

PROPOSED VARIATION NO. 2

TO THE

ATHY TOWN DEVELOPMENT PLAN 2012 – 2018

15th of January 2018

**Kildare County Council
Áras Chill Dara
Devoy Park
Naas
Co. Kildare**



Table of Contents

Section 1

- 1.1 Introduction
- 1.2 Legislative Requirements
- 1.3 Public Consultation
- 1.4 How to make a submission/observation
- 1.5 Next Steps

Section 2 Proposed Variation

- 2.1 How to read this document
- 2.2 Reason for proposed Variation to the Athy Town Development Plan 2012 – 2018

Appendix I

Strategic Environmental Assessment Screening Report

Appendix II

Appropriate Assessment Screening Report

Appendix III

Strategic Flood Risk Assessment

1.1 Introduction

Kildare County Council has prepared Proposed Variation No. 2 to the Athy Town Development Plan 2012 – 2018 under Section 13 of the Planning and Development Act 2000 (as amended). This report sets out legislative framework including public consultation and reasons for the proposed variation.

1.2 Legislative Requirements

Under Section 13 of the Planning and Development Act 2000 (as amended), the planning authority may at any time, for stated reasons, decide to make a variation of a development plan. The planning authority is required to send notice and copies of the proposed variation to a range of statutory bodies including government departments and other agencies as required by the Planning and Development Acts and to publish notice of the proposed variation of the development plan in one or more newspapers circulating in the area.

1.3 Public Consultation

A copy of Proposed Variation No. 2 to the Athy Town Development Plan 2012 – 2018, together with the Strategic Environmental Assessment Determination and the Appropriate Assessment Screening Report may be inspected **from 15th January 2018 to 5 p.m. on 12th of February 2018** at the following locations:

- Kildare County Council Offices, Aras Chill Dara, Naas, Co. Kildare (during office hours).
- Athy Municipal District Office, Rathstewart, Monasterevin Road, Athy (during opening hours).
- Athy Town Branch Library, Emily Square, Athy, Co. Kildare (during opening hours).

The variation can also be viewed or downloaded on the Council website www.kildarecountycouncil.ie.

1.4 How to make a submission/observation

Written submissions or observations with respect to Proposed Variation No. 2 may be made to Kildare County Council on or before 5 p.m. on **12th of February 2018** in one of the followings ways:

- In writing to Ken Kavanagh, Senior Executive Officer, Planning Department, Kildare County Council, Aras Chill Dara, Naas, Co. Kildare.

Or

- By email to lapsubmissions@kildarecoco.ie

Any such written submissions or observations made before the stated closing date and time and to the specified postal and email address will be taken into consideration before the making of the variation. Written submissions or observations should include your name and a contact address and, where relevant, details of any organisation, community group or company etc. which you represent.

1.5 Next Steps

Following public consultation the Chief Executive of Kildare County Council will prepare a report on the submissions and observations received in respect of the proposed variations, respond to the issues raised and make recommendations in relation to the proposed variations, taking into account the proper planning and sustainable development of the area, the statutory obligations of the local authority and relevant policies or objectives of the Government or any Minister of Government.

The elected members of Kildare County Council will consider the proposed variation and the Chief Executives report.

1.6 Proposed Variation No. 2 of the Athy Town Development Plan 2012-2018.

The proposed variation seeks to:

- Amend the land use zoning of 3.4 hectares of land in Woodstock South, Athy from 'R' Retail and Commercial (To provide for and improve retail and commercial activities on the site') to 'Q' Enterprise and Employment (To facilitate opportunities for employment and enterprise uses, manufacturing, research and development, light industry, employment and enterprise related uses within a high quality campus/park type development'); and
- Amend Map 3.1 (Main Employment Zones), Map 16.1a (Zoning Map), Table 16.1 (Land Use Zoning Category), Table 16.2 (Land Use Zoning Objectives), Table 16.3 (Quantum of Zoned Land) and Table 16.5 (Land Use Zoning Matrix) of the Development Plan to reflect the proposed change in zoning.

1.7 Reasons for Proposed Variation to the Athy Town Development Plan 2012-2018.

This variation is proposed in order to provide for the appropriate sequential expansion of existing industrial facilities and to strengthen the employment base of Athy town, which are in the interests of the proper planning and sustainable development of the area.

The purpose of land use zoning objective "R" is 'to provide for and improve retail and commercial activities on the site'. The proposed variation to amend this zoning to provide for "Q"- 'To facilitate opportunities for employment and enterprise uses, manufacturing, research and development, light industry, employment and enterprise related uses within a high quality campus/park type development' is to provide clarity in relation to the land uses that are permitted in principle on the subject lands. This will enable the Planning Authority to consider any future planning application for the appropriate expansion of the existing industrial facilities in the town or the development of new employment/enterprise uses.

Kildare County Council has undertaken a Strategic Environmental Assessment Determination in accordance with Article 13K of the Planning and Development Regulations 2001 (as amended) which determines that Proposed Variation No. 2 to the Athy Town Development Plan 2012 – 2018 is not likely to have significant effects on the environment.

Kildare County Council has undertaken Appropriate Assessment Screening under Section 177V Part XAB of the Planning and Development Act 2000 (as amended) which concludes in view of best scientific knowledge that Proposed Variation No. 2 to the Athy Town Development Plan 2012 – 2018 individually or in combination with another plan or

project is not likely to have a significant effect on a European site taking into account the conservation objectives of any site and that there is no doubt or uncertainty in this regard.

This document sets out the proposed changes to text, maps and graphics throughout the Plan to reflect these changes.

1.8 How to Read this document

The document sets out the proposed amendments to the Athy Town Development Plan 2012 – 2018 in the order that they would appear in the Development Plan and includes the text and mapping changes resulting from Proposed Variation No. 2.

Text amendments are represented as follows:

Development Plan	Text remains as it is in the Athy Town Development Plan 2012 – 2018.
<u>Development Plan</u>	New text inserted into the Athy Town Development Plan 2012 – 2018.
Development Plan	Text deleted from the Athy Town Development Plan 2012 - 2018.

Chapter 3 Economic Strategy

[Amend Map 3.1 Main Employment Zones](#)



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

**Athy Town Development Plan
 2012-2018
 (Proposed Variation No 2)**

LEGEND:

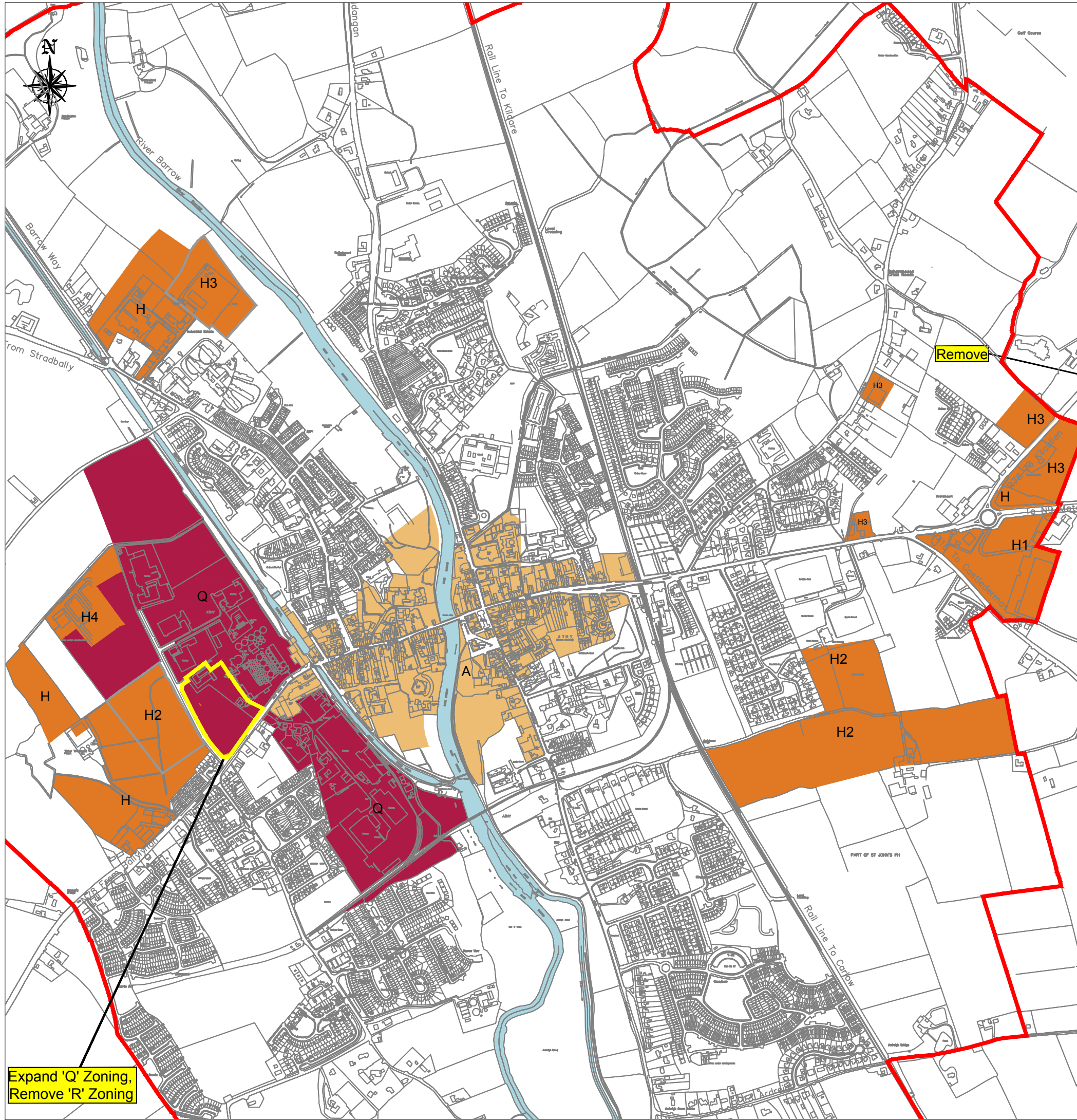
- A: Town Centre
- H, H1, H2, H4: Industrial & Warehousing
- H3: Light Industrial & Commercial
- Q: Enterprise & Employment
- R: Retail / Commercial
- Rivers and Canals
- Athy Town Council Boundary

Note: This map should be read in conjunction with the Strategic Flood Risk Assessment for Athy (Refer to Appendix II)
 Note: Road, cycle and foot path locations are indicative only & may be subject to change during the detailed design process.

Main Employment Zones

Date: November 2017 <small>Revision Date: 10-11-17</small>	Map Ref: 3.1		
Scale: N.T.S.	Drawing No: 200/17/903		
Ordnance Survey Ireland. All rights reserved. Licence No.: 2004/07CCMA (Kildare County Council)	<table border="1"> <tr> <td>Drawn By MK</td> <td>Checked By BR</td> </tr> </table>	Drawn By MK	Checked By BR
Drawn By MK	Checked By BR		

**THIS DRAWING TO BE READ IN
 CONJUNCTION WITH THE WRITTEN STATEMENT**



Remove

Expand 'Q' Zoning,
 Remove 'R' Zoning

Chapter 16 Land Use Zoning

16.2.2 Land Use Zoning Category

Land use zonings are designated in this Development Plan in accordance with Table 16.1. Table 16.2 describes these zonings and the specific land use zoning objectives in greater detail.

Table 16.1: Land Use Zoning Category

Ref.	Land Use Zoning
A	Town Centre
B	Existing Residential & Infill
C	New Residential
D	Neighbourhood Centre
E	Community & Educational
F	Open Space & Amenity
H, H1, H2, H4	Industrial & Warehousing
H3	Light Industrial & Commercial
I	Agriculture
J	Transport & Utilities
Q	Enterprise & Employment
R	Retail & Commercial
U	Public Utilities

Table 16.2: Land Use Zoning Objectives

Ref	Use	Land-Use Zoning
R	Retail and Commercial	<p>To provide for and improve retailing and commercial activities.</p> <p>The purpose of this zone is to provide for and improve retail and commercial activities on a site at Woodstock South. The supermarket shall have a net retail area not exceeding 3,000sqm in accordance with the Retail Planning Guidelines. Any additional retail/commercial development on the site shall be considered on its merits and in accordance with the provisions of the Plan.</p>
Q	Enterprise Employment &	<p>To facilitate opportunities for employment and enterprise uses, manufacturing, research and development, light industry, employment and enterprise related uses within a high quality campus/park type development.</p> <p>This Plan seeks to retain and develop the existing manufacturing industries in these areas while, establishing and expanding new categories of business in Athy and support their development. It is intended that these lands will be used for enterprise and employment uses in a high quality, well design environment. Development shall be of a high quality architectural design and landscaping. Along the Canal, new or infill development must have regard to the visual amenity of</p>

		<p>the canal and the established uses in the immediate vicinity. Any development on this site shall require a detailed landscaping scheme at application stage</p> <p>Possible uses for the Enterprise and Employment zone include:</p> <p>Business, Science and Technology units: High tech, research and development facilities, corporate and industrial offices.</p> <p><u>Industrial Uses: Appropriately scaled extension to existing industrial facilities</u></p> <p>Office Based Industry: Where the activity is concerned primarily with producing an end-product (e.g. software development, research and development) or provides telephone or web based services (e.g. telemarketing). Only office developments to which the public do not normally have access will be permitted within the zone.</p> <p>Enterprise and Incubator units: Small and mixed sized workspace units suitable for small businesses and start up companies. Limited light industrial development will be considered in the context of the overall campus type development.</p> <p>Institutional Use: Includes medical facilities and educational and knowledge based research facilities.</p> <p>Support facilities: Without compromising the policy of resisting inappropriately located retail and leisure development, provision is made for small scale, “walk to” facilities (i.e. restaurant, sandwich shop and specialist services such as crèches) , which are integrated with employment units and are of a nature and scale to serve the needs of employees within this employment area.</p>
--	--	---

Table 16.3: Quantum of Zoned Land

Ref.	Specific Zoning Objective	Approx. Area (Ha)
A	Town Centre	33.4
B	Existing Residential and Infill	222.2
C	New Residential	75.8
D	Neighbourhood Centre	2.4
E	Community and Education	43.0
F	Open Space and Amenity	57.2
H, H1, H2	Industry and Warehousing	51.1
H3	Light Industry and Commercial	9
H4	Industrial and Warehousing	3.1
I	Agricultural	434.7
J	Transport and Utilities	7.6
Q	Enterprise and Employment	38.6 42
R	Retail and Commercial	3.4
K	Public Utilities	5.2

Table 16.5: Land Use Zoning Matrix

LAND USE	A: Town Centre	B: Existing Residential & Infill	C: New Residential	D: Neighbourhood Centre	E: Community & Education	F: Open Space & Amenity	H: Industry & Warehousing	H1: Industry & Warehousing	H2: Industry & Warehousing	H3: Light Industry & Commercial	I: Agricultural	J: Transport & Utilities	Q: Enterprise & Employment	R: Retail and Commercial	U: Public Utilities
Amusement Arcade	O	N	N	O	N	N	N	N	N	N	N	N	N	⊘	N
Broiler House	N	N	N	N	N	N	N	N	N	N	Y	N	N	⊘	N
Car Parks	Y	N	N	O	O	N	Y	Y	Y	O	N	Y	O	⊘	O
Cattle shed / Slatted Unit	N	N	N	N	N	N	N	N	N	N	Y	N	N	⊘	N
Cemetery	N	N	N	N	O	O	N	N	N	N	Y	N	N	⊘	N
Cinema/ Dancehall/ Disco	Y	N	N	N	N	N	N	N	N	N	N	N	N	⊘	N
Community Hall	Y	O	O	O	Y	O	N	N	N	Y	N	O	O	⊘	N
Childcare/ Crèche/ Playschool	Y	O	Y	O	Y	O	O	O	O	O	O	O	O	⊘	N
Cultural Uses/ Library	Y	O	O	O	Y	O	N	N	N	N	N	N	O	⊘	N
Dwelling Unit	Y	Y	Y	Y	N	N	N	N	N	N	O	N	N	⊘	N
Funeral Homes	Y	N	N	O	Y	N	N	N	N	Y	N	N	O	⊘	N
Land Use	N	N	N	N	N	N	O	O	O	Y	N	Y	N	⊘	N
Guest House/ Hostel	Y	O	O	O	O	N	N	N	N	N	O	N	O	⊘	N
Hotel	Y	N	O	O	N	N	N	N	N	N	N	N	N	⊘	N
Halting Site	N	O	O	N	O	O	N	N	N	O	O	N	N	⊘	N
Health Centre/ Clinic	Y	O	O	Y	Y	N	O	O	O	Y	N	O	Y	⊘	N
Heavy Commercial Vehicle Parks	N	N	N	N	N	N	Y	Y	Y	Y	N	Y	N	⊘	N
Take- Away	O	N	N	O	N	N	N	N	N	O	N	N	O	⊘	N
Industry	N	N	N	N	N	N	Y	Y	Y	Y	N	O	O	⊘	N
Industry (Light)	O	N	N	N	N	N	Y	Y	Y	Y	N	O	O	⊘	N
Medical & related consultancy	Y	O	O	Y	Y	N	O	O	O	O	N	O	O	⊘	N
Motor Sales	Y	N	N	N	N	N	O	O	O	Y	N	Y	O	⊘	N

Nursing Home	Y	O	O	O	Y	N	N	N	N	Y	O	N	N	N	N
Offices	Y	O	N	O	O	N	O	O	O	O	N	O	Y	⊖	N
Park/ Playground	Y	Y	Y	Y	Y	Y	O	O	O	O	O	N	O	⊖	N
Petrol Station	O	N	N	O	N	N	O	O	O	Y	N	Y	Y	N	N
Place of Worship	Y	O	O	O	Y	O	N	N	N	N	N	N	O	N	N
Playing Fields	O	Y	Y	N	Y	Y	N	N	N	O	Y	N	O	⊖	N
Pub	Y	O	O	O	N	N	N	N	N	N	N	N	O	N	N
Recreational Buildings	Y	O	O	O	Y	Y	O	O	O	O	O	O	O	⊖	N
Repository/ Store/Depot	O	N	N	N	O	N	Y	Y	Y	Y	N	O	O	⊖	N
Restaurant	Y	O	O	Y	O	N	O	O	O	O	N	O	O	⊖	N
Residential Development	Y	Y	Y	O	N	N	N	N	N	N	N	N	N	N	N
Retail Warehouse	O	N	N	N	N	N	N	N	Y	N	N	N	N	⊖	N
School	Y	O	O	N	Y	O	N	N	N	N	O	N	O	N	N
Shop (Comparison)	Y	N	N	O	N	N	N	N	N	N	N	N	N	Y	N
Shop (Convenience)	Y	O	O	Y	N	N	O	O	O	O	N	O	O	Y	N
Stable Yard	N	N	N	N	N	N	N	N	N	O	Y	N	N	N	N
Sport/Leisure Complex	Y	O	O	O	Y	O	N	N	N	O	N	N	O	⊖	N
Tourist camping site/ caravan park	N	N	O	N	O	N	N	N	N	N	O	N	O	N	N
Utility Structures	Y	O	O	O	O	O	Y	Y	Y	Y	Y	Y	O	⊖	Y
Warehouse (Wholesale)	O	N	N	N	N	N	Y	Y	Y	Y	N	N	O	N	N
Waste Incinerator	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Workshop	O	N	N	N	O	N	Y	Y	Y	Y	O	Y	O	N	O

[Amend Map 16.1a Land Use Zoning Map](#)



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

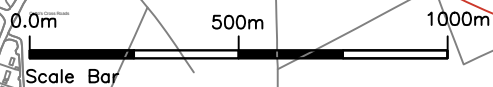
**Athy Town Development Plan
 2012-2018
 (Proposed Variation No 2)**

LEGEND:

- A: Town Centre
- B: Existing Residential & Infill
- C: New Residential
- D: Neighbourhood Centre
- E: Community & Educational
- F: Open Space & Amenity
- H, H1, H2, H4: Industrial & Warehousing
- H3: Light Industrial & Commercial
- I: Agricultural
- J: Transport & Utilities
- Q: Enterprise & Employment
- R: Retail / Commercial
- U: Public Utilities
- Rivers and Canals
- Athy Town Council Boundary
- 500m Intervals from the centre of Town
- Public Rights of Way
- New Roads Objectives (Indicative only)
- Northern Distributor Road Study Area
- Improvements to existing Road Network
- Reservation to allow upgrading of the Rail Bridge
- 1000 Year Flood Line

Remove

**Expand 'Q' Zoning,
 Remove 'R' Zoning**



Land Use Zoning Map

Date: November 2017
 Revision Date: 10-11-17

Map Ref: 16.1a

Scale: N.T.S.

Drawing No: 200/17/902

Ordnance Survey Ireland.
 All rights reserved.
 Licence No.: 2004/07CCMA
 (Kildare County Council)

Drawn By	Checked By
MK	BR

**THIS DRAWING TO BE READ IN
 CONJUNCTION WITH THE WRITTEN STATEMENT**

Appendix I

Strategic Environmental Assessment Screening Report

STRATEGIC ENVIRONMENTAL ASSESSMENT SCREENING REPORT

FOR

PROPOSED VARIATION No. 2

(TO REZONE CERTAIN LANDS AT WOODSTOCK SOUTH AND CONSEQUENTIAL CHANGES)

TO THE

ATHY TOWN DEVELOPMENT PLAN 2012-2018 (AS VARIED)

for: Kildare County Council

Áras Chill Dara
Devoy Park
Naas
County Kildare



by: EIS

1st Floor,
24-26 Ormond Quay Upper
Dublin 7



NOVEMBER 2017

Table of Contents

Section 1	Introduction and Terms of Reference	1
1.1	Introduction	1
1.2	Strategic Environmental Assessment Legislative Requirements	1
1.3	The Proposed Variation	2
1.4	Consultations	2
Section 2	SEA Screening	5
2.1	Introduction	5
2.2	Appropriate Assessment Screening	5
2.3	Stage 1 Flood Risk Assessment	5
2.4	SEA Screening Analysis	5
2.5	Schedule 2A.....	8
Section 3	Conclusion	11

Section 1 Introduction and Terms of Reference

1.1 Introduction

Kildare County Council has prepared Proposed Variation No. 2 (to rezone certain lands at Woodstock South and consequential changes) to the Athy Town Development Plan 2012-2018 (as varied) under Section 13 of the Planning and Development Act 2000 (as amended).

As the Council has not determined that the Proposed Variation would be likely to have significant environmental effects, the Proposed Variation had to be screened for the need to undertake Strategic Environmental Assessment (SEA). Screening is the process for deciding whether a particular plan - or variation to a plan, other than those for which SEA is mandatory, would be likely to have significant environmental effects, and would thus warrant SEA. This report provides the findings of the evaluation of the requirement for SEA to be undertaken on Variation No. 2 to the Athy Town Development Plan 2012-2018 (as varied). This report has been updated to take account of submissions made as part of consultations on the SEA screening process.

The Athy Town Development Plan 2012-2018 was subject to full SEA and Stage 2 Appropriate Assessment (AA). These processes, throughout which the environmental authorities were consulted, facilitated the mitigation of potential environmental effects and the AA identified that the Plan would not affect the integrity of any European Sites (except as provided for by the Habitats Directive).

1.2 Strategic Environmental Assessment Legislative Requirements

SEA is the formal, systematic evaluation of the likely significant environmental effects of implementing a plan or programme, or variation to a plan or programme, before a decision is made to adopt it. The SEA Directive¹ requires, inter alia, that SEA is undertaken for certain plans, programmes or variations to these.

Under Article 7 (13K) of the Planning and Development (SEA) Regulations 2004 (SI No. 436 of 2004) as amended by the Planning and Development (SEA) (Amendment) Regulations 2011 (SI No. 201 of 2011)², Kildare County Council is required to determine whether any Proposed Variation needs to be subject to SEA. Screening is the process for determining whether a particular plan - or variation to a plan -, other than those for which SEA is mandatory, would be likely to have significant environmental effects, and would thus warrant SEA³.

Such a determination is required to take account of relevant criteria set out in Schedule 2A '*Criteria for determining whether a plan is likely to have significant effects on the environment*' of the SEA Regulations, as amended, and submissions or observations from relevant environmental authorities.

¹ Directive 2001/42/EC of the European Parliament and of the Council of Ministers, of 27th June 2001, on the Assessment of the Effects of Certain Plans and Programmes on the Environment

² Both sets of Regulations are collectively referred to as 'the Regulations' in this report.

³ It is noted that the SEA Directive requires that SEA is undertaken where Stage 2 AA is being undertaken however the emerging findings of the AA screening process that is being undertaken on the Variation is that Stage 2 AA is not necessary (see Section 2.2).

1.3 The Proposed Variation

The Variation proposes to:

1. Change the zoning of 3.4 hectares of land in Woodstock South, Athy from:

Zoning Objective R – Retail and Commercial: “To provide for and improve retailing and commercial activities”

To:

Zoning Objective Q - Enterprise and Employment “To facilitate opportunities for employment and enterprise uses, manufacturing, research and development, light industry, employment and enterprise related uses within a high quality campus/park type development.”

2. Make consequential amendments to Maps 3.1 and 16.1A and tables 16.1, 16.2, 16.3 and 16.5 of the Development Plan to reflect the proposed change in zoning.

The reasons for the Proposed Variation are to provide for the appropriate sequential expansion of existing industrial facilities in Athy and to strengthen the employment base of the town, which are in the interests of the proper planning and sustainable development of the area.

1.4 Consultations

As part of the screening process, authorities including environmental authorities⁴ were notified that a submission or observation in relation to whether or not implementation of the Proposed Variation would be likely to have significant effects on the environment may be made to the Council (a period of 3 weeks was allowed for the reply). In order to help facilitate the environmental authorities’ response to that notice, an earlier draft of this SEA Screening Report accompanied each notice. Each submission made in response to the screening notice was taken into account in the finalisation of this report and in the making of the SEA Screening Determination.

A submission received from the Environmental Protection Agency is responded to on Table 1.1.

The Health Services Executive submitted that they had no issues with the proposal. Letters of acknowledgement were received from the Department of Education and Skills and the Health and Safety Authority.

⁴ The following authorities were notified: Department of Agriculture, Food and the Marine; Department of Communications, Climate Action and Environment; Department of Culture, Heritage and the Gaeltacht; Department of Housing, Planning and Local Government; Environmental Protection Agency; Meath County Council; Offaly County Council; Laois County Council; Carlow County Council; Wicklow County Council; South Dublin County Council; and Fingal County Council.

Table 1.1 Response to EPA Submissions

Submission Text	Response
<p>SEA Determination We note your position with regards to the need for Strategic Environmental Assessment (SEA) of the Proposed Variation No. 2 to the Athy Town Development Plan 2012-2018 (the Variation).</p>	Noted.
<p>Future Modifications to the Plan Where changes to the Variation are made prior to finalisation, or where modifications to the Plan are proposed following its adoption, these should be screened for potential for likely significant effects in accordance with the criteria as set out in SEA Regulations Schedule 2A Criteria (S.I. No. 436 of 2004).</p>	Noted. It is the practice of the Council to comply with the Planning and Development (SEA) Regulations (as amended).
<p>Infrastructure Planning In proposing the Variation, and any related amendments, variations etc. of the Plan, and in implementing the Variation, adequate and appropriate infrastructure should be in place, or required to be put in place, to service any development proposed and authorised during the lifetime of the Plan.</p>	The Town Development Plan includes provisions requiring new development to be served by adequate and appropriate infrastructure.
<p>Appropriate Assessment The requirements of Article 6 of Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, the Habitats Directive should be taken into account. Appropriate Assessment, in accordance with the Directive is required for: <i>"Any plan or project not directly connected with or necessary to the management of the site (Natura 2000 sites) but likely to have significant effect thereon, either individually or in combination with other plans or projects, shall be subject to Appropriate Assessment of its implications for the site in view of the sites conservation Objectives..."</i> The National Parks and Wildlife Service (NPWS) should be consulted regarding screening of the Variation for Appropriate Assessment. Where Appropriate Assessment is required, any findings or recommendations should be incorporated into the SEA and Variation, as appropriate.</p>	Appropriate Assessment (AA) screening is being undertaken on the Proposed Variation, in compliance with the Habitats Directive and the Planning and Development Act (as amended). This AA screening process currently concludes that it is considered that the Proposed Variation will not have significant effects on the ecological integrity of any European Site ⁵ .
<p>Environmental Authorities Under the SEA Regulations (S.I. No. 436 of 2004), as amended by S.I. No. 201 of 2011, notice should also be given to the following:</p> <ul style="list-style-type: none"> • The Minister for Housing, Planning and Local Government • Minister for Agriculture, Food and the Marine, and the Minister for Communications, Climate Action and Environment, where it appears to the planning authority that the plan or programme, or modification of the plan or programme, might have significant effects on fisheries or the marine environment • where it appears to the competent authority that the plan or programme, or amendment to a plan or programme, might have significant effects in relation to the architectural or archaeological heritage or to nature conservation, the Minister for Culture, Heritage and the Gaeltacht, and • any adjoining planning authority whose area is contiguous to the area of a planning authority which prepared a draft plan, proposed variation or local area plan. 	Noted - notice has already been provided to these authorities.
A copy of your decision regarding the determination, including, as appropriate, the reasons for not requiring an environmental assessment, should be made available for public inspection at your offices, local authority website and should also be notified to any Environmental Authorities already consulted.	Noted - notice will be provided to these authorities.

⁵ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the plan to proceed; and
- c) Adequate compensatory measures in place.

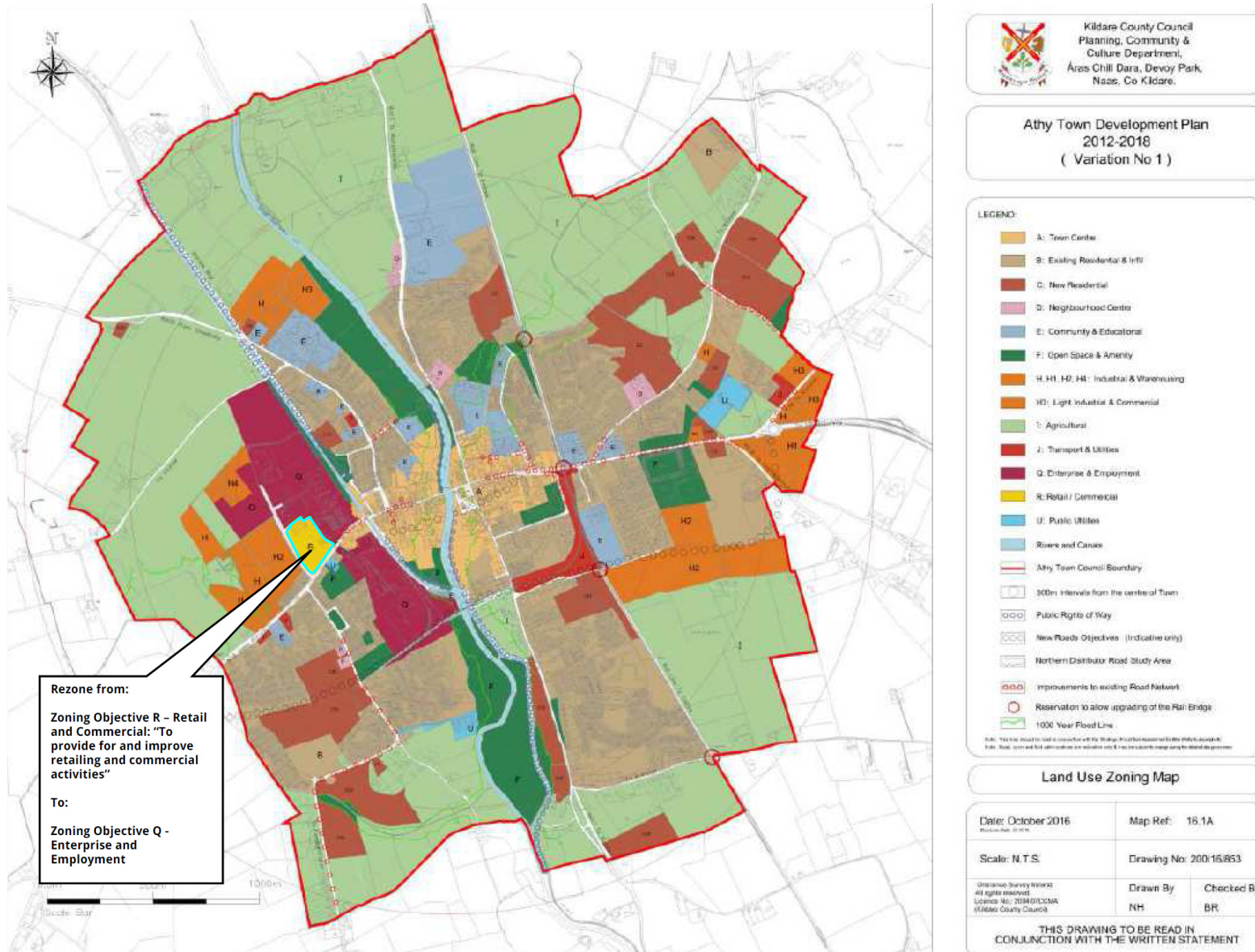


Figure 1 Lands subject to the Proposed Variation identified on Town Plan Map 16.1 “Land Use Zoning Objectives”

Section 2 SEA Screening

2.1 Introduction

The section examines whether each part of the Proposed Variation would be likely to have significant environmental effects (and thus would warrant the undertaking of Strategic Environmental Assessment).

2.2 Appropriate Assessment Screening

Appropriate Assessment (AA) screening is being undertaken on the Proposed Variation. AA is an impact assessment process concerning *Natura 2000*, or *European*, sites - these sites have been designated or proposed for designation by virtue of their ecological importance.

The Habitats Directive⁶ requires, inter alia, that variations to plans undergo an AA process to establish the likely or potential effects arising from implementation of the Proposed Variation. If the effects are deemed to be *significant, potentially significant or uncertain* then the Proposed Variation must undergo Stage 2 AA.

The AA screening process currently concludes that it is considered that the Proposed Variation will not have significant effects on the ecological integrity of any European Site⁷.

2.3 Stage 1 Flood Risk Assessment

A Stage 1 Flood Risk Assessment (FRA) has been undertaken alongside the preparation of the Proposed Variation that provides an appraisal and assessment of available flood risk data in order to identify flood risk indicators in the Study Area.

The FRA concludes that no indications that the Study Area is at risk from fluvial, pluvial or groundwater flooding such as would undermine the proposed variation were encountered. The FRA includes recommendations that are consistent with the provisions contained within the Development Plan relating to drainage and flood risk management.

2.4 SEA Screening Analysis

Table 2.1 examines whether each part of the Proposed Variation would be likely to have significant environmental effects (and thus would have warranted the undertaking of Strategic Environmental Assessment) and is supplemented by Table 2.2 which provides details on the potential environmental effects (if unmitigated) and mitigating measures from the Plan (as varied).

This examination takes account of relevant criteria set out in Schedule 2A '*Criteria for determining whether a plan is likely to have significant effects on the environment*' of the SEA Regulations, as amended (see Section 2.5).

The full range of environmental effects⁸, including cumulative effects are considered by this assessment.

⁶ Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

⁷ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the plan to proceed; and
- c) Adequate compensatory measures in place.

⁸ These include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects

Table 2.1 SEA Screening

No.	Part of the Athy Plan	Proposed Variation	SEA Screening Determination	SEA Screening Determination Explanation
1.	Chapter 16 "Land Use Zoning", Map 16.1 "Land Use Zoning Objectives"	<p>Change the zoning of 3.4 hectares of land in Woodstock South, Athy from:</p> <p>Zoning Objective R – Retail and Commercial: "To provide for and improve retailing and commercial activities"</p> <p>To:</p> <p>Zoning Objective Q - Enterprise and Employment "To facilitate opportunities for employment and enterprise uses, manufacturing, research and development, light industry, employment and enterprise related uses within a high quality campus/park type development."</p>	SEA is not required.	<p>This change in zoning involves replacing Zoning Objective R – Retail and Commercial with Zoning Objective Q - <i>Enterprise and Employment</i>.</p> <p>Both of these zoning objectives favour built development to comparable extents. Different uses would be provided for under each zoning objective as is indicated in the Proposed Variation document.</p> <p>Indeed, these lands were zoned Q - <i>Enterprise and Employment</i> when the Draft Plan and associated SEA Environmental Report were placed on public display in 2011. When it was proposed to change the zoning to the current R – <i>Retail and Commercial</i> zoning, the SEA Environmental Report Addendum (November 2011) identified no additional effects arising from the change above those that had already been identified by the original SEA Environmental Report.</p> <p>Parts of the subject lands are located within Inner and Outer Source Protection Areas (these relate to the protection of drinking water resources) and all of the lands are identified as being highly vulnerable to groundwater pollution. Measures which have been integrated into the Plan as varied (including <i>Surface Water and Drainage Policy SW8</i>) will ensure that any potential adverse effects on these sensitivities will be mitigated. No other environmental sensitivities are identified within or adjacent to the lands.</p> <p>The proposed change does not have the potential to result in additional potential to affect environmental sensitivities at or beyond the subject lands. Any development on these lands will have to comply the detailed provisions of the Plan (as varied), including those relating to environmental protection and management and service provision.</p> <p>Please also refer to Table 2.2 and Section 2.5.</p>
2.	Various Parts of Chapters 3 "Economic Strategy" and Chapter 16 "Land Use Zoning"	Make consequential amendments to Maps 3.1 and 16.1A and tables 16.1, 16.2, 16.3 and 16.5 of the Development Plan to reflect the proposed change in zoning.	SEA is not required.	Consequential changes do not result in any additional screening issues to those discussed under No. 1 above.

Table 2.2 Summary of current Plan potential environmental effects, if unmitigated, and associated mitigation measures

Environmental Components	Likely Significant Effect, if unmitigated	Mitigation Measure Reference(s) from the Plan, including
Biodiversity and Flora and Fauna	Loss of biodiversity with regard to Natura 2000 Sites and habitats and species listed under Annexes I and II of the Habitats Directive	Policies: CS 14, GT 15, NH 1, NH 2, NH 6, and NH 7 and NH9. Objective NHO 7.
	Loss of biodiversity with regard to ecological connectivity and stepping stones	Policies: CS 13, NH 12 and NH 21. Objective NHO 8.
Population and Human Health	Spatially concentrated deterioration in human health arising from exposure to incompatible land uses	Policies: MA1, N 1, N 2 and WM 5. Objective ENO 4. See also measures which have been included under Water Services (Waste Water) and Water Services (Drinking Water).
Soil	Failure to maximise the sustainable reuse of brownfield lands	Policies: CS 8, EDP6, HP6, UR 1 and UR 2.
Water	Adverse impacts upon the status of surface and ground water bodies	Policies: WQ 1, WQ2, WQ 4 and WQ6. Objective: WDO4. Also see measures in this section under Water Services (Waste Water).
	Flooding	Policies: HP28, SW1, SW3 and LU4. Objectives: WDO13 and WDO14.
Material Assets	Inadequate waste water treatment for new populations	Policies WW3, WW4, WW5 and WS1. Objectives: WDO2, WDO3 and WDO8.
	Inadequate drinking water supply for new populations & Reduction in water quality which would present a potential danger to human health	Policies: WS1, WS2, WS3, WS4, WS6, WS10, WS12 and WQ7. Objective: WDO5.
Air and Climatic Factors	Increases in travel related greenhouse gas emissions and increases in car dependency	Policies: TM 3, WC 1, WC 4 and WC 7.
Cultural Heritage	Effects on archaeological heritage including entries to the Record of Monuments and Places, including Zones of Archaeological Potential	Policies: CS 12, AH1, AH 3, AH 4 and AH 6.
	Effects on architectural heritage including entries to the Records of Protected Structures and Architectural Conservation Areas	Policies: CS 12, PS 1, PS 7 and ACA1. Objective AHO1.
Landscape	Visual impacts	Policies: TE 5, VP 1 and VP 2.

2.5 Schedule 2A

PART 1

1. *The characteristics of the plan having regard, in particular, to: the degree to which the plan sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources*

The Variation proposes to: change the zoning of 3.4 hectares of land in Woodstock South, Athy from Zoning Objective R – Retail and Commercial⁹ to Zoning Objective Q - Enterprise and Employment¹⁰; and make consequential amendments to Maps 3.1 and 16.1A and tables 16.1, 16.2, 16.3 and 16.5 of the Development Plan to reflect the proposed change in zoning. Both of these zoning objectives favour built development to comparable extents. Different uses would be provided for under each zoning objective as is indicated in the Proposed Variation document. Any development on these lands will have to comply the detailed provisions of the Plan (as varied), including those relating to environmental protection and management and service provision.

Taking the above and the examination of the Variation provided under Section 2.4 into account, arising from the degree to which the Plan (as varied) and associated Variation sets a framework for projects and other activities, the Variation would not be likely to result in significant environmental effects.

2. *The characteristics of the plan having regard, in particular, to: the degree to which the plan influences other plans, including those in a hierarchy*

The Variation will not affect the consistency of the Plan (as varied) with the Kildare County Development Plan 2017-2023. The Plan (as varied) is due to expire in March 2018 and it is not expected that the Variation will affect lower tier plans.

Taking the above and the examination of the Variation provided under Section 2.4 into account, arising from the degree to which the Plan (as varied) and Variation influence other plans, the Variation would not be likely to result in significant environmental effects.

3. *The characteristics of the plan having regard, in particular, to: the relevance of the plan for the integration of environmental considerations in particular with a view to promoting sustainable development*

The Athy Town Development Plan - to which the Variation relates - has undergone SEA. This process integrated environmental considerations into the Plan and found that the Plan contributes to environmental protection and management and sustainable development.

Taking the above and the examination of the Variation provided under Section 2.4 into account, arising from the relevance of the Plan and Variation for the integration of environmental considerations in particular with a view to promoting sustainable development, the Variation would not be likely to result in significant environmental effects.

4. *The characteristics of the plan having regard, in particular, to: environmental problems relevant to the plan*

Environmental problems arise where there is a conflict between current environmental conditions and legislative targets.

⁹ "To provide for and improve retailing and commercial activities"

¹⁰ "To facilitate opportunities for employment and enterprise uses, manufacturing, research and development, light industry, employment and enterprise related uses within a high quality campus/park type development"

Through its provisions relating to environmental protection and management, the existing Plan contributes towards ensuring that environmental conditions do not get worse and, where possible, it contributes towards its amelioration.

Taking the above and the examination of the Variation provided under Section 2.4 into account, arising from environmental problems relevant to the Plan (as varied) and Variation, the Variation would not be likely to result in significant environmental effects.

5. *The characteristics of the plan having regard, in particular, to: the relevance of the plan for the implementation of European Union legislation on the environment (e.g. plans linked to waste-management or water protection)*

The Plan (as varied) relates to the land use sector and has undergone SEA. This process integrated considerations with regard to EU and national legislation on the environment into the Plan (as varied), including those relating to the waste management and the Water Framework Directive.

Taking the above and the examination of the Variation provided under Section 2.4 into account, arising from the relevance of the Plan (as varied) and Variation for the implementation of European Union legislation on the environment, the Variation would not be likely to result in significant environmental effects.

PART 2

1. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the probability, duration, frequency and reversibility of the effects

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

2. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the cumulative nature of the effects

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

3. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the transboundary nature of the effects

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

4. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the risks to human health or the environment (e.g. due to accidents)

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

5. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the magnitude and spatial extent of the effects (geographical area and size of the population likely to be affected)

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

6. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the value and vulnerability of the area likely to be affected due to:

a) special natural characteristics or cultural heritage;

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

b) exceeded environmental quality standards or limit values, and;

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

c) intensive land-use.

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

7. Characteristics of the effects and of the area likely to be affected, having regard, in particular, to: the effects on areas or landscapes which have a recognised national, European Union or international protection status

The Variation would not be likely to result in significant environmental effects (see responses under Schedule 2A Part 1 above and the examination of the Variation provided under Section 2.4).

Section 3 Conclusion

Screening is the process for deciding whether a particular plan or variation to a plan, other than those for which SEA is mandatory, would be likely to have significant environmental effects, and would thus warrant SEA. The purpose of the report is to provide the findings of the evaluation of the requirement for SEA to be undertaken on Variation No. 2 (to rezone certain lands at Woodstock South and consequential changes) to the Athy Town Development Plan 2012-2018 (as varied).

The findings of the SEA screening process is that the Proposed Variation would not be likely to result in significant environmental effects. This SEA Screening Report has taken into account submissions made by authorities that were notified during the SEA screening consultation process.

This report is accompanied by an SEA Screening Determination.

Appendix II

Appropriate Assessment Screening Report

AA SCREENING REPORT

IN SUPPORT OF THE
APPROPRIATE ASSESSMENT
OF THE
PROPOSED VARIATION No. 2
TO THE
ATHY TOWN DEVELOPMENT PLAN
2012-2018

IN ACCORDANCE WITH THE REQUIREMENTS OF
ARTICLE 6(3) OF THE EU HABITATS DIRECTIVE

for: Kildare County Council

Áras Chill Dara,
Devoy Park,
Naas,
County Kildare



by: EIS

1st Floor,
24-26 Ormond Quay,
Dublin 7



NOVEMBER 2017

Table of Contents

1	Introduction.....	1
1.1	Background.....	1
1.2	Legislative Context	1
1.3	Guidance	2
1.4	Approach	3
2	Description and background of the Proposed Variation to Athy Town Development Plan 2012-2018.....	5
2.1	Existing Athy Town Development Plan	5
2.2	Proposed Variation to Athy Town Development Plan 2012-2018	5
3	Screening for Appropriate Assessment	7
3.1	Introduction to Screening	7
3.2	Identification of Relevant European Sites	7
3.3	Assessment Criteria	10
3.4	Other Plans and Programs	14
4	Conclusions.....	19

Table of Tables

Table 3.1 European Sites which occur within 15 km of Athy Town	8
Table 3.2 Screening assessment of European Sites within 15km to the TDP boundary related to Proposed Variation No. 2.....	12
Table 3.3 Plans & Projects Likely to Cause In-Combination Effects	15

Table of Figures

Figure 3.1 Location of European Sites within 15km of Athy Town Development Plan Area	9
---	----------

1 Introduction

1.1 Background

EIS has prepared this Screening Report in support of the Appropriate Assessment (AA) of the Proposed Variation to the Athy Town Development Plan 2012-2018 in accordance with the requirements of Article 6(3) of the EU Habitats Directive¹.

AA is a requirement of Article 6 of the Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (as amended) (hereafter referred to as the "Habitats Directive"). The overall aim of the Habitats Directive is to maintain or restore the "Favourable Conservation Status" of habitats and species of European Community Interest. These habitats and species are listed in the Habitats and Birds Directives (Council Directive 2009/147/EC on the conservation of wild birds) with Special Areas of Conservation and Special Protection Areas designated to afford protection to the most vulnerable of them. These two designations are collectively known as European Sites.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the European Sites at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations (in particular Part XAB of the Planning and Development (Proposed Variation) Act 2010 and the European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. 477) (often referred to as the Habitats Regulations) to ensure the ecological integrity of these sites. Appropriate Assessment (AA) is an assessment of whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a European Site in view of the site's conservation objectives.

A Strategic Environmental Assessment (SEA) Screening has been undertaken to assess whether or not the Proposed Variation would be likely to result in significant environmental effects, including those relating to biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape and the interrelationship between these considerations.

1.2 Legislative Context

The AA process an assessment of the potential for adverse or negative effects of a plan or project, in combination with other plans or projects, on the conservation objectives of a European Site. These sites consist of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats.

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as "The Habitats Directive", provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of an EU-wide network of sites known as Natura 2000. In Ireland, these are candidate SACs (cSACs) designated under the Habitats Directive and Special Protection Areas (SPAs) designated under the Conservation of Wild Birds Directive (79/409/ECC), hereafter referred to as European Sites.

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to affect European Sites. Article 6(3) establishes the requirement for AA:

"Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate

¹ Directive 92/43/EEC

assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.

If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.

Where the site concerned hosts a priority natural habitat type and/or a priority species the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest."

These requirements are implemented in the Republic of Ireland by the European Communities (Birds and Natural Habitats) Regulations 2011. These regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in judgements of the Court of Justice of the European Union (CJEU).

If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project may nevertheless be carried out for "Imperative Reasons Of Overriding Public Interest", including those of a social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of European suite is protected. It shall inform the Commission of the compensatory measures adopted. Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest.

AA should be based on best scientific knowledge and Planning Authorities should ensure that scientific data (ecological and hydrological expertise) is utilised. This report details a Screening Report to inform the AA process which is finalised by the statutory authority.

1.3 Guidance

This Screening Report has been prepared in accordance with the following guidance:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, 2010.*
- *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, European Commission Environment DG, 2002.*
- *Managing Natura 2000 sites: The Provisions of Article 6 of the Habitats Directive 92/43/EEC: European Commission, 2000.*
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg (EC 2001);*

- *Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. Office for Official Publications of the European Communities, Luxembourg (EC 2007).*
- *Flora (Protection) Order, 1999 (As amended 2015)*

In addition, a detailed online review of published scientific literature and 'grey' literature was conducted. This included a detailed review of the National Parks and Wildlife Website including mapping and available reports for relevant sites and in particular sensitive qualifying interests/special conservation interests described and their conservation objectives. The EPA Envision Map-viewer (www.epa.ie) and available reports were also reviewed.

Definitions of conservation status, integrity and significance used in this assessment are defined in accordance with 'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC' (EC, 2000).

- The conservation status of a natural habitat is defined as the sum of the influences acting on a natural habitat and its typical species that may affect its long-term natural distribution, structure and functions as well as the long-term survival of its typical species;
- The conservation status of a species is defined as the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its population;
- The integrity of a European Site is defined as the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified;
- Significant effect should be determined in relation to the specific features and environmental conditions of the protected site concerned by the plan or project, taking particular account of the site's conservation objectives.

1.4 Approach

There are four main stages in the AA process; the requirements for each depending on likely impacts to European Sites (SAC/ SPA).

Stage One: Screening

The process which identifies the likely impacts upon a European Site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant.

Stage Two: Appropriate Assessment

The consideration of the impact on the integrity of the European Site of the project or plan, either alone or in combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts. If adequate mitigation is to ensure no significant adverse impacts on European Sites, then the process may end at this stage. However, if the likelihood of significant impacts remains, then the process must proceed to Stage 3.

Stage Three: Assessment of Alternative Solutions

The process which examines alternative ways of achieving the objectives of the project or plans that avoids adverse impacts on the integrity of the European Site.

Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain

An assessment of compensatory measures where, in the light of an assessment of imperative reasons of overriding public interest (IROPI), it is deemed that the project or plan should proceed.

The Habitats Directive promotes a hierarchy of avoidance, mitigation and compensatory measures. First, the plan should aim to avoid any effects on European Sites by identifying possible effects early in the plan-making process and writing the plan in order to avoid such effects. Second, mitigation measures should be applied, if necessary, during the AA process to the point where no adverse effects on the site(s) remain. If the plan is still likely to result in effects on European Sites, and no further practicable mitigation is possible, then it must be rejected. If no alternative solutions are identified and the plan is required for imperative reasons of overriding public interest (IROPI test) under Article 6(4) of the Habitats Directive, then compensation measures are required for any remaining adverse effect.

1.4.1 Source-Pathway-Receptor Model

Ecological impact assessment of potential effects on European Sites is conducted following a standard source-pathway-receptor model, where, in order for an effect to be established all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism is sufficient to conclude that a potential effect is not of any relevance or significance.

- Source(s) – e.g. pollutant run-off from proposed works.
- Pathway(s) – e.g. groundwater connecting to nearby qualifying wetland habitats.
- Receptor(s) – qualifying aquatic habitats and species of European Sites.

In the interest of this report, receptors are the ecological features which are known to be utilised by the qualifying interests or special conservation interests of a European Site. A source is any identifiable element of the TDP provision which is known to have interactions with ecological processes. The pathways are any connections or links between the source and the receptor. This report determines if direct, indirect and cumulative adverse effects (however minor) will arise from the plan.

1.4.2 Zone of Influence

Following the source-pathway-receptor process a Zone of Influence (ZOI) will be determined based on the characteristics of the development (detailed in section 2) and the foreseen distribution of likely effects through any pathways identified. Once the ZOI is established, all European Sites within it will be assessed with specific reference to the sensitive receptors of each site and pathways for effect that relate to the ecological integrity of the site.

2 Description and background of the Proposed Variation to Athy Town Development Plan 2012-2018

2.1 Existing Athy Town Development Plan

The Athy Town Development Plan 2012-2018 sets out an overall strategy for the proper planning and sustainable development of the town over the period 2012-2018. It is prepared with reference to the Kildare County Development Plan 2011-2017 which sets out strategies, policies and objectives for the development of County Kildare.

The following vision statement is included within the Plan: "To plan for and facilitate appropriate levels of sustainable development in Athy, addressing its weaknesses and building on its strengths based on high quality employment, residential and recreational areas with a balanced range of facilities to meet the needs of those living, working or visiting the town, thereby improving the quality of life for all."

2.1.1 Previous Assessments

A detailed Natura Impact Report in support of the AA of Athy Town Development Plan 2012-2018 (Athy Town Development Plan) was compiled along with a detailed Strategic Environmental Assessment and Strategic Flood Risk Assessment. These assessment processes were conducted through an iterative process to ensure their findings were incorporated into the policies and objectives of the Athy Town Development Plan itself. This process resulted in a robust set of mitigation and monitoring measures to ensure there were no likely significant adverse effects to any European Site arising from the implementation of the Athy Town Development Plan.

2.2 Proposed Variation to Athy Town Development Plan 2012-2018

The proposed variation will seek to:

1. Change the zoning of 3.4 hectares of land in Woodstock South, Athy from: Zoning Objective R – Retail and Commercial: "To provide for and improve retailing and commercial activities" To: Zoning Objective Q - Enterprise and Employment
2. Make consequential amendments to Maps 3.1 and 16.1A and tables 16.1, 16.2, 16.3 and 16.5 of the Development Plan to reflect the proposed change in zoning.

These zoning objectives are defined in the ATDP as the following:

R To provide for and improve retailing and commercial activities.

The purpose of this zone is to provide for and improve retail and commercial activities on a site at Woodstock South. The supermarket shall have a net retail area not exceeding 3.000sqm in accordance with the Retail Planning Guidelines. Any additional retail/commercial development on the site shall be considered on its merits and in accordance with the provisions of the Plan.

Q To facilitate opportunities for employment and enterprise uses, manufacturing, research and development, light industry, employment and enterprise related uses within a high-quality campus/park type development.

This Plan seeks to retain and develop the existing manufacturing industries in these areas while, establishing and expanding new categories of business in Athy and support their development. It is intended that these lands will be used for enterprise and employment uses in a high quality,

well design environment. Development shall be of a high quality architectural design and landscaping. Along the Canal, new or infill development must have regard to the visual amenity of the canal and the established uses in the immediate vicinity. Any development on this site shall require a detailed landscaping scheme at application stage

Possible uses for the Enterprise and Employment zone include:

Business, Science and Technology units: High tech, research and development facilities, corporate and industrial offices.

Office Based Industry: Where the activity is concerned primarily with producing an end-product (e.g. software development, research and development) or provides telephone or web based services (e.g. telemarketing). Only office developments to which the public do not normally have access will be permitted within the zone.

Enterprise and Incubator units: Small and mixed sized workspace units suitable for small businesses and start-up companies. Limited light industrial development will be considered in the context of the overall campus type development.

Institutional Use: Includes medical facilities and educational and knowledge based research facilities.

Support facilities: Without compromising the policy of resisting inappropriately located retail and leisure development, provision is made for small scale, "walk to" facilities (i.e. restaurant, sandwich shop and specialist services such as crèches), which are integrated with employment units and are of a nature and scale to serve the needs of employees within this employment area.

These lands are substantially developed. However, proposals for further development of these lands shall be the subject of a Site-Specific Flood Risk Assessment appropriate to the type and scale of the development being proposed. It is recommended that further development of these lands be required to incorporate mitigation measures that:

- (i) Indicate and quantify loss of floodplain storage arising from the development proposal;
- (ii) Provide compensatory storage located within or adjacent to the proposed development;
- (iii) Indicate measures to ensure that water-vulnerable elements of the Development would not be flooded during the 1000-year flood;
- (iv) Ensure that existing flow paths for flood waters will not be compromised.

3 Screening for Appropriate Assessment

3.1 Introduction to Screening

3.1.1 Background to Screening

This stage of the AA process identifies any likely significant affects to European Sites from a project or plan, either alone or in combination with other projects or plans. A series of questions are asked during this Screening Stage in order to determine:

- Whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European Site.
- Whether the project will have a potentially significant effect on a European Site, either alone or in combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential impacts.
- Submissions were made during the public consultation process by the EPA, these comments were factored into the Screening Assessment Process.

3.1.2 Desktop Studies

This screening assessment has been largely desktop and has incorporated the following:

- Identification of European Sites within 15km of the TDP area and the identification of potential pathways links for specific sites greater than 15km, only where relevant;
- Review of the NPWS site synopsis and conservation objectives for European Sites with identification of potential pathways from the TDP area; and
- A series of ecological desk studies were undertaken in November 2017. This included but is not limited to the collation of information on protected species including Bats, Otters, Bird species (including Annex I species), Annex II habitat types, protected and Red Data Book Flora species, invertebrates and amphibians. The results of these studies are included as part of this screening where they were deemed relevant to the European Sites and their QI's/SCI's.

3.2 Identification of Relevant European Sites

This section of the screening process describes the European Sites which exist within the Zone of Influence of the site. The DoEHLG (2009) Guidance on Appropriate Assessment recommends a 15km buffer zone be considered around the site. It is foreseen that in the absence of significant hydrological links the characteristics of the Proposed Variation No. 2 (detailed in section 2) will not have effects beyond this Zone of Influence.

European Sites that occur within 15km of the Plan Area are listed in Table 3.1 and illustrated in Figure 3.1 below. Details on the site characteristics and existing threats/vulnerabilities of each European Site are also identified in Table 3.1.

In order to determine the potential for effects from the adoption of Proposed Variation No. 2 of the Athy Town Development Plan, information on the qualifying features, known vulnerabilities and threats to site integrity pertaining to any potentially affected European Sites was reviewed. Background information on threats to individual sites and vulnerability of habitats and species that was used during this assessment included the following:

- *Ireland's Article 17 Report to the European Commission "Status of EU Protected Habitats and Species in Ireland" (NPWS, 2013).*
- *Site Synopses.*
- *NATURA 2000 Standard Data Forms.*

Since the conservation objectives for the European Sites focus on maintaining the favourable conservation condition of the QI's/SCI's of each site, the screening process concentrated on assessing the potential effects of the adoption of Proposed Variation No. 2 against the QI's/SCI's of each site.

Table 3.1 European Sites which occur within 15 km of Athy Town

Site Code	Site Name	Distance (km)	Qualifying Features (Qualifying Interests or Special Conservation Interests)
002162	River Barrow and River Nore SAC	Within	Estuaries Mudflats and sandflats not covered by seawater at low tide Salicornia and other annuals colonising mud and sand Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) Mediterranean salt meadows (<i>Juncetalia maritimi</i>) Water courses of plain to montane levels with the <i>Ranunculus fluitans</i> and <i>Callitriche-Batrachion</i> vegetation European dry heaths Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels Petrifying springs with tufa formation (<i>Cratoneurion</i>) Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) Spartina swards (<i>Spartinion maritima</i>) Allis shad (<i>Alosa alosa</i>) Atlantic salmon (<i>Salmo salar</i>) Brook lamprey (<i>Lampetra planeri</i>) Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>) Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>) Killarney Fern (<i>Trichomanes speciosum</i>) Freshwater Pearl Mussel (<i>Margaritifera durrovensis</i>) Otter (<i>Lutra lutra</i>) European river lamprey (<i>Lampetra fluviatilis</i>) Twait shad (<i>Alosa fallax</i>) White clawed crayfish (<i>Austropotamobius pallipes</i>)
002256	Ballyprior Grassland SAC	9.8	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>)(*important orchid sites)

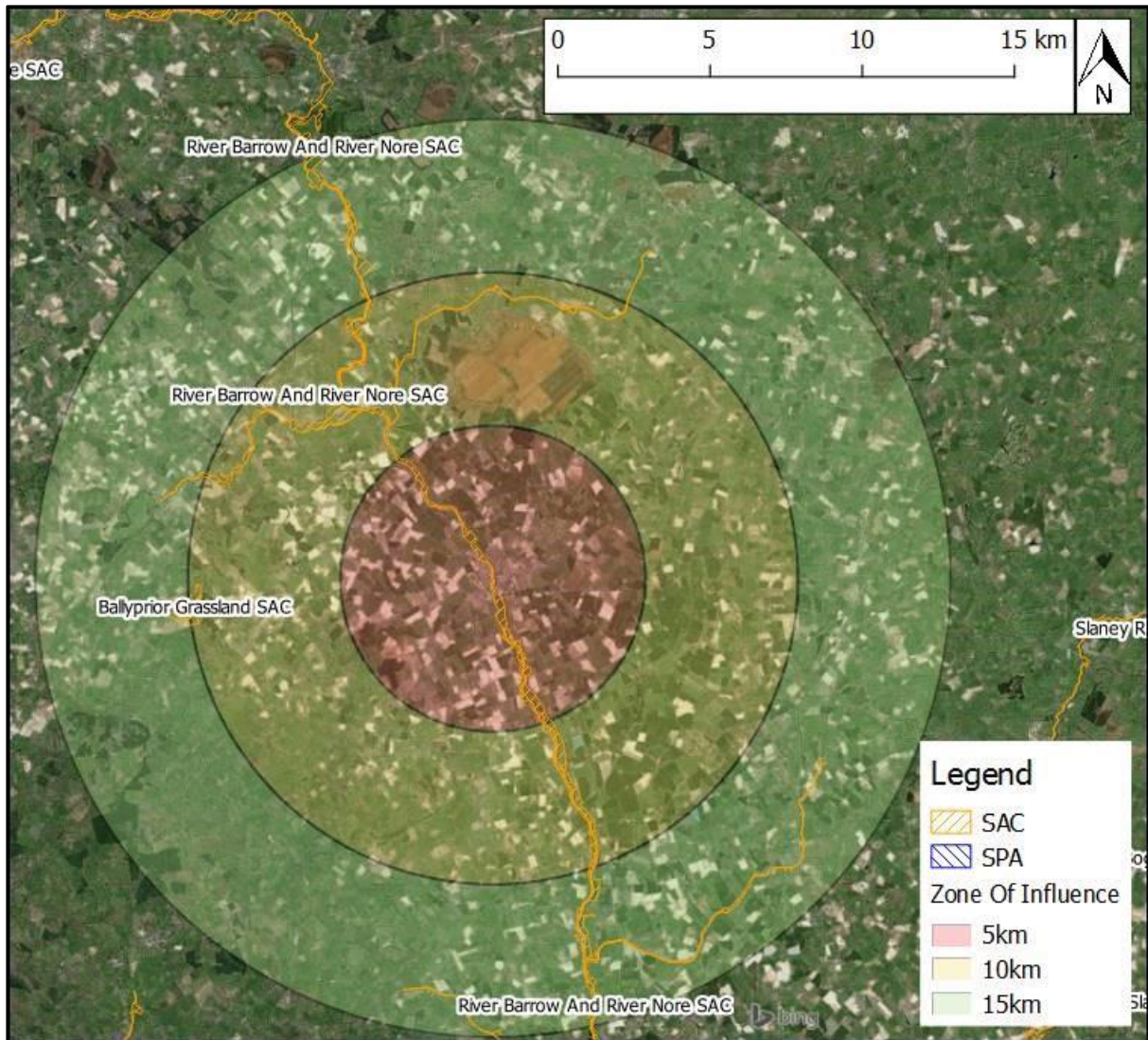


Figure 3.1 Location of European Sites within 15km of Athy Town Development Plan Area

3.3 Assessment Criteria

3.3.1 Is the Plan with its Proposed Variation Necessary to the Management of European Sites?

Under the Habitats Directive, Plans that are directly connected with or necessary to the management of a European Site do not require AA. For this exception to apply, management is required to be interpreted narrowly as nature conservation management in the sense of Article 6(1) of the Habitats Directive. This refers to specific measures to address the ecological requirements of annexed habitats and species (and their habitats) present on a site(s). The relationship should be shown to be direct and not a by-product of the plan, even if this might result in positive or beneficial effects for a site(s).

The primary purpose of the Proposed Variation No. 2 to the Athy Town Development Plan is not the nature conservation management of the sites, but to change zoning objectives if lands at Woodstock South in the plan area. Therefore, the Proposed Variation is not considered by the Habitats Directive to be directly connected with or necessary to the management of European designated sites.

3.3.2 Elements of the Proposed Variation with Potential to Give Rise to Effects

The Proposed Variation seeks to change the zoning of 3.4 hectares of land in Woodstock South, Athy from 'Retail and Commercial' to 'Enterprise and Employment'. The existing NIS considers the effects that might arise from Enterprise and Employment based developments directly adjacent to the River Barrow and River Nore SAC. The NIS contains robust measure which were deemed sufficient to account for these effects and protect the ecological integrity of the European sites. The proposed variation to the zoning objective show that the Woodstock South lands are removed from the SAC boundary; there are no additional sources for effects identified that were not considered by the existing NIS. The existing Athy Town Development Plan 2012-2018 incorporates policies and objectives to protect European Sites. The Proposed Variation does comply with the mitigation measured detailed in the original NIS for the Athy Town Development Plan 2012-2018.

3.3.3 Identification of Potential Likely Significant Effects

This section documents the final stage of the screening process. It has used the information collected on the sensitivity of each European Site and describes any likely significant effects resulting from the adoption of Proposed Variation No. 2. This assumes the absence of any controls, conditions, or mitigation measures. In determining the potential for significant effects, a number of factors have been taken into account. Firstly, the sensitivity and reported threats to the European Site. Secondly, the individual elements of the Proposed Variation No. 2 and the potential effect they may cause to the site were considered.

Sites are screened out based on one or a combination of the following criteria:

- where it can be shown that there are no significant pathways for effects such as hydrological links between activities recommended in Proposed Variation No. 2 to the Athy Town Development Plan, and European Sites to be screened;
- where the site is located at such a distance from the TDP area that effects are not foreseen;
- where known threats or vulnerabilities in the TDP area cannot be linked to potential impacts that may arise from the Proposed Variation No. 2 to the Athy Town Development Plan.

The following parameters are described when characterising impacts (following CIEEM (2016), EPA (2002) and NRA (2009)):

Direct and Indirect Impacts - An impact can be caused either as a direct or as an indirect consequence of a development.

Magnitude - Magnitude measures the size of an impact, which is described as high, medium, low, very low or negligible.

Extent - The area over which the impact occurs – this should be predicted in a quantified manner.

Duration - The time for which the effect is expected to last prior to recovery or replacement of the resource or feature.

- Temporary: Up to 1 Year;
- Short Term: The effects would take 1-7 years to be mitigated;
- Medium Term: The effects would take 7-15 years to be mitigated;
- Long Term: The effects would take 15-60 years to be mitigated;
- Permanent: The effects would take 60+ years to be mitigated.

Likelihood – The probability of the effect occurring taking into account all available information.

- Certain/Near Certain: >95% chance of occurring as predicted;
- Probable: 50-95% chance as occurring as predicted;
- Unlikely: 5-50% chance as occurring as predicted;
- Extremely Unlikely: <5% chance as occurring as predicted.

The Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines for ecological impact assessment (CIEEM 2016) define an ecologically significant impact as an impact (negative or positive) on the integrity of a defined site or ecosystem and/or the conservation status of habitats or species within a given geographic area. The integrity of a site is the coherence of its ecological structure and function, across its whole area, which enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified (CIEEM, 2016).

The Habitats Directive requires the focus of the assessment at this stage to be on the integrity of the site as indicated by its Conservation Objectives. It is an aim of NPWS to draw up conservation management plans for all areas designated for nature conservation. These plans will, among other things, set clear objectives for the conservation of the features of interest within a site.

Site-specific conservation objectives (SSCOs) have been prepared for a number of European Sites. These detailed SSCO aim to define favourable conservation condition for the qualifying habitats and species at that site by setting targets for appropriate attributes which define the character habitat. The maintenance of the favourable condition for these habitats and species at the site level will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a species can be described as being achieved when: 'population data on the species concerned indicate that it is maintaining itself, and the natural range of the species is neither being reduced or likely to be reduced for the foreseeable future, and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.'

Favourable conservation status of a habitat can be described as being achieved when: 'its natural range, and area it covers within that range, is stable or increasing, and the ecological factors that are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and the conservation status of its typical species is favourable.'

Generic Conservation Objectives for cSACs have been provided as follows:

- *To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.*

One generic Conservation Objective has been provided for SPAs as follows:

- *To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA.*

Table 3.2 Screening assessment of European Sites within 15km to the TDP boundary related to Proposed Variation No. 2

Site Code	Site Name	Distance (km)	Qualifying Interests & Special Conservation Interests (Sensitive Receptors)	Potential effects (Sources of effects with regard to the qualifying interests, special conservation interests and/or conservation objectives of the European Site)	Pathway for Significant Effects	Potential for In-Combination Effects
002162	River Barrow and River Nore SAC	Within	<p>Estuaries</p> <p>Mudflats and sandflats not covered by seawater at low tide</p> <p>Salicornia and other annuals colonising mud and sand</p> <p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)</p> <p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>)</p> <p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation</p> <p>European dry heaths</p> <p>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels</p> <p>Petrifying springs with tufa formation (<i>Cratoneurion</i>)</p> <p>Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>)</p> <p>Spartina swards (<i>Spartinion maritimae</i>)</p> <p>Allis shad (<i>Alosa alosa</i>)</p> <p>Atlantic salmon (<i>Salmo salar</i>)</p> <p>Brook lamprey (<i>Lampetra planeri</i>)</p> <p>Desmoulin's whorl snail (<i>Vertigo moulinsiana</i>)</p> <p>Freshwater Pearl Mussel (<i>Margaritifera margaritifera</i>)</p> <p>Killarney Fern (<i>Trichomanes speciosum</i>)</p> <p>Freshwater Pearl Mussel (<i>Margaritifera durrovensis</i>)</p> <p>Otter (<i>Lutra lutra</i>)</p> <p>European river lamprey (<i>Lampetra fluviatilis</i>)</p>	The variation to zoning objectives have not been identified to introduce any additional sources for potential effects that were not considered as part of the existing Plan and associated NIS. As there are no additional sources for effects, the variation will not affect the ecological integrity of the European Site.	No	No

Appropriate Assessment of the Proposed Variation No. 2 for the Athy Town Development Plan 2012-2018

			Twait shad (<i>Alosa fallax</i>) White clawed crayfish (<i>Austropotamobius pallipes</i>)			
002256	Ballyprior Grassland SAC	9.8	Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>)(*important orchid sites)	The variation to zoning objectives have not been identified to introduce any additional sources for potential effects that were not considered as part of the existing Plan and associated NIS. As there are no additional sources for effects, the variation will not affect the ecological integrity of the European Site.	No	No

3.4 Other Plans and Programs

Article 6(3) of the Habitats Directive requires an assessment of a plan or project to consider other plans or programmes that might, in combinations with the plan or project, have the potential to adversely affect European Sites.

As the Proposed Variation has to comply with the policies and objectives of Athy Town Development Plan as well as higher-level plans (detailed above) the potential for effects to European Sites are thought to be very low. Therefore, in-combination effects to the integrity of European Sites are not seen to be likely.

Given the uncertainties that exist with regard to the scale and location of developments facilitated by the Proposed Variation, it is recognised that the identification of in-combination effects is limited and that the assessment of in-combination effects will need to be undertaken in a more comprehensive manner at the project-level.

In combination effects were considered in relation to the projects and plans listed in Table 3.3.

Table 3.3 Plans & Projects Likely to Cause In-Combination Effects

Directive	Status	Overview	Possible significant effects from plan or project	Possible significant in-combination effects	Is there a risk of significant in-combination effects from the adoption of Proposed Variation No. 2
International					
EU Water Framework Directive (2000/60/EC)	Published	Objectives seek to maintain and enhance the quality of all surface waters in the EU.	No	No	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU Freshwater Fish Directive (78/659/EEC)	Published	Objectives seek to protect those fresh water bodies identified by Member States as waters suitable for sustaining fish populations. For those waters it sets physical and chemical water quality objectives for salmonid waters and cyprinid waters.	No	No	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU Groundwater Directive (2006/118/EC)	Published	This directive establishes a regime, which sets underground water quality standards and introduces measures to prevent or limit inputs of pollutants into groundwater.	No	No	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
EU Floods Directive (2007/60/EC)	Published	The Floods Directive applies to river basins and coastal areas at risk of flooding. With trends such as climate change and increased domestic and economic development in flood risk zones, this poses a threat of flooding in coastal and river basin areas.	No	No	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to alleviate or avoid potential flood risks.
Nitrates Directive (91/676/EEC)	Published	This Directive has the objective of reducing water pollution caused or induced by nitrates from agricultural sources and preventing further pollution.	No	No	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Urban Wastewater Treatment Directive (91/271/EEC)	Published	The primary objective is to protect the environment from the adverse	No	No	No risk of likely significant in-combination effects will result

Directive	Status	Overview	Possible significant effects from plan or project	Possible significant in-combination effects	Is there a risk of significant in-combination effects from the adoption of Proposed Variation No. 2
		effects of discharges of urban wastewater, by the provision of urban wastewater collecting systems (sewerage) and treatment plants for urban centres. The Directive also provides general rules for the sustainable disposal of sludge arising from wastewater treatment.			as the primary purpose of the Directive is to improve environmental quality.
Sewage Sludge Directive (86/278/EEC)	Published	Objective is to encourage the appropriate use of sewage sludge in agriculture and to regulate its use in such a way as to prevent harmful effects on soil, vegetation, animals and man. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil.	No	No	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
The Integrated Pollution Prevention Control Directive (96/61/EC)	Published	Objective is to achieve a high level of protection of the environment through measures to prevent or, where that is not practicable, to reduce emissions to air, water and land from industrial sources.	No	No	No risk of likely significant in-combination effects will result as the primary purpose of the Directive is to improve environmental quality.
National					
National Development Plan 2007 - 2013	Published	Objectives of the NDP are to promote more balanced spatial and economic development	No SEA and AA were completed	No Potential effects are to be avoided through avoidance policies in the Plan.	Policies and Objectives contained within both the Plan and Proposed Variation No. 2 are robust. Development proposals which arise as a result of the Development Plan are subject to Appropriate Assessment. This will provide specific project level detail to ensure no adverse significant effects to European Sites.

Directive	Status	Overview	Possible significant effects from plan or project	Possible significant in-combination effects	Is there a risk of significant in-combination effects from the adoption of Proposed Variation No. 2
National Spatial Strategy 2002-2020	Published	Objectives of the NSS are to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning.	No SEA and AA were completed	No Potential effects are to be avoided through avoidance policies in the Plan.	Policies and Objectives contained within both the Plan and Proposed Variation No. 2 are robust. Development proposals which arise as a result of the Development Plan are subject to Appropriate Assessment. This will provide specific project level detail to ensure no adverse significant effects to European Sites.
Regional					
Regional Planning Guidelines For The Western Region 2010 – 2022.	Published	Policy document which aims to direct the future growth of the Western Area over the medium to long term and works to implement the strategic planning framework set out in the National Spatial Strategy (NSS)	No SEA and AA were completed	No Potential effects are to be avoided through avoidance policies in the Plan.	Policies and Objectives contained within both the Plan and Proposed Variation No. 2 are robust. Development proposals which arise as a result of the Development Plan are subject to Appropriate Assessment. This will provide specific project level detail to ensure no adverse significant effects to European Sites.
Local					
Kildare CDP 2017-2023 (Draft) South County Dublin Development Plan 2016 – 2022; Fingal County Development Plan 2017-2023; Dublin City Development Plan 2016 – 2022; Meath County Development Plan 2013-2019; Offaly County Development Plan 2015-2021 Laois County Development Plan 2018-2023	Published	Overall strategies for the proper planning and sustainable development of the administrative area of the relevant Local Authorities.	No Appropriate Assessment carried out	No Potential effects are to be avoided through avoidance policies in the Plan.	Policies and Objectives contained within both the Plan and Proposed Variation No. 2 are robust. Development proposals which arise as a result of the Development Plan are subject to Appropriate Assessment. This will provide specific project level detail to ensure no adverse significant effects to European Sites.

Directive	Status	Overview	Possible significant effects from plan or project	Possible significant in-combination effects	Is there a risk of significant in-combination effects from the adoption of Proposed Variation No. 2
Carlow County Development Plan 2015-2021; Wicklow County Development Plan 2016-2022 Naas Town Development Plan 2018-2024; Local land use plans including Draft Sallins Local Area Plan 2016; Draft Monasterevin Local Area Plan 2015; Kilcock Local Area Plan 2016-2022; Kilcullen LAP 2014-2020; Newbridge LAP 2013-2019; Maynooth LAP 2013-2019; Collinstown LAP; Clane Local Area Plan 2017-2023; Celbridge LAP 2017-2023; Leixlip LAP 2017-2023; and Edenderry LAP 2017-2023(draft)					

4 Conclusions

Stage 1 Screening for AA of Proposed Variation No. 2 of the Athy Town Development Plan 2012-2018 has been carried out. It has been demonstrated that implementation of the Proposed Variation is not foreseen to have any likely significant effects on any European Site.

The Proposed Variation must and does comply with the policies, objectives and mitigation measures contained with this existing Athy Town Development Plan 2012-2018. The TDP was subject to its own AA and SEA processes which determined there are no likely significant effects to the integrity of any European Site foreseen as a result of the implementation of the plan.

The Appropriate Assessment screening process considered potential effects which may arise during implementation of the Proposed Variation. Through an assessment of the sources for effects and an evaluation of the Proposed Variation it was determined that the existing TDP accounts for development within Athy town. The existing mitigations within this Plan are seen to be robust, thus there are no additional sources for effects arising from the Proposed Variation. It has been evaluated that the Proposed Variation has no likely significant adverse effects on the qualifying interests, special conservation interests or the conservation objectives of any designated European Site.

It is concluded that Proposed Variation No. 2 of the Athy Town Development Plan 2012-2018 is not foreseen to give rise to any significant adverse effects on designated European sites², alone or in combination with other plans or projects. This evaluation is made in view of the conservation objectives of the habitats or species for which these sites have been designated. Stage 2 – NIS is not required for the Proposed Variation No. 2 as there are no effects identified.

² Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:
a) no alternative solution available,
b) imperative reasons of overriding public interest for the plan to proceed; and
c) Adequate compensatory measures in place.

Appendix III

Strategic Flood Risk Assessment



KILGALLEN & PARTNERS

CONSULTING ENGINEERS

Stage 1 Flood Risk Assessment

for

**Proposed Variation No. 2 of the Athy Town Development Plan
2012-2018**

at

Land in Woodstock South, Athy

**Boortmalt Ltd.
The Maltings
Lower William St.
Athy, Co. Kildare**

**Document Ref. No.

17090-FRA
Issue PL1**

**Kilgallen & Partners
Consulting Engineers
Well Road,
Portlaoise
Co. Laois**

DOCUMENT AMENDMENT HISTORY

Title	Stage 1 Flood Risk Assessment of Proposed Variation No. 2 of the Athy Town Development Plan 2012-2018
--------------	--

<i>Date</i>	<i>Description</i>	<i>Origin</i>	<i>Checked</i>	<i>Approved</i>	<i>Issue</i>
27.11.17	Initial Issue	DQ	PB	PB	PL1

TABLE OF CONTENTS

- 1. INTRODUCTION**
- 2. PROCESS FOR STAGE 1 FLOOD RISK ASSESSMENT**
 - 2.1 Potential Sources of Flood Risk
 - 2.2 Flood Risk Indicators
- 3. DESCRIPTION OF STUDY AREA**
- 4. FLUVIAL FLOOD RISK**
 - 4.1 Flood Risk Indicators
 - 4.2 Initial Assessment
- 5. FLOOD RISK FROM GROUNDWATER**
 - 5.1 Flood Risk Indicators
 - 5.2 Initial Assessment
- 6. PLUVIAL FLOOD RISK**
 - 6.1 Flood Risk Indicators
 - 6.2 Initial Assessment
- 7. CONCLUSION AND RECOMMENDATIONS**

Appendices

- Appendix A Summary Report from OPW Flood Hazard Website
Appendix B PFRA Mapping - OPW
Appendix C PFRA Report by Waterways Ireland

1. **INTRODUCTION**

Kildare County Council has prepared Proposed Variation No. 2 to the Athy Town Development Plan 2012 – 2018. The proposed variation is to rezone 3.4 hectares of land in Woodstock South, Athy from Zoning Objective R – Retail and Commercial: “To provide for and improve retailing and commercial activities” to Zoning Objective Q – “Enterprise and Employment”.

Kilgallen and Partners Consulting Engineers have been appointed to carry out a Stage 1 Flood Risk Assessment ('FRA') of lands that are the subject of Proposed Variation No. 2 ('the Study Area') in accordance with the '*Planning System and Flood Risk Management – Guidelines for Planning Authorities (2009)*' [the 'FRM Guidelines'] to support its application for the change in land-use classification.

This report presents the findings of this FRA. It has been prepared to support the proposed variation of the Development Plan to rezone the subject lands only and is not to be used for any other purpose.

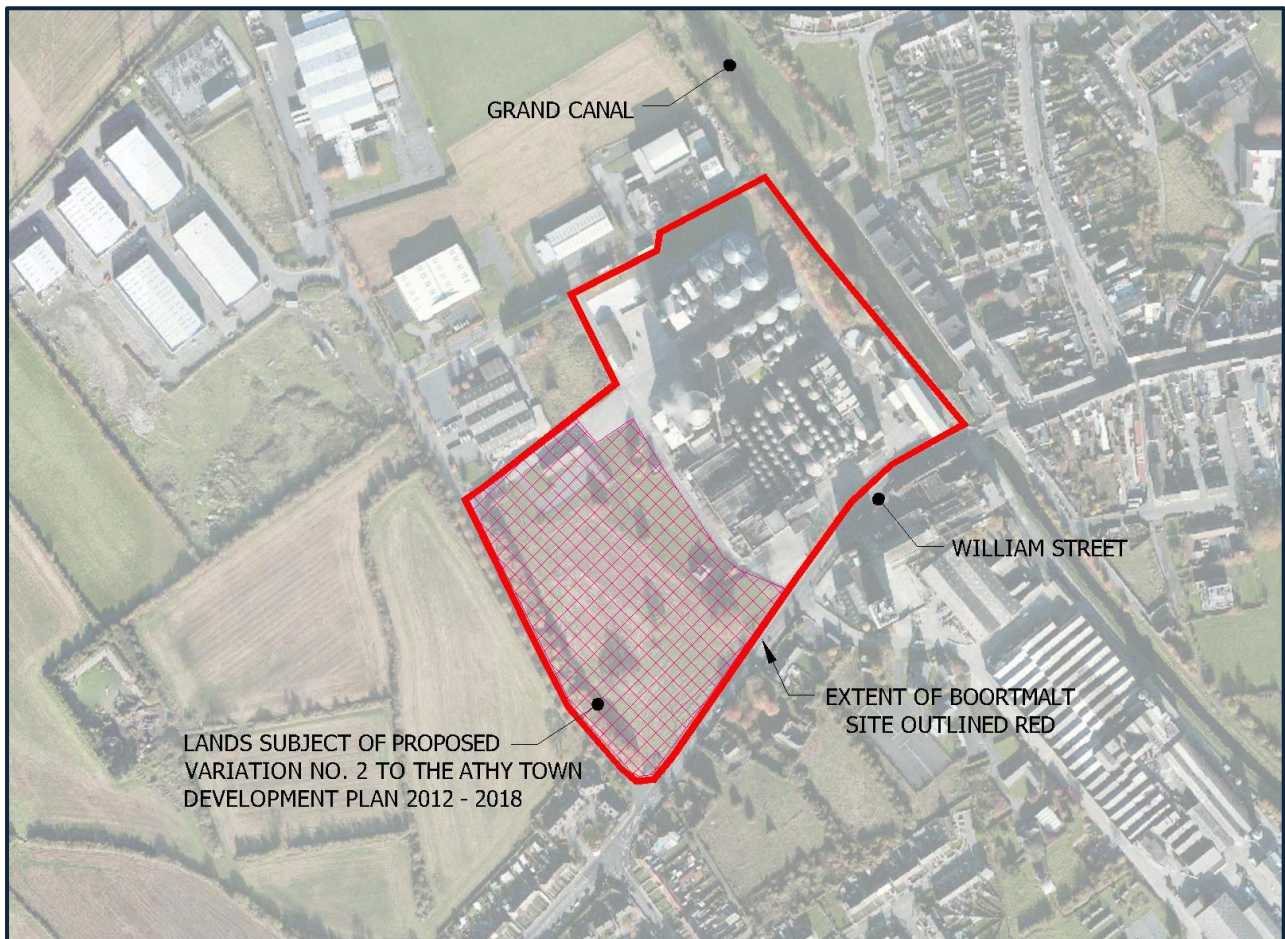


Figure 1.1 – Extent of Boortmalt Site and of Lands Classified for Retail / Commercial Use

2. PROCESS FOR STAGE 1 FLOOD RISK ASSESSMENT

The Stage 1 FRA provides an appraisal and assessment of available flood risk data in order to identify flood risk indicators in the Study Area.

2.1 POTENTIAL SOURCES OF FLOOD RISK

The Study Area is subject to the three potential flood risk mechanisms described below (as an inland site, the Study Area is not subject to coastal flood risk).

- (i) Fluvial: flooding caused by overtopping of Rivers and Streams;
- (ii) Pluvial: flooding caused when the intensity of rainfall events is such that the ground cannot absorb rainfall run-off effectively or urban drainage systems cannot carry the run off generated;
- (iii) Groundwater: flooding caused by a rise in the level of the water table.

2.2 FLOOD RISK INDICATORS

Indicators of flood risk are identified using available data, most of which is historically derived. Typically, this data is not prescriptive in relation to flood return periods and neither predictive nor inclusive of climate change analysis.

Flood risk indicators include:

- (i). Records available on the OPW's National Flood Risk Website
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 and displays related mapped information and provides tools to search for and display information about selected flood events.
- (ii). PFRA mapping produced under the CFRAM programme
Preliminary Flood Risk Assessment Mapping, produced by the OPW as part of the CFRAM programme, showing Areas of Potential Significant Flood Risk;
- (iii). SFRA for Local Area Plan
The Strategic Flood Risk Assessment carried out to inform the making of the Local Area Plan
- (iv). Geological Survey of Ireland (GSI) mapping
Hydrogeological mapping maintained by the GSI and made available through its website www.gsi.ie.
- (v). Ordnance Survey mapping
Ordnance Survey maps include areas which are marked as being "Liable to Floods". Generally, these areas are only shown identified indicatively and suggest historical flooding, usually recurrent. In addition, the maps indicate areas of wet or hummocky ground, bog, marsh, springs, rises and wells as well as surface water features including rivers, streams, bridges, weirs and dams.

- (vi). Topographical survey information
Available topographic survey information
- (vii). Records of previous floods from other sources
- (viii). Flood Studies, Reports and Flood Relief Schemes carried out in the vicinity of the Study Area.

3. DETAILS OF THE STUDY AREA

The Study Area is located at the western fringe of Athy; Figures 3-1 and 3-2 shows its context in terms of the western side of Athy and the surrounding river system.

The Study Area is approximately rectangular in shape. It is bounded by Lower William Street, the existing Boortmalt Facility, a third party industrial facility and agricultural lands.

The Study Area is in the catchment of the Barrow River, approximately 1km immediately upstream of the confluence of the Barrow and its tributary, the Ballyadams River. At the closest points, the Study Area is located approximately 500m from each river. The lands immediately surrounding the Study Area fall gently towards the Barrow, however, much of the land west of the Study Area actually falls away towards the Ballyadams River.

The Grand Canal runs in a southeast – northwest direction between the Study Area and the Barrow and, at its closest, is located 185m from the Study Area.

There are no significant drainage features within the Study Area.

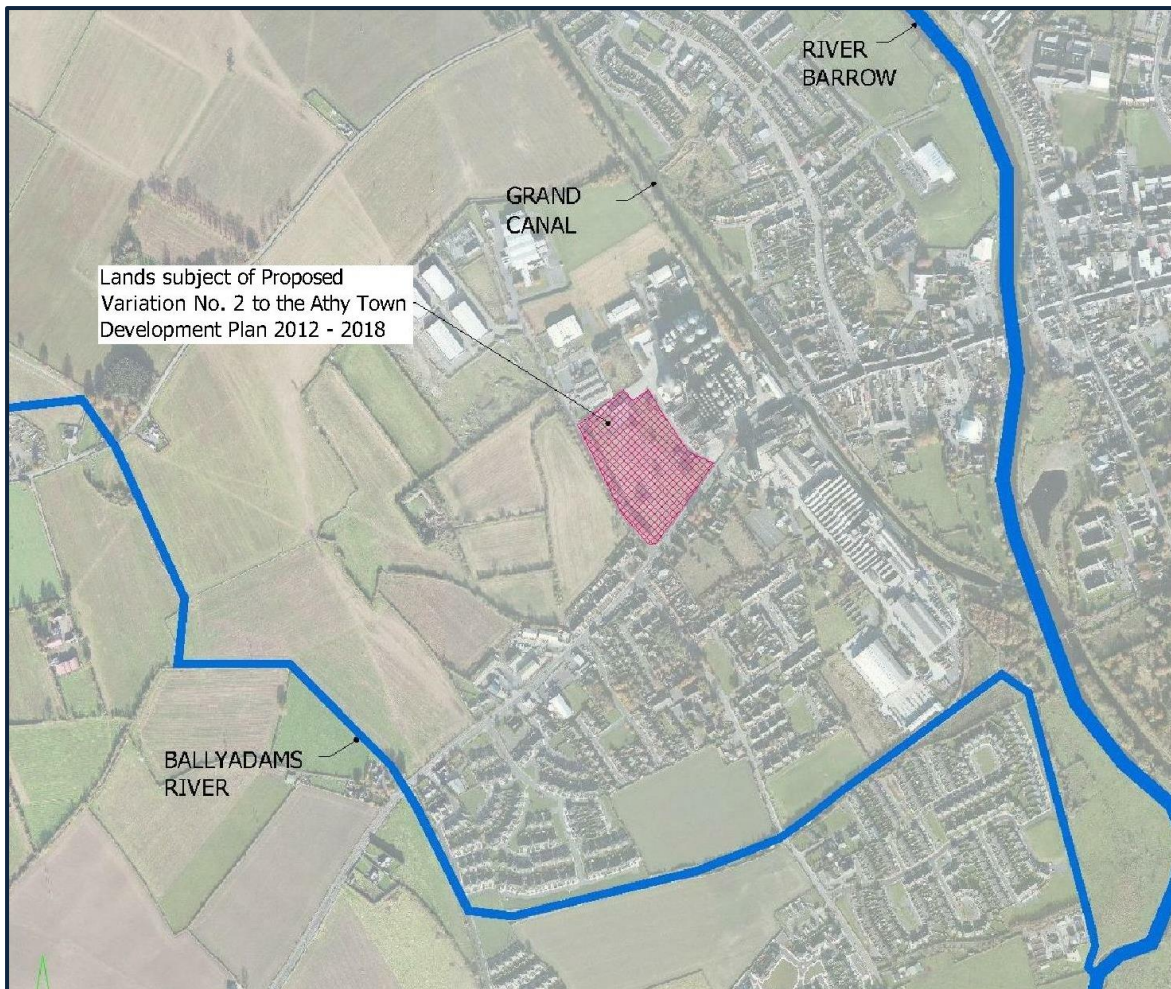


Figure 3-1 Study Area in the Context of Surrounding Rivers

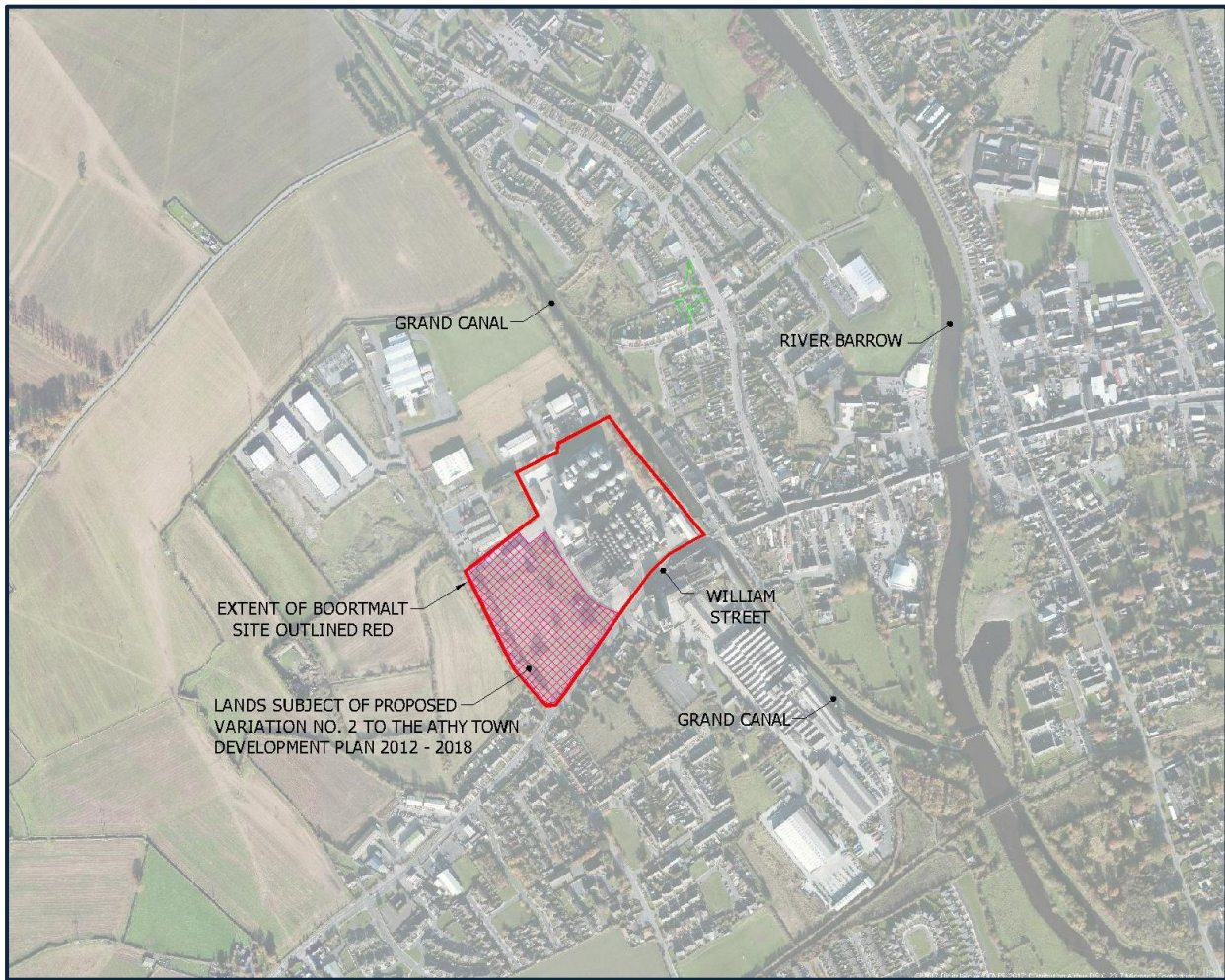


Figure 3-2 Study Area in the Context of Athy

4. **FLUVIAL FLOOD RISK**

4.1 **FLOOD RISK INDICATORS**

A number of datasets were interrogated for indicators of fluvial flood risk:

- (i) The SFRA for the Athy Local Area Plan 2012 to 2018 does not detail any instances of historic or current flood risk within the vicinity of the Site.

Flood Risk Zones were established by Detailed FRA at locations within the Plan area; however, the Study Area was not subject to Detailed FRA.

- (ii) The OPW maintains the National Flood Hazard Mapping website which contains information about locations that may be at risk from flooding. The source of this information includes Local Authorities and other historic records such as newspaper articles and other documentation about reported floods. Flood events associated with the Barrow are noted although the extent of this flooding is not available (a copy of the summary report is included in Appendix A).
- (iii) Preliminary Flood Risk Mapping prepared for the CFRAM study programme indicates the Study Area is not impacted by fluvial flood risk during the 1000year flood (an extract from this mapping is included in Appendix B).
- (iv) Historical Ordnance Survey OS maps for the Site do not show any indicators of flood risk. Figure 4-1 shows the historic 25" OS mapping for the Study Area.

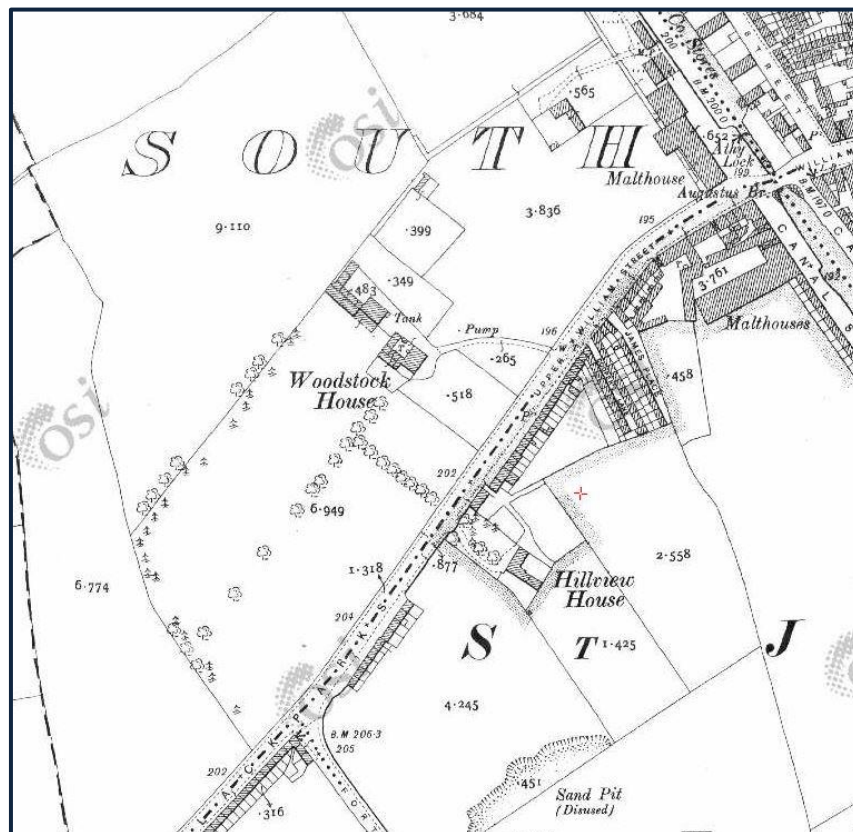


Figure 4-1 Historic 25" OS Mapping

- (v) A significant flood event occurred in Athy in November 2009 when the Barrow overtopped its banks.

Kildare County Council took a series of contemporary aerial photographs to record the extent of the fluvial flooding. Figure reproduces one of these photos which includes the Study Area. It can be seen that fluvial flooding does not impact on the Study Area.

Water can be seen lying on the agricultural lands west of the Study Area. These lands largely drain towards the Ballyadams River and thus away from the Study Area. The cause of this surface water is likely to be a combination of fluvial flooding, in the sense that it is in part caused by higher water levels in the Ballyadams River, and pluvial flooding, in the sense that it may be exacerbated by agricultural drainage not being capable of accommodating extreme rainfall event. This water does not impact on the Study Area.

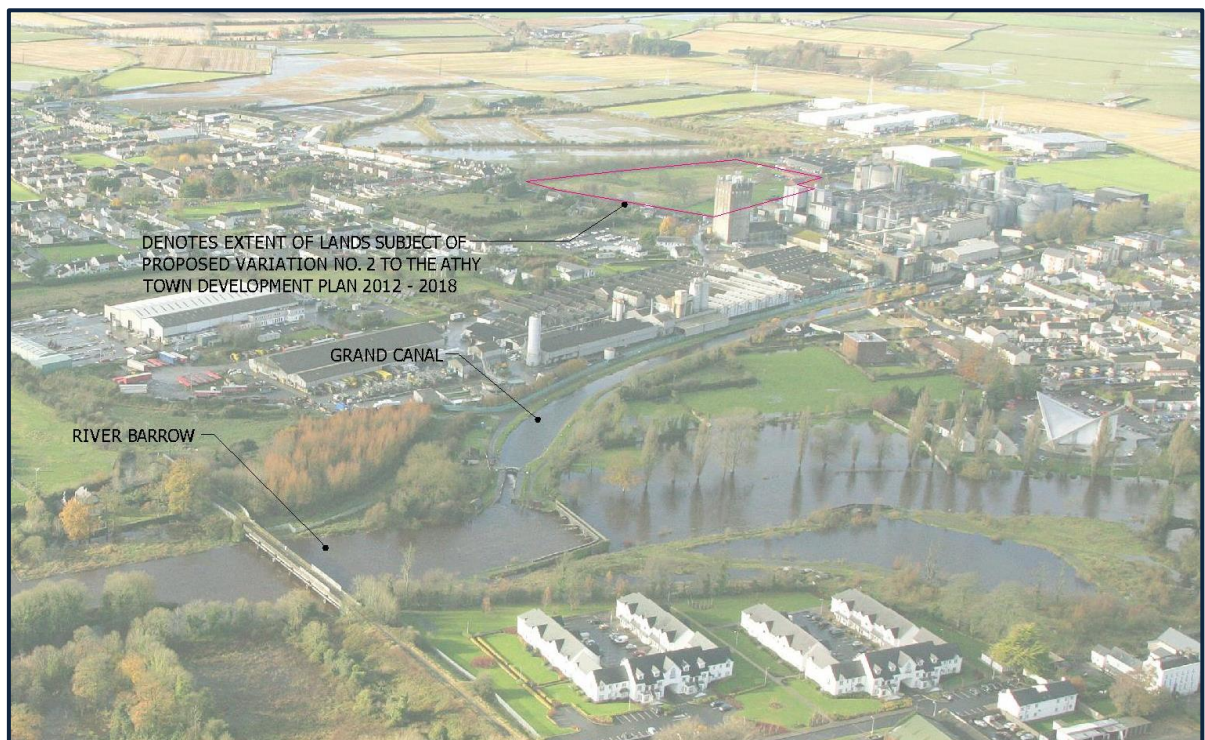


Figure 4-2 Aerial Photograph Taken During 2009 Flood Event

4.2 STAGE 1 ASSESSMENT

The available data as described in Section 4.1 does not provide any indication of fluvial flood risk in the Study Area such as would undermine a strategic decision to change the land-use classification as is proposed.

5. FLOOD RISK FROM GROUNDWATER

5.1 FLOOD RISK INDICATORS

A number of datasets were interrogated for indicators of flood risk from Ground Water. These comprise:

- (i) Records from the National Flood Hazard Mapping website maintained by the OPW do not contain any evidence of flood events at the Site associated with fluctuations in groundwater level
- (ii) The Geological Survey of Ireland (GSI) maintains a web portal for Groundwater Data (<http://spatial.dcenr.gov.ie/GeologicalSurvey/Groundwater>). The portal indicates that a regionally important aquifer of high vulnerability underlies the Site.

The portal indicates the subsoils in the Study Area comprise glaciofluvial sands and gravels of high permeability, which may be overlain in part by made ground.
- (iii) Ground investigations carried out within the existing facility indicate ground level only being encountered at depths of 1.5m or greater (Source www.gsi.ie – Report ID4462).
- (iv) Historical Ordnance Survey Historical OS maps for the Site do not show any indicators of flood risk from groundwater (Figure 4-1 shows the historic 25" OS mapping for the Study Area).

5.2 STAGE 1 ASSESSMENT

The groundwater flood-risk indicators described in Section 5.1 do not provide any indication of flood risk from groundwater in the Study Area such as would undermine a strategic decision to change the land-use classification as is proposed.

6. PLUVIAL FLOOD RISK

6.1 FLOOD RISK INDICATORS

A number of datasets were interrogated for indicators of pluvial flood risk:

- (i) The Study Area is on the western fringe of the urban area and west of the Barrow, which acts as ultimate outfall for all surface water run-off in Athy. It is therefore at the upstream end of any urban surface water drainage systems and not vulnerable to significant overflow run-off from urban surface water drainage.
- (ii) The photograph in Figure 4-2 shows water lying on agricultural lands west of the Study Area. These lands largely drain towards the Ballyadams River and thus away from the Study Area.

As already discussed in Section 4, the cause of this surface water is likely to be a combination of fluvial, in the sense that it is in part caused by higher water levels in the Ballyadams River, and pluvial, in the sense that it may be exacerbated by agricultural drainage not being capable of accommodating extreme rainfall event. This water does not impact on the Study Area.

- (iii) Records from the National Flood Hazard Mapping website maintained by the OPW do not contain any evidence of flood events at the Site associated with pluvial flooding;
- (iv) The Barrow Line of the Grand Canal is located approximately 200m northeast of the Study Area. Waterways Ireland has undertaken a PFRA with respect to the infrastructure that they own, operate and maintain and that could give rise to flood risk, e.g., embanked sections of canal. The process and outcomes of this work is detailed in the PFRA Report by Waterways Ireland. The conclusion of the work by Waterways Ireland is that the relevant infrastructure does not give rise to significant flood risk. Reasoning and details of this conclusion can be found in the aforementioned report. See Appendix C.

6.2 STAGE 1 ASSESSMENT

The pluvial flood-risk indicators described in Section 6.1 do not provide any indication of pluvial flood risk in the Study Area such as would undermine a strategic decision to change the land-use classification as is proposed.

7. CONCLUSION AND RECOMMENDATIONS

A Stage 1 assessment of flood risk at the Study Area did not encounter any indications the Study Area is at risk from fluvial, pluvial or groundwater flooding such as would undermine the proposed variation to rezone the Study Area from Zoning Objective R – Retail and Commercial: “To provide for and improve retailing and commercial activities” to Zoning Objective Q –“Enterprise and Employment”.

However, it is recommended that for any development within the Study Area, the surface water drainage system must include sustainable urban drainage measures in accordance with the Greater Dublin Strategic Study (GDSDS) in order to ensure such development does not cause an increase in flood risk elsewhere.

It is also recommended that any development within the Study Area be designed in compliance with the Flood Risk Management Guidelines published by the Office of Public Works and subject to Site-Specific Flood Risk Assessment in accordance with these same Guidelines.

Appendix A

Summary report from OPW Flood Hazard Website

Summary Local Area Report

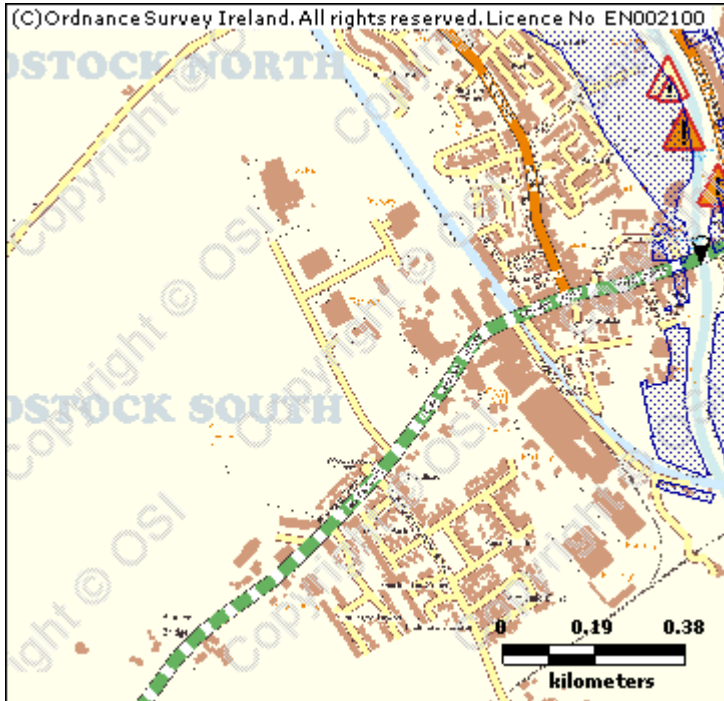
This Flood Report summarises all flood events within 2.5 kilometres of the map centre.

The map centre is in:

County: Kildare

NGR: S 675 937

This Flood Report has been downloaded from the Web site www.floodmaps.ie. The users should take account of the restrictions and limitations relating to the content and use of this Web site that are explained in the Disclaimer box when entering the site. It is a condition of use of the Web site that you accept the User Declaration and the Disclaimer.



Map Scale 1:15,532

Map Legend	
	Flood Points
	Multiple / Recurring Flood Points
	Areas Flooded
	Hydrometric Stations
	Rivers
	Lakes
	River Catchment Areas
	Land Commission *
	Drainage Districts *
	Benefiting Lands *

* Important: These maps do not indicate flood hazard or flood extent. Their purpose and scope is explained in the Glossary.

11 Results

	1. Barrow Athy February 1990 County: Kildare Additional Information: Reports (2) Press Archive (4) More Mapped Information	Start Date: 01/Feb/1990 Flood Quality Code:3
	2. Barrow Athy 18th August 2008 County: Kildare Additional Information: Reports (1) More Mapped Information	Start Date: 18/Aug/2008 Flood Quality Code:2
	3. Barrow Ardreigh, Athy Recurring County: Kildare Additional Information: Reports (1) More Mapped Information	Start Date: Flood Quality Code:2
	4. Barrow Athy Recurring County: Kildare Additional Information: Reports (2) Press Archive (9) More Mapped Information	Start Date: Flood Quality Code:3
	5. Athy Stream Clonmullin, Athy Recurring County: Kildare	Start Date: Flood Quality Code:3

Additional Information: Reports (1) More Mapped Information



6. Gallowshill Recurring

County: Kildare

Start Date:

Flood Quality Code:4

Additional Information: Reports (1) More Mapped Information



7. Gallowshill R418 Recurring

County: Kildare

Start Date:

Flood Quality Code:4

Additional Information: Reports (1) More Mapped Information



8. Gallowshill N78 Recurring

County: Kildare

Start Date:

Flood Quality Code:4

Additional Information: Reports (1) More Mapped Information



9. Rosbran Recurring

County: Kildare

Start Date:

Flood Quality Code:4

Additional Information: Reports (1) More Mapped Information



10. Ardreigh R417 Recurring

County: Kildare

Start Date:

Flood Quality Code:4

Additional Information: Reports (1) Press Archive (2) More Mapped Information



11. Barrow County Kildare Drainage Recurring

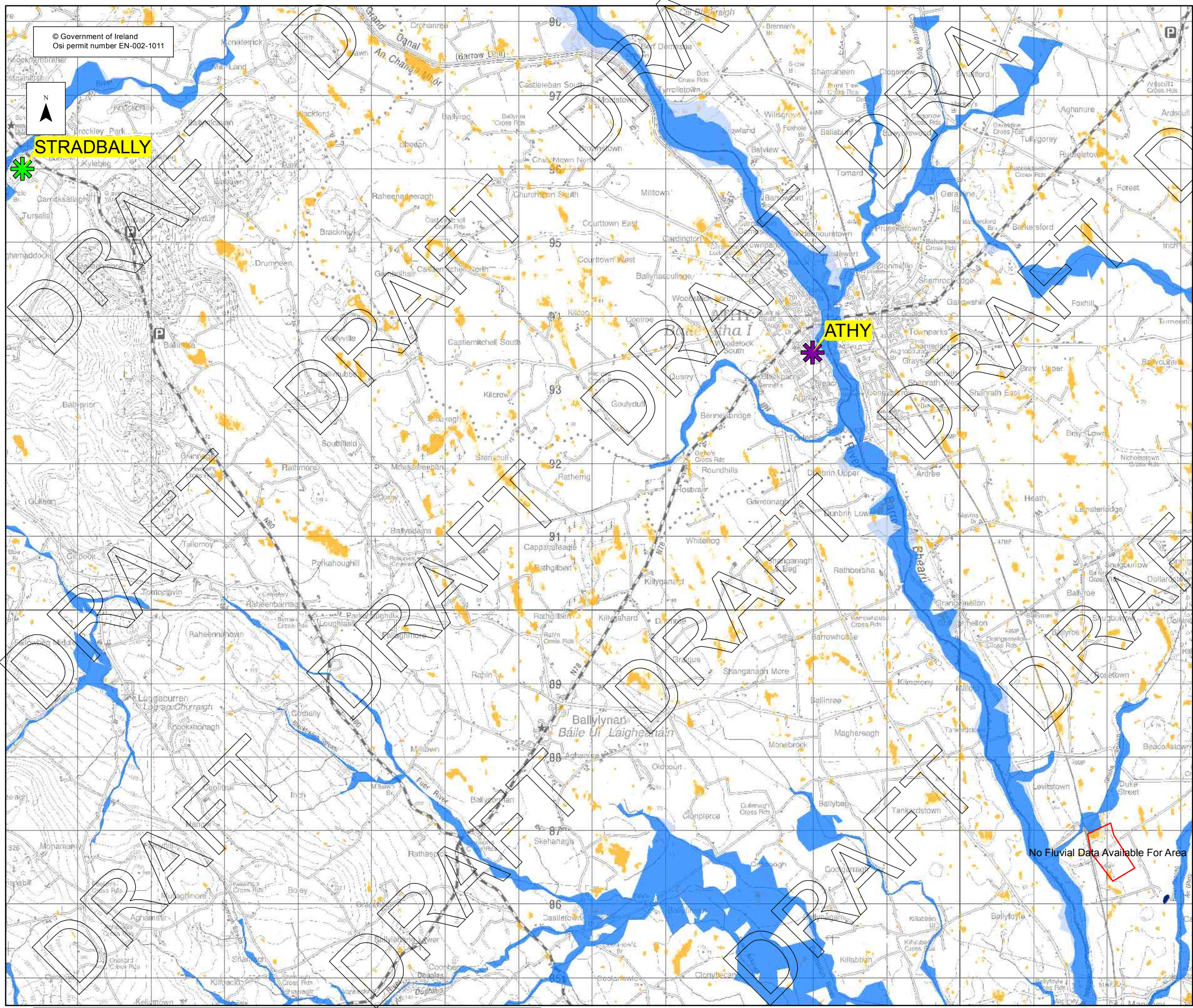
County: Kildare, Laois, Offaly

Start Date:

Flood Quality Code:3

Additional Information: Photos (3) Reports (3) More Mapped Information

Appendix B
PFRA Mapping



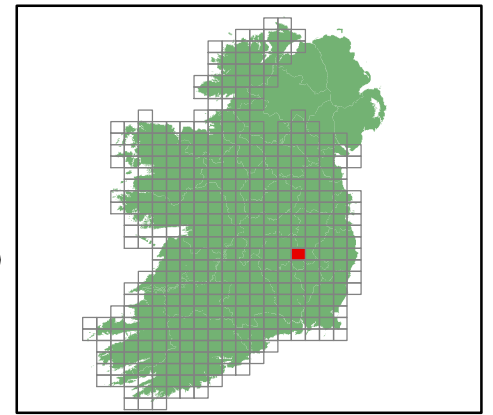
© Government of Ireland
Osi permit number EN-002-1011

STRADBALLY

ATHY

No Fluvial Data Available For Area

Location Plan :



Legend:

- Flood Extents**
- Fluvial - Indicative 1% AEP (100-yr) Event
 - Fluvial - Extreme Event
 - Coastal - Indicative 0.5% AEP (200-yr) Event
 - Coastal - Extreme Event
 - Pluvial - Indicative 1% AEP (100-yr) Event
 - Pluvial - Extreme Event
 - Groundwater Flood Extents
 - Lakes / Turloughs
- PFRA Outcomes**
- ✳ Probable Area for Further Assesment
 - ✳ Possible Area for Further Assesment

Important User Note:
The flood extents shown on these maps are based on broad-scale simple analysis and may not be accurate for a specific location. Information on the purpose, development and limitations of these maps is available in the relevant reports (see www.cfram.ie). Users should seek professional advice if they intend to rely on the maps in any way.

If you believe that the maps are inaccurate in some way please forward full details by contacting the OPW (refer to PFRA Information leaflets or 'Have Your Say' on www.cfram.ie).

Office of Public Works
Jonathon Swift Street
Trim
Co Meath
Ireland



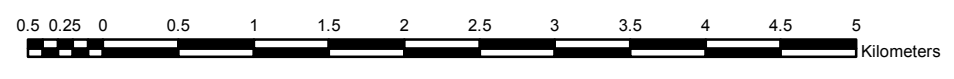
Project :
PRELIMINARY FLOOD RISK ASSESSMENT (PFRA)

Map :
PFRA Indicative extents and outcomes - Draft for Consultation

Figure By : PJW Date : July 2011
Checked By : MA Date : July 2011

Figure No. :
2019 / MAP / 184 / A Revision
0

Drawing Scale : 1:50,000 Plot Scale : 1:1 @ A3



Appendix C

PFRA Report by Waterways Ireland

Preliminary Flood Risk Analysis Report

Waterways Ireland

18th July 2011

Table of Contents

Executive Summary	3
1.0 Background and Introduction	4
2.0 Waterways Ireland	5
Figure 1 Waterways of Ireland	6
3.0 Flooding Mechanisms	7
4.0 Grand Canal	8
5.0 Royal Canal	12
6.0 Lough Allen Canal	15
7.0 Jamestown Canal	16
8.0 River Blackwater / Errina-Plassey Canal	17
Appendix 1 Grand Canal	21
Appendix 2 Royal Canal	22
Appendix 3 L. Allen & Jamestown Canals	23
Appendix 4 L. Allen Canal Map	24
Appendix 5 Jamestown Canal Map	25
Appendix 6 R. Blackwater Embankments	26

Executive Summary

The statutory function of Waterways Ireland, the largest of the six North/South Implementation Bodies established under the British-Irish Agreement Act 1999, is to manage, maintain, develop and restore specified inland navigable waterways; the Barrow Navigation, the Lower Bann Navigation, the Royal Canal, the Erne System, the Shannon-Erne Waterway, the Grand Canal and the Shannon Navigation principally for recreational purposes.

The Statutory instrument transposing EU 'Floods' Directive into Irish law identifies roles for organisations such as local authorities, Waterways Ireland and ESB to undertake certain duties with respect to flood risk within their area of responsibility. Such risks must be identified through a preliminary flood risk assessment by December 2011. The PFRA is a high level screening exercise which involves collecting existing and readily available information on historic and potential floods, assembling it into a preliminary assessment report and using it to identify Flood Risk Areas which are areas where the risk of flooding is significant.

This report looks at the possible flooding mechanisms arising from the 'artificial water bearing infrastructure' and includes an analysis of historic flooding and potential future flooding of the Grand and Royal Canals and other smaller canals linked to the Shannon Navigation, the Lough Allen Canal, the Jamestown Canal and the River Blackwater / Erina-Plassey Canal.

Conclusion

The analysis of historic data shows that, while there have been incidences of flooding caused by failure of embankments and operational issues on the Grand and Royal Canals, they have generally occurred in rural areas with very limited damage to property. In only 2 cases a small number of houses and businesses were affected but for the remainder of cases the damage has been limited to temporary flooding of bog or farmland. In Tullamore and Edenderry the ground levels are lower than the canal in some areas and there is a potential for some flooding of property but the only area where the consequences of an embankment failure is relatively high is the embanked section of canal close to Mullingar, Co. Westmeath where up to 200 houses could be flooded. However this embankment has no history of failure, has been strengthened and partially lined in recent years, is inspected weekly for any sign of a potential breach and remedial action would be put in place immediately so while the consequences would be significant the likelihood of failure is extremely low and therefore this is not considered to be an area of significant flood risk.

Waterways Ireland is committed to continuing to work with the Office of Public Works and the ESB to deliver the Assessment and Management of Flood Risks on designated waterways as required by EC Dir 2007/60/EC.

1.0 Background and Introduction

Between 1998 and 2004 Europe suffered over 100 major damaging floods including the catastrophic floods along the Danube and Elbe rivers in Summer 2002. Further severe floods in 2005 further reinforced the need for a co-ordinated approach to the management of the problem. Since 1998 floods in Europe have caused up to 700 deaths, the displacement of 500,000 people and at least €25 billion in insured economic losses. Catastrophic floods endanger human lives and cause human tragedy as well as heavy economic losses and can have severe environmental consequences. Floods are natural phenomena but through the right measures it is possible to reduce their likelihood and lessen their impact.

Directive 2007/60/EC on the assessment and management of flood risks aims to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. Under S.I. 122 of 2010 European Communities (Assessment and Management of Flood Risks) Regulations 2010, the Statutory Instrument transposing the EU Directive into Irish Law, the Commissioners of Public Works in Ireland are appointed as the Competent Authority for flood risk management and other local authorities and organizations are named. Waterways Ireland, as the statutory body responsible for the majority of Ireland's inland navigable waterways, is obliged to undertake tasks the first of which is to prepare a Preliminary Flood Risk Assessment (PFRA) of the potential flood risk posed by the structural or operational failure of any of its infrastructure.

The PFRA is a high level screening exercise which involves collecting existing and readily available information on historic and potential floods, assembling it into a preliminary assessment report and using it to identify Flood Risk Areas which are areas where the risk of flooding is significant. This PFRA concentrates on flooding which has arisen or is likely to arise from the Royal and Grand Canals, classified in the legislation as 'artificial water bearing infrastructure'.

2.0 Waterways Ireland

Waterways Ireland is the largest of the six North/South Implementation Bodies which was established by means of an international treaty made on 8 March 1999 between the British and Irish Governments. This treaty was given domestic effect by means of the North/South Co-operation (Implementation Bodies) (Northern Ireland) Order 1999, and the British-Irish Agreement Act 1999 respectively.

As a Cross Border body, Waterways Ireland operates under the policy direction of the North / South Ministerial Council and the two Governments, and is accountable to the Northern Ireland Assembly and the Houses of the Oireachtas.

The statutory function of Waterways Ireland is to manage, maintain, develop and restore specified inland navigable waterways, principally for recreational purposes.

Waterways Ireland has responsibility for approximately 1,000 km of navigable waterways (Figure 1) comprising;

- the Barrow Navigation
- the Lower Bann Navigation
- the Royal Canal
- the Erne System
- the Shannon-Erne Waterway
- the Grand Canal
- the Shannon Navigation

Waterways Ireland's remit was extended by the North South Ministerial Council in July 2007 to include responsibility for the reconstruction of the Ulster Canal from Upper Lough Erne to Clones and following restoration for its management, maintenance and development principally for recreational purposes.

Of the water bodies listed above the artificial water bodies are the Grand Canal, the Royal Canal, part of the Shannon-Erne Waterway and a number of smaller canals linked to the Shannon Navigation namely the Lough Allen Canal, the Jamestown Canal and the Erina Plassey canal. The other navigation systems are a mix of River/Lake navigation with short lateral canals. Flooding on these systems is being dealt with under the fluvial PFRA being prepared by the Office of Public Works.

Ireland's Waterways



Figure 1

3.0 Potential Flooding Mechanisms

The possible flooding mechanisms arising from canal infrastructure are:

3.1 Failure or Breach of an Embankment

A large proportion of the Grand and Royal Canals are built in embanked sections running at a higher level than the surrounding countryside. These embankments were constructed of local readily available material, sometimes stone and clay but in some cases they are soft peat embankments which require considerable maintenance. Failure or breach of these embankments results in water from the level being released but the impact of the flood waters very much depends on the time of year and the level of saturation of the surrounding area. The tables in Appendix 1 & 2 shows the maximum volume of water which would be released by a failure of each of the levels of the Grand and Royal Canals.

3.2 Overtopping of the Banks

During periods of intense or prolonged heavy rainfall the volume of water running into the canal can exceed the volume of water which can be raked off using the overflows, the land tunnels and the gate sluices. This excess water overtops the banks and can cause flooding of surrounding areas if it cannot be discharged through the drainage network. The primary risk to the canal system of water entering at a rate which cannot be discharged or managed is that the canal water levels rise and will overtop. In embanked areas there is then a risk of failure particularly due to the erosion of the top bank level.

3.3 Operational Issues

Water has to be managed through the canal system to keep all levels at their optimum depth and sluices in the gates are used to carefully monitor the amount of water flowing from one level to the next. Overtopping from a long level to a shorter level can result in the shorter level being unable to discharge the volume of water and resultant flooding of the surrounding areas. Any failure of the lock-gates or interference with the sluices whether deliberate through acts of vandalism or accidental can result in overtopping of a short level as described above.

4.0 The Grand Canal



4.1 History of Construction

Work on the Grand Canal from Ringsend to the River Shannon, crossing the central plain and the Bog of Allen, commenced in 1756 and was complete to the Shannon in 1804. The canal is 182km long including the Branch Lines to Naas and Edenderry. The summit level at Lowtown is 40km west of Dublin and 85m above low tide at Dublin where there are 3 sea locks linking the Grand Canal Basin with the tidal River Liffey. The rise from Dublin to the summit is by way of 26 locks and the 50m fall to the River Shannon is by way of 18 locks over a distance of 93km. The average rise or fall of the locks is 3.0m while the largest is 5.7m at Inchicore Lock.

The Barrow Line of the Grand Canal is 45km from the summit at Lowtown to where it joins the Barrow River at Athy. The descent to the Barrow is by way of 9 locks, 2 of which are double-chambered.

There are 14 supply channels feeding the system at various lengths totally approximately 64km; the principal one being the Milltown supply from Pollardstown Fen which feeds the summit level. Most of the supply channels are artificially constructed and require constant maintenance particularly where they are embanked or through bog sections. From the summit level at Lowtown the canal begins its slow descent to Shannon Harbour where it joins the River Shannon. It passes through a varied landscape a particular feature of which is the high embankments with 24km through bogs.

4.2 Historic Flooding on the Grand Canal

4.2.1 Flooding due to embankment failure

Approximately 50% of the Grand Canal is built in embanked sections at a higher level than the surrounding countryside. These embankments were constructed in the late 1700s of readily available local material sometimes stone and clay but 24km are soft peat embankments which require considerable maintenance. There were numerous breaches of these embankments during the 1800s but none resulted in any significant flooding or damage to property, mainly due to the rural nature of the surrounding countryside much of which is bog.

The most significant breach of a peat embankment was the Edenderry breach in 1989 which occurred in a 31.5km level, the longest level of the Grand Canal. The Edenderry embankment, stretching from the Blundell Aqueduct to Downshire Bridge, is constructed entirely from turf, the only material available to the builders in the 18th century. When this section was first watered in 1797 it promptly collapsed and this was followed by further failures in 1800, 1855 and 1916. The most recent failure occurred in January 1989 when a large breach opened in the North bank about 950m west of the Blundell Aqueduct near the town of Edenderry. It is estimated that up to 135,000 m³ of water was discharged through the breach and 100,000 m³ of embankment material was displaced over a length of 300m; however, the damage to the surrounding land was comparatively minor. Approximately 12 acres of land were flooded with short term flooding of a further 36 acres including some football fields. This receded within a day and left little or no residual damage.

The failure was the result of a long length having become saturated over a period of many years. When the canals were commercially used 12 boats were continuously employed claying this section to avoid leaks. However, this ceased when the canals were closed to commercial traffic resulting in the peat becoming completely saturated and the continuing leaks causing piezometric pressure to build up near the base of the embankment. Long term wetting deteriorates the strength of the peat and eventually a point was reached, in this case, when the resistance due to the shear strength of the peat became less than the upward piezometric pressure resulting in a large wedge of the embankment simply floating away.

Similar breaches occurred in the Derries Embankment in 1955 and the Killeen embankment in 1975. In the former case the water was discharged to the Silver River in the immediate vicinity and the latter resulted in the flooding of some bogland. In August 1993 the partial collapse of a culvert at Hartley Bridge, Ticknevin, Co. Kildare resulted in the loss of approximately 30,000m³ of water. This did not result in any damage to land but did cause some inconvenience to 3 dwellings during the repair of the culvert.

4.2.2 Flooding due to overtopping and operational issues

There have been a number of minor flooding incidents caused by overtopping and operational issues.

- In the Bluebell area of Dublin city in November 2005 some damage was caused to 5 business premises due to vandalism at locks which resulted in bank overtopping.
- Some flooding occurred in Ardclough village near Celbridge, Co. Kildare in winter 2009 partly as a result of overtopping of the canal bank but no houses or businesses were affected.
- In Ballycommon, Co. Offaly in August 2008 during a period of intense heavy localised rainfall the large diameter pipes under the towpath could not take the flow from the surrounding high ground and the water entered the canal flowing over the towpath. The volume of water entering the canal exceeded the volume of water which was being discharged via the sluices, overflows and racks. At the time there was a significant risk of overtopping and emergency services were put on alert but no damage occurred.

4.3 Inspection and Maintenance Regime

When a breach occurs dams are installed immediately to reduce the loss of water and the embankment is repaired. In the case of the 1989 Edenderry breach the section of embankment was completely rebuilt and lined and, as a result of the lessons learned, peat embankments are now inspected regularly for any signs of damage or leaks and there is an ongoing program to strengthen them and line them where necessary to reduce the risk. In addition a stop chamber was constructed at Rathmore which reduces the length of the level likely to be affected by another breach of this embankment to 8km and so the amount of water which would be discharged would be 25% less than was discharged in 1989.

Water is carefully managed throughout the system and all locks are inspected regularly to ensure that the water management regime is in order. Where there is a risk or history of vandalism, locks are placed on the sluices to prevent interference. Where banks have limited freeboard there is an ongoing program to raise them to increase the carrying capacity of the canal and there is also an ongoing maintenance program for overflows and back-drains.

4.4 Potential Future Floods

The majority of the Grand Canal runs through remote rural areas much of which is bog and so flooding will result in limited damage. The canal passes through a number of villages and 2 towns Edenderry and Tullamore.

Edenderry town ground levels are below canal water level and the toe of the embankment has been damaged in the past due to industrial activity particularly in the Edenderry Business Park. A catastrophic failure of this embankment could have serious consequences to property due to the volume of water contained in the 31.5km level and the topography of the area; however, some of the risk has been mitigated by the introduction of the stop chamber, the works done to the embankment and the regular inspections of the embankment.

The ground levels in some areas of Tullamore town are also below canal water level. The embankments here are intact but continuous development alongside the canal including underground services could impact on the structural stability of the canal embankments. A breach in the Tullamore area would have serious effects on property however, continuous monitoring and maintenance regimes are in place and a breach is thought to be unlikely in this area.

Appendix 1 lists all reaches of the Grand Canal system giving dimensions, embankment details, inflows and potential flooding volumes.

5.0 The Royal Canal



5.1 History of Construction

The Royal Canal was the second canal to be built across the country from Dublin to the River Shannon. Work started in 1790 and the canal reached the Shannon in 1817. Spencer Dock in Dublin was not complete until 1873. The navigation starts at Spencer Dock and the canal rises steeply out of the city through a succession of double locks. From the 10th lock, although still in Dublin, it begins to assume a rural aspect through an attractive tree lined stretch. It climbs up to a summit level through Mullingar at 94.3m higher than the entry level at Spencer Dock, then drops down to the River Shannon at approximately 40m above sea level. The canal is 146km in length with 46 locks 10 of which are double chambered and there is also a sea lock where the canal joins the River Liffey in Dublin. Approximately 55% of the Royal canal is embanked with 3 peat embankments at Cloonbreany, Begnagh and Ballymaclavy and a 3km embankment running around the town of Mullingar, Co. Westmeath. The Royal Canal was closed to navigation from 1960 and was only fully reopened in 2010 following a lengthy period of reconstruction.

5.2 Historic Flooding on the Royal Canal

5.2.1 Flooding due to embankment failure

The only significant breach of the Royal Canal embankments in recent years occurred in June 1993 on the 32.4km long level of the Royal Canal near the Longwood Aqueduct at Ballycooley, Longwood, Co. Meath. The breach was approximately 15m wide and occurred in a 6m high embankment. The water flowed through the breach into a low-lying strip of waste land and from there through a culvert under the railway and flooded a lane and some fields. A large area of land was flooded however the floods receded within 2 days and the breach did not result in any significant damage. A similar breach occurred in this area in the 1920s.

5.2.2 Flooding due to overtopping and operational issues

The most significant flooding due to overtopping was in the Spencer Dock area in Dublin city in 2002 when, due to the very high tide levels, the River Liffey was 0.4m higher than the level in the Royal Canal. The water flowed back up the Royal Canal and caused flooding of a maximum of 20 houses and 5 business premises.

Other flood events were extremely minor in nature Maynooth Harbour has occasional flooding of 1 garden if sluices in the lock gates are not left in the correct position and there is also occasional flooding of the road east of Darcy's Bridge and near Ferns Lock.

5.3 Remedial Action

Immediate repairs were made to the Longwood embankment which was rebuilt and sealed with a HDPE liner and puddle clay. The embankment is inspected regularly for any signs of a further breach.

In Spencer dock a new sea lock and flood protection system was constructed so that high tides can no longer cause this type of flooding.

5.4 Inspection and Maintenance Regime

All of the embankments in the Royal Canal are inspected regularly. Because of the level of risk the Mullingar embankments are inspected weekly while the Longwood, Downs and Ballymaclavy embankments are inspected monthly. Any necessary repairs are carried out immediately.

5.5 Potential Future Floods

The only area of potentially significant flood risk identified by this study is Mullingar where up to 200 houses could be flooded in the event of a failure of the embankment however

- this embankment has no history of failure
- has been strengthened and partially lined in recent years
- is inspected weekly for any sign of a potential breach
- remedial action would be put in place immediately

while the consequences of failure would be significant the likelihood of failure is extremely low and therefore this is not considered to be an area of significant flood risk.

Appendix 2 lists all reaches of the Royal Canal system giving dimensions, embankment details, inflows and potential flooding volumes.

6.0 Lough Allen Canal

6.1 History of Construction

The Lough Allen Canal is approximately 7.4Km long. It was constructed in the early 19th century to connect the Shannon Navigation at Battlebridge to Lough Allen at Drumshanbo Bridge through Acres Lake, near Drumshanbo. The canal fell into disuse after 1933 but was restored and reopened as far as Acres Lake in 1977 and fully reopened to Lough Allen in 1995.

Datum Levels (Poolbeg)

Ordinary summer Level for Lough Allen is 48.16m OD.

The canal is formed on two levels, (1) Drumshanbo to Acres lake to Drumleague Lock 3.18km at OSL of 49.85m. OD and (2) Drumleague to Battlebridge, a length of 2.67km at OSL (Ordinary Summer Level) of 46.45m OD

The Ordinary Summer level downstream of Battlebridge lock is 42.98m

6.1.1 Storage capacity

The volume of water stored at Level 1 is 221.7×10^3 cubic metres. The volume of water stored at Level 2 is 57.6×10^3 cubic metres. In times of low water, the level is maintained by an intake pumps. In times of heavy rainfall, levels are reduced by gravity flow through lock gate and land sluices.

6.2 Historic flooding on the Lough Allen Canal

While there is a historical reference to bank failure in 1876, the raised embankment section of the Lough Allen canal performed satisfactorily in recent flooding events.

6.3 Inspection and Maintenance Regime

Water Levels are managed daily by experienced personnel. Inspection regimes are in place to carry out regular inspections of the canals and amenities. Maintenance programmes are in place to address reported defects.

During a flood event water levels are monitored daily and sometimes hourly and water levels are managed to reduce pressure on the banks.

6.4 Potential Future Floods

Specifically, in consideration of potential floods arising from Waterways Ireland infrastructure and not from river flooding, the potential risks are associated with failure of raised canal banks, failure of lock gates, and potential vandalism, neglect or human error.

There is 3.18km of raised bank on Level (1) and 2.40km of raised bank on Level (02). This represents 35% and 45% of the canal banks respectively.

7.0 Jamestown Canal

7.1 History of Construction

The Jamestown Canal is located just south of the village of Jamestown on the Roscommon side of the Shannon. The canal is approximately 2.7km long. It was originally constructed in 1754 and upgraded in 1845. As a lateral canal the water level is determined by the upper region and is the same as the Carrick-on-Shannon to Jamestown stretch with an OSL of 42.98m OD. 24% of Jamestown canal is raised bank.

7.1.1 Storage capacity

As a lateral canal, the canal level is determined by the River Shannon, and therefore Jamestown Canal will be incorporated in the River Shannon Assessment.

7.2 Historic Flooding on the Jamestown Canal

The canal does not contribute to flood relief. During the 1999/00 and 2009 floods, temporary dams were required to reduce pressures on the canal banks.

7.3 Inspection and Maintenance Regime

Water Levels are managed daily by experienced personnel. Inspection regimes are in place to carry out regular inspections of the canal and amenities. Maintenance programmes are in place to address reported defects.

Appendix 3 contains summary details and dimensions.

8.0 Shannon Navigation – River Blackwater

8.1 River Blackwater

The River Blackwater is a small tributary of the River Shannon which joins the latter on its right bank about 2 miles upstream of Limerick City. The catchment area covers 15,500 acres and is entirely in Co. Clare with the village of Clonlara almost in the centre. From the southern slopes of the Slieve Barnagh range of hills the several streams which form the river flow from north to south where it then passes under the Headrace of the Ardnacrusha generating station west of Clonlara and thence in a south-westerly direction to join the Shannon. Most of the area is steeply sloped having Knockanuartha (1017ft) and Knockaphunta (845ft.) on its watershed. The lowlands (about 40ft) are just 10miles from the farthest point on the watershed. Due to the very steep slope of the catchment the river responds extremely quickly to rainstorms. Rainfall in the upper reaches discharges into the lowland area in about 2 ½ hrs after the commencement of a storm resulting in floods of high intensity and short duration causing damage to several hundred acres of land and at times flooding buildings.

8.2 Errina Plassy Canal

When the Commissioners of Inland Navigation and / or the Limerick Navigation Company in or about 1770 were making the River Shannon navigable from the head of the tideway at Limerick to Lough Derg they constructed a 6 ½ mile long lateral canal between Plassy and Errina just downstream of O'Briensbridge to overcome the falls at Doonass and Castleconnell. A supply of water from the Canal was taken from the River Shannon at the upstream end and near Errina. No other water was carried in the Canal. There were 6 navigation locks to overcome a total lift of about 56 feet. The Canal was not finally completed by the Directors General of Inland Navigation until about 1812. Ownership passed to the Limerick Navigation Company in 1829, to the Shannon Commissioners in 1839 to the Commissioners of Public Works in 1846 and to Waterways Ireland in 1999.

The Canal has not been used for navigation since 1930 when the Shannon Hydroelectric Scheme rendered the waterway unusable as a route to Lough Derg and a new navigation was incorporated in the Headrace Canal of the generating station.

The route of the Canal passes through the lower catchment area and flood plain of the River Blackwater. For topographical reasons it was not possible to carry the canal through the flood plain by aqueduct over the River Blackwater. The latter was diverted a short distance downstream of Mountcatherine Bridge, and both River and Canal were turned in a south-westerly direction to discharge into the Shannon at Plassy. Both run parallel and are separated by the canal's right embankment for the entire length of the diversion. This embankment retained the Canal's operating water level which in summer was higher than the diverted river. During flood periods however the river level used to rise higher than the Canal's level and can overtop the Canal embankment in extreme conditions.

As part of the diversion works embankments and a sluice were also constructed along both banks of the River Blackwater diversions as far as the diversion point which is also the upstream limit of Waterway Ireland's jurisdiction for Navigation purposes. Upstream of the diversion point and on both banks of the River Blackwater these embankments are continued to higher ground just downstream of Mountcatherine bridge. It is not known by whom the latter were constructed or where responsibility for their maintenance rests. Waterways Ireland however carries out repairs from time to time on the embankments downstream of the diversion point. In 1984 a landowner removed part of the embankment on the left bank of the River Blackwater just downstream of Mountcatherine Bridge, leaving a large gap in the flood defence works and contributing to a large extent to the flooding of the 5th / 6th August 1986.

The purpose of the river embankments was to divert all the upland water upstream of Mountcatherine Bridge along the new channel and to protect the Canal from flooding. This conferred valuable immunity from flooding on the low lying lands of the Blackwater through which the Canal is carried as long as the embankments from Mountcatherine Bridge to Plassy are not breached or overtopped. Even if they are the extent of flooding cannot be as great as would be the case had the Canal not been constructed since the diversion carries the bulk of the Blackwater's discharge away from the old course. The new channel is $\frac{3}{4}$ mile shorter than the old course which was extremely tortuous and must have been inefficient to cater for any flood.

No records survive to indicate ancillary works carried out affecting the drainage of the low lying lands on either side of the Canal in the townlands of Mountcatherin, Newtown, Springfield and Cappavilla North. In times of flood the River Shannon backwaters along those drains and can cause flooding. The old course of the River Blackwater was abandoned but the outfall section from the River Shannon to a point about 1 mile south-east of Newtown Lock was retained to drain the balance of the Blackwater catchment not served by the diversion. The lands on either side of the canal are extremely low lying and of poor quality. Moderate rainfall causes waterlogging or flooding due to the small gradient and poor condition of the channels.

As the canal level is determined by the River Shannon it will be dealt with as part of the River Shannon study.

8.3 Past Floods on the River Blackwater

Flooding of 5th/6th August 1986

Exceptional rainfall occurred throughout the Southwest and eastern parts of the country on the night of 5th/6th August 1986 when there was record rainfall in Counties Kerry, Cork, parts of Limerick and Dublin. However the storm was less intense when it reached east Limerick and Clare. The following rainfall fell in a period of 12 hours, Ardnacrusha 40mm, Parteen 46.6mm and Shannon Airport 35.5mm. The Metrological Service stated that the rainfall could have been as high as 50mm in the Clonlara area and considerably higher in the upper reaches of the Blackwater.

The discharge in the River Blackwater as a result of the rainstorm appears to have been exceptionally high. The flood peaked in the early hours of the 6th August and an estimate of the peak discharge was recorded as 2,500 cusecs.

Part of the discharge flowed directly through a breach in the left bank where a local landowner had removed a large section of embankment. In doing so one dwelling house and office was flooded to a depth of 2 and a half foot while another house was flooded to a depth of 6 inches.

Further downstream there was more flooding on the left bank as a result of damage to the embankments by cattle but no houses were affected.

8.4 Remedial Action

The embankments were repaired.

8.5 Inspection Regime

The banks are inspected regularly, once weekly and necessary repairs, removal of trees and debris carried out. The banks are also checked after high winds and heavy rain.

8.6 Potential Future Floods

If the embankment was breached at the same location again, then there is the potential for more flooding of dwelling houses. There are now 27 houses at that location and, depending on their floor levels, some or all of those could be at risk of flooding. This falls outside the significant flood risk as defined for the PRFA Report.

The Inspection Regime mentioned above is in place and there was no flooding at this location in the extreme flood event of 2009.

Appendix 1 Grand Canal Lengths and Estimated Flood Volumes

	Level Name	Water Level	Length	Est embanked length	Embankment Condition	Depth	Avge Width	Volume	Spread Radius	Overflows	Receiving Water	Intakes to Canal	Historic Flooding	
		mOD		km		(m)	m	m	m³					
Grand Canal Dock	GCD	3.39	1.2	0		4.5	80	432000	742			DCC Stormwater outfall Ringsend		Ringsend Sea Lock & Grand Canal Docks
Circular Line	C1	4.12	0.2	0		2.02	12	4836	78					Maquay Br.
Circular Line	C2	6.98	0.2	0		2.20	12	5268	82					Lr. Mount Street
Circular Line	C3	9.85	0.4	0		2.21	12	10613	116					Upr. Mount Street
Circular Line	C4	12.45	0.6	0		2.06	12	14803	137					Baggot Street
Circular Line	C5	15.13	0.6	0		1.96	12	14119	134					Leeson Street
Circular Line	C6	18.05	0.4	0		2.10	12	10094	113					Charlemont St.
Circular Line	C7	20.68	2.4	0		1.97	12	56707	269					Portobello
Main Line	1	24.90	0.6	300 NB	Fair	1.99	12	14328	135					Suir Road Bridge
Main Line	2	28.90	1.0	90 NB	Fair	2.65	12	31848	201	Overflow below 3rd Lock	Camac River			Goldenbridge
Main Line	3	34.87	0.4	0		1.98	12	9494	110					Blackhorse Bridge
Main Line	4	38.80	0.4	400 NB Slightly embanked	Fair	1.96	12	9427	110					
Main Line	5	41.90	0.4	400 NB&SB Slightly embanked	Fair	2.61	12	12504	126	Take-off point Dublin City Council above 5th Lock. Take-off point for CIE	DCC / CIE			
Main Line	6	45.21	0.8	600 slightly embanked SB	Fair	2.04	12	19613	158				Flooding of 5 no. businesses occurred including some damage due to vandalism at locks and bank overtopping Nov 2005 - measures since taken to reduce risk of this re-occurring	
Main Line	7	48.89	0.8	130 NB&SB	Fair	1.97	12	18912	155					Ballyfermot Bridge
Main Line	8	51.59	1.8	0		2.19	12	47347	246	Take-off point Dublin City Council at Filter beds above 8th Lock	DCC			
Main Line	9	56.16	0.4	500	Fair	2.05	12	9835	112					Clondalkin Bridge
Main Line	10	59.32	0.4	180	Fair	2.28	12	10925	118					
Main Line	11	62.47	3.0	0		2.02	12	72648	304	Griffeen Overflow	Griffeen River			
Main Line	12	66.05	7.4	1400 NB 450 SB	Fair	1.99	12	176534	474	Behans overflow	Shinkeen River			Lucan Road Bridge
Main Line	13	71.16	6.0	1250 NB 900 SB	Fair	2.05	12	147600	434			Morrell below lock 14	Flooding occurred in Ardclough village in winter 2009, canal bank overtopping likely contributing to this - the bank has since been raised.	
Main Line	14	73.12	0.6	180 NB 0 SB	Fair	2.06	12	14810	137					Devonshire Bridge
Main Line	15	75.73	7.2	600 NB 320 SB	Fair	2.01	12	173837	470	Lein Aqueduct overflow / overflow to Morrell @ 15th Lock	Liffey & Morrell Rivers	Monread east of Sallins		
Main Line	16	78.32	1.0	0		1.94	12	23340	172					Digby Bridge
Main Line	17	81.07	1.4	90 NB	Fair	2.07	12	34810	211					Landenstown Bridge
Main Line	18	82.45	6.6	1100 NB 900 SB	Poor	1.93	12	152777	441			Milltown Feeder		Bog of Moods Roberstown
Naas Branch	Naas	varies	5.0	0		2.00	12	120000	391	Overflow Between Locks N2 & N3	From bypass drain / Rathasker	Rathasker in Naas Harbour		
Corbally Branch	Corbally	n/k	8.0	1200WB 200 EB		1.50	12	144000	428	2 Overflows	Via drains to Liffey	2 Intakes - Corbally Harbour & Hoares Bridge		
Main Line	19								0					Lowtown (Summit Level)
Main Line	20		14.5	12500	2500 Soft	2.00	12	348000	666		Gravity Overflow to Slate River		Aug 93 Approx 20000 - 30000 cumecs flooding 3 houses inconvenienced during replacement of culvert	Allenwood
Edenderry Branch									0					Edenderry Harbour
Main Line	21		31.5	25500	22500 Soft	2.00	12	756000	981	Overflows to Boyne, Barrow & Tullamore/Brosna		7 Uncontrolled drains between Daingean & Ballycommon		Edenderry / Daingean
Main Line	22		1.4	1400	Solid	2.00	12	33600	207	Overflow to Tullamore / Brosna Rivers				Ballycommon
Main Line	23		0.6	600	Solid	2.00	12	14400	135	Overflow to Tullamore / Brosna Rivers				Cappyroe Bridge
Main Line	24		3	300	Solid	2.00	12	72000	303	Overflow to Tullamore / Brosna Rivers				
Main Line	25		0.6	600	Solid	2.00	12	14400	135	Overflow to Tullamore / Brosna Rivers				
Main Line	26		0.8	800	Soft	2.00	12	19200	156	Overflow to Tullamore / Brosna Rivers				Cappincur Bridge
Tullamore Branch									0					Tullamore Harbour
Main Line	27		3	2500	1500 Soft	2.00	12	72000	303	Overflow to Tullamore / Brosna Rivers				Tullamore
Main Line	28		0.4	400	Solid	2.00	12	9600	111					
Main Line	29		3.4	3400	Solid	2.00	12	81600	322	Overflow to Tullamore / Brosna Rivers				Ballycowan Bridge
Main Line	30		7	7000	Solid	2.00	12	168000	462	Overflows to Tullamore, Clodiagh/Brosna Rivers		Newtown Supply		Ballinloughin Bridge
Main Line	31		0.8	800	Solid	2.00	12	19200	156	Overflow to Brosna				Cornalour Bridge
Main Line	32		15.6	14800	14000 Soft	2.00	12	374400	690	Overflow to Silver Brosna Rivers		Derrycooley Supply		Pollagh
Main Line	33		2	2000	Solid	2.00	12	48000	247	Gravity Overflow to Brosna				Belmont Bridge
Main Line	34		3.6	2800	Solid	2.00	12	86400	332	Brosna River				Clononey Bridge
Main Line	35		2	800	Solid	2.00	12	48000	247	Brosna / Shannon Rivers				Shannon Harbour
Main Line	36		0.4	200		2.00	12	9600	111					Junction with Shannon
Barrow Line	19		2.6	500	Fair	2.0	12	62400	282					Lowtown
Barrow Line	20		3.4	800	Fair	2.0	12	81600	322					
Barrow Line	21		0.2	200	Fair	2.0	12	4800	78					
Barrow Line	22		4.8	4800	Fair	2.0	12	115200	383			White Eye Supply		
Barrow Line	23		4.8	2600	Fair	2.0	12	115200	383					Rathangan
Barrow Line	24		7.6	3600	Fair	2.0	12	182400	482					
Barrow Line	25		2.4	1000	Fair	2.0	12	57600	271					Monasterevin
Barrow Line	26		21.0	8000	Fair	2.0	12	504000	801			Annaknock Supply		
Barrow Line	27		0.8	0		2.0	12	19200	156					
Barrow Line	28		0.4	0		2.0	12	9600	111					Athy

Notes: NB - North Bank SB - South Bank Occasional ponding around at locks during boat movements - not considered as flooding