



Flood Risk Assessment

of Castlecomer Draft Local Area Plan 2018



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1 Introduction

As part of the Strategic Environmental Assessment for the Castletomer Draft Local Area Plan, in line with *The Planning System and Flood Risk Management – Guidelines for Planning Authorities*¹, (Guidelines) a staged approach has been taken to the appraisal and assessment of flood risk.

1.1 Disclaimer

It is important to note that compliance with the requirements of *The Planning System and Flood Risk Management - Guidelines for Planning Authorities*, and of the Floods Directive 2007 60/EC is a work in progress and is currently based on emerging and incomplete data as well as estimates of the locations and likelihood of flooding. In particular, the assessment and mapping of areas of flood risk awaits the adoption of the finalised Catchment-based Flood Risk Management Plans [FRMPs]. As a result, this Flood Risk Assessment is based on available information.

Accordingly, all information in relation to flood risk is provided for general policy guidance only. It may be substantially altered in light of future data and analysis. As a result, all landowners and developers are advised that Kilkenny County Council and its agents can accept no responsibility for losses or damages arising due to assessments of the vulnerability to flooding of lands, uses and developments. 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.

1.2 Structure of a Flood Risk Assessment (FRA)

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

- Stage 1 ~ Flood Risk Identification

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

- Stage 2 ~ Initial Flood Risk Assessment

If a flood risk issue is deemed to exist arising from the Stage 1 Flood Risk Identification process, the assessment proceeds to Stage 2 which confirms the sources of flooding, appraises the adequacy of existing information and determines the extent of additional surveys and the degree of modelling that will be required. Stage 2 must be sufficiently detailed to allow the application of the sequential approach within the flood risk zone².

- Stage 3 ~ Detailed Flood Risk Assessment

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

¹ Department of Environment and OPW, [The Planning System and Flood Risk Management Guidelines for Planning Authorities](#), 2009

² The Sequential approach ensures that development is first and foremost directed towards land that is at low risk of flooding, see Section 3.2 of the Guidelines for further information.

1.3 Scales of Flood Risk Assessments

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

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

This assessment is for a Local Area Plan and therefore is at SFRA scale.

1.3.1 The Sequential Approach

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

The primary objective of the sequential approach is that development is primarily directed towards land that is at low risk of flooding (AVOID). The next stage is to ensure that the type of development proposed is not especially vulnerable to the adverse impacts of flooding (SUBSTITUTION).

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

Justification Test for Development Plans (See p.37 of the Guidelines)

“Where, as part of the preparation and adoption or variation or amendment of a development/local area plan, a planning authority is considering the future development of areas in an urban settlement that are at moderate or high risk of flooding, for uses or development vulnerable to flooding that would generally be inappropriate as set out in Table 3.2 of the Guidelines, all of the following criteria must be satisfied:

- 1) The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans as defined above or under the Planning

- Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.
- 2) The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement and in particular:
 - a. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement
 - b. Comprises significant previously developed and/or under-utilised lands;
 - c. Is within or adjoining the core of an established or designated urban settlement;
 - d. Will be essential in achieving compact or sustainable urban growth;
 - e. 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.

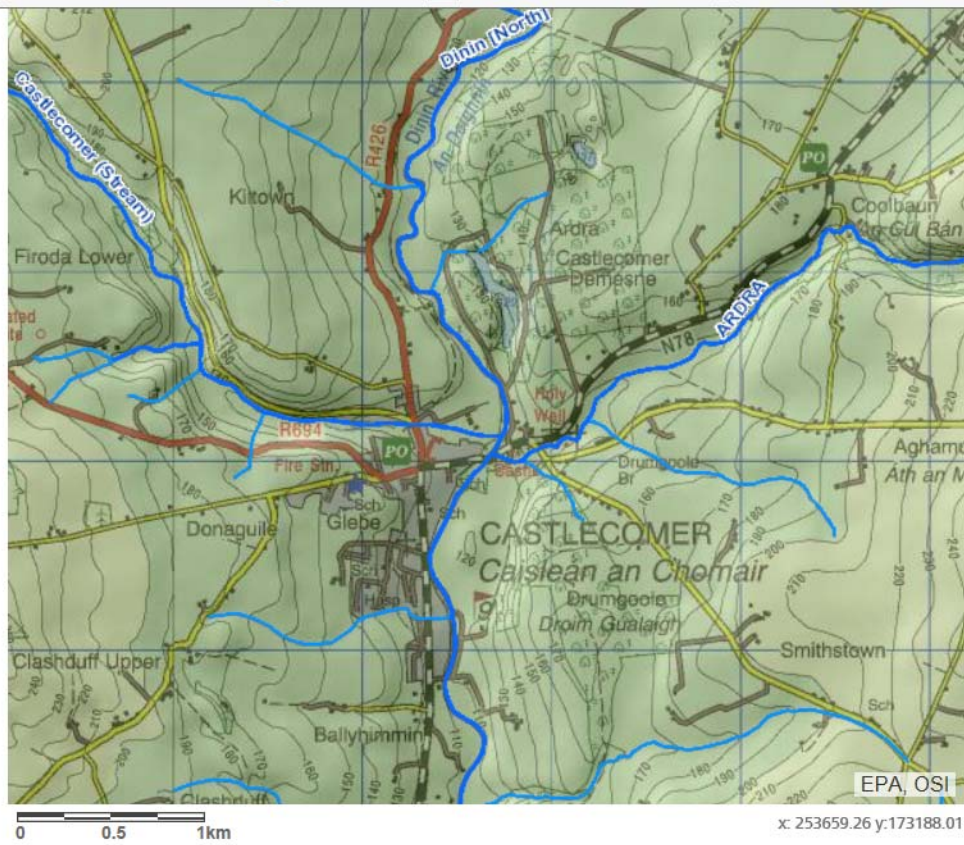
N.B. The acceptability or otherwise of levels of any residual risk should be made with consideration for the proposed development and the local context and should be described in the relevant flood risk assessment.”

MITIGATION is the process where the flood risk is reduced to acceptable levels by means of land use strategies or by means of detailed proposals for the management of flood risk and surface water, all as addressed in the Flood Risk Assessment. The decision to PROCEED should only be taken after the Justification Test has been passed.

1.4 Waterbodies in the Plan area

The plan area contains three main water features: the River Dinin running north to south, the Castlecomer stream in the west, and the Ardra River in the east, see below:

Source: EPA Mapview website



2 Flood Risk Assessment

2.1 Stage 1 Flood Risk Identification

This purpose of this stage is to identify whether there are any flooding or surface water management issues relating to the plan area that may warrant further investigation. Sources which were consulted are outlined below.

2.1.1 Regional Flood Risk Appraisal

A Regional FRA was carried out and published as Appendix 3 to the Strategic Environmental Assessment of the South East Regional Planning Guidelines, 2010. This document provided guidance on the issues to be addressed in any Strategic Flood Risk Assessment.

No reference was made to the Castlecomer area, or to the River Dinin in this RFRA.

2.1.2 Strategic Flood Risk Appraisal

A Strategic Flood Risk Assessment for the county was published in 2014 as part of the County Development Plan 2014-2020. This examined the level of information available on flooding in the county and assessed all settlements affected for the presence of flood risk indicators. This did not cover the Castlecomer LAP area in detail as the County Development Plan did not propose any change to the zoning therein.

As part of Amendment 1 to the Castlecomer Local Area Plan in 2012, a Flood Risk Assessment was carried out and published as Appendix 1 to the Strategic Environmental Assessment Screening³. The information contained in this was reviewed.

2.1.3 OPW Publications

To comply with the Floods' Directive⁴, the OPW commenced a CFRAM (Catchment Flood Risk Assessment and Management) programme in Ireland in 2011.

The CFRAM Programme comprises three phases:

1. The Preliminary Flood Risk Assessment (PFRA): 2011
2. The CFRAM Studies and parallel activities: 2011-2017
3. Implementation and Review: 2017 onwards

The Programme provides for three main consultative stages:

1. 2011 Preliminary Flood Risk Assessments
2. 2013 Flood Hazard Mapping
3. 2015 Flood Risk Management Plans

³ Kilkenny County Council, [Strategic Flood Risk Assessment for Amendment 1 to the Castlecomer Local Area Plan](#), 2012

⁴ [Directive 2007/ 60/ EC of the European Parliament and of the Council of 23rd October 2007 on the assessment and management of flood risk: Official Journal L288/ 27-34.](#)

2.1.3.1 Preliminary Flood Risk Assessment

The [Floods' Directive](#) required Member States to undertake a national preliminary flood risk assessment by 2011 to identify areas where significant flood risk exists or might be considered likely to occur. In August 2011, the OPW published the National Preliminary Flood Risk Assessment, Draft for Public Consultation⁵ which comprised a Report and a set of draft, indicative, maps.

This national screening exercise identified where there may be a significant risk associated with flooding, based on available and easily derivable information. The objective of the PFRA was to identify Areas for Further Assessment (AFA's) and this further assessment would take place through Catchment Flood Risk Assessment and Management Studies (CFRAMS).

The OPW published a list of the Areas designated for further assessment in March 2012. Castlecomer was not designated as an AFA⁶.

Maps of the County were published as part of the Draft PFRA. The OPW have stated that the maps, although draft and indicative, may be of use to the Local Authorities in a number of areas of activity, particularly in the performance of their planning function in relation to the implementation of the [Flooding Guidelines](#).

These maps indicate flood extents – for fluvial flooding they indicate the 100 year event and the extreme event, or 1 in 1000 year event. They also indicate coastal, pluvial and groundwater flood extents. Fluvial flooding is flooding from a river or other watercourse. Pluvial flooding is a result of rainfall-generated overland flows which arise before run-off enters any watercourse or sewer.

2.1.3.2 Catchment Based Management Plans

Phase 2 of the CFRAM programme is the production of CFRAM studies. The OPW in co-operation with various Local Authorities are producing Catchment Flood Risk Assessment and Management Studies. These CFRAMS aim to map out current and possible future flood risk areas and develop risk assessment plans. They will also identify possible structural and non-structural measures to improve the flood risk of the area.

The CFRAM that affects this LAP is the South Eastern CFRAM study. This study commenced in Summer 2011. The South Eastern district is one of Ireland's largest river basin districts covering about one fifth of the country with an area of nearly 13,000km².

The main aims of the South Eastern CFRAM Study are to:

- assess flood risk, through the identification of flood hazard areas and the associated impacts of flooding;
- identify viable structural and non-structural measures and options for managing the flood risks for localised high-risk areas and within the catchment as a whole;
- prepare a strategic Flood Risk Management Plan (FRMP) and associated Strategic Environmental Assessment (SEA) that sets out the measures and policies that should

⁵ <http://www.cfram.ie/pfra/>

⁶ See <http://www.cfram.ie/wordpress/wp-content/uploads/2011/06/AFA-Designation-Report-120514-Final-2.pdf>

- be pursued to achieve the most cost effective and sustainable management of flood risk;
- ensure that full and thorough public and stakeholder consultation and engagement is achieved.

For these risk areas, draft flood risk maps and flood hazard maps were drawn up and Draft CFRAM mapping was published in 2014. This mapping can now be used as a data source.

It is important to note that the CFRAM mapping does not cover the whole county, but is focused around designated settlements (the AFAs). As Castlecomer was not designated as an AFA, there is no CFRAM mapping available, see Figure 2.1.

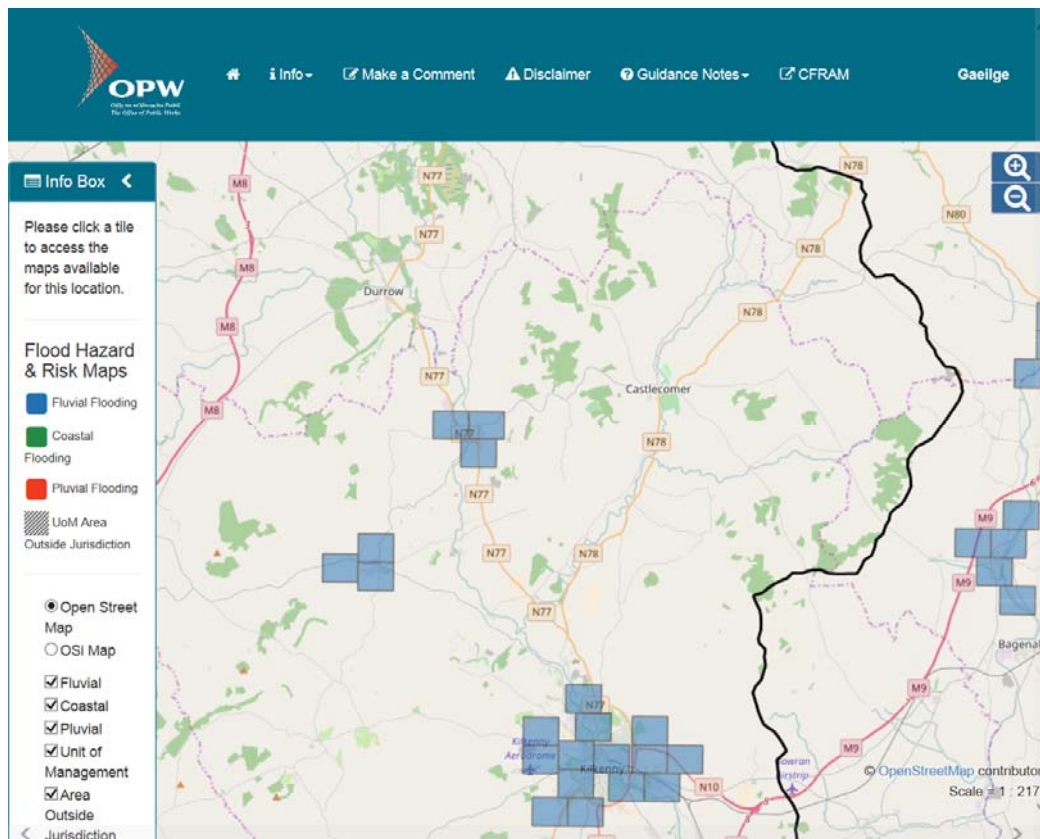


Figure 2.1: Available tiles in north Co. Kilkenny for CFRAM flood maps from OPW

The CFRAM mapping is now an important and primary input into flood risk assessment studies, however as this mapping does not extend to cover the LAP area, a combination of other sources of information will be used.

2.1.3.3 Flood Risk Management Plans

Following on from the CFRAM mapping, Draft Flood Risk Management Plans (FRMPs) were published in Summer 2016. The Draft FRMP for the Unit of Management 15: Nore covers the plan area. FRMPs include measures in relation to flood prevention, protection and preparedness. Emergency response to flooding, recovery from flooding and incorporating lessons learned will be important elements of the FRMPs. Issues such as climate change, land use practices and future development are also addressed in the FRMPs.

2.1.4 Alternative available sources

The data listed below is available and provides information on the historical occurrence of flooding. Flooding and surface water issues in the county were also identified through consultation with the Area Engineer and from any other relevant sources.

i) Office of Public Works OPW Flood Events Mapping

As part of the National Flood Risk Management Policy, the OPW developed the www.floodmaps.ie web based data set, which contains information concerning historical flood data, displays related mapped information and provides tools to search for and display information about selected flood events.

ii) OPW Benefitting Lands mapping

These maps were prepared to identify areas that would benefit from land drainage schemes, and typically indicate low-lying land near rivers and streams that might be expected to be prone to flooding.

iii) Mineral Alluvial Soil Mapping

The soils and subsoils maps were created by the Spatial Analysis Unit, Teagasc. The project was completed in May 2006 and was a collaboration between Teagasc, Geological Survey of Ireland, Forest Service and the EPA. The presence of alluvial soils can indicate areas that have flooded in the past (the source of the alluvium).

iv) Ordnance Survey “Lands liable to floods” mapping (6” OS maps)

These maps have been studied to see if there are any areas marked as being “Liable to Floods” in or in the vicinity of the zoned areas. It is noted that the OS maps simply show the text “Liable to Floods” without delineating the extent of these areas.

It should be noted that some of this data is historically derived, not prescriptive in relation to flood return periods and not yet predictive or inclusive for climate change analysis. Many of these maps were based on survey work carried out from 1833-1844 with many updated in the 1930s and 1940s. Therefore they do not show or take account of recent changes in surface drainage, such as development in floodplains, road realignments or drainage works for forestry or agriculture. So there is significant potential that flood risk in some areas may have increased or been reduced since they were prepared.

2.1.4.1 Flood Studies, Reports and Flood Relief Schemes

No flood reports have been completed for the Castlecomer area.

2.1.4.2 Local Authority Personnel

The Castlecomer Area Engineer was also consulted regarding historical flooding and flood relief works in the area.

2.1.5 Flood Risk Indicators

Having regard to all of the information sources as outlined above, the availability of information on flood risk in the plan area is identified in a Flood Information Matrix. As the plan area could be subject to a potential flood risk issue, the assessment proceeds to Stage 2.

Flood Risk Indicator Matrix for Castlecomer

Available Data by source						
OPW info	Other	www.floodmaps.ie	Alluvial Soils	Benefitting lands	6" OS maps	Local Authority information
Not covered by CFRAM – use PFRAM (2010) Land along River Dinin and Castlecomer Stream included in fluvial flood extents. Some areas of pluvial flooding indicated with the LAP boundary.	None	One flood incident recorded at Ballyhimmin in 2000 where the N78 was closed due to flooding.	Alluvial soils mapped along Dinin River in centre of town and also along two streams, one in west and one in east.	Benefitting lands mapped along Dinin River in centre of town	No indication of flooding occurrences shown.	<p>Flooding incident recorded at one residential property at the junction of Barrack Street and Love Lane in 2009. Flooding occurred when the main shore on Barrack Street got overwhelmed. A new crossing was put in place by the Area Engineer in 2014 and subsequently special funding was obtained to address the issue of drainage along regional road. The drains have been replaced and this has resolved the issue.</p> <p>At Ballyhimmin, a new drain was laid across the N78 at the gate to O’Dwyer’s Lane in 2014, and this solved the flooding issue there.</p>

2.2 Stage 2 Initial Flood Risk Assessment

The purpose of this stage is to ensure that all relevant flood risk issues are assessed in relation to the decisions to be made and potential conflicts between flood risk and development are addressed to the appropriate level of detail.

An iterative process of flood risk assessment has been undertaken. This has involved the refinement of the zoning objectives map, which was reviewed and amended according to the Flood Zones and the vulnerability of the uses proposed under each zone.

2.2.1 Flood zone mapping

Flood zones are geographical areas within which the likelihood of flooding is in a particular range. There are three types of flood zones identified:

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

Using a combination of the PFRAM mapping, and the flood risk indicators as described earlier, the flood zones have been approximated. As CFRAM mapping is unavailable, it has been decided to utilise the flood extents from the PFRAM mapping, for both 1% AEP (1 in 100 year event) and 0.1% AEP (1 in 1000 year event) as Flood Zone A. (Note: In typical flood zone mapping, Flood Zone A would equate to any area where the probability of flooding from rivers is higher than 1 in 100, and Flood Zone B would equate to any area where the probability of flooding from rivers is between 1 in 100 and 1 in 1000. The precautionary principle is being utilised here in the absence of available alternative mapping.) For these areas, Flood Zone B is demarcated by the occurrence of other flooding indicators present.

2.2.2 Application of the Sequential Approach

Having identified the area of flood risk within the plan area the next step is to apply the sequential approach to land use planning. The areas of flood risk were overlaid on the current zoning for the area. This was taken from Amendment 1, Core Strategy (2012). This identified where flood risk management and future development may cause a conflict.

The Guidelines have categorised land uses into three vulnerability classes and have also specified which vulnerability class would be appropriate in each flood zone, or where the Justification Test would be required.

The table of vulnerability classes (Table 3.1 of the Guidelines) is as follows:

Table 1: 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; Hospitals; Emergency access and egress points; Schools; Dwelling houses, student halls of residence and hostels; Residential institutions such as residential care homes, children’s homes and social services homes; Caravans and mobile home parks; Dwelling houses designed, constructed or adapted for the elderly or, other people with impaired mobility; and 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; Land and buildings used for holiday or short-let caravans and camping, subject to specific warning and evacuation plans; Land and buildings used for agriculture and forestry; Waste treatment (except landfill and hazardous waste); Mineral working and processing; and Local transport infrastructure.
Water-compatible development	Flood control infrastructure; Docks, marinas and wharves; Navigation facilities; Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location; Water-based recreation and tourism (excluding sleeping accommodation); Lifeguard and coastguard stations; Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms; and 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 merits Source: Table 3.1 of the Flooding Guidelines	

Table 3.2 of the Guidelines sets out how the vulnerability classes interact with the flood zones and when the Justification Test is required.

Table 2: Interaction of vulnerability classes and flood zones			
Development	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable	Justification Test	Justification Test	Appropriate
Less vulnerable	Justification Test	Appropriate	Appropriate
Water-compatible	Appropriate	Appropriate	Appropriate

Source: Table 3.2 of the Flooding Guidelines

Where zoned land is located within either Flood Zone A or B, the need for a further review of flood risk, and the specific zoning objectives, is required. If the proposed zoning was found to be water compatible and located within either Flood Zone A or B, there was no requirement to apply the Justification Test. If, however, less vulnerable uses were proposed for Flood Zone A, or highly vulnerable uses were proposed for Flood Zones A or B, the Justification Test was applied, and if necessary, the zoning objective revised. This process is detailed below.

Note: Vulnerability to pluvial flood risk should not be a limitation to development, but should be incorporated into the local drainage strategy, therefore areas of pluvial flooding were not subjected to the Sequential approach. Areas of pluvial risk are available as part of the PFRA mapping from the OPW.

2.2.3 Assessment of current Zoning (Core Strategy Amendment 2012)

The Flood Zones in the area were first overlain on the current Zoning Map, taken from the Core Strategy Amendment (2012), see Figure 2.2. Under the current LAP a total of nine zones governed land use in Castlecomer; Agriculture, Amenity, Community Facilities, General business, Industry, Mixed Use, New Residential, Residential and Phase 2. The Draft Plan now proposes an additional zone; Special Area of Conservation (SAC) Green Links/Biodiversity/Conservation.

The uses permitted within each of these zones were examined in detail to ascertain in what circumstances the (plan level) Justification Test would be required. Three of the ten zones (Amenity, Agriculture and SAC) do not pose a conflict between flood risk and development, as detailed below:

Amenity /Open Space

In the main, the uses permissible under the Amenity zoning fall into either the 'Less Vulnerable development' category or the 'Water Compatible development' categories of Table 3.1. Houses, which are 'Highly vulnerable developments' are also open for consideration within the Amenity zoning, however, a proviso will be included in the Draft Plan to state that they will not be permitted within the flood zones. The Draft Plan also includes a proviso that less vulnerable uses will not be permitted within Flood Zone A. Extensions to existing uses or structures will be permitted. Therefore Justification Tests at this plan-making stage are not required for Amenity zoning.

Agriculture

For the most part, the uses permissible under the Agriculture zoning of the LAP fall into either the 'Less Vulnerable development' category or the 'Water Compatible development' categories of Table 3.1. Houses, guesthouses and nursing homes, which are 'Highly vulnerable developments' are open for consideration within the Agriculture zoning, however, a proviso will be included that they will not be permitted within the flood zones. The Draft Plan also proposes to include a proviso that less vulnerable uses will not be permitted within the Agriculture zoning in Flood Zone A. Extensions to existing uses or structures will be permitted. Therefore Justification Tests at this plan-making stage are not required for Agriculture zoning.

Special Area of Conservation (SAC) Green Links/ Biodiversity/Conservation

There are very few uses permissible under the SAC zone, which is mainly to provide for Biodiversity projects and works associated with the conservation and management of the River nore/River Barrow Special Area of Conservation. The Draft Plan states that “Links to span the SAC such as bridges” are Open for Consideration, however these are pedestrian bridges. Therefore all the permissible uses fall into the ‘Water Compatible development’ categories of Table 3.1, and Justification Tests at this plan-making stage are not required for SAC zoning.

2.2.4 Areas of potential conflict between flood risk and development

A total of 13 areas of potential conflict have been identified in the current zoning map (2009 LAP as amended in 2012). These will now be assessed individually, considering the zoning proposed under the Draft LAP for each site. (Figure 2.3 shows the areas of flood risk superimposed on the proposed Draft zoning map.)

Area 1: Residence accessed via Golf Course road

This site was zoned for Residential in the 2009 LAP as amended. Houses are highly vulnerable uses, therefore no additional housing should be provided at this location. The Draft Plan proposes to change the zoning of this site to Amenity, with the provisos as outlined above. Therefore a Justification Test at this plan-making stage is not required for this Amenity zoning.

Area 2: Residential zoning to rear of houses along Kilkenny Road

This land was zoned for Residential in the 2009 LAP as amended. Houses are highly vulnerable uses, therefore no additional housing should be provided at this location, and this will be added as a proviso within the Plan. Therefore a Justification Test at this plan-making stage is not required for this zoning.

Area 3: Site containing the SOS Kilkenny Building (Castlecomer Enterprise Centre)

This site, partially within Flood Zone A, was zoned for Industrial in the 2009 LAP as amended. This zoning allows for a wide variety of uses, some of which are highly vulnerable. Although the land is zoned for Industrial use, no buildings are constructed or permitted in Flood Zone A. This proviso will be included in the Plan. Therefore a Justification Test at this plan-making stage is not required for this zoning.

Area 4: Garda Station

This site, located partially within Flood Zone A, was zoned for Community Facilities in the 2009 LAP as amended. Community Facilities allows for nursing homes and hostels, which are ‘Highly vulnerable developments’ however, a proviso will be included that they will not be permitted within the flood zones. Therefore a Justification Test at this plan-making stage is not required for this zoning.

Area 5: Residential (Andorra)

This site, partially within Flood Zone A, was zoned for Residential in the 2009 LAP as amended. Houses are highly vulnerable uses, therefore no additional housing should be provided at this location, and this will be added as a proviso within the Plan. Therefore a Justification Test at this plan-making stage is not required for this zoning.

Area 6: General Business southeast of Square

This land was zoned for General Business in the 2009 LAP as amended. This zoning allows for a wide variety of uses, some of which are highly vulnerable. The parcels comprise

previously developed, brownfield and underutilised sites in the town centre, which are zoned for a mixture of uses.

Area 7: School site south of Square

This land was zoned for Community Facilities in the 2009 LAP as amended. Community Facilities allows for schools, nursing homes and hostels, which are 'Highly vulnerable developments'.

Area 8: General Business north of Square, south of Castlecomer Stream

This land was zoned for General Business in the 2009 LAP as amended. This zoning allows for a wide variety of uses, some of which are highly vulnerable. The parcels comprise previously developed, brownfield and underutilised sites in the town centre, which are zoned for a mixture of uses.

Area 9: Residential north of the Square, north of Castlecomer stream

This site, partially within Flood Zone A, was zoned for Residential in the 2009 LAP as amended. Houses are highly vulnerable uses, therefore no additional housing should be provided at this location, and this will be added as a proviso within the Plan. Therefore a Justification Test at this plan-making stage is not required for this zoning.

Area 10: Mixed Use, north of Castlecomer Stream, west of River Dinin

This land was zoned for Mixed use in the 2009 LAP as amended. This zoning allows for a wide variety of uses, some of which are highly vulnerable. The site is presently occupied by an industrial building and this part of the site was historically used for ancillary parking of vehicles/trailers. The site is currently vacant. Under the Draft Plan, this site is proposed for Industrial zoning, reflecting the nature of the historical uses on the site and also SAC to cover the portion of the site within the SAC. Industrial zoning allows for a wide variety of uses, some of which are highly vulnerable.

Area 11: Mixed Use, north and south of Castlecomer Stream

This land was zoned for Mixed use in the 2009 LAP as amended. This zoning allows for a wide variety of uses, some of which are highly vulnerable. Under the Draft Plan, the western portion of the site is to be rezoned to Residential (11b), which allows for highly vulnerable uses.

Area 12: Industrial north of Castlecomer Stream

This site, partially within Flood Zone A, was zoned for Industrial in the 2009 LAP as amended. This zoning allows for a wide variety of uses, some of which are highly vulnerable.

Area 13: Residential north of Castlecomer Stream

This site, partially within Flood Zone A, was zoned for Residential in the 2009 LAP as amended and contains one house at present.

2.2.5 Assessment of Draft Plan Zoning

A total of 13 sites of potential conflict between flood risk and development were identified under the current (2012) zoning. Having examined the proposals under the Draft Plan, eight of these sites may still be subject to a conflict. In addition, the flood zones have been overlain on the Draft Plan (see Figure 2.3) to establish if there are any additional areas of potential conflict. No additional areas of conflict were identified.

2.2.6 Justification Tests

As outlined above, there are 8 areas outstanding with a potential conflict between development and flood risk. In the main, this land is built out and the opportunities for future development are limited. In accordance with the Guidelines, a Justification test will be carried out for this land. The criteria are set out in Section 1.3.1 and the test is set out below.

1. The urban settlement is targeted for growth under the National Spatial Strategy, regional planning guidelines, statutory plans or under the Planning Guidelines or Planning Directives provisions of the Planning and Development Act 2000, as amended.

Castlecomer is identified as a District Town in the Regional Planning Guidelines 2010-2022. District towns are “targeted for growth as centres that can perform an important role in driving the development of a particular spatial component of the overall region”. Castlecomer is also a District Town in the County Development Plan spatial hierarchy.

2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper and sustainable planning of the urban settlement and in particular:
 - a. Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement
 - b. Comprises significant previously developed and/or under-utilised lands;
 - c. Is within or adjoining the core of an established or designated urban settlement;
 - d. Will be essential in achieving compact or sustainable urban growth;
 - e. 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.

Area 6: The General Business lands to the rear of the Square adjoins the core and is essential in achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

Area 7: The zoning of the school reflects the existing uses on this previously developed land. It adjoins the core, and will be essential in achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

Area 8: The zoning of the town centre area for General business is intended mainly to reflect the existing uses operating in the town. The continued zoning of the land will facilitate the regeneration and/or expansion of the centre. This area is in the core of Castlecomer. Its continued development is essential to achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

Area 10: Industrial site, north of Castlecomer Stream, west of River Dinin
The zoning of this site for Industrial use will facilitate the regeneration and/or expansion of the centre. This area is in the core of Castlecomer. Its continued development is essential to achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

Area 11a: Mixed Use, north and south of Castlecomer Stream

The zoning of this site for Mixed Use will facilitate the regeneration and/or expansion of the centre. This area is in the core of Castlecomer. Its continued development is essential to achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

Area 11b: Residential, north and south of Castlecomer Stream

The zoning of this site for Residential will facilitate the regeneration and/or expansion of the centre. This area is in the core of Castlecomer. Its continued development is essential to achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

Area 12: Industrial site north of Castlecomer Stream

The zoning of this site for Industrial use will facilitate the regeneration and/or expansion of the centre. This area is in the core of Castlecomer. Its continued development is essential to achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

Area 13: Residential north of Castlecomer Stream

The zoning of this site for Industrial use will facilitate the regeneration and/or expansion of the centre. This area is in the core of Castlecomer. Its continued development is essential to achieving compact and sustainable urban growth. There are no suitable alternative lands in areas at lower risk of flooding within or adjoining the core.

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.

In the main, this land is built out and the opportunities for future development are limited. In this context, this Flood Risk Assessment contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures will be included in the plan to state that any development proposal within the area identified will be subject to a site specific Flood Risk Assessment appropriate to the type and scale of the development being proposed. This mitigation measure will ensure that any development taking place will not exacerbate any flooding issue.

In this context, this Flood Risk Assessment contains sufficient information appropriate to the scale and nature of the development potential. Mitigation measures will be included in the plan to state that any development proposal within the area of flood risk will be subject to a site specific Flood Risk Assessment appropriate to the type and scale of the development being proposed. This mitigation measure will ensure that any development taking place will not exacerbate any flooding issue.

There are also some areas of pluvial flood risk indicated on the PFRA maps. These areas have been included on Figure 2.3, and a mitigation measure will be applied to these areas to state *“Areas within which development proposals will be the subject of site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed”*.

As no green field site, which is subject to flood risk, is now zoned for vulnerable uses (during the lifetime of this plan), and as a mitigation measure has now been included to ensure any development taking place will not exacerbate any flooding issue, it is not considered necessary at this stage to proceed to Stage 3, Detailed Flood Risk Assessment.

3 Recommendations

3.1 Incorporation into LAP

This SFRA has fully informed the zoning of the LAP.

A policy is proposed for inclusion in Chapter 9 of the LAP to ensure that where flood risk may be an issue, development proposals shall be the subject of a site-specific Flood Risk Assessment, appropriate to the type and scale of the development being proposed and shall be carried out in line with the Guidelines. This will include for areas of pluvial flooding.

The CDP 2014-2020, contains text and policies on flooding in Section 9.2.9 (Objective 9G).

In addition to assessing flood risk, this LAP will be proactive in addressing flooding. It will seek to protect all stream and river corridors from development, with opportunities for storm water attenuation ponds in the proposed areas of open space, so as to ensure the water quality of rivers and streams is maintained. It will also protect sites of wet grassland and reed swamps which act as natural stormwater retention areas.

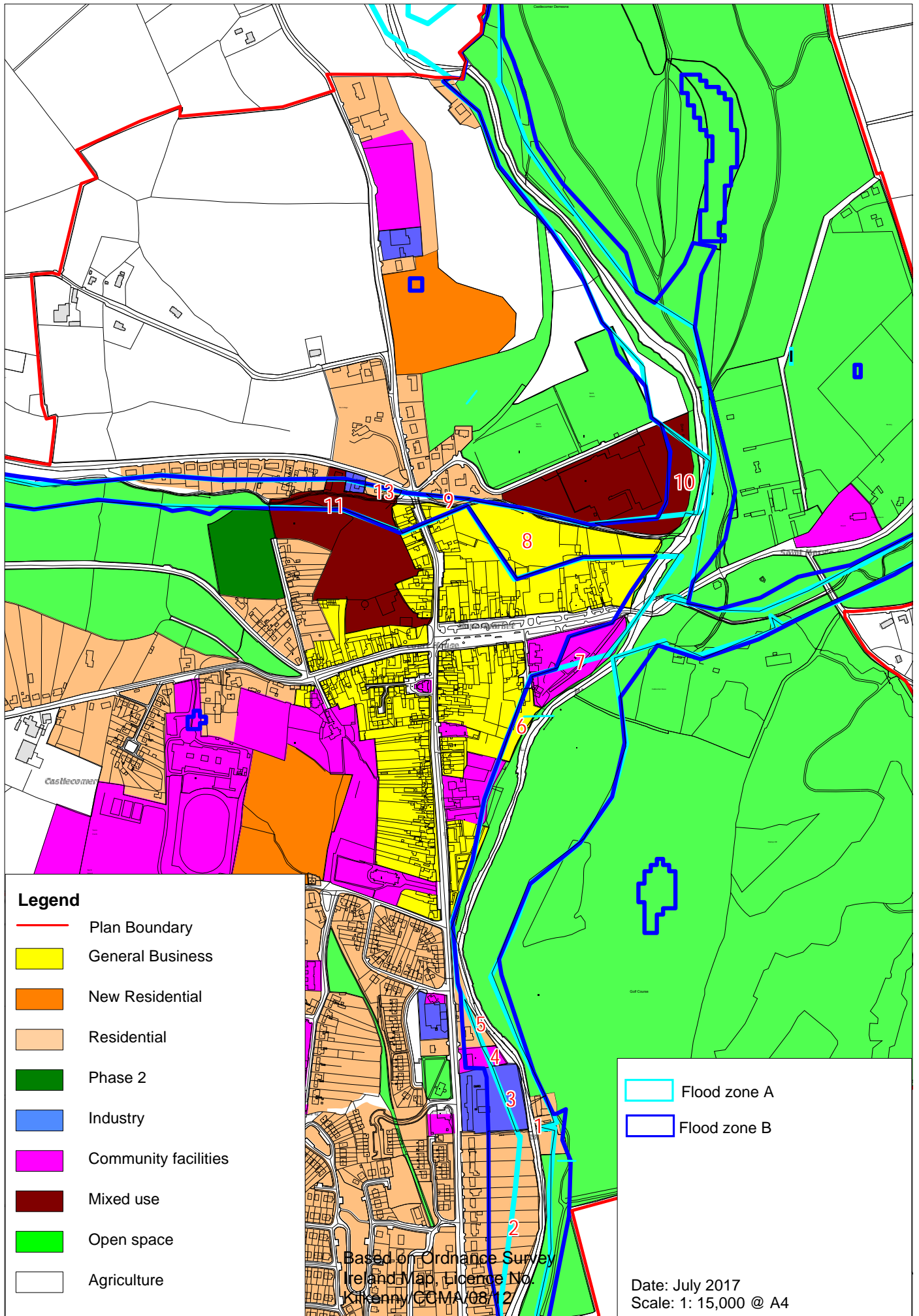
SUDS can be thought of as a move away from the conventional practice of piping all surface water directly to the nearest watercourse or river. Using SUDS techniques, water is either infiltrated or conveyed more slowly to watercourses via ponds, filter drains or other installations. This mimics natural catchment behaviour more closely where rainfall either infiltrates through the soil or runs off slowly over the ground surface to the nearest ditch or watercourse. SUDS also attempt to mimic the natural situation whereby pollutants are filtered through soils or broken down by bacteria.

3.2 Monitoring and Review

As outlined in Section 2, additional information will be made available from the OPW soon in the form of finalised Flood Risk Management Plans (and mapping) that will inform flood risk assessments in the County. It is recommended that the OPW be consulted and that their progress in implementation of the requirements of the EU Flood Directive is reviewed prior to the preparation of the next County Development Plan and the next Castlecomer LAP.

This FRA is based on currently available data and in accordance with its status as a “living document” it will be subject to modification by these emerging datasets of maps and plans as they become available. In the interim any development proposal in the areas identified in this FRA shall be subject to detailed flood risk assessment.

Strategic Flood Risk Assessment for Draft Castlecomer LAP 2017
 Figure 2.2: Areas of Flood Risk in Castlecomer on current zoning (2012)



Strategic Flood Risk Assessment for Draft Castlecomer LAP 2017
 Figure 2.3: Areas of Flood Risk shown on Draft zoning

