtops its banks due to a blockage in the channel or the channel capacity is exceeded.

- Pluvial flooding occurs when overland flow cannot infiltrate into the ground, when drainage systems exceed their capacity or are blocked and when and when the water cannot discharge due to a high-water level in the receiving watercourse.

- Groundwater flooding occurs when the level of water stored in the ground rises to meet the ground surface and flows out over it after a period of prolonged rainfall.

### 3.2.3 Flood Risk

Guidelines state flood risk is a combination of the likelihood of flooding and the potential consequences arising. Flood risk is expressed as:

> Flood risk = Likelihood of flooding x Consequences of flooding

The Guidelines define the likelihood of flooding as the percentage probability of a flood of a given magnitude as occurring or being exceeded in any given year. A 1% probability indicates the severity of a flood that is expected to be exceeded on average once in 100 years, i.e., it has a 1 in 100 (1%) chance of occurring in any one year. **Table 3-1** shows flood event probabilities used in flood risk management.

**Table 3-1 Flood Event Probabilities**

| Annual Exceedance Probability (%) | Return Period (Years) |
|---|---|
| 50 | 2 |
| 10 | 10 |
| 1 | 100 |
| 0.1 | 1000 |

The 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.).

## 3.3 Flood Zones

The Guidelines recommend identifying flood zones which show the extent of flooding for a range flood event probability. The Guidelines identify three levels of flood zones:

- Flood Zone A – where the probability of flooding from rivers and the sea is highest (greater than 1% Annual Exceedance Probability (AEP) (1-in-100 year for river flooding) or 0.5% AEP (1-in-200 year) for coastal flooding).
- Flood Zone B – where the probability of flooding from rivers and the sea is moderate (between 0.1% AEP (1-in-1000 year) and 1% AEP (1-in-100 year) for river flooding; or, between 0.1% AEP (1-in-1000 year) and 0.5% AEP (1-in-200 year) for coastal flooding).
- Flood Zone C – where the probability of flooding from rivers and the sea is low (less than 0.1% AEP (1-in-1000 year) for both river and coastal flooding). Flood Zone C covers all areas of the plan which are not in Flood Zone A or Flood Zone B.

The flood zones are generated without the inclusion of climate change factors. The flood zones only account for fluvial and coastal flooding. They should not be used to suggest that any areas are free from flood risk as they do not account for potential flooding from pluvial and groundwater flooding. Similarly flood defences should be ignored in determining flood zones as defended areas still carry a residual risk of flooding from overtopping, failure of the defences and deterioration due to lack of maintenance. A Flood Zone Map for the Draft Joint Plan is provided in **Appendix A**.

## 3.4 Climate Change

Climate Change is expected to increase flood risk throughout Ireland. It could lead to more frequent flooding and increase the depth and extent of flooding. Due to the uncertainty surrounding the potential effects of climate change, a precautionary approach is recommended in The Guidelines which requires flood risk management to:

- Recognise that significant changes in the flood extent may result from an increase in rainfall or tide events and accordingly adopt a cautious approach to zoning land in these potential transitional areas.
- Ensure that the levels of structures designed to protect against flooding, such as flood defences, land-raising or raised floor levels are sufficient to cope with the effects of climate change over the lifetime of the development they are designed to protect.
- Ensure that structures to protect against flooding and the development protected are capable of adaptation to the effects of climate change when there is more certainty about the effects and still time for such adaptation to be effective.

## 3.5 Strategic Flood Risk Assessment

The purpose of this report is to carry out an SFRA at a settlement scale for the Draft Joint Plan. The Guidelines recommend a series of outputs for an SFRA. These outputs in broad terms, should:

- Identify principal rivers, sources of flooding and produce flood zone maps for across the local authority area and in key development areas.
- Appraise the availability and adequacy of the existing information.
- Assess potential impacts of climate change to demonstrate the sensitivity of an area to increased flows or sea levels. Where mathematical models are not available climate change flood extents can be assessed by using the Flood Zone B outline as a surrogate for Flood Zone A with allowance for the possible impacts of climate change.
- Identify the location of any flood risk management infrastructure and the areas protected by it and the coverage of flood-warning systems.
- Consider, where additional development in Flood Zone A and B is planned within or adjacent to an existing community at risk, the implications of flood risk on critical infrastructure and services across a wider community-based area and how the emergency planning needs of existing and new development will be managed.
- Identify areas of natural floodplain, which could merit protection to maintain their flood risk management function as well as for reasons of amenity and biodiversity.
- Assess the current condition of flood-defence infrastructure and of likely future policy with regard to its maintenance and upgrade.
- Assess the probability and consequences of overtopping or failure of flood risk management infrastructure, including an appropriate allowance for climate change.
- Assess, in broad terms, the potential impact of additional development on flood risk elsewhere and how any loss of floodplain could be compensated for.
- Assess the risks to the proposed development and its occupants using a range of extreme flood or tidal events.
- Identify areas where a SSFRA will be required for new development or redevelopment.

- Identify drainage catchments where surface water or pluvial flooding could be exacerbated by new development and develop strategies for its management in areas of significant change.
- Identify where integrated and area-based provision of SUDS and green infrastructure are appropriate to avoid reliance on individual site by site solutions; and,
- Provide guidance on appropriate development management criteria for zones and sites.

## 3.6 Sequential Approach and Justification Test

The Guidelines recommend using a sequential approach to planning to ensure the core objectives (as described in **Section 3.1** of this report) are implemented. Development should be avoided in areas at risk of flooding. Where this is not possible, a land use that is less vulnerable to flooding should be considered. **Figure 3-2** outlines this sequential approach. If the propsed land use cannot be avoided or substituted, a Justification Test must be applied and appropriate sustainable flood risk management proposals should be incorporated into the development proposal. **Table 3-2** and **Table 3-3** outline recommendations from The Guidelines for the types of development that would be appropriate to each flood zone, and those that would be required to meet the Justification Test.

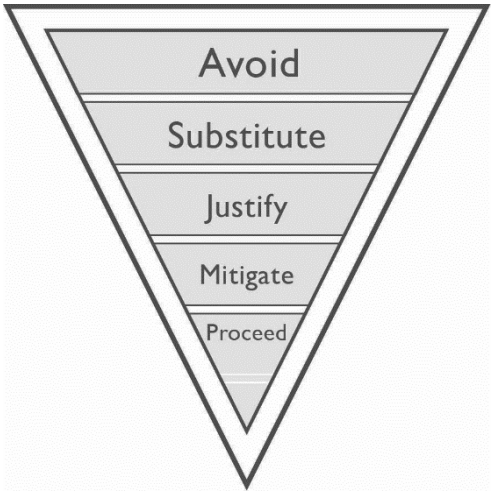



**Figure 3-2 Sequential approach principles in Flood Risk Management**

**Table 3-2 Matrix of vulnerability versus flood zone to illustrate appropriate development and that required to meet the Justification Test**

| | Flood Zone A | Flood Zone B | Flood Zone C |
|---|---|---|---|
| Highly vulnerable development | Justification Test | Justification Test | Appropriate |
| Less vulnerable development | Justification Test | Appropriate | Appropriate |
| Water compatible development | Appropriate | Appropriate | Appropriate |

The Justification Test is used to assess the appropriateness of developments in flood risk areas. The test is comprised of two processes. The first is the Plan-making Justification Test and is used at the plan preparation and adoption stage, where it is intended to zone or otherwise designate land which is at moderate or high risk of flooding. The second, is the Development Management Justification Test. This is used at the planning application stage, where it is intended to develop land at moderate or high risk of flooding for uses or development vulnerable to flooding that would generally be inappropriate for that land.

**Table 3-3 Classification of vulnerability of different types of development**

| Vulnerability Class | Land uses and types of development which include*: |
|---|---|
| Highly vulnerable development (including essential infrastructure) | • Garda, ambulance and fire stations and command centres required to be operational during flooding,<br>• Hospitals,<br>• Emergency access and egress points,<br>• Schools,<br>• Dwelling houses, student halls of residence and hostels,<br>• Residential institutions such as residential care homes, children's homes and social services homes,<br>• Caravans and mobile home parks,<br>• Dwelling houses designed, constructed or adapted for the elderly or, other people with impaired mobility, and<br>• Essential infrastructure, such as primary transport and utilities distribution, including electricity generating power stations and sub-stations, water and sewage treatment, and potential significant sources of pollution (SEVESO sites, IPPC sites, etc.) in the event of flooding. |
| Less vulnerable development | • Buildings used for: retail, leisure, warehousing, commercial, industrial and non-residential institutions,<br>• Land and buildings used for holiday or short-let caravans and camping, subject to specific warning and evacuation plans,<br>• Land and buildings used for agriculture and forestry<br>• Waste treatment (except landfill and hazardous waste),<br>• Mineral working and processing, and<br>• Local transport infrastructure. |
| Water-compatible development | • Flood control infrastructure,<br>• Docks, marinas and wharves,<br>• Navigation facilities,<br>• Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location,<br>• Water-based recreation and tourism (excluding sleeping accommodation),<br>• Lifeguard and coastguard stations,<br>• Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms, and<br>• Essential ancillary sleeping or residential accommodation for staff required by uses in this category (subject to a specific warning and evacuation plan). |

*Uses not listed here should be considered on their own merit

## 3.7 Development Plan Justification Test

The Development Plan Justification Test (or Plan-making Justification Test) should be carried out as part of the SFRA using mapped flood zones. It applies where land zonings have been reviewed with respect to the need for development of areas at a high or moderate risk of flooding for uses which are vulnerable to flooding and which would generally be inappropriate, and where avoidance or substitution is not appropriate. Where land use zoning objectives are being retained, they must satisfy all of the following criteria as per **Table 3-4** (Box 4-1 in The Guidelines).

**Table 3-4 Justification Test for Development Plans**

| Justification Test for Development Plans |
|---|
| 1. The urban settlement is targeted for growth under the national planning policy (Project Ireland 2040), regional planning guidelines, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. |
| 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:<br>i. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement,<br>ii. Comprises significant previously developed and/or under-utilised lands,<br>iii. Is within or adjoining the core of an established or designated urban settlement,<br>iv. Will be essential in achieving compact and sustainable urban growth, and<br>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. |
| 3. 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 |

In cases where existing zoned lands are discovered to be within flood zones, the Development Plan Justification Test has been applied, and where it is demonstrated that it cannot meet the specified requirements it is recommended that planning authorities reconsider the zoning by implementing the following:

- Remove the existing zoning for all types of development on the basis of the unacceptable high level of flood risk.
- Reduce the zoned area and change or add zoning categories to reflect the flood risk; and/or
- Replace the existing zoning with a zoning or a specific objective for less vulnerable uses.
- If the criteria of the Justification Test have been met, design of structural or non-structural flood risk management measures as prerequisites to development in specific areas, ensuring that flood hazard and risk to other locations will not be increased or, if practicable, will be reduced. The mitigation measures are required prior to development taking place.

# 4 DEVELOPMENT MANAGEMENT AND FLOOD RISK

## 4.1 Overview

All development proposals taking place in areas where the Justification Test has been applied or where a residual flood risk remains, should be supported be an appropriately detailed FRA. The level of detail within the FRA will depend on the risks identified and the proposed land use. Applications should apply the use of the sequential approach in terms of the site layout and design and, in satisfying the Justification Test (where required), the proposal will demonstrate that appropraite mitigation and management measures are put in place. The development should ensure that no encroachment onto, or loss of, the flood plain only water compatible development such as Open Space would be permitted for the lands which are identified as being at risk of flooding within that site. For any development in flood risk areas that meet the Development Plan Justification Test, a Development Management Justification Test must then be applied. Development must satisfy all of the criteria of the Development Management Justification Test as per **Table 4-1** (Box 5.1 in The Guidelines) below. This chapter provides a broad overview of the requirements of FRAs which should accompant planning applications.

**Table 4-1 Justification Test for Development Management**

| Justification Test for Development Management |
|---|
| 1. The subject lands have been zoned or otherwise designated for the particular use or form of development in an operative development plan, which has been adopted or varied taking account of these Guidelines. |
| 2. The proposal has been subject to an appropriate flood risk assessment that demonstrates:<br>i. The development proposed will not increase flood risk elsewhere and, if practicable, will reduce overall flood risk,<br>ii. The development proposal includes measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible,<br>iii. The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an acceptable level as regards the adequacy of existing flood protection measures or the design, implementation and funding of any future flood risk management measures and provisions for emergency services access, and<br>iv. The development proposed addresses the above in a manner that is also compatible with the achievement of wider planning objectives in relation to development of good urban design and vibrant and active streetscapes.<br>The acceptability or otherwise of levels of residual risk should be made with consideration of the type and foreseen use of the development and the local development context. |

## 4.2 Surface Water and Drainage

There is an obligation on Planning Authorities to ensure that permissions granted under the Planning Acts are consistent with the policies and objectives set out in their Development Plans.

KCC has developed a *Sustainable Drainage Systems Guidance Document*[1] to facilitate the best possible SuDS designs for developments within County Kildare. This document will support the planning process where SuDS requirements form part of planning applications. These planning applications will be assessed

[1] Kildare County Council, Sustainable Drainage Systems Guidance Document (KCC, 2024), https://kildarecoco.ie/AllServices/Planning/DevelopmentGuidelines/

by KCC against the policies set out in Kildare County Development Plan[2] (CDP) along with requirements outlined by the KCC SFRA and the Greater Dublin Strategic Drainage Study[3] (GDSDS). The main objective of this document is to:

- To create a shared vision around SuDS for all involved in design and evaluation.
- To enable the design and evaluation of SuDS to meet agreed standards.
- To ensure SuDS are maintainable now and in future.

The Draft Joint Plan outlines specific policies and objectives for the Councils with regard to developing Maynooth and its environs. The overarching policies and objectives of the Kildare CDP also apply, specifically the Development Management Standards as set out in Chapter 15. Where conflict exists between the LAP and the CDP, the CDP will take precedence. Chapter 15 of the CDP focuses on the general planning standards and design criteria that will be applied by the council to ensure that future development is in accordance with these policies and objectives.

Chapter 15 of the CDP outlines the following to be considered for the management of surface water in the assessment of planning applications:

- Detailed proposals for the management of surface water, where Nature Based Surface Water Management solutions are considered and prioritised in the first instance. Groundwater monitoring, if required, should last at least 6 months, and include at least one winter season.
- A Surface Water Management Plan shall be submitted which includes details inter alia the location, design and any future maintenance proposals / procedures required to maintain the surface water management system.
- Proposals for surface water management shall be in compliance with the Greater Dublin Drainage Strategy (GDSDS), in particular Volume 2 Chapter 6 Stormwater Drainage Design Criteria, and CIRIA SuDS Manual (C753) and with Nature-Based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas Best Practice Interim Guidance Document (2021, DHLGH).
- In the event that a Nature Based Surface Water Management solution is not feasible, detailed information must be submitted to explain why it was not considered to be a practical solution. Traditional drainage systems will only be permitted where a demonstrable exceptional circumstance has been provided.
- Sustainable Drainage Systems should not form part of the public open space provision, except where they contribute in a significant and positive way to the design and quality of open space. In instances where the Council determines that SuDS make a significant and positive contribution to open space, a maximum 10% of the open space provision shall be taken up by SuDS.
- In the event that underground attenuation storage structures are required, they will not be accepted under areas of public open space, save in exceptional demonstrable situations.
- All existing site watercourses shall be retained, and existing site pipework should be “de-culverted” where feasible.

For new developments in County Meath, planning application will be assessed by MCC against policies set out in the Meath County Development Plan, in addition to those included in the Draft Joint Plan.

[2] Kildare County Council, County Development Plan 2023-2029 (KCC 2023), https://kildarecoco.ie/AllServices/Planning/DevelopmentPlans/KildareCountyDevelopmentPlan2023-2029/

[3] Greater Dublin Strategic Drainage Study, Final Strategy Report (Dublin Drainage Consultancy 2005)

## 4.3 Residual Risk

All development including that in Flood Zone C, should consider residual risk factors such as blockages in culvert / bridge and surface water sewers, overtopping of canal banks and flood defence stuctures, and the effects of climate change, which may expand the extents of Flood Zones A and B. These residual risk factors should influence the potential mitigation measures for a site, which could include setting the finished floor levels.

## 4.4 Development Proposals in Flood Zones

### 4.4.1 Overview

It is recommended that any planning application in a flood risk area is accompanied by an appropriately detailed flood risk assessment. This is to ensure a conservative approach and that consideration is given to any new development within Flood Zones where mitigation measures may still be required to ensure an appropriate level of flood protection and/or resilience. The detailed assessment should include at a minimum, Stage 1 – Identification of Flood Risk. Where flood risk is identified, a Stage 2 – Initial FRA will be required and depending on the scale and nature of the risk, a Stage 3 – Detailed FRA may be required.

Detailed FRAs should be carried out in accordance with The Guidelines and should present in sufficient detail, the potential flood risk to a proposed development, the potential increase in flood risk elsewhere, any proposed mitigation measures and proposals for sustainable surface water management. The surface water drainage must be compliant with the GDSDS and Code of Practice. The FRA should also consider the impacts of climate change, residual risk associated with culvert blockages and freeboard in setting the finished floor levels (FFLs) of new development.

### 4.4.2 Assessment of Proposals for Minor Development

The Justification Test does not apply to applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use. However, a flood risk assessment of appropriate detail should accompany such applications to demonstrate that they would not have adverse flood risk impacts. These proposals should follow best practice in the management of health and safety for users and residents of the proposal. FRAs should consider placing bedrooms upstairs, sockets above the 1% AEP water level and other individual property protection measures e.g., flood doors, non-return valves. They must also ensure that modifications do not block significant flow paths or cause flood risk impacts to the surrounding areas.

### 4.4.3 Assessment of Proposals for Highly Vulnerable Development

Highly vulnerable development proposals should not be considered in flood risk areas unless supplemented by an appropriately detailed FRA and meets the criteria for the Development Management Justification Test. The following considerations should be addressed in applications for highly vulnerable development in flood risk areas:

- The minimum finished floor level for highly vulnerable development should be above the Flood Zone B (0.1% AEP) level plus suitable freeboard. The recommended level of freeboard is 500 mm for fluvial flood levels.

- Applications should outline the emergency procedures that will be applied in the event of a flood. Evacuation routes should be identified but if this is not possible then containment may be considered if it is considered safe and practical to do so. If either safe evacuation or containment is not possible, then the development proposal should be refused.

- The site layout should follow the sequential approach to allocate land within a development based on the vulnerability class of the development i.e., more vulnerable development should be placed on higher ground while water compatible development e.g., car parking, greenfield space can be placed in the flood zones.

- Compensatory storage for development that results in a loss of floodplain within Flood Zone A must be provided on a level for level basis, the lands should be in close proximity to the area that storage is being lost from, the land must be within the ownership of the developer and the land given to storage must be land which does not flood in the 1% AEP event. Also, the compensatory storage area should be constructed before land is raised to facilitate development.

### 4.4.4 Assessment of Proposals for Less Vulnerable Development

Less vulnerable development proposals should not be considered in Flood Zone A area unless supplemented by an appropriately detailed FRA and meets the criteria of the Development Management Justification Test. The minimum finished floor level for less vulnerable development should be above the Flood Zone A (1% AEP) level plus suitable freeboard. The recommended level of freeboard is 500 mm for fluvial flood levels.

### 4.4.5 Potential Flood Mitigation Measures

To address flood risk for a new development or regeneration of an existing development, a sequential approach should be taken to minimise potential impact of flooding to more vulnerable land use. However, if necessary due to site constraints, potential flood mitigation measures could be incorporated into a site layout. Examples of potential measures are listed below:

- Compensatory storage,
- Raised defences, and
- Ground floor & basement protection.

#### Compensatory Storage

Compensatory Storage can be implemented by modifying existing ground levels within the site in order to relocate the flood extents to accommodate a proposed development. However, if not managed appropriately, this measure could have an adverse effect on flood risk for the surrounding areas. There are a number of steps to be taken before this measure can be considered as a viable option:

- An FRA to establish the extents of the existing flood risk, and also a hydraulic model to demonstrate the potential impacts of compensatory storage on site and also for the surrounding areas,
- Compensatory Storage to be implemented on a level for level basis to manage the flood volume reduced by infilling where the floodplain provides storage,
- Compensatory Storage is required to be provided at close proximity to the existing floodplain,
- The lands proposed for compensatory storage are required to be in control of the owner of the proposed development,
- The lands proposed for compensatory storage are required to be outside the existing Flood Zones A and B,
- Compensatory storage area should be constructed prior to the land being raised for the proposed development, and
- Any potential loss of storage for the 0.1% AEP year return period within urban areas as a result of compensatory storage should be compensated through additional storage.

#### Raised Defences

Raised defences such as flood walls or embankments are a traditional response to managing flood risk. However, if this measure were to be considered, a SSFRA should be required to establish the extent of the existing flood risk and the potential implications of raised defences on flood risk for a proposed development site and the surrounding areas.

### Ground Floor and Basement Protection

The following flood protection measures are recommended for basements and ground level access:

- Raised doorway and access threshold levels can be incorporated into areas susceptible to floodwaters pooling. Temporary door-guards can be implemented where it is not practical to have a permanent raised threshold. However, these will require advance warning for installation,
- Shallow ramping can be considered for doorway or vehicular access at ground level if it can be facilitated,
- Particular care should be taken at closed spaces where it is proposed to restrict the movement of floodwaters as the rapid inundation could pose a threat to life as well as causing major disruption or damage, and
- Alarm systems are strongly recommended for properties with basements or semi-basements. Training of residents and building personnel in alarms and escape routes and escorting all visitors out of basement areas should be a requirement.

# 5 STAGE 1 – FLOOD RISK IDENTIFICATION

## 5.1 Overview

The purpose of this section is to establish the level of flood risk for the town of Maynooth and to collate and assess existing current and historical information and data which may indicate the level and/or extent of any flood risk. The following sections detail information and data collated as part of the Stage 1 Flood Risk Identification carried out for the study area.

## 5.2 Source-Pathway-Receptor Model

In the first instance, an identification and assessment of the probability, magnitude, response of pathways and consequences of a flood event in the proposed development site were appraised. This analysis was aimed at identifying high risk elements as summarised in **Table 5-1** below.

The primary source of flood risk to the town may be attributed to fluvial flooding from the Rye Water River, Lyreen River and Meadowbrook Stream. Secondary risks may arise from pluvial flooding.

**Table 5-1: Possible Flooding Mechanisms**

| Source | Pathway | Receptor | Likelihood (remote, possible, likely) | Consequences (low, medium, high) | Risk (low, medium, high) | Comment/ Reason |
|---|---|---|---|---|---|---|
| Tidal /Coastal | Increased river levels overtopping existing riverbanks | Town Centre and Suburbs | Remote | Low | Low | The study area is located inland, and the rivers are not tidally influenced within the extents of the town. |
| Fluvial | Increased river levels overtopping riverbanks | Town Centre and Suburbs | Likely | High | High | There are several watercourses located in the study area. |
| Pluvial | Overland Flow from Elevated Lands or Water logging | Town Centre and Suburbs | Possible | High | Medium | The surrounding topography slopes downwards towards the Rye Water River. However, Royal Canal and Railway Line traverses through the town obstructing the overland flow path. There is a historic flood event of pluvial flooding on M4 motorway. |
| Groundwater | Rising Ground Water Level | Town Centre and Suburbs | Possible | High | Low | There is a recorded historic ground water flooding in the southern part of the area. The area is now developed; hence risk of groundwater flooding is low. |

## 5.3 Flood Risk & Flood Studies Information

Relevant information was reviewed and collated from the following sources:

- Kildare County Development Plan 2023-2029 and Strategic Flood Risk Assessment
- Meath County Development Plan 2021-2027 (as varied) and Strategic Flood Risk Assessment
- Maynooth LAP 2013-2019 and Strategic Flood Risk Assessment
- Flood Mapping, Hydrology & Hydraulic Reports from the CFRAMS at www.floodinfo.ie
- The National Preliminary Flood Risk Assessment (PFRA) Report
- Proposals for regional and local flood mitigations measures from the Flood Risk Management Plans (FRMP) for the River Lyreen and Maynooth available at www.floodinfo.ie
- Maynooth Surface Water Management Strategy Report (KCC 2024)
- KCC Sustainable Drainage Systems Guidance Report (KCC 2024)
- Groundwater Flooding Data from the Geological Survey of Ireland.
- Environmental Protection Agency (EPA) Geoportal

## 5.4 Flood History

A review of historical flood data was carried out using information provided on https://www.floodinfo.ie/ and in consultation with KCC. The main source of flooding in Maynooth is fluvial. **Table 5-2** provides the locations of previous flood events recorded within Maynooth. Fluvial flooding within the town occurs primarily from the Rye Water River, Lyreen River and Meadowbrook Stream.

**Table 5-2 Historical Flooding in Maynooth**

| Historical Flooding |
|---|
| **Nov 2017 Flooding:** Heavy rainfalls occurring on already saturated ground conditions caused substantial flooding on M4 Motorway. This caused significant disruption to road users between Junction 8 Kilcock and Junction 7 Maynooth. Flooding was attributed to surface water accumulation on floodplain which made its way onto the M4 westbound lanes and continued East towards Maynooth. Due to channel capacity at Maynooth the water was unable to drain off the road causing an accumulation on the road. Further flooding was caused by surface water accumulation along the M4 motorway eastbound lanes at Junction 7. Due to the river channels on the Meadowbrook River being at full capacity, discharge from the road drainage system proved difficult. |
| **Lyreen River Maynooth Oct 2011**- River Lyreen: The flood event was not significant as compared to previous events. |
| **Lawrence Avenue Maynooth Nov 2002** – Flooded low lying land and roads. Pipes and drain outfall blocked with tree roots but no house flooded. |
| **Dunboyne Maynooth Road, Meath Nov 2002**- Approximately 10 m of road was severely flooded, however no residential property was affected. |
| **Lyreen Maynooth Nov 2002-** High flow in Lyreen River caused overflow in the weir at Fishponds in Maynooth. |
| **Lyreen Maynooth Canal Culvert Nov 2000** – River Lyreen: A portion of M4 motorway was forced to close. |
| **Meadowbrook Estate Parson St Maynooth Nov 2000** – Meadowbrook Stream caused extreme flooding of Meadowbrook housing estate, sections of road and Parson Streat. |
| **Lyreen Maynooth College Nov 2000 –** River Lyreen causing flooding in the grounds of Maynooth college. |
| **Meadowbrook Greenfield M4 Nov 2000** – Meadowbrook Stream: Flooding of M4 Motorway and surrounding area. |
| **Meadowbrook Estate Parson St Maynooth Nov 2000**- Meadowbrook Stream caused extreme flooding of Meadowbrook housing estate, sections of road and Parson Streat. |
| **Rye Water Maynooth Carton Nov 2000** - The fields in the surroundings of Rye Water River were flooded. |
| **Rye Water Maynooth Kilcock Area Nov 2000** - Flooding of farmland in the vicinity of Rye Water River. |

**Lyreen Maynooth Jackson's Bridge Area Jun 1993** – River Lyreen & Royal Canal confluence: Extreme flooding of farmland upstream and downstream of culvert and passageway.

**Lyreen Maynooth University Jun 1993** – River Lyreen caused Flooding of Maynooth College Farm, Flooded River channel in the grounds of Maynooth College.

**Lyreen Maynooth M4 Jun 1993** - The event caused flooding of M4 motorway and adjacent farmlands.

## 5.5 Maynooth (Lyreen Meadowbrook) Flood Relief Scheme

The Lyreen and Meadowbrook Flood Relief Scheme was started in 2001 as the result of major flooding in November 2000 and was implemented from 2002 to 2003. The scheme works included cleaning 4 km of the Lyreen River channel and 1.6 km of the Meadowbrook River channel. It included the cleaning, repairing or replacing culverts, and cleaning of aqueducts at Bond Bridge and Jackson's Bridge. The repairing of a damaged wall at Parsons Lane was included in the scheme along with providing trash screens and flap valves at suitable locations on channels. The scheme provides increased flood protection for 30 properties against flooding from the Meadowbrook River and Lyreen River.

## 5.6 Eastern CFRAMS and River Liffey & Dublin Bay FRMP

### 5.6.1 Overview

The OPW lead the development of the Eastern CFRAMS. The aim of this study was to assess flood risk, through the identification of flood hazard areas and the associated impacts of flooding. The flood hazard areas were identified as being potentially at risk from significant flooding, including areas which experienced significant flooding in the past. The issues considered included climate change, land use practices and future development. CFRAM studies were developed to meet the requirements of the EU Directive on the assessment and management of flood risks (the Floods Directive). The Floods Directive was transposed into Irish law by SI 122 of 2010 "European Communities (Assessment and Management of Flood Risks) Regulations 2010". The CFRAM Studies developed FRMPs to manage flood risk within the relevant river catchment. Flood maps were one of the main outputs of the studies. The maps indicate modelled flood extents for flood events of a range of annual exceedance probability (AEP).

Maynooth was identified as an Area for Further Assessment (AFA) within the Eastern CFRAMS. The Eastern CFRAMS Flood Risk Review recognised the need for the Maynooth Area to be identified as an AFA based on evidence from historical flood events and the extents of the flood risk determined during the OPW Preliminary Flood Risk Assessment[4] (PFRA) Study. **Figure 5-1** shows an example of flood extent mapping from the CFRAMS for Maynooth.

[4] The National Preliminary Flood Risk Assessment, Overview Report (OPW 2012), http://www.floodinfo.ie

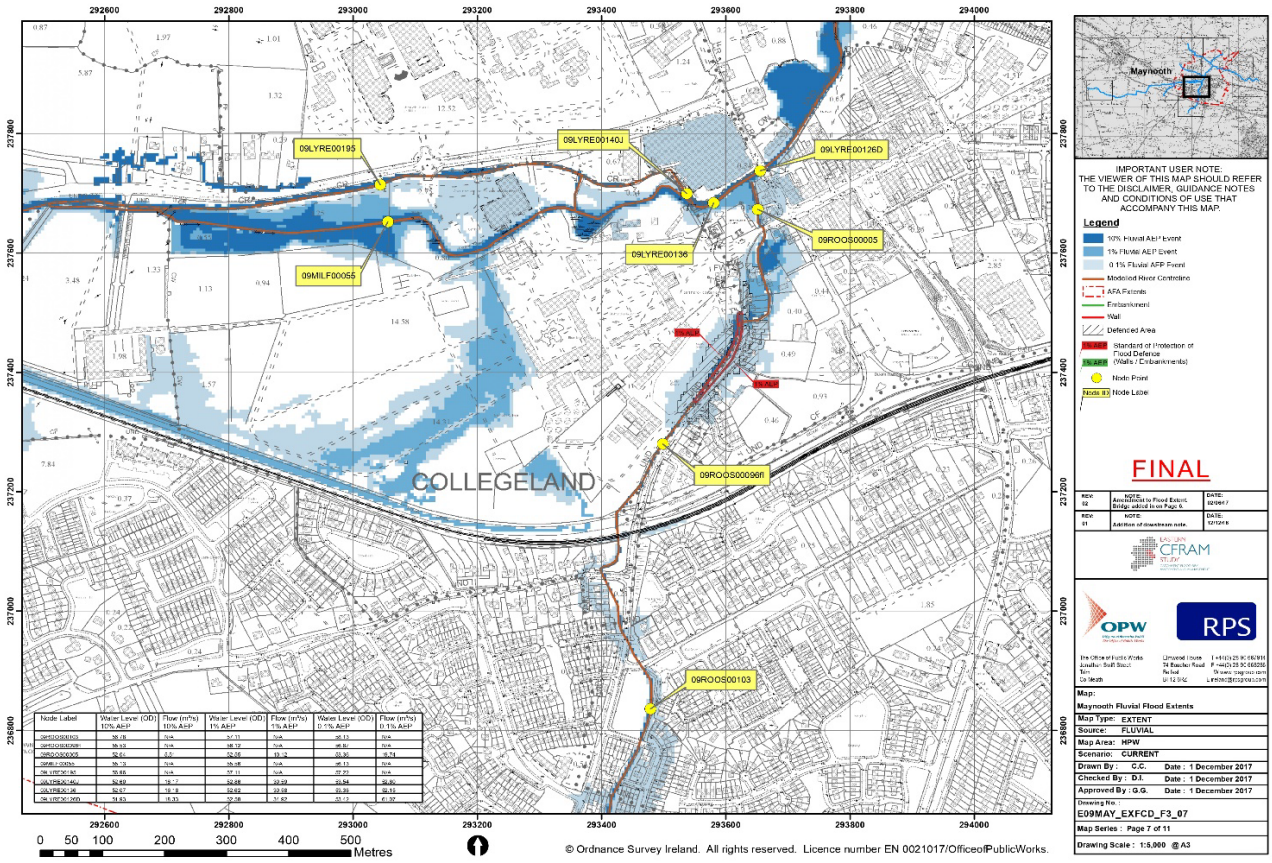



**Figure 5-1 CFRAMS Flood Extent map for Collegeland in Maynooth**

## 5.6.2 FRMP Measures for Maynooth

The FRMP for the Liffey and Dublin Bay River Basin[5] was published by the OPW as an output from the Eastern CFRAMS. The FRMP outlined a series of proposed flood risk policy measures for AFA. The lists of measures applicable to Maynooth are outlined in **Table 5-3.** A Disclaimer and Conditions of Use for flood maps and the FRMP is available at www.floodinfo.ie. The FRMP outlines the flood relief work for Maynooth subject to project level assessment and planning. These measures proposed are intended to provide protection to existing residential and commercial properties at risk from fluvial flooding to a 1% AEP event standard of protection (1-in-100 year storm).

[5] Flood Risk Management Plan Liffey & Dublin Bay (OPW 2018), FRMP_Final2018_RiverBasin_09.pdf

**Table 5-3 Liffey & Dublin Bay River Basin FRMP proposed Flood Risk Management Measures**

| | FRMP Code | Measure |
|---|---|---|
| Regional Measures | IE09-UoM-9011-M21 | Application of The Guidelines on the Planning System and Flood Risk Management (DECLG/OPW, 2009) |
| | IE09-UoM-9012-M34 | Implementation of Sustainable Urban Drainage Systems (SUDS) |
| | IE09-UoM-9052-M22 | Voluntary Home Relocation Scheme |
| | IE09-UoM-9013-M21 | Consideration of Flood Risk in local adaptation planning |
| | IE09-UoM-9021-M31 | Assessment of Land Use and Natural Flood Risk Management Measures |
| | IE09-UoM-9053-M43 | Individual Property Protection |
| | IE09-UoM-9051-M61 | Minor Works Scheme |
| | IE09-UoM-9031-M41 | Establishment of a National Flood Forecasting and Warning Service |
| | IE09-UoM-9032-M42 | Ongoing Appraisal of Flood Event Emergency Response Plans and Management Activities |
| | IE09-UoM-9033-M43 | Individual and Community Action to Build Resilience |
| | E09-UoM-9053-M43 | Individual Property Protection |
| | IE09-UoM-9041-M61 | Flood-Related Data Collection |
| Maynooth Measures | IE09-IE-AFA-090092-0809-M61 | Progress the project-level development and assessment of a Flood Relief Scheme for Maynooth, including environmental assessment as necessary and further public consultation, for refinement and preparation for planning / Exhibition and, if and as appropriate, implementation |

## 5.7 Conclusion of Stage 1

Records of historical flooding, the flood extent mapping generated for the CFRAMS, and other records outlined in the preceding sections indicate that Maynooth is potentially at risk from fluvial flooding and to a lesser extent pluvial and groundwater flooding. Therefore, the FRA was progressed to Stage 2 – Initial Flood Risk Assessment.

# 6 STAGE 2 – INITIAL FLOOD RISK ASSESSMENT

## 6.1 Overview

The purpose of the Initial FRA was to appraise the availability and adequacy of the identified flood risk information, to qualitatively appraise the flood risk posed to the site and potential impacts on flood risk elsewhere and recommend possible mitigation measures to reduce the risk to acceptable level. In consideration of the above assessment, the primary flood risk to the study area was attributed to:

- Fluvial – High Risk
- Pluvial (overland flow)– Medium Risk
- Groundwater – Low Risk

## 6.2 Fluvial Flooding

### 6.2.1 CFRAM Fluvial Flood Mapping

**Section 5.4** and **Section 5.6** detail the historical flooding in the town and the steps taken to analyse and assess the fluvial flood risk to Maynooth. The Eastern CFRAM Study generated flood extent maps for the town identifying at risk areas. **Figure 5-1** shows an example of the maps created and they are also available at www.floodinfo.ie. The town is affected by fluvial flooding during a 1% AEP and 0.1% AEP events. A significant number of both residential and non-residential properties are at risk, concentrated within Maynooth town centre. Several local roads and a regional road are also at risk. As a result, Maynooth is considered at risk in present day and future scenarios. **Figure 5-1** also shows the presence of flood defence wall on Parson Street part of the Lyreen and Meadowbrook Flood Relief Scheme which provide protection against 1% AEP flood event.

### 6.2.2 Liffey and Dublin Bay River Basin FRMP – Maynooth Proposed Flood Relief Scheme

The FRMP for the Liffey and Dublin Bay River Basin identified a proposed flood relief works for Maynooth. This scheme will provide protection to existing residential and commercial properties at risk from fluvial flooding to 1% AEP event standard of protection. The proposed FRMP measures consist of building hard defences, that would be set back from the river channel where possible and would protect to the 1% AEP fluvial flood event with an estimated average height of 1.6m and maximum of 2m height and total length of 350m. The overland flow route will be defined by 375m of hard defences with an average height of 0.8m. The consultation process provided further information, which has been noted for consideration during the project-level assessment stage.

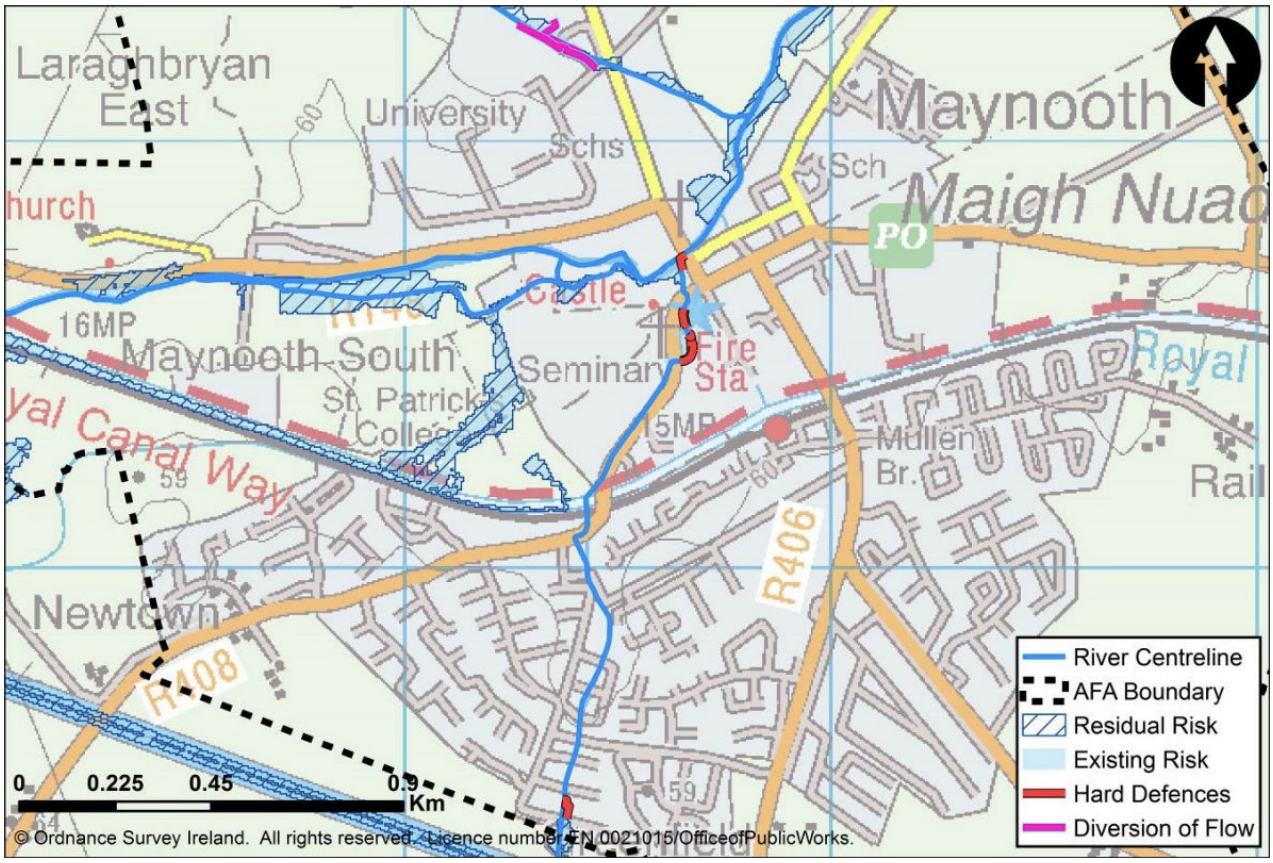



**Figure 6-1 Proposed flood relief measures identified for Maynooth**

### 6.2.3 Fluvial Flood Zone mapping

The CFRAMS maps are the most comprehensive flood maps produced for Maynooth, they are the best available source of flooding information to inform the SFRA and they have been adopted by KCC as identifying the flood zones for Maynooth. The flood zones only account for fluvial flooding and the confidence in the accuracy of the maps is considered to be high due to the robust nature of the flood mapping and hydraulic modelling process. The flood zone map is shown in **Appendix A**. The flood zones A and B were used to apply The Guidelines sequential approach, and where necessary the Justification Test, to appraise sites for suitable land zonings and identify how flood risk can be managed as part of the LAP.

## 6.3 Pluvial Flooding

The Draft Joint Plan area has ground elevations in the range of 45-75 m OD sloping downward towards the Rye Water River. However, the presence of the Royal Canal, Railway and M4 Motorway interfere with natural overland flow paths.

The soil, subsoils and geology of the site was determined from the Geological Survey of Ireland (GSI) online Spatial Data and Resources and the Environmental Protection Agency (EPA) online map viewer. The GSI online spatial data viewer shows that the soil hydrology of Maynooth is described as Urban (Made-Ground) in the town centre while the west region has poorly drained soil while east region has well drained soil with pockets of poorly drained soil, hence water logging is a risk in poorly drained areas.

The *Surface Water Management Strategy*[6] developed to inform the Draft Joint Plan assessed the potential risk of pluvial flooding in Maynooth and provided recommendations on the mitigation measures to facilitate surface water drainage, reserve areas for nature-based solution and open spaces. Maynooth town has

[6]Draft Maynooth Local Area Plan 2024-2030, Surface Water Management Strategy (KCC 2024)

almost completely distinct drainage networks for surface water and foul water drainage. The existing surface water network present in the southern region of Maynooth discharges into the Lyreen River and Meadowbrook Stream. The Northern part of the town discharges into the Rye Water River and its tributaries.

Discussion with KCC operations and maintenance staff responsible for drainage in Maynooth communicated concern that higher intensity rainfall associated with climate change combined with future developments place the existing network under stress. It was noted that any recorded issues of flooding from the existing network was attributed to blockage rather than design capacity constraints.

The GSI winter 2015/2016 surface water flooding data confirms that there have been historic events of surface water flooding in and around the Draft Joint Plan Boundary as shown in the **Figure 6-2**. Further, GSI SAR Seasonal Flood Maps show mapping of surface water extents for Maynooth between Autumn 2015 and Summer 2021. Most areas affected are in the agricultural fields to the west and south-west of existing developed areas, and along the adjacent floodplain to the Rye Water River.

Areas at risk from pluvial flooding where a more detailed FRA maybe required are discussed in Section 7.2. Recommendations and guidelines from the GDSDS and Kildare SuDS guidance document should be implemented in these areas to reduce the risk of pluvial flooding to reduce the risk of pluvial flooding.

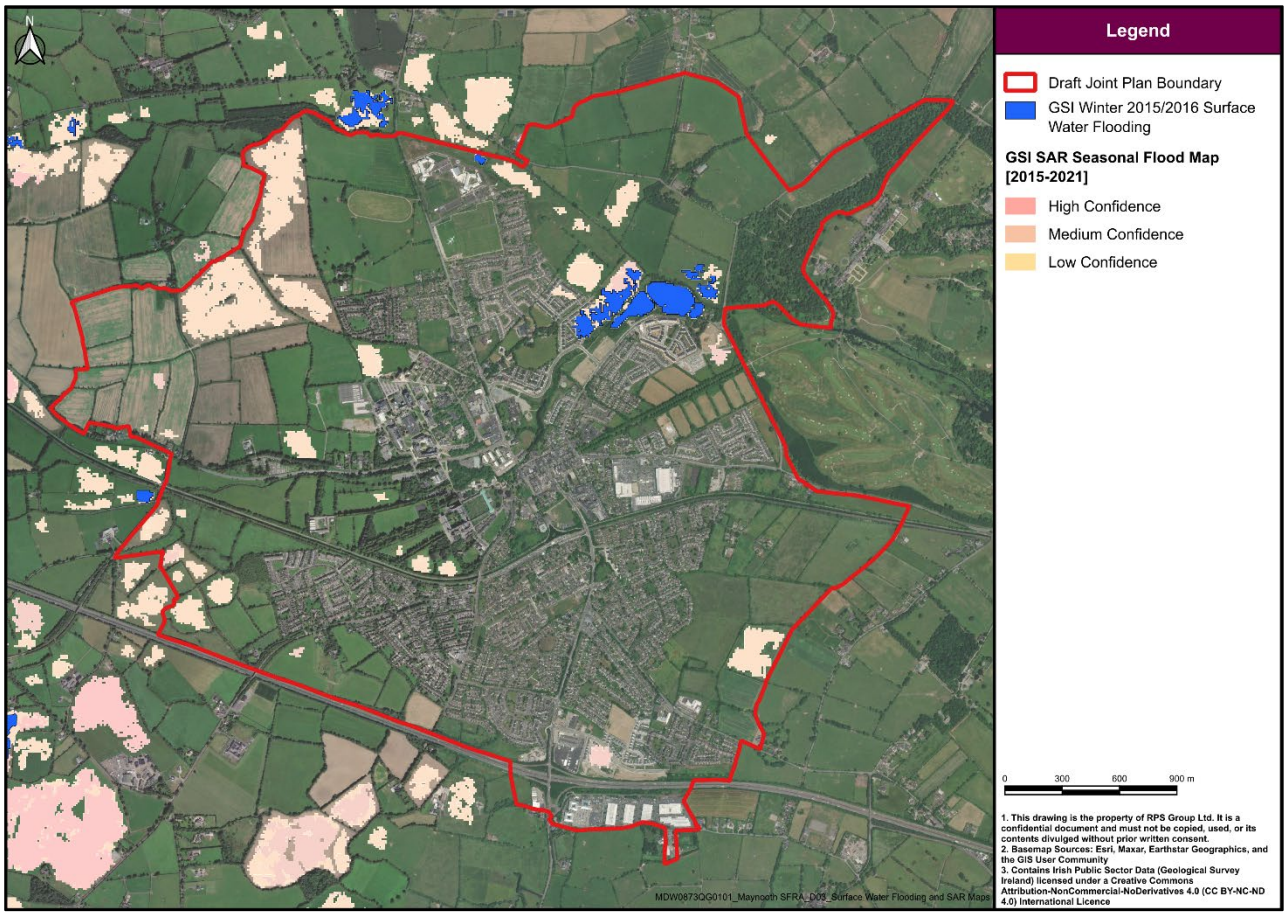



**Figure 6-2 GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth**

## 6.4 Groundwater Flooding

A review of the GSI Groundwater Flooding Data Viewer , as presented in **Figure 6-3** , shows some instance of groundwater flooding occurring in the south of Maynooth. This area has been already developed reducing the recurrence of groundwater flooding. GSI Groundwater Predictive Flooding Maps does not identify risk in the Draft Joint Plan Boundary, hence the risk of ground water flooding is deemed to be low.

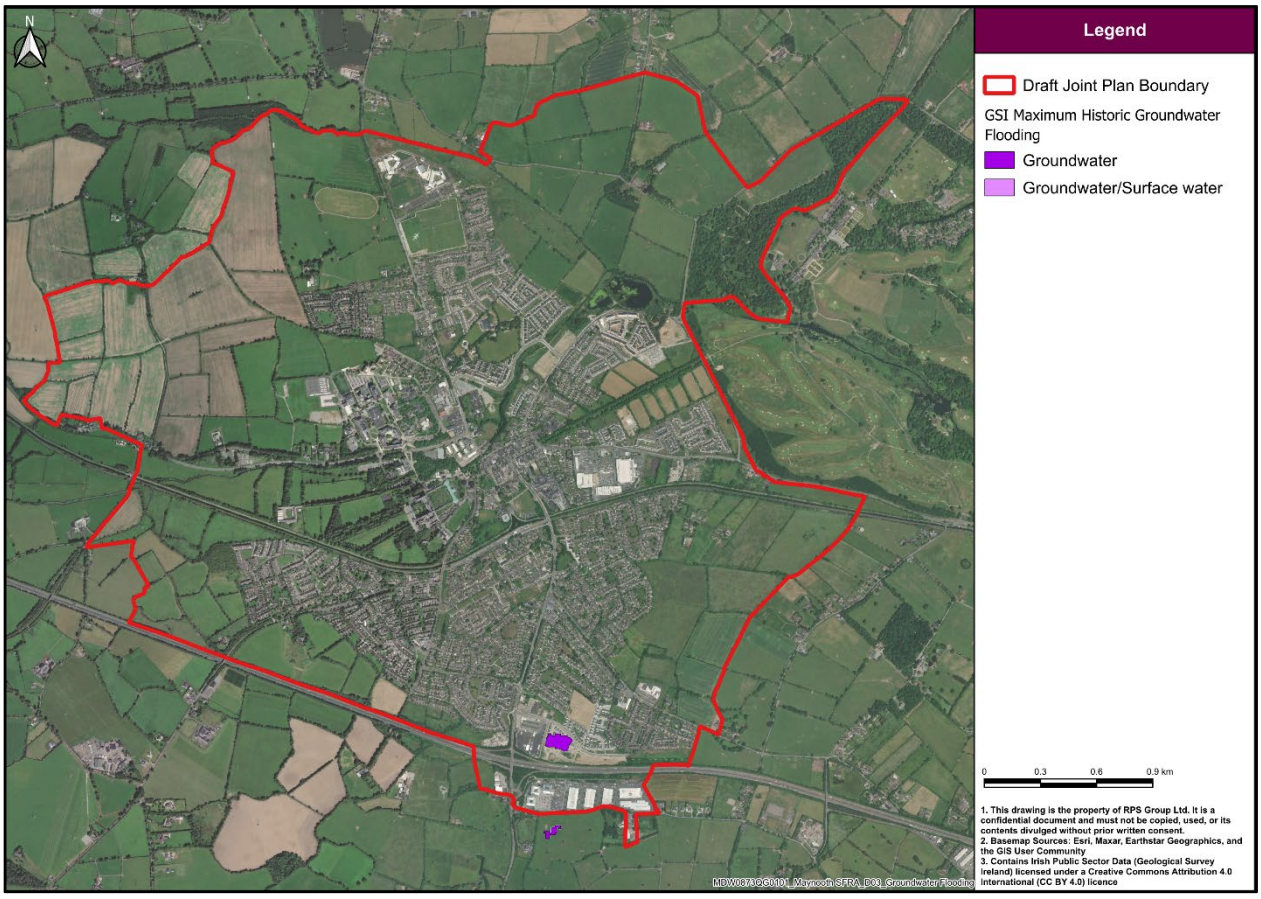



**Figure 6-3 Historic Groundwater Flooding in Maynooth**

## 6.5 Climate Change Sensitivity

The CFRAMS flood extent mapping for the present-day scenario and a climate change scenario known as the mid-range future scenario (MFRS), as shown on www.floodinfo.ie, were compared to establish an indication of future flood risk in areas. The present-day flood extents were generated using methodologies based on historic flood data, without taking account of potential changes due to climate change. The MRFS flood extents were generated taking in the potential effects of climate change using an increase in rainfall of 20% (see **Figure 6-4**).

The review concluded that some proposed highly vulnerable zonings, existing zonings and well-established areas of the town could come under increased flood risk. Areas at specific risk from potential increases in flood extent due to climate change are discussed individually in **Section 7** . SSFRAs should address climate change scenarios in relation to finished floor levels (FFLs) and potential mitigation measures in these areas. Any proposed flood relief measures should be designed for climate change adaptability. Adaptation may require additional height and length of hard defences and additional space for embankments. Adaptations could be accommodated at moderate to significant cost and visual impact.

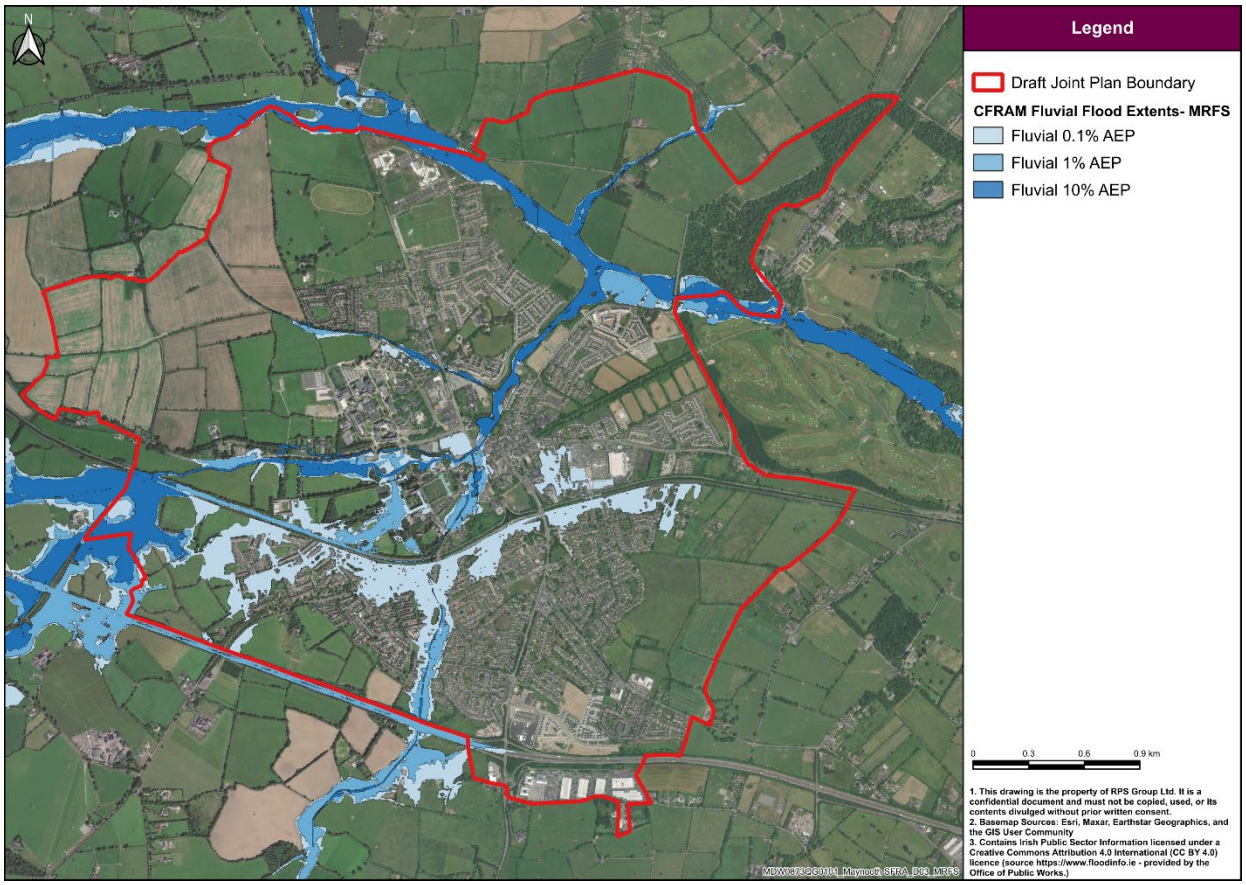



**Figure 6-4 CFRAM Fluvial Flood Extents - MRFS**

## 6.6 Conclusion of Stage 2

Maynooth was identified to have a high fluvial flood risk and hence a further assessment of the implications to the town was necessary. A review of the available flood extent mapping and reports for the CFRAMS indicates the site is at risk from fluvial flooding for the 1% and 0.1% AEP events. The risk of pluvial flooding is medium from the available GSI Groundwater flooding data. It is observed that the undeveloped area presents in the Draft Joint Plan Boundary with low infiltration capacity are subject to historic pluvial flooding. The groundwater flooding has been deemed to be low. Hence, they should be assessed for SSFRAs as appropriate.

The Lyreen and Meadowbrook flood scheme was implemented from 2002 to 2003 in Maynooth. The scheme aimed at cleaning the Lyreen River and Meadowbrook Stream channels and provides increased flood protection for 30 properties against flooding from the Meadowbrook River and Lyreen River. The FRMP for Liffey and Dublin Bay River basin has identified a proposed flood relief scheme for Maynooth. This scheme will provide protection to existing residential and commercial properties at risk from fluvial flooding to 1% AEP event standard of protection.

The CFRAMS and the confidence in the accuracy of the maps is considered to be high due to the robust nature of the flood mapping and hydraulic modelling process, they have been adopted by KCC as the flood zones for Maynooth. These flood zones have been used to apply The Guidelines sequential approach, and where necessary the Justification Test, to appraise sites for suitable land zonings and identify how flood risk can be managed as part of the LAP which is described in **Section 7** below. The flood zone map is shown in **Appendix A**.

KCC have appraised the zonings against the flood zones, and they do not require further hydraulic modelling to be in compliance with The Guidelines, therefore it is not required for the Draft Joint Plan to progress to Stage 3 Detailed FRA. Detailed FRAs for some development areas may be required at planning level stage, see **Section 7** below for further detail.

# 7 DEVELOPMENT PLAN ZONING

## 7.1 Introduction

The zonings in the following areas have been reviewed against the available flood zone mapping, the indicative pluvial risk, the sensitivity of flood extents to climate change and previous SFRA reports. A summary of the zonings (other zoning categories not listed here should be considered on their own merit) and an assessment of their vulnerability and the requirements of application of the justification test are shown in **Table 7-1** and **Table 7-2**.

KCC reviewed the flood zones during the Draft Joint Plan process and followed the sequential approach to zone land appropriate to their flood risk vulnerability. Open Space and amenity areas have been zoned to coincide with flood risk areas in so far as possible. Where less vulnerable and highly vulnerable zonings coincide with flood zones, Justification Tests have been carried out as applicable and are shown in **Appendix B**.

Lands located within Meath County Council are already zoned in Volume 2 of the Meath County Development Plan 2021-2027 which was subject to a Strategic Flood Risk Assessment.

**Table 7-1 Land Use Zoning and Vulnerabilities for Maynooth**

| Objective | Vulnerability | Justification Test Required |
|---|---|---|
| A – Town Centre | High / Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| A1 – Town Centre Extension | High / Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| B – Existing Residential / Infill | High | For Development in Flood Zone A or B |
| C – New Residential | High | For Development in Flood Zone A or B |
| C- Phase 2 New Residential (Transit-Oriented Development) | High | For Development in Flood Zone A or B |
| E – Community and Educational | High / Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| F – Open Space and Amenity | Less / Water Compatible | For less vulnerable development in Flood Zone A |
| H – Industrial/Office Park/Warehousing | Less | For Development in Flood Zone A |
| I – Agricultural | Less / Water Compatible | For Development in Flood Zone A |
| J- Student Accommodation | High | For Development in Flood Zone A or B |
| L – Leisure & Amenity | Less | For Development in Flood Zone A |
| N – Neighbourhood Centre | High / Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| P- Research and Technology | Less | For Development in Flood Zone A |

| | | |
|---|---|---|
| Q – Enterprise and Employment | Less | For Development in Flood Zone A |
| S- Carton Avenue | Less | For Development in Flood Zone A |
| SR – Strategic Reserve | High / Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| T- General Development | High/Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| U – Transport and Utilities | High | For Development in Flood Zone A or B |
| UZ 1- University Zone 1 | High/Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| UZ 2- University Zone 2 | High/Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |

**Table 7-2 Land Use Zoning and Vulnerabilities for Maynooth Environs (County Meath)**

| Objective | Vulnerability | Justification Test Required |
|---|---|---|
| A1 – Existing Residential | High / Less | For Development in Flood Zone A or B |
| A2 – New Residential | High / Less | For Development in Flood Zone A or B |
| D1 – Tourism | Less/Water Compatible | For less vulnerable development in Flood Zone A |
| E1 – Strategic Employment Zones (High Technology Uses) | Less | For less vulnerable development in Flood Zone A |
| G1- Community Infrastructure | High/Less | For highly vulnerable development in Flood Zone A or B<br>For less vulnerable development in Flood Zone A |
| H1 – High Amenity | Less/Water Compatible | For less vulnerable development in Flood Zone A |

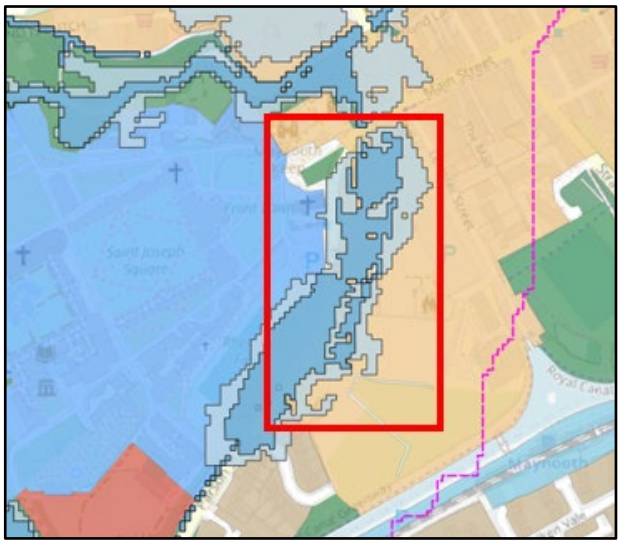
## 7.2 Pre-existing Zoned Areas

**Table** 7-3 below summarises the applicability of the Justification Test to pre-existing zoned areas in Maynooth by overlaying the flood mapping on the pre-existing land use zonings. Areas listed in **Table 7-3** are presented in more detail in the following sections where a review of the flood risk was undertaken, and a strategy is presented to manage the flood risk for each location. Justification Tests where applicable for areas are shown in **Appendix B**. The images presented for each location showing Flood Zones A and B overlain on the land use zones are extracts from the Flood Zone Map in **Appendix A**.

**Table 7-3 Pre-existing zoned areas vulnerable to potential flooding.**

| Site No. | Location | Land Use Zoning | Land Use Vulnerability | Justification Test Requirement |
|---|---|---|---|---|
| 1 | Town Centre (Maynooth Central Settlement Consolidation Site) | Town Centre | Highly / Less Vulnerable | Required as some of the existing residential zoning is located in Flood Zone A and B as well as commercial zoning in Flood Zone A. |
| 2 | Irish Water WWTP on Dunboyne Road | Transport and Utilities | Highly Vulnerable | Required as some of the existing development is located in Flood Zones A and B. |
| 3 | Parson Lodge Housing (on Parson Street) | Existing Residential / Infill | Highly Vulnerable | Required as some of the existing residential zoning is located in Flood Zones A and B. |
| 4 | Greenfield Residential Area (either side of Meadowbrook Stream) | Existing Residential / Infill | Highly Vulnerable | Required as some of the existing residential zoning is located in Flood Zones A and B. |
| 5 | Dunnes and Aldi Store | Town Centre | Highly / Less Vulnerable | Required as some of the existing town centre zoning is located in Flood Zones A and B as well as commercial zoning in Flood Zone A. |
| 6 | Land East and South of St Mary's Catholic Church | Town Centre | High/Less Vulnerable | Required as some of the existing zoning is located in Flood Zone A and B |
| 7 | Moyglare Apartment | Existing Residential / Infill | Highly Vulnerable | Required as some of the existing residential zoning is located in Flood Zones A and B. |
| 8 | Moyglare Court | Existing Residential / Infill | Highly Vulnerable | Required as some of the existing residential zoning is located in Flood Zones B. |
| 9 | Laraghbryan Cemetery | Educational and Community | Less Vulnerable | Required as the part of zoning is located in Flood zone A and B |
| 10 | North Crewhill, along Rye Water River | Agriculture | Water Compatible/Less Vulnerable | Not Required |
| 11 | Moygaddy, near Rye Water River | Community Infrastructure | Highly/Less Vulnerable | Required as the part of zoning is located in Flood zone A and B |
| 12 | Moygaddy, along Blackhall Little Stream | Strategic Employment Zone | Less Vulnerable | Required as the part of zoning is located in Flood zone A and B |

### 7.2.1 Town Centre (Maynooth Central Settlement Consolidation Site)

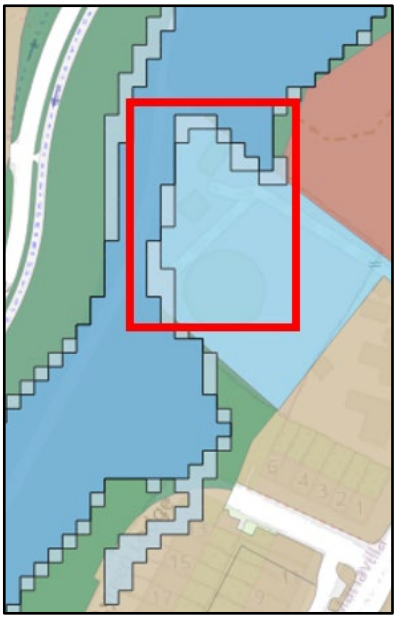


| | |
|---|---|
| **Historical Flooding** | No Historic Flooding recoded in the area |
| **Flood Risk** | Fluvial Flooding<br><br>The flood zones show residential and commercial properties within the inundated within Flood Zones A and B on Person Street.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates this area is susceptible to increases in flood extents for Flood Zones A and B, the MRFS low probability extents reaches Leinster Street.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any future development or regeneration in the subjected lands should be subject to a SSFRA.<br><br>The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>It should also be noted that the town centre is susceptible to increases in flood extents during climate change scenarios. Any SSFRAs in the town centre should include an assessment of the impacts of climate change and the proposed flood defences from the FRMP. |

Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings.

Any infill or backland development in the town centre should be compliant with The Guidelines and therefore should be accompanied by an SSFRA, follow the sequential approach and avoid development in flood zones.

### 7.2.2 Irish Water WWTP on Dunboyne Road

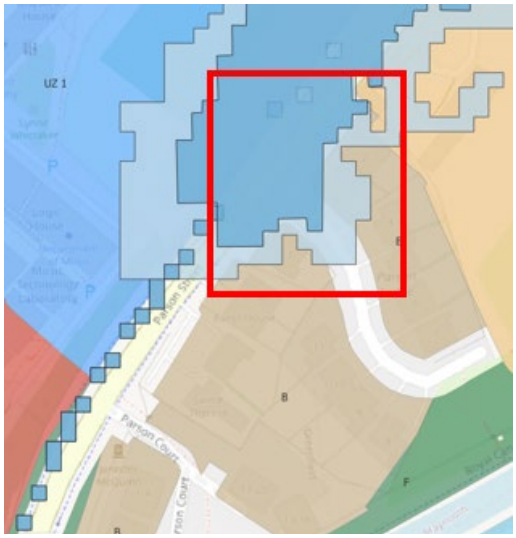


| | |
|---|---|
| **Historical Flooding** | Historical flooding reported in the vicinity of the area on Lyreen River in 2002. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show the development within the Lands inundated within Flood Zone A and B extents.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for Flood Zones A and B. However, the MRFS flooding extents does not extend significantly.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any future significant development should be subject to a SSFRA. |

The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRAs should also examine climate change scenarios.

Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings.

### 7.2.3 Parson Lodge Housing

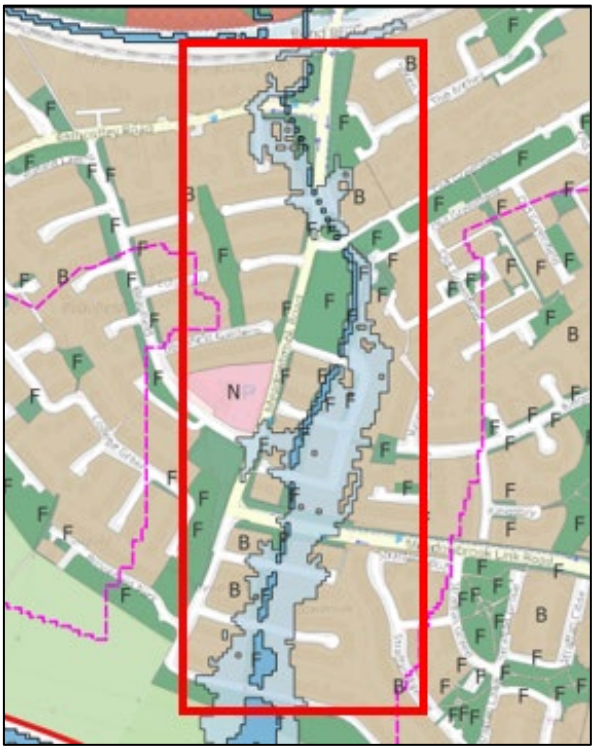



| | |
|---|---|
| **Historical Flooding** | No historical flooding reported in this area. |
| **Comment** | Fluvial Flooding<br><br>The fluvial flood zones show the area inundated for Flood Zones A and B. The flood zones are largely contained to Parson Street and building close to the street.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for both Flood Zones A and B in this area.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any future significant development should be subject to a SSFRA. |

The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRAs should also examine climate change scenarios.

Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings.

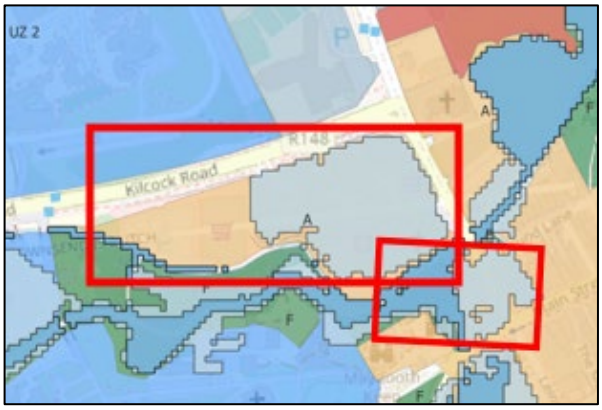
### 7.2.4 Meadowbrook Road Housing Estates



| | |
|---|---|
| **Historical Flooding** | One historical flooding reported along Meadowbrook Stream. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show residential properties along Meadowbrook Stream inundated within Flood Zone A and B extents. The predicted flood extents from the Meadowbrook Stream show spill over both banks of the watercourse onto the local access roads and residential properties present either side of the Meadowbrook Stream.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for both the Flood Zones A and B. The MRFS indicates a significant increase in the flood zones on either side of the Meadowbrook Stream. |

| | |
|---|---|
| | Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any future significant development should be subject to a SSFRA.<br><br>The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRAs should also examine climate change scenarios.<br><br>Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings. |

### 7.2.5 Dunnes and Aldi Store




| | |
|---|---|
| **Historical Flooding** | Some historical flooding reported in vicinity of the area (in University Campus) on Lyreen River. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show areas of the site lie within Flood Zone A and B extents. The predicted flood zone B covers the entire site. However, flood zone A is contained within the banks of the Crewhill Stream<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for Flood Zones A and B on the Leinster Street.<br><br>Justification Test |

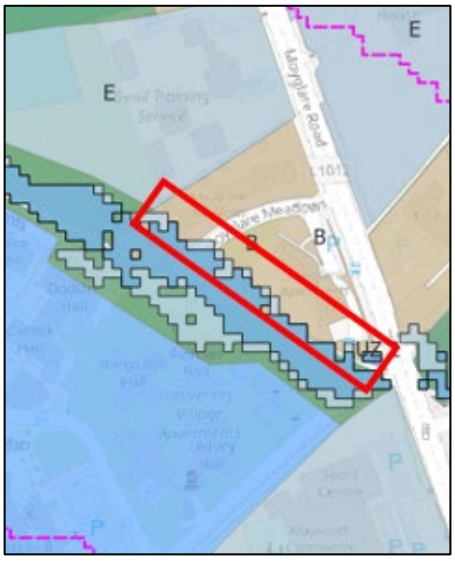
| | |
|---|---|
| | A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any extension of the commercial property should be subject to a SSFRA.<br><br>The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 1% AEP level, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRAs should also examine climate change scenarios.<br><br>Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings. |

### 7.2.6 Land East and South of St Mary's Catholic Church


| | |
|---|---|
| **Historical Flooding** | No Historical flooding reported in this area. |
| **Comment** | <u>Fluvial Flooding</u><br><br>The flood zones show large areas of the sites impacted by both 0.1% and 1% AEP events. Most of the flooding is contained within undeveloped area which has extant permission for development.<br><br><u>Pluvial Flooding</u><br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area. |

| | |
|---|---|
| | Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for both Flood Zones A and B. However, the increase is not significant in the area.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test is included in **Appendix B**. Any future developments in the zoned land including the expansion of existing car park and residential apartment building should be subject to a SSFRAs.<br><br>The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% AEP level, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings. |

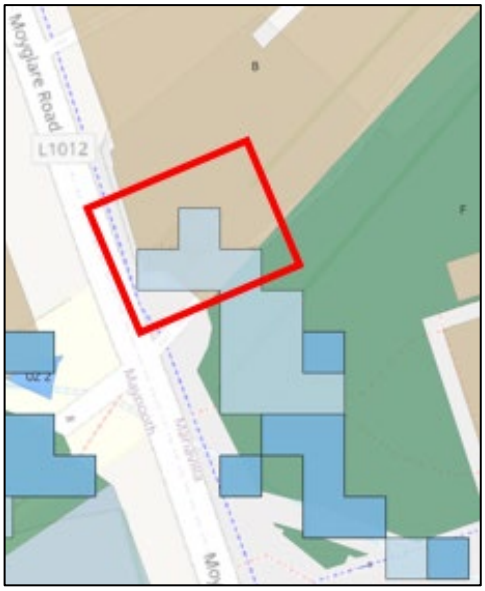
### 7.2.7 Moyglare Apartment




| | |
|---|---|
| **Historical Flooding** | No Historical flooding reported along the banks of the Crewhill Stream in this area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show few residential properties inundated within Flood Zone A and B extents.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area. |

| | |
|---|---|
| | Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for Flood Zones A and B in the area with extended reaching Moyglare Road for predicted MRFS.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test is included in **Appendix B**. Any future significant future development should be subject to a SSFRAs.<br><br>The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% AEP level, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings. |

### 7.2.8 Moyglare Court




| | |
|---|---|
| **Historical Flooding** | No Historical flooding reported in this area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show the site for the Moyglare Court Apartment inundated within Flood Zone B extents.<br><br>Pluvial Flooding |

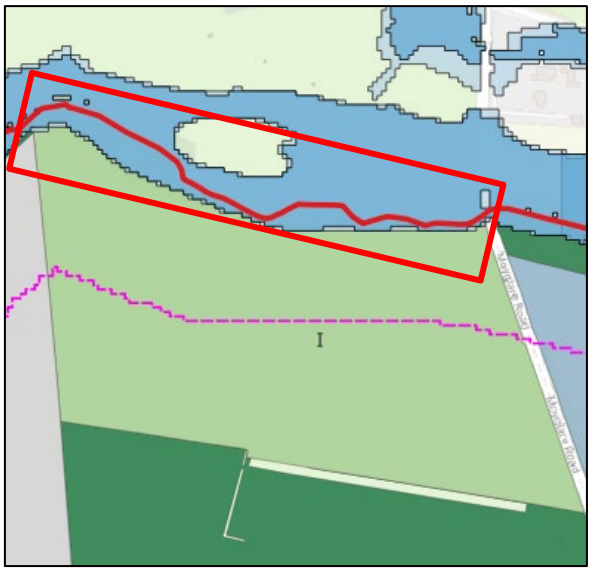
| | |
|---|---|
| | The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates slight increase in flood extents for Flood Zones A and B but does not encroach further into the site.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test is included in **Appendix B**. Any future significant future development should be subject to a SSFRAs.<br><br>The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% AEP level, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings. |

### 7.2.9 Laraghbryan Cemetery

| | |
|---|---|
| **Historical Flooding** | No Historical flooding reported in the cemetery site. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show the site for the Laraghbryan Cemetery is inundated within Flood Zone A and B extents.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in the site. |

| | |
|---|---|
| | Climate Change<br><br>The CFRAM mapping indicates a slight increase in flood extents for Flood Zones A and B for in MRFS.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to retain the pre-existing zoning. The Justification Test is included in **Appendix B**. Any future significant future development should be subject to a SSFRAs.<br><br>The SSFRAs should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% AEP level, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Applications for minor development to existing buildings in areas of flood risk such as small extensions and most changes of use must include a flood risk assessment of appropriate detail to demonstrate that they would not have adverse flood risk impacts and employ flood resilient construction materials and fittings. |

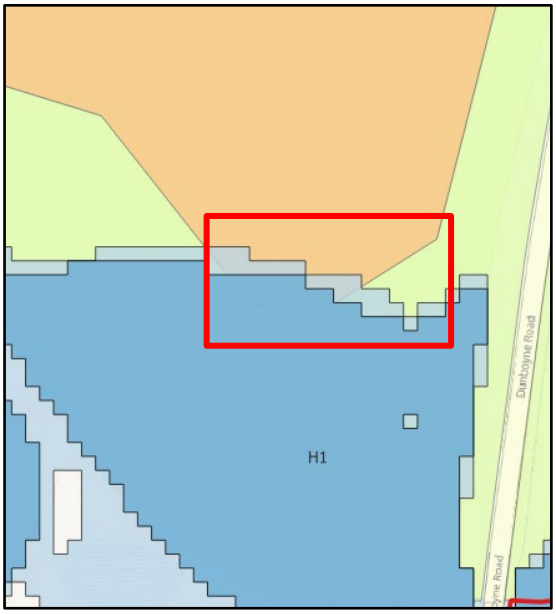
### 7.2.10 North Crewhill, along Rye Water River



| | |
|---|---|
| **Historical Flooding** | No Historical flooding reported in the area along the Rye Water River. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show the area is inundated within Flood Zone A and B extents.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth highlight pluvial flooding in proximity. |

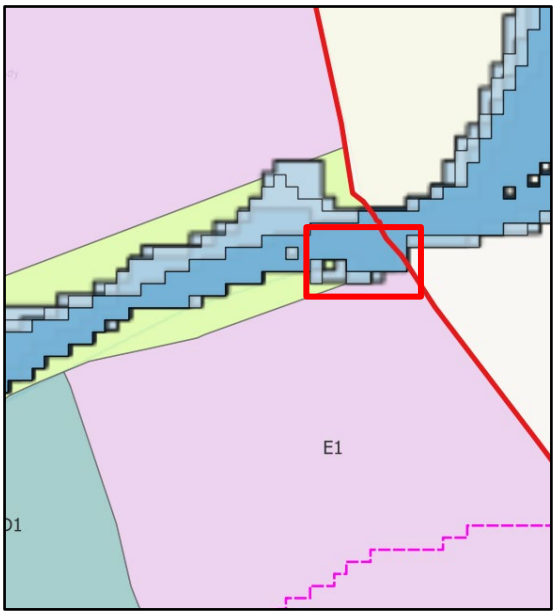
| | |
|---|---|
| | Climate Change<br><br>The CFRAM mapping indicates slight increase in flood extents in MRFS.<br><br>Justification Test<br><br>The existing zoning is appropriately zoned, possessing water compatible/less vulnerable development. The existing zoning does not require Justification test. |
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate development is carried out in this area KCC are proposing to retain the area to water compatible/less vulnerable Agriculture Zoning. This will maintain the existing flood storage in this area and help provide natural protection to the adjacent development |

### 7.2.11 Moygaddy, near Rye Water River



| | |
|---|---|
| **Historical Flooding** | No historical flooding reported in the area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones map indicates Flood Zone A and B extents in the area.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth show some instances of pluvial flooding in the area.<br><br>Climate Change<br><br>The CFRAM mapping does not indicate significant increase in flood extents for Flood Zone A and B within the site.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | The subject land is zoned as Community Infrastructure under the Meath County Development Plan 2021-2027 which was subject to a Strategic Flood Risk Assessment. The Justification Test and proposed flood risk management measures are included in **Appendix B.** However, it is required that highly vulnerable infrastructure should not be developed in Flood Zone A and B and less vulnerable infrastructure should be developed in Flood Zone A.<br><br>Moreover, any future development on this site should be subject to a SSFRA. The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios.<br><br>All developments will be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and CDP.<br><br>Tables 11.5 and 11.6 of the Draft Joint Plan requires where flood risk is shown at this location that it remains free from development. |

### 7.2.12 Moygaddy, along Blackhall Little Stream




| | |
|---|---|
| **Historical Flooding** | No historical flooding reported in the area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones map does not indicate Flood Zone A and B extents in the area.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not show pluvial flooding in the area.<br><br>Climate Change<br><br>The CFRAM mapping does not indicate significant increase in flood extents for Flood Zone A and B within the site.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | The subject land is zoned as Strategic Land under Meath County Development Plan 2021-2027 which was subject to a Strategic Flood Risk Assessment. The Justification Test and proposed flood risk management measures are included in **Appendix B.** However, it is required that highly vulnerable infrastructure should not be developed in Flood Zone A and B and less vulnerable infrastructure in Flood Zone A.<br><br>Moreover, any future development on this site should be subject to a SSFRA. The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios. |

All developments will be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and CDP. Furthermore, Tables 11.5 and 11.6 of the Draft Joint Plan requires where flood risk is shown at this location that it remains free from development.

## 7.3 Proposed New Zonings

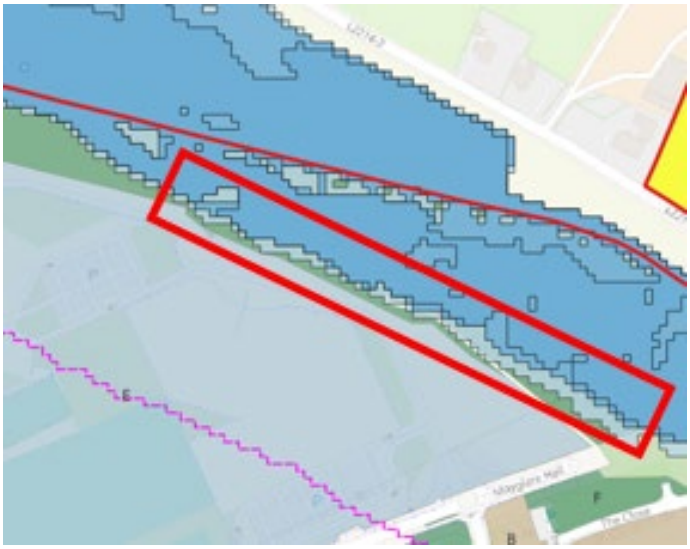
**Table 7-4** below summarises the applicability of the Justification Test for proposed new zonings in Maynooth. Areas listed in **Table 7-4** are presented in more detail in the following sections where a review of the flood risk was undertaken, and a strategy is presented to manage the flood risk for each location. Justification Tests where applicable for areas are shown in **Appendix B**. A review of historical flooding, significant watercourses and historical mapping did not indicate any further fluvial flood risk outside the scope of the CFRAM mapping. Therefore, no further flood zone mapping was deemed to be necessary. The images presented for each location showing Flood Zones A and B overlain on the land use zones are extracts from the Flood Zone Map in **Appendix A**.

**Table 7-4 Proposed New Zoned areas vulnerable to potential flooding.**

| Site No. | Location | Previous Land Use Zoning the Maynooth LAP 2013-2019 | Land Use Vulnerability | Proposed Land Zoning the Draft Joint Plan 2025-2031 | Land Use Vulnerability | Justification Test Requirement |
|---|---|---|---|---|---|---|
| 13 | Maynooth Community College | Educational and Community | Highly / Less Vulnerable | Open Space & Amenity | Less / Water Compatible | Not required |
| 14 | Newtown Area | Agriculture | Less Vulnerable/Water Compatible | Strategic Reserve | Less Vulnerable | Not required |
| 15 | College Farm Yard | Community and Education | Highly / Less Vulnerable | Leisure and Tourism | Less Vulnerable | Not required |
| 16 | Laraghbryan East on Kilcock Road | Community and Education | Highly / Less Vulnerable | Existing Residential/Infill | Highly Vulnerable | Required |
| 17 | St Patrick College Greenfield Area | Community and Education | Highly/Less Vulnerable | Open Space and Amenity | Less / Water Compatible | Not required |
| 18 | Laraghbryan East along the bank of Crewhill Stream | Research and Technology | Less Vulnerable | Open Space and Amenity | Less / Water Compatible | Not required |
| 19 | Collegeland along Lyreen River | Community and Education | Highly/Less Vulnerable | Open Space and Amenity | Less / Water Compatible | Not required |
| 20 | Maynooth University Playing Field | Community and Educational | Highly / Less Vulnerable | Open Space and Amenity | Less / Water Compatible | Not required |

| | | | | | | |
|---|---|---|---|---|---|---|
| | and River Apartments | | | | | |
| 21 | North Maynooth along Rye Water River | N/A | N/A | Open Space and Amenity | Less / Water Compatible | Not required |
| 22 | John Paul Library, Maynooth University | Community and Education | Highly/Less Vulnerable | University Zone 1 | Less Vulnerable | Not required |
| 23 | St Patrick's College | Community and Education | Highly/Less Vulnerable | University Zone 1 | Less Vulnerable | Required |
| 24 | Ryewood, near Dunboyne Road Roundabout | Agricultural | Water Compatible | Existing Residential/Infill | Highly vulnerable | Required |

### 7.3.1 Maynooth Community College



| | |
|---|---|
| **Historical Flooding** | No Historical Flooding |
| **Comment** | <u>Fluvial Flooding</u><br><br>The flood zones show significant flooding for Flood Zones A and B adjacent to the riverbank.<br><br><u>Pluvial Flooding</u><br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth highlights some instances of pluvial flooding in this area.<br><br><u>Climate Change</u><br><br>The CFRAM mapping indicates slight increase in flood extents for both Flood Zones in this area. |

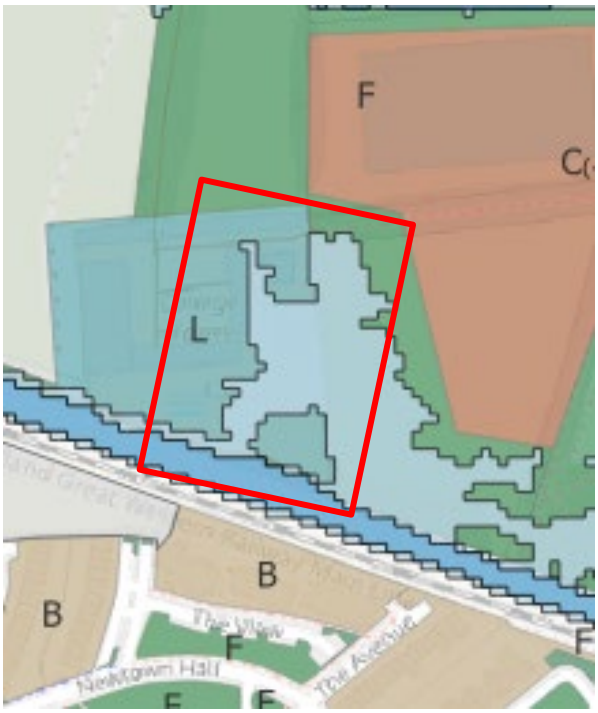
| | |
|---|---|
| | Justification Test<br><br>This existing zoning would not pass a justification test and the sequential approach was followed to appropriately rezone the site. |
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate development is carried out in this area KCC are proposing to rezone the area to water compatible open space. This will maintain the existing flood storage in this area and help provide natural protection to the adjacent development. |

### 7.3.2 Newtown Area


| | |
|---|---|
| **Historical Flooding** | No historical flooding reported in the zoning area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show significant flooding for Flood Zones B.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth highlights some instances of pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for both Flood Zones in this area.<br><br>Justification Test<br><br>This new zoning does not require a justification test since the zoning is protected against the inappropriate and vulnerable uses. |

| | |
|---|---|
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate development is carried out in this area. KCC are proposing to rezone the area to Strategic Reserve ($SR_2$). The change in zoning does not change the vulnerability of the zoning with respect to the Table 3.1 of The Guidelines. The zonings' objective is considered 'less vulnerable' development. Any future development on this site should be subject to an SSFRA and implementation of mitigation measures to address issues including flood displacement.<br><br>The need for an SSFRA is further stipulated in Objective MWO 1.2 of the Draft Joint Plan which requires the preparation of a Masterplan for lands at Maynooth West. The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios. |

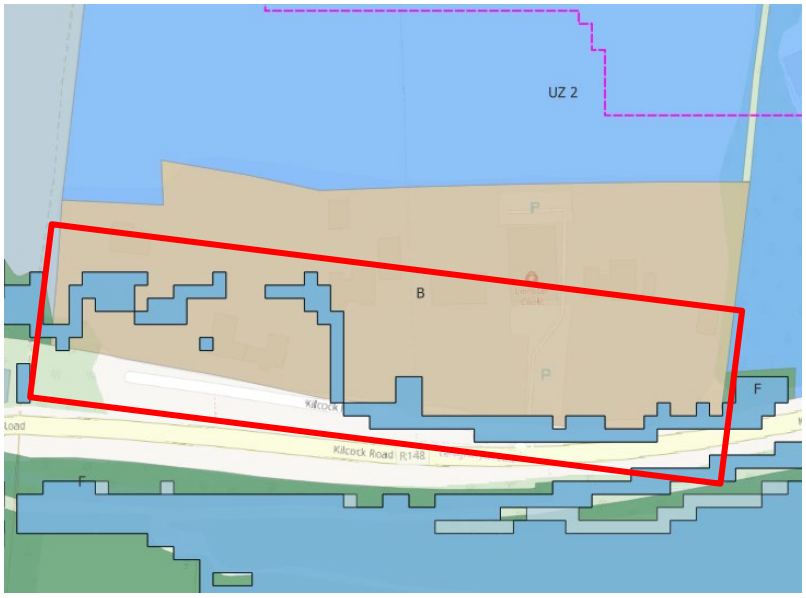
### 7.3.3 College Farm Yard




| | |
|---|---|
| **Historical Flooding** | No Historic flooding reported in the area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show significant flooding for Flood Zones B adjacent to the Royal Canal.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight of pluvial flooding in this area.<br><br>Climate Change |

| | |
|---|---|
| | The CFRAM mapping indicates an increase in flood extents for both Flood Zones in this area.<br><br>Justification Test<br><br>The sequential approach was followed to appropriately rezone the site. The new proposed zoning does not require Justification test. |
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate development is carried out in this area KCC are proposing to rezone the area to Leisure and Tourism. The zoning is considered to have 'less vulnerable' development. Any future development on this site should be subject to a SSFRA.<br><br>The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios.<br><br>Table 11.9 Land Use Zoning Matrix indicates that a guest house/hotel/hostel is 'open for consideration' within the 'Leisure and Tourism' zoning objective. Hotel is considered a highly vulnerable use which would not be appropriate within the flood zone. Therefore, the following footnote is included in Table 11.9 Land Use Zoning Matrix: 'Guest house/hotel/hostel use will not be permitted within the flood risk zone as illustrated in Map 10.1 Strategic Flood Risk Assessment'. |

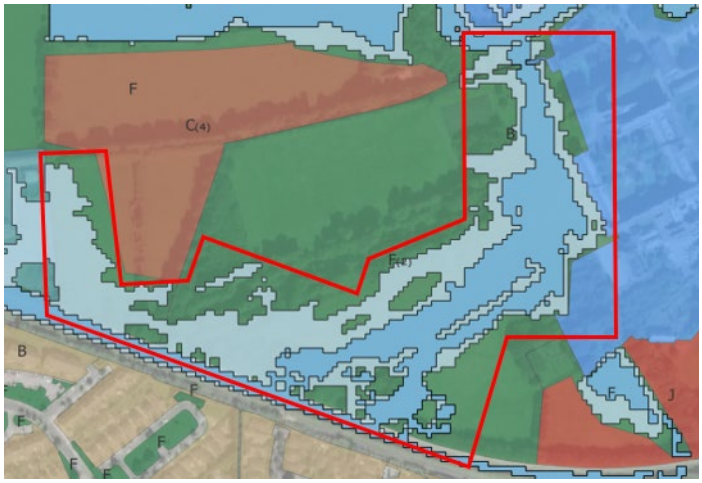
### 7.3.4 Laraghbryan East on Kilcock Road




| | |
|---|---|
| **Historical Flooding** | No historical flooding reported in the area. |
| **Comment** | Fluvial Flooding |

| | |
|---|---|
| | The flood zones show significant flooding for Flood Zones A and B from Lyreen River.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight of pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping doesn't indicate a significant increase in flood extents for climate change scenarios in this area.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to zone this land as Existing Residential and Infill. The change in zoning does not change the vulnerability of the zoning with respect to the Table 3.1 of The Guidelines. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any future development on this site should be subject to a SSFRA.<br><br>The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios. |

### 7.3.5 St Patrick College Greenfield Area




| | |
|---|---|
| **Historical Flooding** | Some instance of historic flooding is reported in the vicinity of the area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show significant flooding for Flood Zones A and B in the area from Lyreen River. |

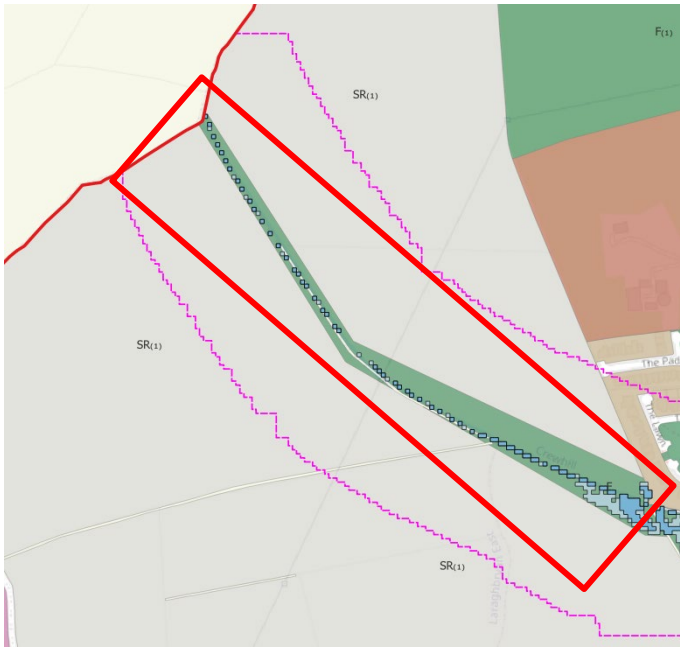
| | |
|---|---|
| | Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping indicates an increase in flood extents for both Flood Zones in this area.<br><br>Justification Test<br><br>The existing zoning would not pass a justification test and the sequential approach was followed to appropriately rezone the site. The new proposed zoning does not require Justification test. |
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate development is carried out in this area KCC are proposing to rezone the area to water compatible open space. This will maintain the existing flood storage in this area and help provide natural protection to the adjacent development. |

### 7.3.6 Collegeland along Lyreen River


| | |
|---|---|
| **Historical Flooding** | Instance of historic flooding in vicinity of the area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones show this site inundated adjacent to the riverbank within Flood Zones A and B.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change |

| | |
|---|---|
| | The CFRAM mapping indicates this area is susceptible to increases in flood extents for Flood Zones A and B.<br><br>Justification Test<br><br>The existing zoning would not pass a justification test and the sequential approach was followed to appropriately rezone the site. The new proposed zoning does not require Justification test. |
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate development is carried out in this area KCC are proposing to rezone the area to water compatible open space. This will maintain the existing flood storage in this area and help provide natural protection to the adjacent development |

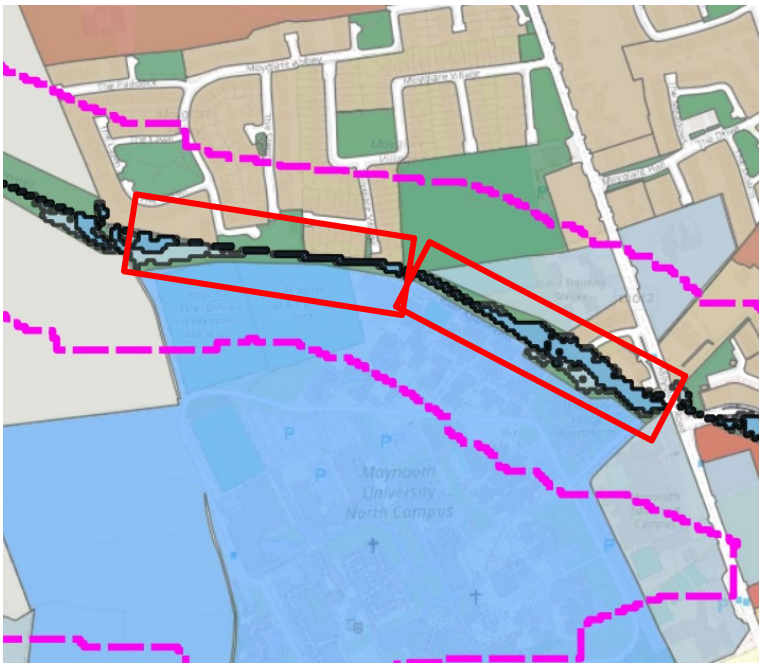
### 7.3.7 Laraghbryan East along the banks of Crewhill Stream




| | |
|---|---|
| **Historical Flooding** | No historical flooding in this area. |
| **Comment** | Fluvial Flooding<br><br>The flood zone mapping highlight Flood Zone A and B extents in this area.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br>Climate Change<br><br>The CFRAM mapping does not indicate significant increase in flood extents for climate change scenarios in this area.<br><br>Justification Test |

| | |
|---|---|
| | The existing zoning would not pass a justification test and the sequential approach was followed to appropriately rezone the site. The new zoning does not require justification test. |
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate development is carried out in this area KCC are proposing to rezone the area to water compatible open space and amenity. This will maintain the existing flood storage in this area and help provide natural protection to the adjacent development. |

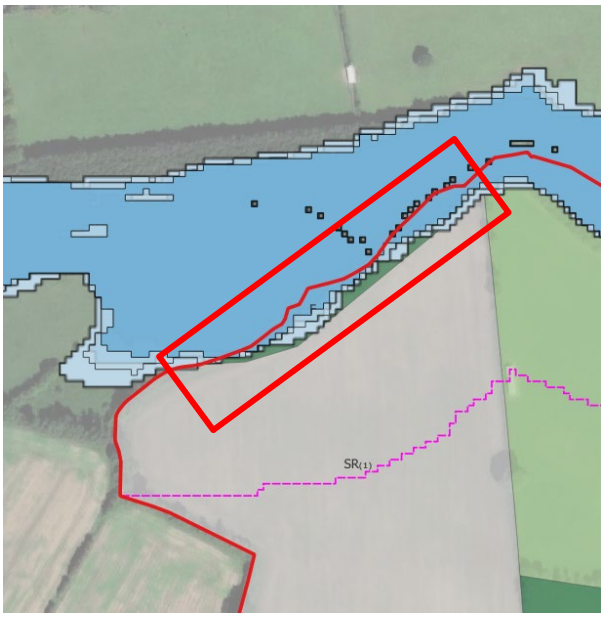
### 7.3.8 Maynooth University Playing Field and River Apartments




| | |
|---|---|
| **Historical Flooding** | No historical flooding reported in the area. |
| **Comment** | <u>Fluvial Flooding</u><br><br>The flood zone mapping highlight Flood Zone A and B extents in this area.<br><br><u>Pluvial Flooding</u><br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not highlight pluvial flooding in this area.<br><br><u>Climate Change</u><br><br>The CFRAM mapping indicate increase in flood extents for climate change scenarios in this area. The flood extents for MRFS encroaching the University River Apartment present adjacent to the zoning area.<br><br><u>Justification Test</u><br><br>The existing zoning would not pass a justification test and the sequential approach was followed to appropriately rezone the site. The new zoning does not require justification test. |
| **Conclusion** | KCC reviewed the existing zoning from the Maynooth LAP 2013-2019 against all the available flood information, followed the sequential approach and to ensure that no inappropriate |

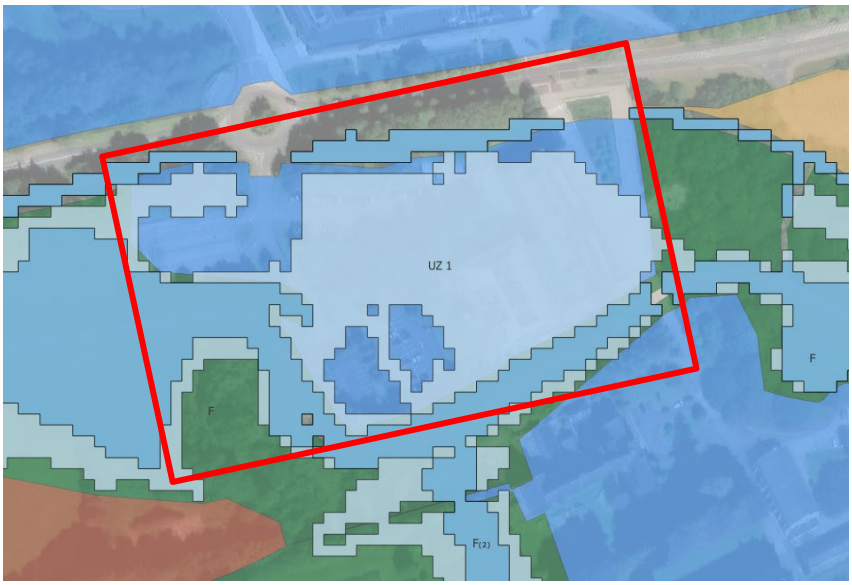
development is carried out in this area KCC are proposing to rezone the area to water compatible open space and amenity. This will maintain the existing flood storage in this area and help provide natural protection to the adjacent development.

### 7.3.9 North Maynooth along Rye Water River



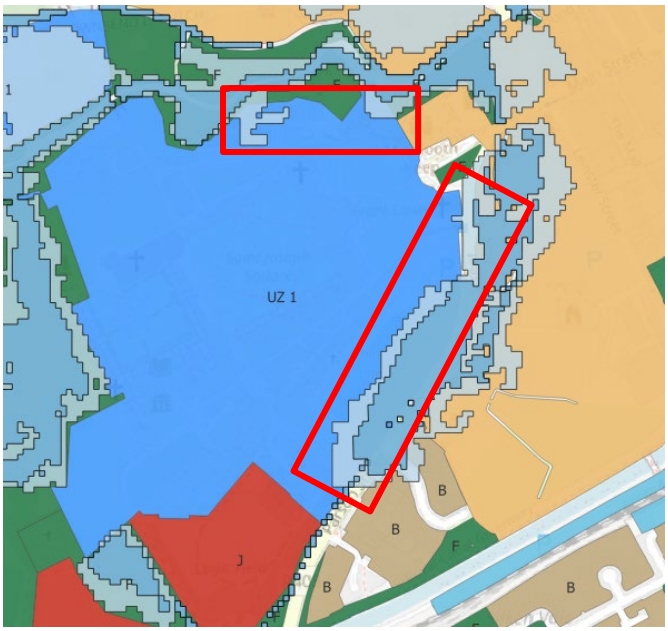

| | |
|---|---|
| **Historical Flooding** | No historical flooding in this area. |
| **Comment** | Fluvial Flooding<br><br>The flood zone mapping does not highlight flood extents in this area.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth highlight nearby areas subject to pluvial flooding.<br><br>Climate Change<br><br>The CFRAM mapping doesn't indicate a significant increase in flood extents for climate change scenarios in this area.<br><br>Justification Test<br><br>The area was not zoned in previous LAP. The new zoning does not require justification test |
| **Conclusion** | KCC followed the sequential approach and to ensure that no inappropriate development is carried out in this area KCC are proposing to zone the area to water compatible open space and amenity. This will maintain the existing flood storage in this area and help provide natural protection to the adjacent development. |

### 7.3.10 John Paul Library, Maynooth University




| | |
|---|---|
| **Historical Flooding** | No historical flooding in this area. |
| **Comment** | Fluvial Flooding<br><br>The flood zone mapping highlight flood zone B extents in this area.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not show pluvial flooding in the area.<br><br>Climate Change<br><br>The CFRAM mapping indicate an increase in flood extents for climate change scenarios in this area.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | The sequential approach was followed to ensure that no inappropriate development is carried out in this area. KCC are proposing to zone the area to University Zone 1 having less vulnerable development in Flood Zone B. The Justification Test and proposed flood risk management measures are included in **Appendix B.** However, any future development on this site should be subject to a SSFRA.<br><br>The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios.<br>All developments will be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and CDP. |

## 7.3.11 St Patrick's College




| | |
|---|---|
| **Historical Flooding** | Historical flooding has been reported in this area on Lyreen River. |
| **Comment** | Fluvial Flooding<br><br>The flood zone mapping highlight flood zone A and B extents in this area.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not show pluvial flooding in the area.<br><br>Climate Change<br><br>The CFRAM mapping indicate an increase in flood extents for climate change scenarios in this area.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test was carried out and found that it is considered appropriate to zone this land as University Zone 1. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any future development on this site should be subject to a SSFRA.<br><br>The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios.<br><br>All developments will be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and CDP. |

### 7.3.12 Ryewood Building, Dunboyne Road Roundabout


| | |
|---|---|
| **Historical Flooding** | No historical flooding reported in the area. |
| **Comment** | Fluvial Flooding<br><br>The flood zones map indicates Flood Zone A and B extents in the area.<br><br>Pluvial Flooding<br><br>The GSI Winter 2015/2016 Surface Water Flooding and SAR Seasonal Flood Maps for Maynooth does not show pluvial flooding in the area.<br><br>Climate Change<br><br>The CFRAM mapping indicate an increase in flood extents for Flood Zone A and B within the site.<br><br>Justification Test<br><br>A Justification Test is required to assess if the zoning in this area remains suitable. |
| **Conclusion** | A Justification Test and found that it is considered appropriate to zone this land as Existing Residential and Infill. The Justification Test and proposed flood risk management measures are included in **Appendix B**. Any future development on this site should be subject to a SSFRA.<br><br>The SSFRA should address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings should be considered and the site should not impede existing flow paths or cause flood risk impacts to the surrounding areas. An emergency evacuation plan and defined access / egress routes should be developed for extreme flood events. SSFRA should also examine climate change scenarios.<br><br>All developments will be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and CDP. |

# 8 FLOOD RISK MANAGEMENT POLICIES AND OBJECTIVES

## 8.1 General Development Plans and Strategies

The Kildare County Development Plan 2023-2029 and the Meath County Development Plan 2021-2027 (as varied) outlines surface water and flood risk management policies and objectives for the respective counties. The Draft Joint Plan will also ensure flood risk and surface water management is considered during the planning process for development within the Draft Joint Plan boundary. The Draft Joint Plan will also implement specific local policies and objectives which have also been adopted from the existing development plan and updated based on the information provided in the SFRA process and are shown in **Table 8-1**.

**Table 8-1** Draft Joint Plan **Flood Risk Management policies.**

| Planning Policy / Objective | Policy Description |
|---|---|
| **Policy I2 – Surface Water and Groundwater** | It is the objective of the Kildare and Meath County Council to: |
| **IO2.1** | Protect surface waterbodies and groundwater aquifers from deterioration and maintain, or where necessary, improve their quality over the period of the Joint Plan and beyond. |
| **IO2.2** | Incorporate nature-based water drainage solutions as part of all plans and projects in the plan area. Proposals for new development shall align with the Maynooth and Environs Surface Water Strategy (that accompanies this plan) and the Kildare County Council Sustainable Drainage Systems Guidance Document 2024 (for projects within County Kildare). |
| **IO2.3** | Ensure areas indicated as Nature-Based Management Areas (NBMAs) on Map 10.1 are reserved free from development and integrated into design proposals for nature-based surface water drainage purposes. |
| **IO2.4** | Pursue opportunities within the Railpark area to divert surface water drainage away from the town centre by developing a surface water drainage network which discharges into the Rye Water River down stream of Maynooth, subject to Appropriate Assessment (AA). |
| **IO2.5** | Support Uisce Eireann's Maynooth Surface Water Separation programme to alleviate system surcharge and facilitate additional foul network capacity. |
| **IO2.6** | Identify opportunities to integrate nature-based surface water management objectives in Local Authority-led projects. |
| **Policy I3 – Flood Risk Management** | It is the objective of the Kildare and Meath County Council to: |
| **IO3.1** | Manage flood risk in Maynooth and Environs in conjunction with the Office of Public Works, and in accordance with the requirements of The Planning System and Flood Risk Management Guidelines for Planning Authorities, DECLG and OPW (2009) and Circular PL02/2014 (August 2014). |
| **IO3.2** | Ensure development proposals within the areas where Kildare County Council and Meath County Council have applied a Justification Test and where residual flood risk remains as outlined on the Flood Risk Map (Map Ref. 2) are the subject of a Site- |

| Planning Policy / Objective | Policy Description |
|---|---|
| | Specific Flood Risk Assessment, appropriate to the nature and scale of the development proposed. |
| **IO3.3** | Maintain all existing overland flow routes. |
| **IO3.4** | Support and co-operate with the OPW in augmenting the Lyreen and Meadowbrook Flood Relief Scheme and in carrying out other minor flood relief works within Maynooth, subject to the statutory environmental considerations. |

## 8.2 Flood Risk Management Plans

KCC have committed to implementing the recommendations from the FRMP for Maynooth. The lists of measures applicable to Maynooth are outlined previously in **Table 5-3**. Similarly as discussed in previous sections of the SFRA (**Section 5.6** and **Section 6.2.2**), the FRMP for the Liffey and Dublin Bay River Basin identified a proposed flood relief works for Maynooth. KCC will work in conjunction with the OPW to deliver any proposed flood alleviation works that are deemed appropriate and viable after project level assessment.

## 8.3 Flood Risk Management Objectives

KCC and MCC will implement the proposed flood risk management objectives for specific areas, ensuring planning applications, where applicable, will require an FRA of appropriate detail. The level of detail within the FRA will depend on the risks identified and the proposed land use. Applications should demonstrate the use of the sequential approach in terms of the site layout and design and, in satisfying the Justification Test (where required). The proposal must demonstrate that appropriate mitigation and management measures are put in place. For any development in flood risk areas that meet the Development Plan Justification Test, a Development Management Justification Test must then be applied. Development must satisfy all the criteria of the Development Management Justification Test.

# 9 SUMMARY

## 9.1 Overview

The SFRA Report has been prepared in accordance with the requirements of The Planning System and Flood Risk Assessment Guidelines for Planning Authorities (2009) and Circular PL02/2014 (August 2014). The SFRA has provided an assessment of all types of flood risk within the Maynooth and Environs Joint Plan Boundary to assist KCC and MCC to make informed strategic land-use planning decisions. The flood risk information has enabled the planning authorities to apply The Guidelines' sequential approach, and where necessary the Justification Test, to appraise sites for development and identify how flood risk can be reduced as part of the development plan.

## 9.2 Flood Zones and Flood Risk

Maynooth is susceptible to several types of flood risk but the primary risk if fluvial flooding which occurs when rivers overtop their banks due to a blockage in the channel or the channel capacity is exceeded. Maynooth is affected by fluvial flooding from the Rye Water River, Lyreen River and the Meadowbrook Stream. The flood zones extents have been prepared in accordance the Planning System and Flood Risk Assessment Guidelines identifying Flood Zones A and B. The flood zone maps are derived from Eastern CFRAMS. The Flood Zone mapping is based on the best currently available data and a more detailed, SSFRA may generate localised flood extents. Confidence in the accuracy of the maps is high due to the robust nature of the flood mapping process. The flood zones only account for inland flooding and are generated without the inclusion of climate change factors. They should not be used to suggest that any areas are free from flood risk as they do not account for potential flooding from pluvial and groundwater flooding. The flood zone map is shown in **Appendix A**.

The SSFRAs should in general address the site layout with respect to vulnerability of the proposed development type, finished floor levels should be above the 0.1% or 1% AEP level where appropriate, flood resilient construction materials and fittings may be considered and the developments should not impede existing flow paths or cause flood risk impacts to the surrounding areas. It also may be necessary to develop emergency evacuation plans and defined access / egress routes for extreme flood events. SSFRAs should also examine climate change impacts as parts of the town are susceptible to increases in flood extents for climate change scenarios. Any SSFRAs should also be cognisant of the proposed Maynooth Flood Relief Work which identified proposed flood defences to protect against the 1% AEP event.

## 9.3 Flood Management Policies and Objectives

The Kildare County Development Plan 2023-2029 and Meath County Development Plan 2021-2027 (as varied) outlines surface water and flooding flood risk management policies and objectives for their respective counties. The Draft Joint Plan 2025 – 2031 will implement these policies to ensure flood risk and surface water management is considered during the planning process for development within the Maynooth and Environs Joint Plan boundary. The Draft Joint Plan will also implement specific local policies and objectives which have also been adopted from the existing Draft Joint Plan and updated based on the information provided in the SFRA process and are shown in **Table 8-1**. KCC will also work in conjunction with the OPW to deliver the proposed flood relief works as per FRMP. This scheme will provide protection to existing residential and commercial properties at risk from fluvial flooding to 1% AEP event standard of protection.

## 9.4 SFRA Review and Monitoring

The Draft Joint Plan SFRA will be reviewed and updated every six years in line with Planning and Development legislation. Additionally, outputs from future studies and datasets may trigger a review and update of the SFRA during the lifetime of the plan and the Kildare County Development Plan. These include the outputs from the proposed Maynooth flood relief scheme or any updates to the River Liffey and Dublin Bay FRMP if they completed during the lifetime of the Draft Joint Plan. Other sources of information may not lead to an update of the SFRA during the lifetime of the Plan, but they should be retained and collected to supplement the future SFRAs.

# Appendix A

# Fluvial Flood Zone Mapping

N

0 0.5 1 1.5 km

## Legend

- Draft Joint Plan Boundary
- Flood Zone A
- Flood Zone B
- Flood Risk Assessment

### Land Use Zones

- A - Town Centre
- A(1) - Town Centre Extension
- B - Existing Residential & Infill
- C - New Residential
- C - Phase 2 Residential
- E - Community and Educational
- F - Open Space and Amenity
- H - Industrial and Warehousing
- I - Agriculture
- U - Transport and Utilities
- N - Neighbourhood Centre
- P - Research and Technology
- S - Carton Avenue
- T - General Development
- Q- Enterprise and Employment
- L - Leisure and Tourism
- J - Student Accommodation
- UZ 1: University Zone 1
- UZ 2: University Zone 2
- SR- Strategic Reserve

### Meath County Council County Development Plan 2021 - 2027 Maynooth Environs Zoning

- A1 - Existing Residential
- A2 - New Residentia
- D1- Visitor and Tourist Facility
- E1 - Strategic Lands
- G1 - Community Infrastructure
- H1 - High Amenity

Client: **Kildare County Council**

Project: **The Draft Joint Plan 2025-2031**

Title: **The Draft Joint Plan Flood Zone Map**

RPS | Consulting UK & Ireland
West Pier Business Campus
Dun Laoghaire
Co. Dublin Tel: +353 (0) 1 488 2900

**Issue Details**

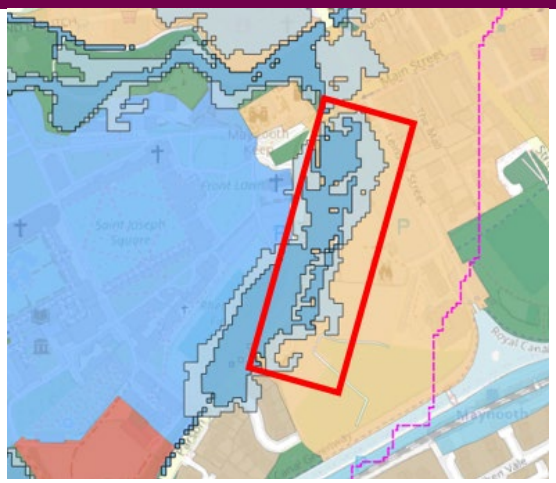
| | | |
|---|---|---|
| File Identifier: MDW0873QG0101_Maynooth SFRA_D02 | | |
| Status: S0 | Rev: P01.01 | Model File Identifier: |
| Drawn: AT | | Date:06/06/2024 |
| Checked: | Scale: 1:17,000 (A3) | |
| Approved:- | Map projection: IRENET95 / ITM | |

Notes

# Appendix B

# Justification Tests

| 1 The Draft Joint Plan 2025-2031 | Town Centre – Maynooth Central Consolidated Settlement) |
|---|---|

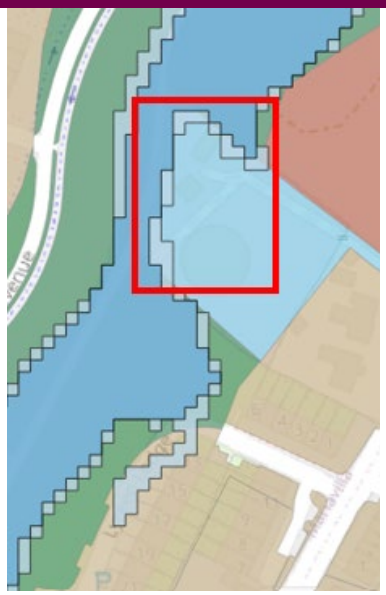


| | |
|---|---|
| 1 The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| 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: | Land Zoned: Town Centre. |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Yes, as lands are partially developed and located primarily in the town centre having mixed-use development. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises undeveloped lands in the town centre. The subjected land is in an appropriate area to provide mixed-use urban neighbourhood that consolidates the urban core and reinforces the 10-minute settlement principle within the town centre. |

| | | |
|---|---|---|
| | (iii) Is within or adjoining the core of an established or designated urban settlement, | Yes, is within the established designated urban settlement |
| | (iv) Will be essential in achieving compact and sustainable urban growth, and | Yes, as lands provides opportunity to consolidate and renew the urban core by providing a range of uses in a highly accessible central location. |
| | (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. | Having regard to the developed nature of lands it is considered reasonable to retain the use subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council. |
| **3** | 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 | The flood mapping indicates that parts of the mixed-use town centre fall within Flood Zone A and B.<br><br>The CFRAM fluvial flood map shows the presence of flood defence wall in the area that provide protection against 1% AEP flood event<br><br>It is considered appropriate to retain the existing zoning. Any future development (including infill and backland development) in this area should be subject to a SSFRA. SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br><br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br><br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br><br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br><br>• Flood resilient construction materials and fittings should be considered,<br><br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br><br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>The River Liffey & Dublin Bay FRMP has proposed flood defence works which would protect the town centre against the 1% AEP event. Any SSFRAs should be cognisant of the identified proposed flood defences. |

| | |
|---|---|
| | Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. |

| 2 | The Draft Joint Plan 2025-2031 | Irish Water WWTP on Dunboyne Road |
|---|---|---|

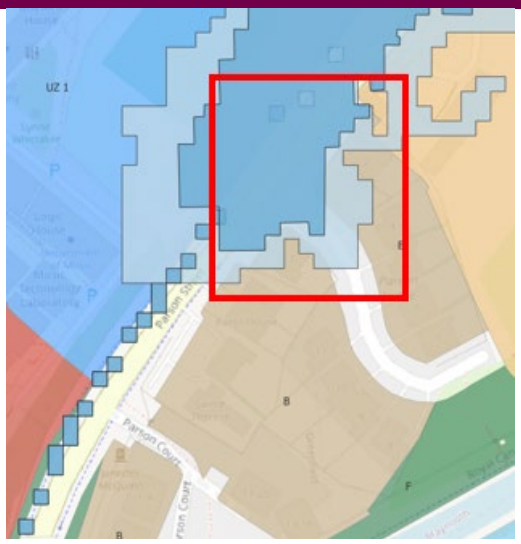


| | | |
|---|---|---|
| 1 | The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| 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: | Land Zoned: Transport and Utilities |

| | | |
|---|---|---|
| | (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Yes, the lands consist of existing development providing necessary wastewater infrastructure for the town. Future development proposals shall be restricted to minor infill proposals. |
| | (ii) Comprises significant previously developed and/or underutilized lands, | Yes, lands comprises significant previously developed utility services necessary for urban development. |
| | (iii) Is within or adjoining the core of an established or designated urban settlement, | The land is already developed with a Waste water Treatment Plant hence it would be inappropriate to re-zone the lands. Moreover, any future development in the lands shall be restricted to minor proposals outlined in Section 5.28 of The Guidelines. |
| | (iv) Will be essential in achieving compact and sustainable urban growth, and | Yes, the subject lands are already developed as a Wastewater Treatment Plant which serves as an essential service. This aligns with achieving compact and sustainable urban growth in the settlement. |
| | (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 identified area has already been developed as an essential Utility infrastructure. Having regard to the developed nature of the lands and potential to consolidate lands it is considered reasonable to retain the use and zoning subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** | 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 | The flood mapping indicates that part of the existing development falls within Flood Zone A and Flood Zone B. The extents are predominantly contained within the zoning.<br><br>It is considered appropriate to retain the existing zonings. Any future development should be subject to a SSFRA. SSFRAs should address the following:<br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Flood resilient construction materials and fittings should be considered, |

| | |
|---|---|
| | • Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br><br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. |

| 3 | The Draft Joint Plan 2025-2031 | Parson Lodge Housing |
|---|---|---|

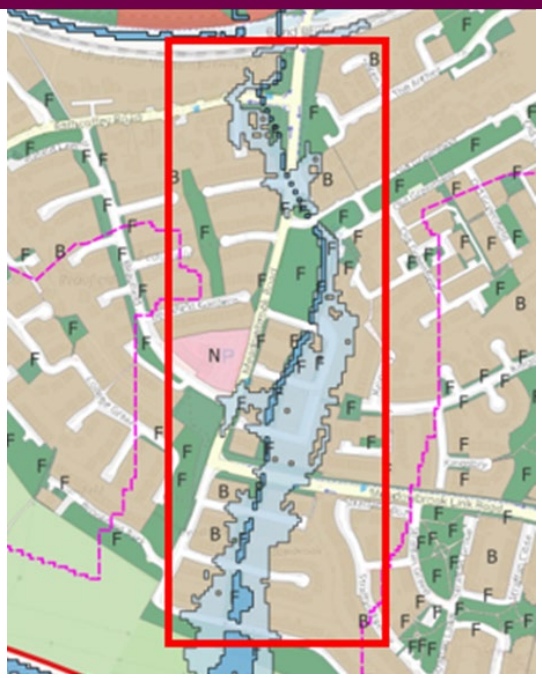



| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |

| | |
|---|---|
| **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: | Land Zoned: Existing Residential/infill |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Lands in the existing residential zoned area are already developed. Future development proposals shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines and will facilitate urban regeneration. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises significantly previously developed residential lands adjacent to urban settlement. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | Lands already developed and are adjacent to St. Patrick's College in the heart of the town centre. Zoned land shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | The subject lands are already developed as an existing residential area. |
| (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 identified area has already been developed as residential use. Having regard to the developed nature of the lands and potential to consolidate lands adjacent to existing urban area, it is considered reasonable to retain the use and zoning subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** 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 | The flood mapping indicates that part of the existing residential zoning fall within Flood Zone A and Flood Zone B. The predicted flood zones are largely contained to a rowing club building and its yard which are considered flood compatible in The Guidelines.<br><br>The CFRAM fluvial flood map shows the presence of flood defence wall in the area that provide protection against 1% AEP flood event<br><br>It is considered appropriate to retain the existing zonings. And any future development should be subject to a SSFRA. SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B, |

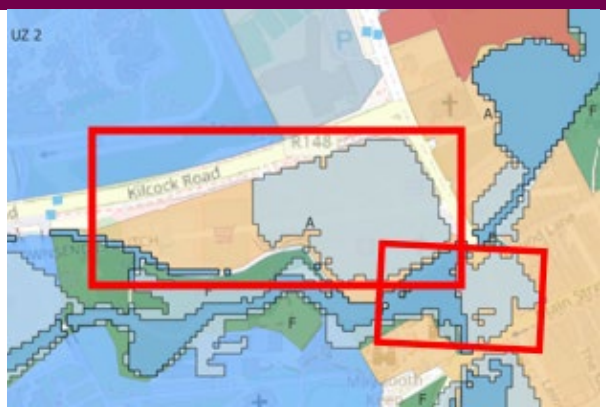
| | |
|---|---|
| | • Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. |

| 4 | The Draft Joint Plan 2025-2031 | Meadowbrook Road Housing Estates |
|---|---|---|



| | |
|---|---|
| 1 The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that |

| | | |
|---|---|---|
| | the Planning and Development Act, 2000, as amended. | provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Existing Residential |
| | (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Lands in the existing residential zoned area are already developed. Future development proposals shall be restricted to minor infill proposals. |
| | (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises significantly previously developed residential lands. |
| | (iii) Is within or adjoining the core of an established or designated urban settlement, | The lands consist of already developed residential estates proximate to the town centre. |
| | (iv) Will be essential in achieving compact and sustainable urban growth, and | The subject lands are already developed as an existing residential area. The zoning objectives for lands allow for appropriate consolidation and infill development, where appropriate. This will be essential to achieve compact sustainable 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. | The identified lands have already been developed as residential use. Having regard to the developed nature of the lands and potential to consolidate lands, it is considered reasonable to retain the use and zoning subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** | 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 | The flood mapping indicates that areas of the existing residential zoning fall within Flood Zone A and Flood Zone B. The flood zones show residential properties along Meadowbrook Avenue and Meadowbrook Road estate inundated within Flood Zone A and B extents. The housing estates in the area are impacted by the 0.1% AEP event and 1% AEP flood events |

| | | |
|---|---|---|
| | 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 | It is considered appropriate to retain the existing zonings. And any future development should be subject to a SSFRA. SSFRAs should address the following:<br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. |
| **5** | **The Draft Joint Plan 2025-2031** | **Dunnes and Aldi Store** |
| |  | |

| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Town Centre |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Yes, as lands partially developed in primarily Town Centre having mixed-use development. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises significantly developed lands in the town centre. The lands are in the established urban core. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | Yes, is within the established designated urban settlement. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | Yes, as lands provide opportunity to consolidate and renew the urban core by providing a range of uses in a highly accessible central location. |
| (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. | Having regard to the developed nature of lands it is considered reasonable to retain the use subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council. |
| **3** 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 | The flood zones show areas of the site lie within Flood Zone A and B extents. The predicted flood zones A is contained at the edge of the zoning while flood Zone B covers large portion of the zones which includes Dunnes Store, Manor Mills Medical and portion of Leinster Street. |

| | |
|---|---|
| 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 | It is considered appropriate to retain the existing zoning. And any future development should be subject to a SSFRA. SSFRAs should address the following:<br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan |

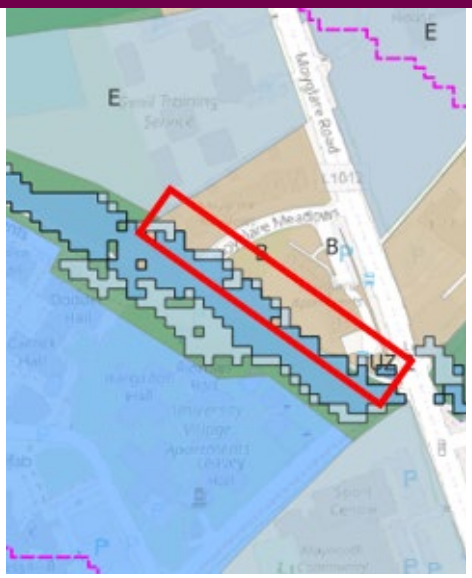
| 6 | The Draft Joint Plan 2025-2031 | Lands to the East and South of St Mary's Catholic Church |
|---|---|---|


| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Town Centre |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Yes, as lands partially developed and located in appropriate location to expand the core of urban settlement. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises undeveloped lands in the town centre. The lands are in appropriate area to provide expanded urban neighbourhood that consolidates the urban core. Planning permission was recently granted for a mixed |

| | |
|---|---|
| | use development which was subject to a Site Specific Flood Risk Assessment. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | Yes, is within the established designated urban settlement |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | Yes, as lands provide opportunity to consolidate and renew the urban core by providing a range of uses in a highly accessible central location. |
| (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 lands are partially developed with residential apartments and a car park. The undeveloped portion has planning permission (File number 23494) for mixed-use development, which was subject to an SSFRA. Therefore, changing the zoning of the land is inappropriate while the planning permission is active.<br><br>Furthermore, prior to any future development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council. |
| **3** 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 | The flood mapping indicates that large areas of the sites fall within Flood Zone A and Flood Zone B. The worst flooding occurs in the undeveloped lands on the bank of Lyreen River and Crewhill Stream.<br><br>The existing zonings at risk of flooding will be retained but any further development shall be subject to a SSFRA.<br><br>SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br><br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br><br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br><br>• Flood resilient construction materials and fittings should be considered,<br><br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas,<br><br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events, and<br><br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures. |

| | |
|---|---|
| | Any development shall be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. |

| 7 | The Draft Joint Plan 2025-2031 | Moyglare Apartment |
|---|---|---|




| | | |
|---|---|---|
| 1 | The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| 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: | Land Zoned: Existing Residential |

| | | |
|---|---|---|
| | (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Lands in the existing residential zoned area are already developed. Future development proposals shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines. |
| | (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises significantly previously developed residential lands. |
| | (iii) Is within or adjoining the core of an established or designated urban settlement, | It is accepted that the site zoned 'Existing Residential' does not adjoin the 'Town Centre' Zoning. However, the land is already developed with residential infrastructure hence it would be inappropriate to re-zone the lands. Any future development proposals on the zoned land shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines. |
| | (iv) Will be essential in achieving compact and sustainable urban growth, and | The subject lands are already developed as an existing residential area. The zoning objectives for lands allow for appropriate consolidation and infill development, where appropriate. This will be essential to achieve compact sustainable 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. | The identified lands have already been developed as residential use. Having regard to the developed nature of the lands and potential to consolidate lands, it is considered reasonable to retain the use and zoning subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council. |
| **3** | 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 | The flood mapping indicates that areas of the existing residential zoning fall within Flood Zone A and Flood Zone B.<br><br>It is considered appropriate to retain the existing zonings. And any future development should be subject to a SSFRA. SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br><br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br><br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate, |

| | |
|---|---|
| | • Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Any development shall be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan |

| 8 | The Draft Joint Plan 2025-2031 | Moyglare Court |
|---|---|---|


| | |
|---|---|
| 1 The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a |

| | |
|---|---|
| | significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Existing Resident and Infill |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Lands in the existing residential zoned area are already developed. Future development proposals shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises significantly previously developed residential lands. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | The land is already developed with residential infrastructure hence it would be inappropriate to re-zone the lands. Any future development proposals on the zoned land shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | The subject lands are already developed as an existing residential area. The zoning objectives for lands allow for appropriate consolidation and infill development, where appropriate. This will be essential to achieve compact sustainable 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. | The identified lands have already been developed as residential use. Having regard to the developed nature of the lands and potential to consolidate lands, it is considered reasonable to retain the use and zoning subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** 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 | The flood zones show the site for inundated within Flood Zone A and B extents.<br><br>It is considered appropriate to retain the existing zonings. And any future development should be subject to a SSFRA. SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B, |

| | |
|---|---|
| | • Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan |

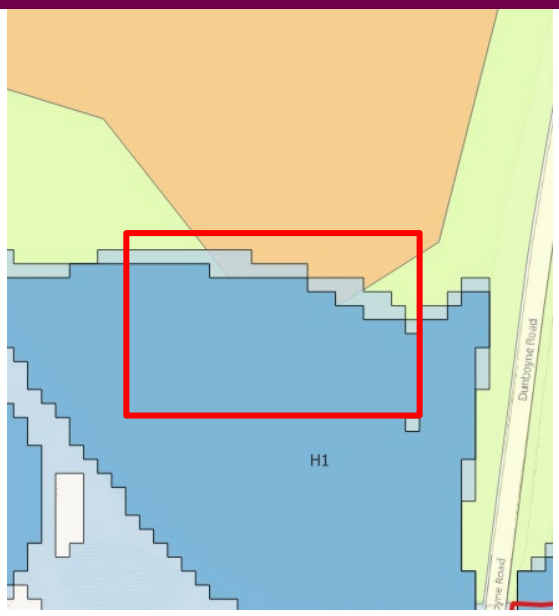
| 9 | The Draft Joint Plan 2025-2031 | Laraghbryan Cemetery |
|---|---|---|

| | |
|---|---|
| 1 The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029. |

| | |
|---|---|
| | The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Community and Educational |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Lands in the existing zoning are partially developed and fulfils a necessary community purpose. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Lands comprises previously developed lands designated as Cemetery, which is necessary community infrastructure. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | The existing established use of the site is as a cemetery within an established urban settlement. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | Lands are currently in use for cemetery, and cemetery expansion providing community facility which will be essential to achieve compact sustainable 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. | The lands are already in use as a cemetery and adjacent to the existing cemetery and therefore ideal for the intended use. Having regard to the developed nature of lands it is considered reasonable to retain the use subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council. |
| **3** 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 | The flood mapping indicates that parts of zoning fall within Flood Zone A and Flood Zone B. However, the site is developed as a less vulnerable infrastructure.<br><br>It is considered appropriate to retain the existing zoning. And any future development in the town centre should be subject to a SSFRA. SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B, |

| | |
|---|---|
| | • Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. |

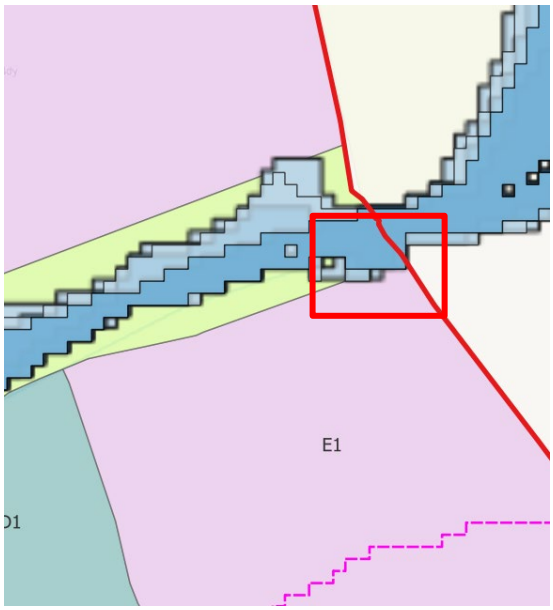
| 11 | The Draft Joint Plan 2025-2031 | Moygaddy, near Rye Water River |
|---|---|---|




| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to |

| | |
|---|---|
| | act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029. It is an objective of the RSES (RPO 4.35) that a Joint Local Area Plan be prepared for Maynooth and its Environs in County Meath.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Community Infrastructure. It is noted that the area affected by flood zone A and B is 695sqm, of which 350sqm is located in Flood Zone A. |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | It is accepted that the zoned site does not adjoin Urban Settlement, but the lands are currently zoned in Meath County Development Plan 2021-2027 |
| (ii) Comprises significant previously developed and/or underutilized lands, | It is accepted that the zoned site is undeveloped, but the lands are currently zoned in Meath County Development Plan 2021-2027 |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | It is accepted that the site zoned does not adjoin the 'Settlement Core', but the lands are currently zoned in Meath County Development Plan 2021-2027 |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | The lands are currently zoned in Meath County Development Plan 2021-2027 |
| (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 lands are currently zoned in Meath County Development Plan 2021-2027 |
| **3** 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 | The flood zones show extents for the Flood Zone A and B within the site.<br><br>The subject land is zoned as Community Infrastructure under Meath County Development Plan 2021-2027<br><br>Any future development in the zone should be subject to a SSFRA. SSFRAs should address the following: |

| | |
|---|---|
| should be described in the relevant flood risk assessment | • Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br>• Less Vulnerable Development shall not be permitted in Flood Zone A<br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. Furthermore, Table 11.5 and 11.6 of the Draft Joint Plan requires areas shown as being at flood risk to remain free of development. |
| **12** | **The Draft Joint Plan 2025-2031** | **Moygaddy, along Blackhall Little Stream** |

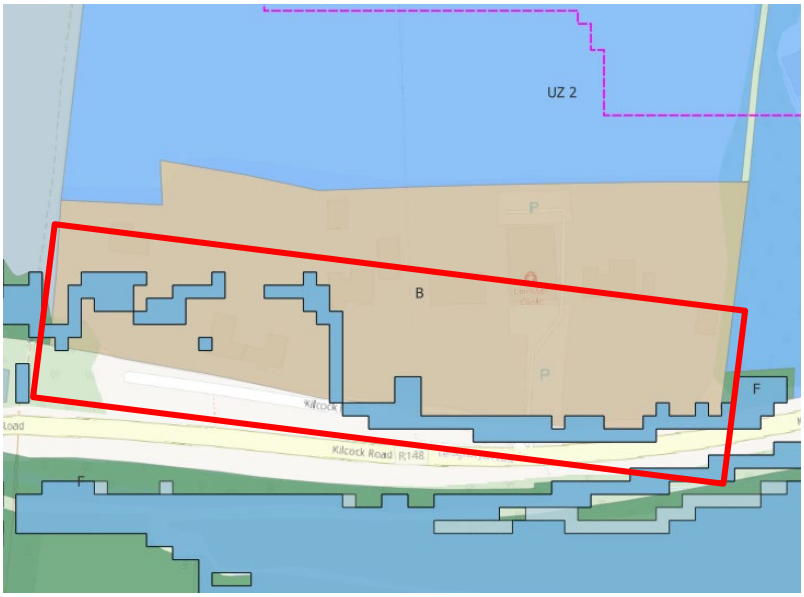



| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029. It is an objective of the RSES (RPO 4.35) that a Joint Local Area Plan be prepared for Maynooth and its Environs in County Meath.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Strategic Employment Zone. It is noted that 78sqm of land is located in Flood Zone A and B. |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | It is accepted that the zoned site does not adjoin Urban Settlement, but the lands are currently zoned in the Meath County Development Plan 2021-2027. |

| | |
|---|---|
| (ii) Comprises significant previously developed and/or underutilized lands, | It is accepted that the zoned site is undeveloped, but the lands are currently zoned in the Meath County Development Plan 2021-2027. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | It is accepted that the site zoned does not adjoin the 'Settlement Core', but the lands are currently zoned in Meath County Development Plan 2021-2027. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | The lands are currently zoned in Meath County Development Plan 2021-2027 |
| (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 lands are currently zoned in Meath County Development Plan 2021-2027 |
| **3** 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 | The flood zones show extents for the Flood Zone A and B within the site.<br><br>The subject land is zoned as Strategic Employment Land under Meath County Development Plan 2021-2027<br><br>Any future development in the zone should be subject to a SSFRA. SSFRAs should address the following:<br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br>• Less Vulnerable Development shall not be permitted in Flood Zone A,<br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan. Furthermore, Table 11.5 and 11.6 of the Draft |

| | |
|---|---|
| | Joint Plan requires areas shown as being at flood risk to remain free of development. |

| 16 | **The** Draft Joint Plan **2025-2031** | **Laraghbryan East on Kilcock Road** |
|---|---|---|



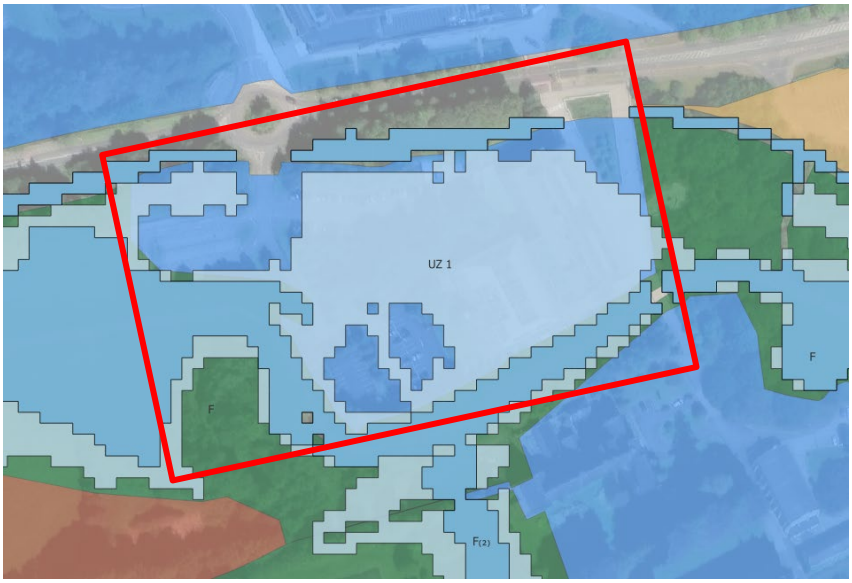

| | | |
|---|---|---|
| **1** | The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **2** | The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable | Land Zoned: Existing Residential & Infill |

| | |
|---|---|
| development of the urban settlement and in particular: | |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Lands in the zoned area are already developed. Future development proposals shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises significantly previously developed residential lands. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | Yes, the lands consist of already developed residential houses. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | The subject lands are already developed as an existing residential area. The zoning objectives for lands allow for appropriate consolidation and infill development, where appropriate. This will be essential to achieve compact sustainable 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. | The identified lands have already been developed as residential use. Having regard to the developed nature of the lands and potential to consolidate lands, it is considered reasonable to retain the use and zoning subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** 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 | The flood mapping indicates that part of the zoning falls within Flood Zone A and Flood Zone B. The flood zones show flooding to the residential property and greenspaces.<br><br>It is considered appropriate to zone this land as Existing Residential & Infill, but any future expansion in the zone should be subject to a SSFRA.<br><br>SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br><br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br><br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br><br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate, |

- Flood resilient construction materials and fittings should be considered,
- Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and
- Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.

Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan

| 22 | **The** Draft Joint Plan **2025-2031** | **John Paul Library, Maynooth University** |
|---|---|---|

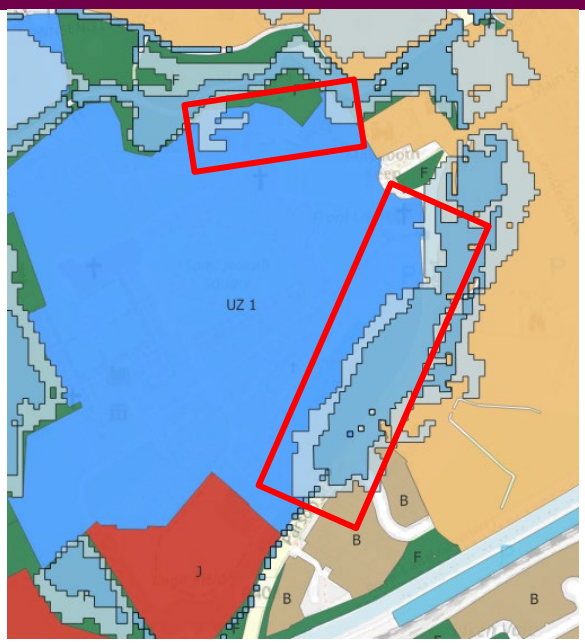



| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a |

| | |
|---|---|
| | significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: University Zone 1 |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Yes, Lands are already developed and adjacent to town centre zoning. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, Land is already developed and comprises of significant infrastructure. The lands have the potential to facilitate educational infrastructure. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | Yes, the lands consist of already developed infrastructure adjacent to the core of the settlement. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | The subject lands are already developed. The zoning objectives for lands allow for appropriate educational infrastructure development, where appropriate. This will be essential to achieve compact sustainable 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. | The identified lands have already been developed. Having regard to the developed nature of the lands and potential to consolidate lands, it is considered reasonable to retain the use and zoning subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** 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 | The flood map indicates certain part of zoning are within Flood Zone B extents and small portion of zoning is within Flood Zone A<br><br>The proposed zonings can be allocated but future development in this area should be subject to a SSFRA. SSFRAs should address the following:<br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate, |

| | |
|---|---|
| | • Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan |

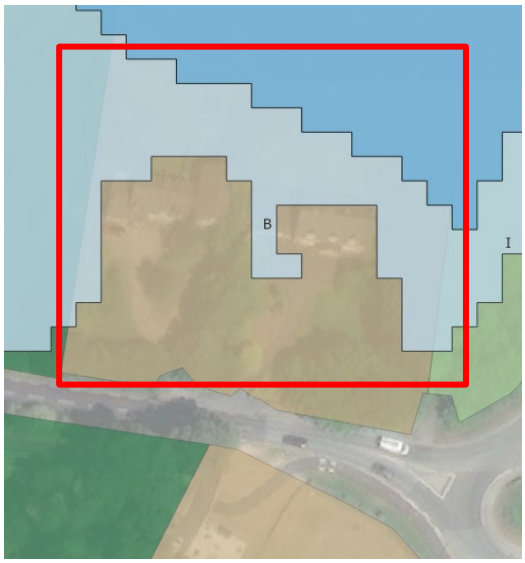
| 23 | **The** Draft Joint Plan **2025-2031** | **St Patrick's College** |
|---|---|---|




| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a |

| | |
|---|---|
| | Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: University Zone 1 |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Yes, St. Patrick's College is an intrinsic part of Maynooth town and the lands are already developed and adjacent to town centre zoning. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, land comprises significant developed infrastructure. The lands have the potential to expand educational infrastructure. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | The lands consist of already developed infrastructure adjoining the urban settlement core. Zoned land shall be restricted to minor infill proposals as outlined in Section 5.28 of The Guidelines. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | Yes, St. Patrick's College is an intrinsic part of Maynooth town. The subject lands are already developed adjacent to urban settlement. The zoning objectives for lands allow for appropriate educational infrastructure development, where appropriate. This will be essential to achieve compact sustainable 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. | These lands will allow for St. Patrick's College expansion which will enhance education and employment opportunities adjacent to the town centre. It is considered reasonable to zone the lands subject to a stipulation that the areas within the flood risk zone include measures to mitigate against flooding. Prior to any further development being permitted on the site a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** 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 | The flood map indicates certain part of zoning are within Flood Zone A and B extents. However, the CFRAM fluvial flood map shows the presence of flood defence wall in the area that provide protection against 1% AEP flood event |

| | |
|---|---|
| risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment | Hence, the proposed zonings can be allocated but future development in this area should be subject to a SSFRA. SSFRAs should address the following:<br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br>• Flood resilient construction materials and fittings should be considered,<br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br>Any development shall also be required to be built in accordance with SuDS principles and in compliance with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan |




| | |
|---|---|
| **1** The urban settlement is targeted for growth under the regional planning guidelines, national planning policy under Project Ireland 2040, statutory plans as defined above or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act, 2000, as amended. | Maynooth is one of two Key Towns in Co. Kildare as identified in the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region 2019-2031. Key Towns are defined in the RSES as large towns which are economically active towns that provide employment for their surrounding areas. They have high quality transport links and the capacity to act as a regional driver to complement Regional Growth Centres. The designation of Maynooth as a Key Town is reflected in the Core Strategy of the Kildare County Development Plan 2023-2029.<br><br>The RSES acknowledges the potential for substantial growth in Maynooth through planned infrastructure enhancements, such as the M4 upgrades from Maynooth to Leixlip, Maynooth Eastern Ring Road to the southeast of the town, the DART Expansion project, and the proposed electrification of the rail line to Maynooth. These developments present a significant opportunity for sequential expansion in Maynooth. |
| **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: | Land Zoned: Existing Residential & Infill |
| (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement, | Lands in the existing residential zoned area are already developed. Future development proposals shall be restricted to minor infill proposals as outlines in Section 5.28 of The Guidelines. |
| (ii) Comprises significant previously developed and/or underutilized lands, | Yes, comprises significantly previously developed residential lands. |
| (iii) Is within or adjoining the core of an established or designated urban settlement, | The land is already developed with residential infrastructure hence it would be inappropriate to re-zone the lands. Any future development proposals on the zoned land shall be restricted to minor infill |

| | |
|---|---|
| | proposals as outlined in Section 5.28 of The Guidelines. |
| (iv) Will be essential in achieving compact and sustainable urban growth, and | The subject lands are already developed as an existing residential area. The zoning objectives for lands allow for appropriate consolidation and infill development, where appropriate. This will be essential to achieve compact sustainable 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. | The identified lands have already been developed as residential use. Having regard to the developed nature of the lands and potential to consolidate lands, it is considered reasonable to zone the land as 'Existing Residential and Infill' subject to a stipulation that any development within the areas of the flood risk zone include measures to mitigate against flooding. Therefore, prior to any further development being permitted a SSFRA should be undertaken to the satisfaction of Kildare County Council |
| **3** 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 | The flood zones show extents for the 1% AEP and 0.1% AEP events within the site.<br><br>The proposed zonings can be allocated but future development in this area should be subject to a SSFRA.<br><br>SSFRAs should address the following:<br><br>• Sequential approach should be applied through site planning and should avoid encroachment onto, or loss of, the flood plain,<br><br>• Highly Vulnerable Development shall not be permitted in Flood Zone A or B,<br><br>• Should address climate change scenarios in relation to FFLs and potential mitigation measures,<br><br>• Finished floor levels should be above the 0.1% or 1% AEP level where appropriate,<br><br>• Bedrooms should be located in the upstairs of two-story buildings where appropriate,<br><br>• Flood resilient construction materials and fittings should be considered,<br><br>• Proposals should not impede existing flow paths or cause flood risk impacts to the surrounding areas, and<br><br>• Emergency evacuation plan and defined access / egress routes should be developed for extreme flood events.<br><br>Any development shall also be required to be built in accordance with SuDS principles and in compliance |

| | |
|---|---|
| | with the surface water and drainage policies of the Draft Joint Plan and Kildare County Development Plan |