

Kildare County Council

Site Specific Flood Risk Assessment

The Former Garda Station, Barrack Road, Ballitore, Co.
Kildare



July 2025

Site Specific Flood Risk Assessment

Client: Kildare County Council

Location: The Former Garda Station, Barrack Road, Ballitore, Co. Kildare

Date: 21st July 2025

Copyright © IE Consulting 2025

This report or its contents must not be reproduced for any purpose without written permission. It is to be used only for the purpose for which it is supplied. In any event, IE Consulting accepts no responsibility for any costs, liabilities or losses arising as a result of the use of or reliance upon the contents of this report by any person other than the client as identified above.

Document Control

PROJECT NUMBER: IE2713		DOCUMENT REF: IE2713_Report_5755			
1.0	ISSUE-01	RM	MOF	PMS	21-07-2025
Revision	Purpose Description	Originated	Checked	Reviewed	Date

Contents

1.	Introduction	1
2.	Proposed Site Description	2
2.1.	General	2
2.2.	Existing Topography Levels at Site	3
2.3.	Local Hydrology, Land use & Existing Drainage	3
3.	Initial Flood Risk Assessment	4
3.1.	Possible Flooding Mechanisms	4
4.	Screening Assessment	5
4.1.	OPW/EPA/Local Authority Hydrometric Data	5
4.2.	OPW PFRA Indicative Flood Mapping	6
4.3.	OPW Flood Info Past Flood Events	7
4.4.	Ordnance Survey Historic Mapping	8
4.5.	Geological Survey of Ireland Mapping	10
4.6.	Geological Survey of Ireland Groundwater Flood Mapping	11
4.1.	OPW South Eastern CFRAMS Fluvial Flood Mapping	12
4.2.	National Indicative Fluvial Mapping	13
4.3.	Ballitore Local Area Plan 2017-2023	14
5.	Scoping Assessment	16
6.	Assessment of Flood Risk	17
7.	Development in the Context of the Guidelines	18
8.	Summary Conclusions & Recommendations	20

Appendices

Appendix A. Drawings

1. Introduction

IE Consulting was commissioned by Kildare County Council to undertake a Site-Specific Flood Risk Assessment (SSFRA) in support of a planning application for a proposed infill housing scheme at the former Garda Station, Barrack Road, Ballitore, Co. Kildare.

The purpose of this SSFRA is to assess the potential flood risk to the site of the proposed development and to assess the impact that the development as proposed may or may not have on the hydrological regime of the area.

Quoted ground levels or estimated flood levels relate to Ordnance Datum (Malin) unless stated otherwise.

This flood risk assessment study has been undertaken in consideration of the following guidance document:

'The Planning System and Flood Risk Management – Guidelines for Planning Authorities' DOEHLG 2009.

2. Proposed Site Description

2.1. General

The site of the proposed development is located at the former Garda Station on Barrack Road, Ballitore, Co. Kildare. The site is bounded to the south by Barrack Road, and to the north, east, and west by agricultural lands. The total area of the site of the proposed development is approximately 0.23 hectares.

The location of the site of the proposed development is illustrated on *Figure 1* below and is shown on *Drawing Number IE2713-001-A, Appendix A*.

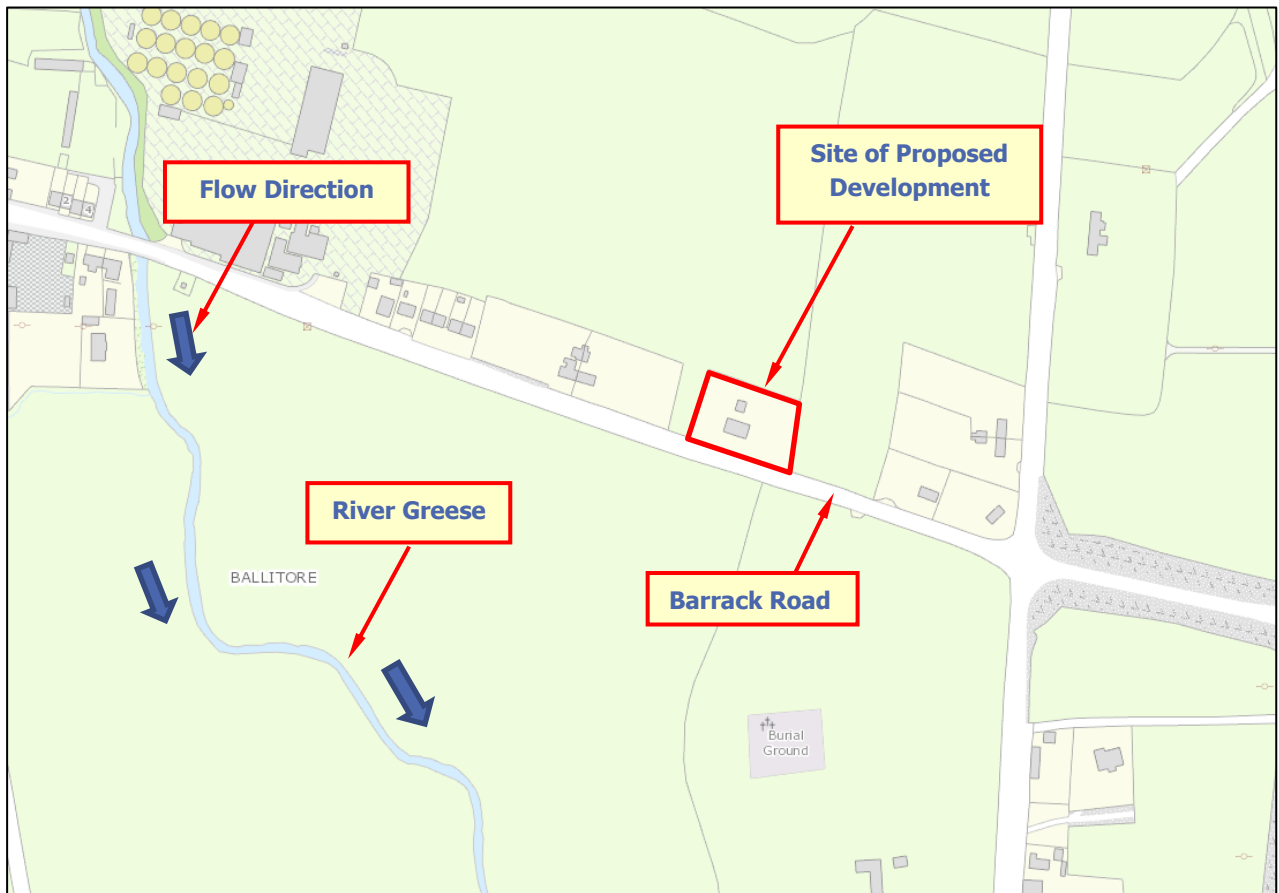


Figure 1 – Site Location

2.2. Existing Topography Levels at Site

The site of the proposed development slopes moderately from the south-eastern corner of the site to the north-western corner of the site at an approximate gradient of 2.43%.

Existing ground elevations range from 97.2m OD (Malin) at the south-eastern corner of the site to 95.7m OD (Malin) at the north-western corner of the site.

2.3. Local Hydrology, Land use & Existing Drainage

The site of the proposed development was formally utilised as a local Garda station facility.

The most immediate hydrological feature in the general vicinity of the site of the proposed development is the River Greese, which flows in a north to south direction approximately 250m beyond the western boundary of the site.

The catchment area of the River Greese was delineated and found to be approximately 51.586km² to a point downstream of the site. An assessment of the River Greese upstream catchment area indicates that the catchment is predominantly rural in nature with the urban fraction accounting for approximately 0.87% of the total catchment area.

3. Initial Flood Risk Assessment

The flood risk assessment for the site of the proposed development site is undertaken in three principal stages, these being 'Step 1 – Screening', 'Step 2 – Scoping', and 'Step 3 – Assessing'.

3.1. Possible Flooding Mechanisms

Table 1 below summarises the possible flooding mechanisms in consideration of the site:

Source/Pathway	Significant?	Comment/Reason
Tidal/Coastal	No	The site is not located within a coastal or tidally influenced region.
Fluvial	Possible	The River Greese is located approximately 250m beyond the western boundary of the site.
Pluvial (urban drainage)	No	There is no major or significant drainage or water supply infrastructure located in the vicinity of the site.
Pluvial (overland flow)	No	The site is not surrounded by significantly elevated lands and does not provide an important surface water discharge point to adjacent lands
Blockage	No	There are no significant or restrictive hydraulic structures located within or adjacent to the boundary of the site.
Groundwater	No	There are no significant springs or groundwater discharges mapped or recorded in the immediate vicinity of the site

Table 1: Flooding Mechanisms

The primary potential flood risk to the site of the proposed development can be attributed to an extreme fluvial flood event in the River Greese located approximately 250m beyond the western boundary of the site.

In accordance with 'The Planning System and Flood Risk Management – Guidelines for Planning Authorities - DOEHLG 2009' the potential flood risk to the site of the proposed development is analysed in the subsequent 'Screening Assessment' and 'Scoping Assessment' section of this study report.

4. Screening Assessment

The purpose of the screening assessment is to establish the level of flooding risk that may or may not exist for a particular site and to collate and assess existing, current, or historical information and data which may indicate the level or extent of any flood risk.

If there is a potential flood risk issue, then the flood risk assessment procedure should move to 'Step 2 – Scoping Assessment' or if no potential flood risk is identified from the screening stage, then the overall flood risk assessment can end at 'Step 1'. The following information and data were collated as part of the flood risk screening assessment for the site of the proposed development.

4.1. OPW/EPA/Local Authority Hydrometric Data

Existing sources of OPW, EPA and local authority hydrometric data were investigated. As illustrated below in *Figure 2*, this assessment has determined that there are two hydrometric gauging stations located on the River Greese in the general vicinity of the site of the proposed development.

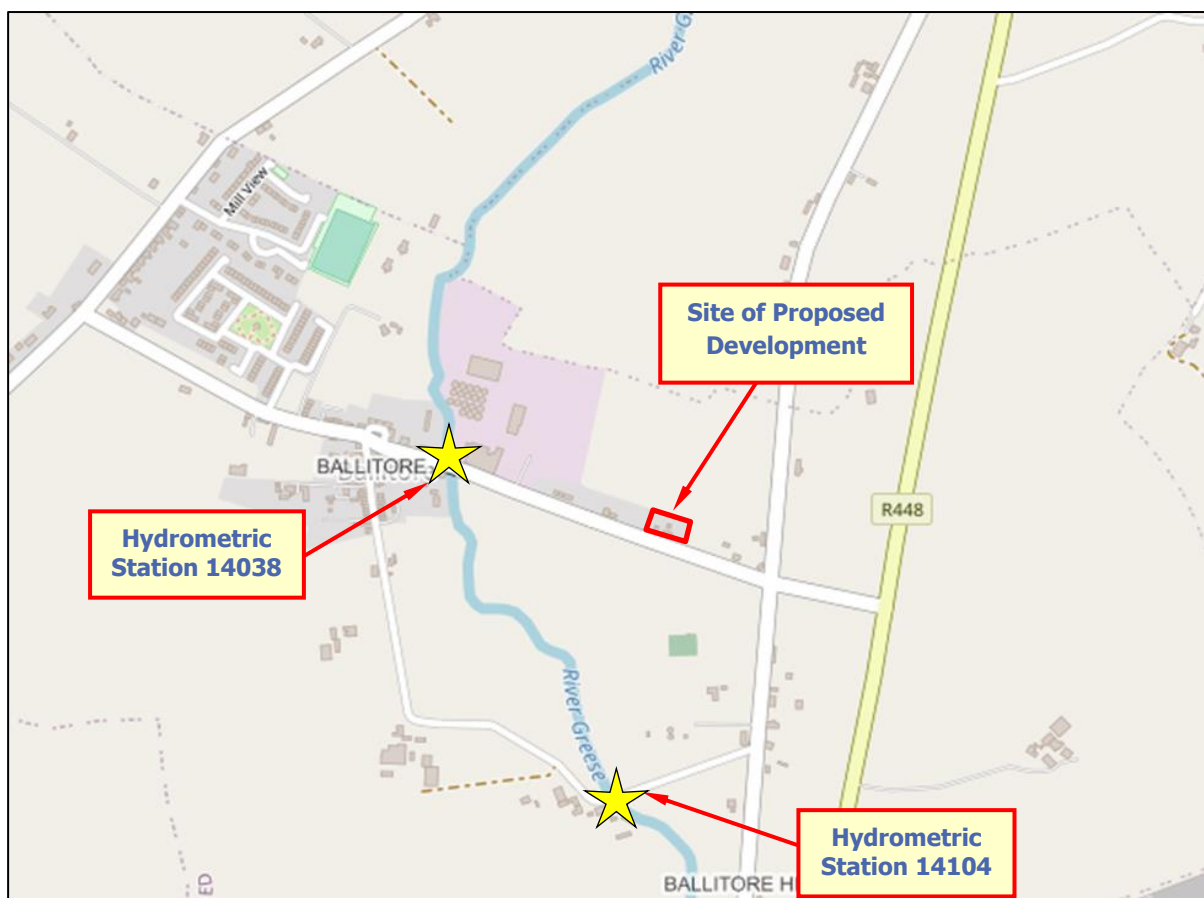


Figure 2 - Hydrometric Gauging Stations

The hydrometric data from gauging station 14038 was examined to assess the suitability of the data to assist in the prediction of extreme flood flows and levels in the vicinity of the proposed development site. The register indicates that this station is the responsibility of the EPA. It is an autographic recorder station and is currently inactive. Available hydrometric data for this gauging station was obtained from the EPA. Records started on the 04/05/1983 and ended on the 16/11/2000. This gauge is not deemed suitable by the OPW FSU Web Portal. This is likely due to the relatively short record period making it unsuitable for flood flow calculations.

The hydrometric data from gauging station 14104 was examined to assess the suitability of the data to assist in the prediction of extreme flood flows and levels in the vicinity of the proposed site. The register indicates that this station is the responsibility of the EPA. It is an autographic recorder station and is currently active. Available hydrometric data for this gauging station was obtained from the EPA. Records started on the 31/08/2001 and has currently 55 recorded flow gauges. This gauge is also not deemed suitable by the OPW FSU Web Portal for flood flow calculations. This is likely due to the gauge likely experiencing bypassing during flood events.

4.2. OPW PFRA Indicative Flood Mapping

Preliminary Flood Risk Assessment (PFRA) Mapping for Ireland was produced by the OPW in 2011. OPW PFRA flood map number 2019/MAP/185/A illustrates indicative flood zones within this area of County Kildare.

Figure 3 below illustrates an extract from the above indicative flood map in the vicinity of the site of the proposed development.

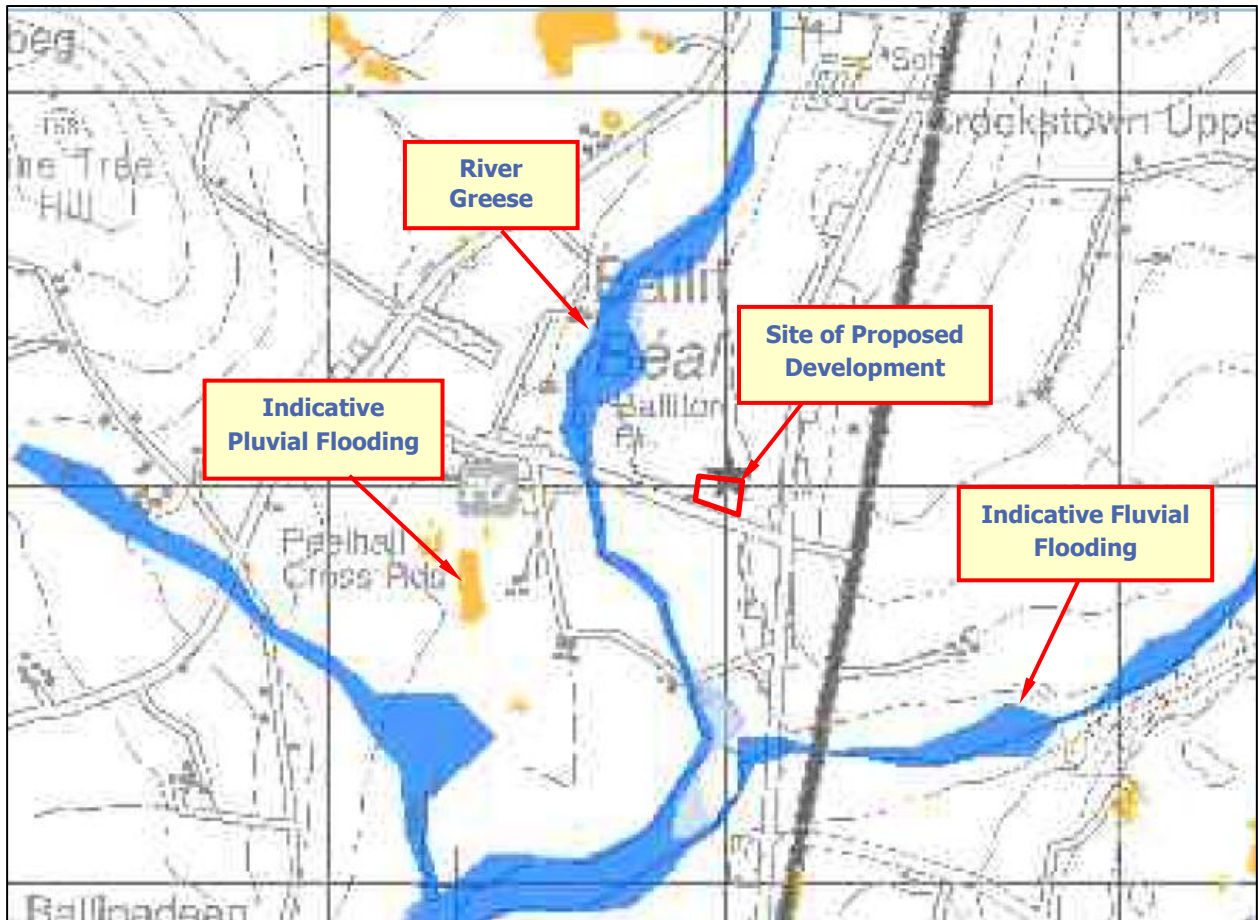


Figure 3 - OPW PFRA Mapping

The PFRA flood mapping indicates that the site of the proposed development does not fall within an indicative fluvial, pluvial, or groundwater flood zone.

It should be noted that the extent of flooding illustrated on these maps was developed using a low-resolution digital terrain model (DTM) and illustrated flood extents are intended to be indicative only. The flood extents mapped on the PFRA maps are not intended to be used on a site-specific basis.

4.3. OPW Flood Info Past Flood Events

The OPW Flood Info Website (www.floodinfo.ie) was consulted in relation to available historical or anecdotal information on any flooding incidences or occurrences recorded in the vicinity of the site of the proposed development. *Figure 4* below illustrates mapping from the Flood Info website in the vicinity of the site.

Past Flood Event Local Area Summary Report



OPW
Oifig na nOibreacha Poiblí
Office of Public Works

Report Produced: 29/3/2023 10:45

This Past Flood Event Summary Report summarises all past flood events within 2.5 kilometres of the map centre.

This report has been downloaded from www.floodinfo.ie (the "Website"). The users should take account of the restrictions and limitations relating to the content and use of the Website that are explained in the Terms and Conditions. It is a condition of use of the Website that you agree to be bound by the disclaimer and other terms and conditions set out on the Website and to the privacy policy on the Website.

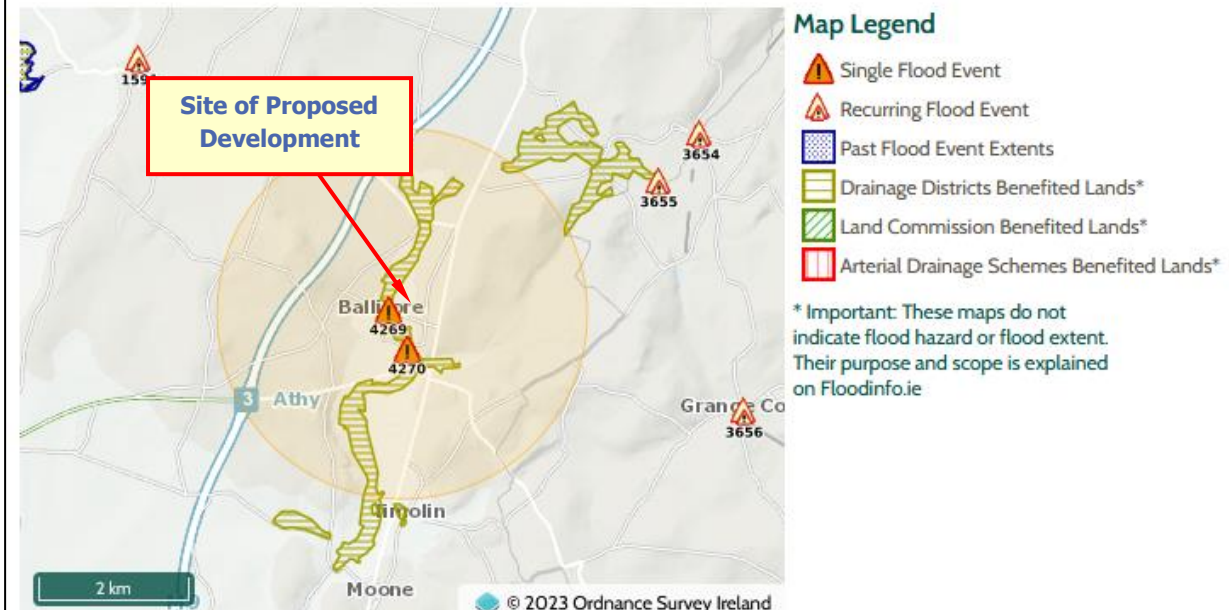


Figure 4 - OPW Flood Info Records

Figure 4 above indicates that there are two recorded single flood events located to the south of the site of the proposed development. The details and reporting associated with these single flood events do not indicate that these events impacted the area of the site.

The site of proposed development does not fall within an area mapped as a Drainage District (Scheme – Greese Drainage District).

4.4. Ordnance Survey Historic Mapping

Available historic mapping for the area was consulted, as this can provide evidence of historical flooding incidences or occurrences. The maps that were consulted were the historical 6-inch maps (pre-1900), and the historic 25-inch map series.

Figure 5 and Figure 6 below show the historic mapping for the area of the site of the proposed development.

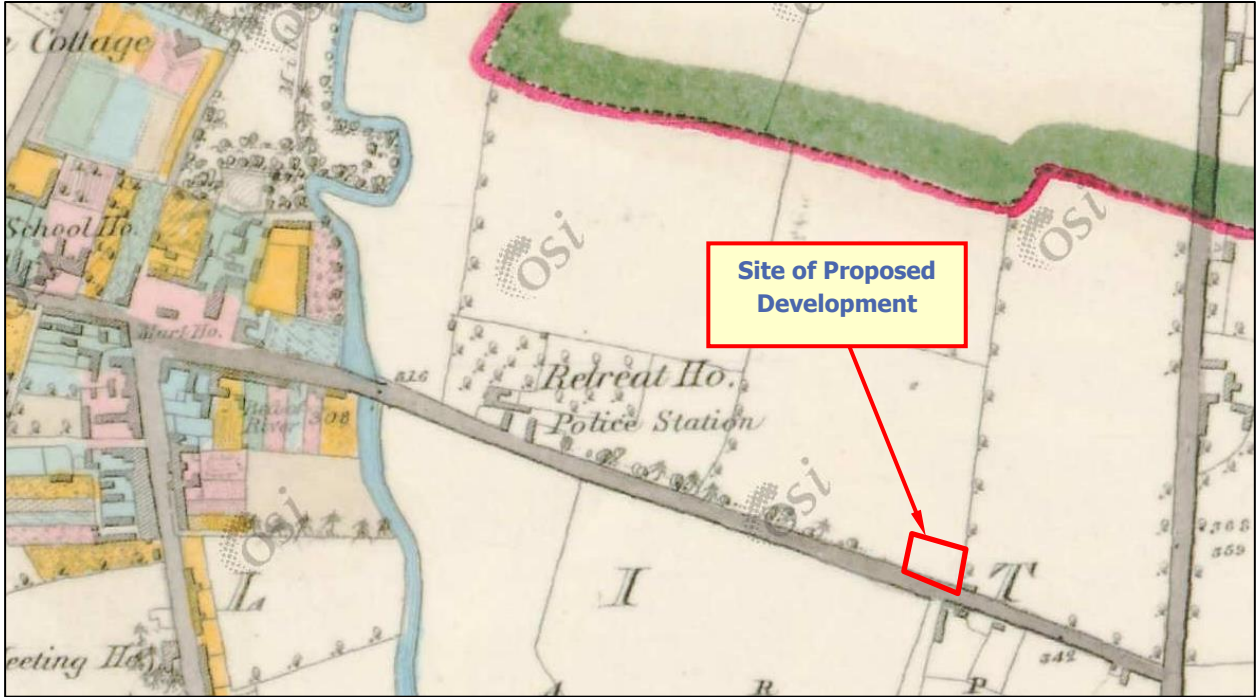


Figure 5 - Historic 6 Inch Mapping

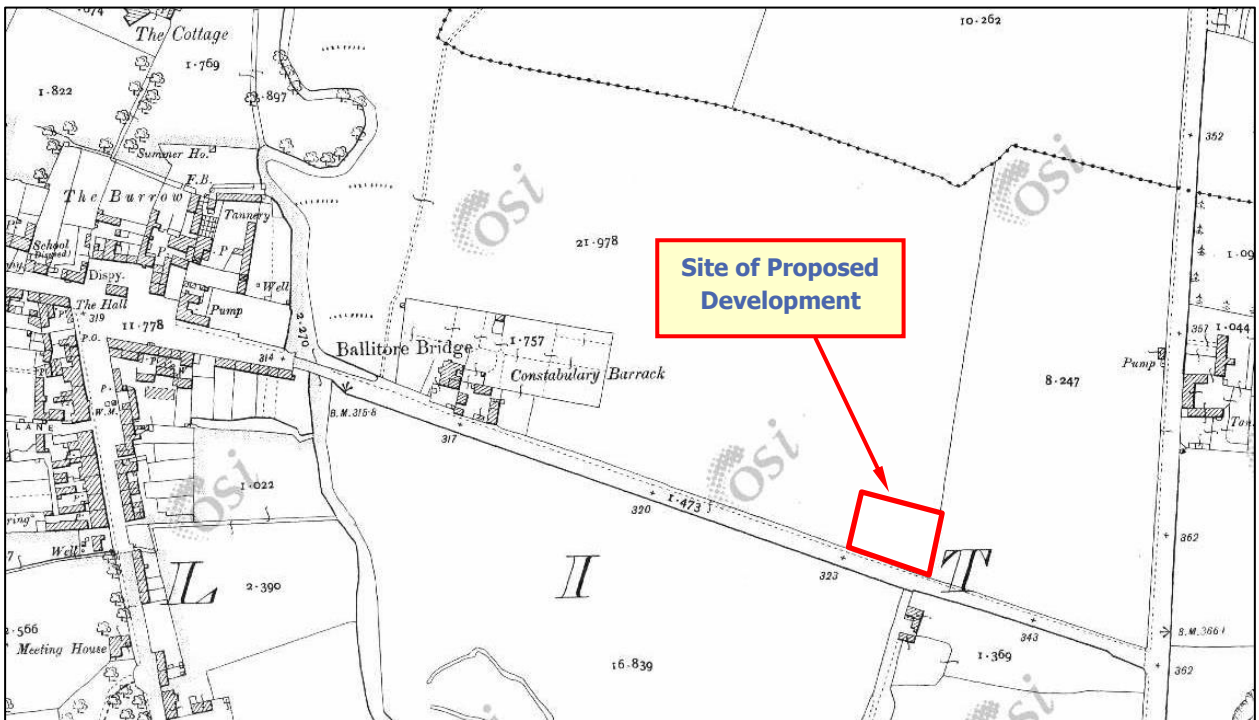


Figure 6 - Historic 25 Inch Mapping

The historic 6-inch and 25-inch mapping does not indicate any historical or anecdotal instances of flooding within or adjacent to the boundary of the site of the proposed development.

4.5. Geological Survey of Ireland Mapping

The alluvial deposit maps of the Geological Survey of Ireland (GSI) were consulted to assess the extent of any alluvial deposits in the vicinity of the site of the proposed development. Alluvial deposits can be an indicator of areas that have been subject to flooding in the recent geological past. *Figure 7* below illustrates the sub-soils mapping for the general area of the site.



Figure 7 - GSI Subsoil Mapping

Figure 7 above indicates that site is categorised as both limestone sands and gravels carboniferous and limestone till carboniferous. Alluvium deposits are not mapped within or in the vicinity of the site.

4.6. Geological Survey of Ireland Groundwater Flood Mapping

Historic and Predictive Groundwater Mapping for Ireland was prepared by the GSI Department of Communication, Climate Action, and Environment in collaboration with Trinity College Dublin and the Institute of Technology Carlow. The above GSI Groundwater Mapping indicates that there are not areas of predictive and historical groundwater or surface water flooding located within or in the vicinity of the site of the proposed development.

Figure 8 below illustrates an extract from the above groundwater flood mapping in the vicinity of the site.

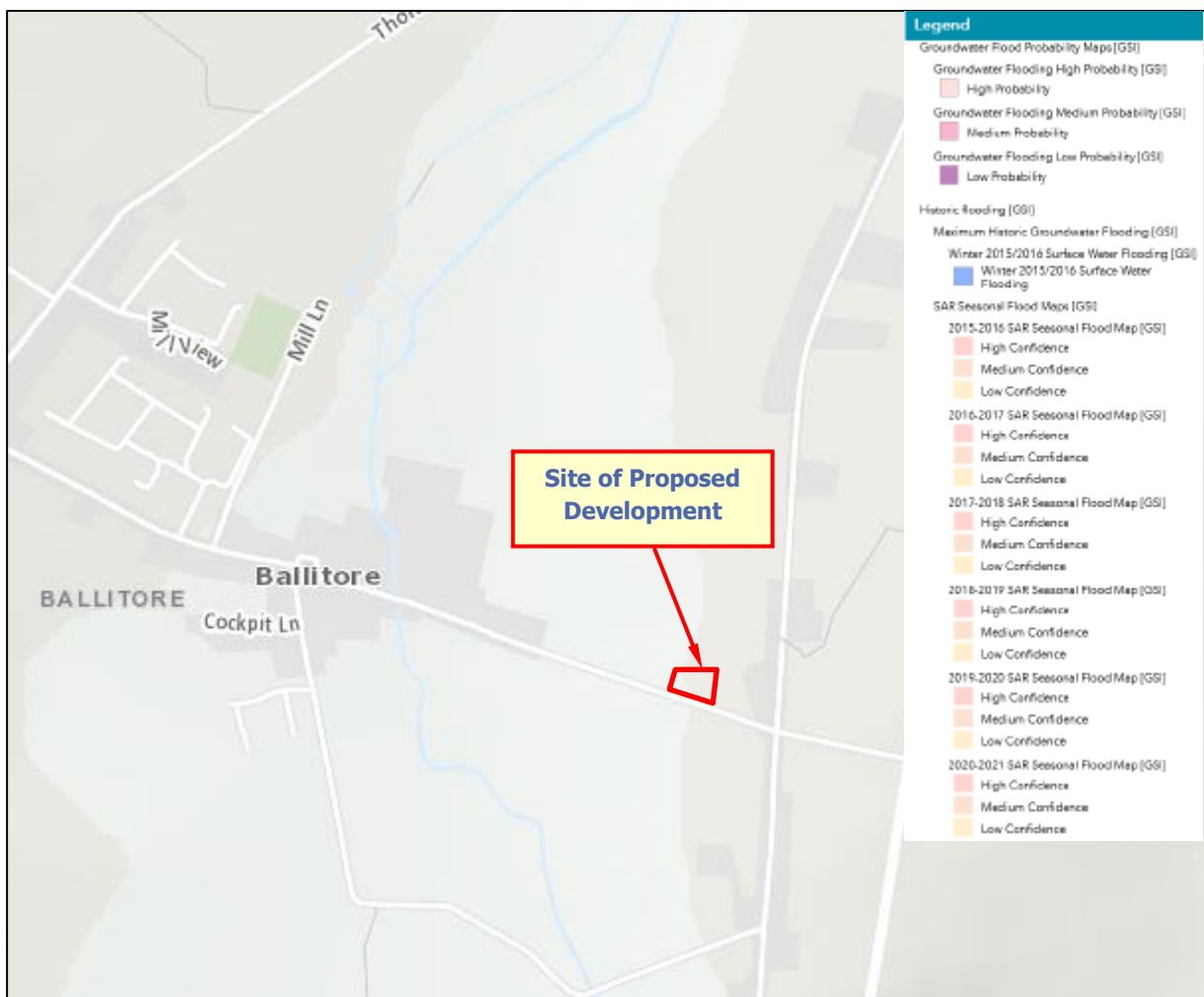


Figure 8 - GSI Groundwater Flood Mapping

Figure 8 above illustrates no historic ground water flooding in the vicinity of the site. The above GSI Groundwater Mapping indicates no areas of predictive or historical groundwater or surface water flooding located within or in the vicinity of the site.

4.1. OPW South Eastern CFRAMS Fluvial Flood Mapping

This area of County Kildare has not been included as a further assessment area as part of the OPW South Eastern CFRAM Study.

4.2. National Indicative Fluvial Mapping

The OPW National Indicative Fluvial Mapping (NIFM) set has been produced for catchments greater than 5km² in areas for which flood maps were not produced under the National CFRAM Programme. This mapping set is intended to supersede the OPW PFRA mapping set by producing a higher quality fluvial mapping set.

Figure 9 below illustrates an extract from the above NIFM at and in the vicinity of the site of proposed development for the present-day scenario 1% AEP (1 in 100 year) and 0.1% AEP (1 in 1000 year) fluvial flood events.



Figure 9 - 1% AEP & 0.1% AEP Present Day Scenario Flood Mapping

Figure 9 above indicates that the site of the proposed development does not fall within a 1% AEP (1 in 100 year) or 0.1% AEP (1 in 1000 year) OPW NIFM fluvial flood zone.

4.3. Ballitore Local Area Plan 2017-2023

The Ballitore local area plan was assessed to determine if the site of proposed development falls within a predictive, indicative, or strategic fluvial flood zone.

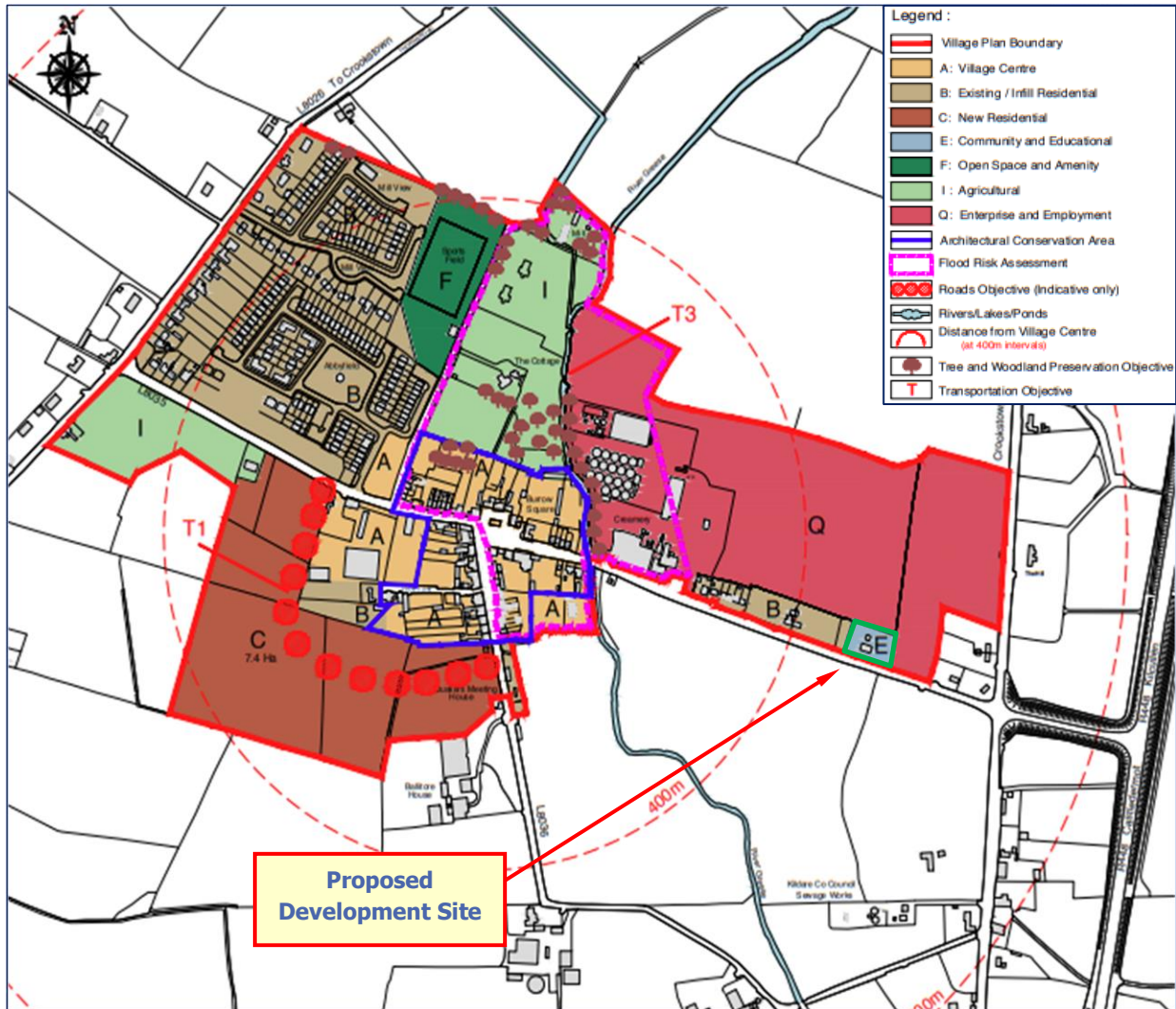


Figure 10 – Ballitore LAP 2015 -2021 – Flood Risk Map

Figure 10 above indicates that the site of the proposed development is located beyond the 'Flood Risk Assessment' zone.

As illustrated below in Figure 11, the site of the proposed development does not fall within a strategic Flood Zone A or Flood Zone B.

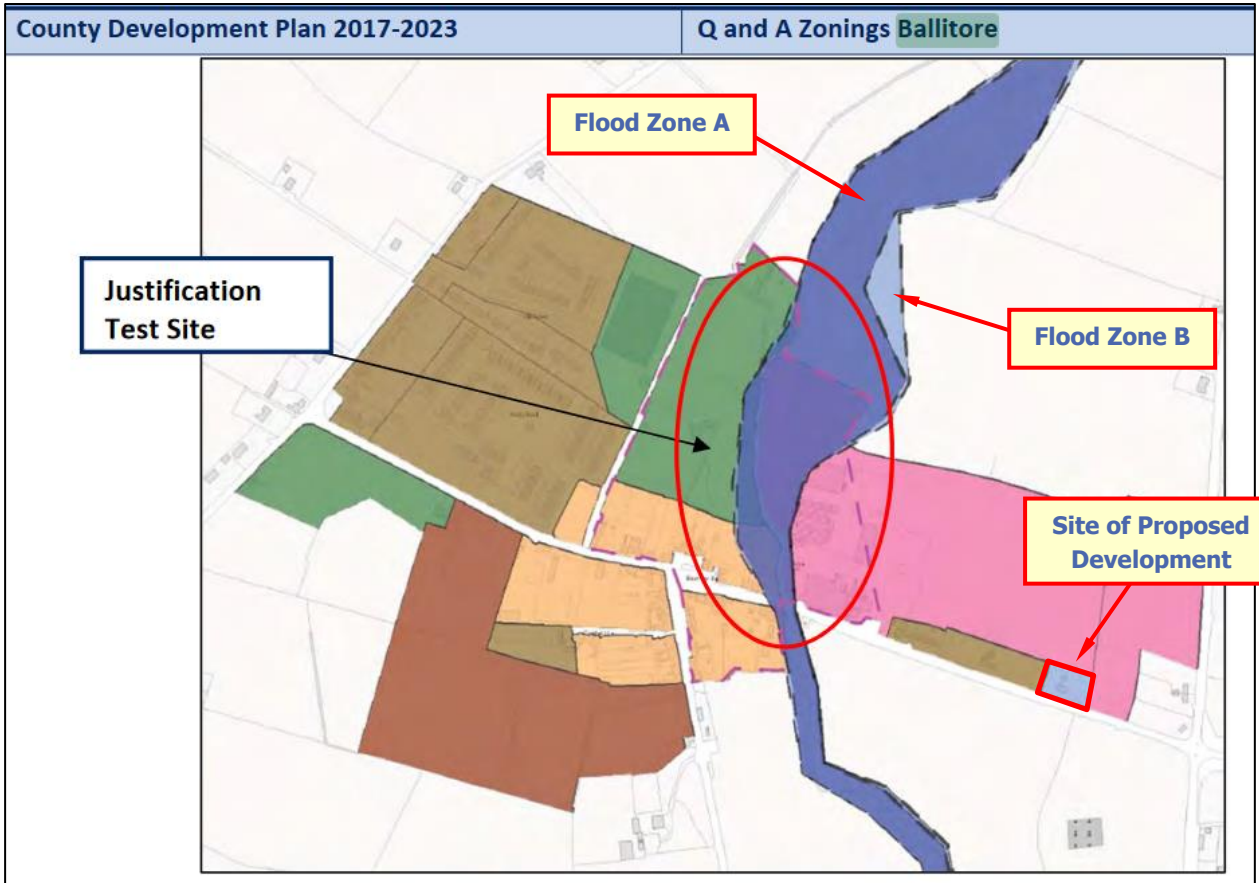


Figure 11 - Ballitore County Development Plan Flood Extents

5. Scoping Assessment

The purpose of the scoping stage is to identify possible flood risks and to implement the necessary level of detail and assessment to assess these possible risks, and to ensure these can be adequately addressed in the flood risk assessment. The scoping exercise should also identify that sufficient quantitative information is already available to complete a flood risk assessment appropriate to the scale and nature of the development proposed.

In consideration of the information collated as part of the screening exercise, and the availability of other information and data specific to the area of the proposed development site, it is considered that sufficient quantitative information to complete an appropriate flood risk assessment for the proposed development site can be derived from the information collated as part of the screening exercise.

6. Assessment of Flood Risk

The screening assessment undertaken as part of this Site Specific Flood Risk Assessment indicates that the site of the proposed development is not susceptible to predictive, indicative, historic or anecdotal fluvial, pluvial, or groundwater flooding. Therefore, the potential primary and direct flood risk to the proposed development site is considered to be LOW.

There are no significant or restrictive hydraulic structures or significant urban drainage, or water supply infrastructure located within or adjacent to the boundary of the site. Therefore, the potential residual and secondary flood risk to the proposed development site is considered to be LOW.

It is recommended that the finished ground floor level of the proposed dwelling houses be constructed to a minimum level of 0.3m above existing ground levels at the location of the proposed development site.

It is recommended that the development as proposed incorporates an appropriate stormwater management system that ensures that the stormwater discharge from the proposed development does not exceed the maximum stormwater discharge rate from the existing site.

7. Development in the Context of the Guidelines

In the context of the 'Planning System and Flood Risk Management Guidelines, DOEHLG, 2009' three flood zones are designated in consideration of flood risk to a particular development site.

Flood Zone 'A' – where the probability of flooding from rivers and watercourses is the highest (greater than 1% or 1 in 100 year for river and watercourse flooding and 0.5% or 1 on 200 for coastal or tidal flooding).

Flood Zone 'B' – where the probability of flooding from rivers and watercourses is moderate (between 0.1% or 1 in 1000 year for river and watercourse flooding and 0.5% or 1 on 200 for coastal or tidal flooding).

Flood Zone 'C' – where the probability of flooding from rivers and watercourses is low or negligible (less than 0.1% or 1 in 1000 year for both river and watercourse and coastal flooding). Flood Zone 'C' covers all areas that are not in Zones 'A' or 'B'.

The 'Planning System and Flood Risk Management Guidelines' list the planning implications for each flood zone, as summarised below:

Zone A – High Probability of Flooding. Most types of development would not be considered in this zone. Development in this zone should be only be considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and where the 'Planning System and Flood Risk Management Guidelines' justification test has been applied. Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space and outdoor sports and reaction would be considered appropriate in this zone.

Zone B – Moderate Probability of Flooding. Highly vulnerable development such as hospitals, residential care homes, Garda, fire and ambulance stations, dwelling houses, strategic transport and essential utilities infrastructure would generally be considered inappropriate in this zone, unless the requirements of the justification test can be met. Less vulnerable development such as retail, commercial and industrial uses and recreational facilities might be considered appropriate in this zone. In general however, less vulnerable development should only be considered in this zone if adequate lands or sites are not available in Zone 'C' and subject to a flood risk assessment to the appropriate level of detail to demonstrate that flood risk to the development can be adequately managed and that development in this zone will not adversely affect adjacent lands and properties.

Zone C – Low to Negligible Probability of Flooding. Development in this zone is appropriate from a flood risk perspective. Developments in this zone are generally not considered at risk of fluvial flooding and would not adversely affect adjacent lands and properties from a flood risk perspective.

In the context of the 'Planning System and Flood Risk Management Guidelines, DOEHLG, 2009' the assessment and analysis undertaken as part of this Site-Specific Flood Risk Assessment indicates that the site of the proposed development does not fall within a predictive, indicative or strategic flood zone. The site of the proposed development therefore falls within Flood Zone 'C'.

In accordance with the 'Planning System & Flood Risk Management Guidelines, DOEGLG, 2009' the development as proposed is not subject to the requirements of the Justification Test.

8. Summary Conclusions & Recommendations

In consideration of the findings of this Site Specific Flood Risk Assessment and analysis the following conclusions and recommendations are made in respect of the proposed development site:

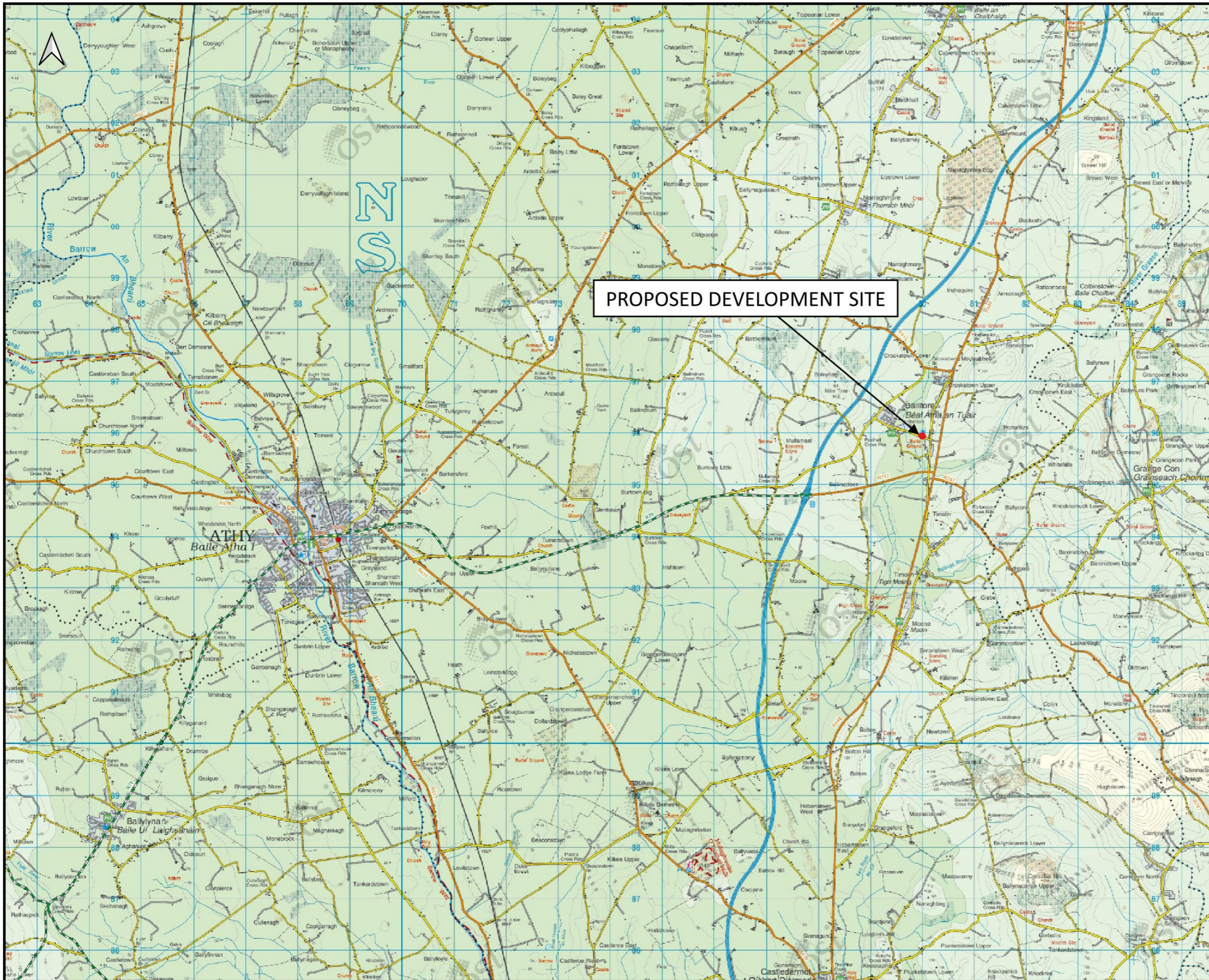
- *A Site Specific Flood Risk (SSFRA) assessment, appropriate to the type and scale of development proposed, and in accordance with 'The Planning System and Flood Risk Management Guidelines – DoEHLG-2009' has been undertaken.*
- *The site of the proposed development has been screened, scoped, and assessed for flood risk in accordance with the above guidelines.*
- *The assessment and analysis undertaken as part of this Site Specific Flood Risk Assessment indicates that the site of the proposed development is not susceptible to predictive, indicative, historic or anecdotal fluvial, pluvial or groundwater flooding.*
- *In consideration of the findings of this Site Specific Flood Risk Assessment, in the context of 'The Planning System & Flood Risk Management Guidelines – 2009', the site of the proposed development site falls within Flood Zone 'C'.*
- *The proposed development is not expected to result in an adverse impact to the existing hydrological regime of the area, will not impact or impede access to a watercourse, flood plain or flood protection and management facilities and would not increase the risk of flooding to adjacent lands or properties.*
- *It is recommended that the finished ground floor level of the proposed dwelling houses be constructed to a minimum level of 0.30m above the existing ground levels.*
- *It is recommended that the development as proposed incorporates an appropriate stormwater management system that ensures that the stormwater discharge from the proposed development does not exceed the maximum stormwater discharge rate from the existing site.*
- *In consideration of the findings of this Site Specific Flood Risk Assessment and the incorporation of the recommendations made in this report, it is considered that the development as proposed is appropriate from a flood risk perspective.*

Appendices

Appendix A. Drawings

IE2713-001-A

Site Location Map



LEGEND

 PROPOSED DEVELOPMENT SITE

PROPOSED DEVELOPMENT SITE

A	07.04.23	ISSUE	MOF	PMS
rev.	date	amendment	drn	ckd

PROPOSED INFILL HOUSING SCHEME AT THE FORMER GARDA STATION, BARRACK ROAD, BALLINORE, CO. KILDARE

SITE SPECIFIC FLOOD RISK ASSESSMENT

SITE LOCATOR



IE CONSULTING
WATER-ENVIRONMENTAL-CIVIL

CARLOW OFFICE:
INNOVATION CENTRE
GREEN ROAD
CARLOW R95 W248

NEWRY OFFICE:
1 RDC HOUSE
WIN BUSINESS PARK
NEWRY BT35 6PH

file location:	N:\IE2713\DRAWINGS	scale:	1:100,000	A3
drawing status:	PLANNING	datum:	MALIN	
drawing no.	IE2713-001	drawn:	MOF	
rev:	A	checked:	PMS	
		approved:	PMS	
		date:	07/04/2023	

© IE Consulting. This drawing or its contents must not be reproduced for any purpose without written permission. It is to be used only for the purpose for which it is supplied.