TOBIN

Kilkenny County Council

IDA Belview Infrastructure Development

Co. Kilkenny

Flood Risk Assessment

BUILT ON KNOWLEDGE

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1. INTRODUCTION

TOBIN were appointed by IDA Ireland to undertake a Flood Risk Assessment for a site (see Figure 1-1) of the proposed access road development at Belview, Co. Kilkenny.

The subject site is located in South Kilkenny approximately 3 km east of Waterford and north of IDA Science and Technology Business Park. The development shall comprise of an access road with a river crossing.

Existing ground levels range from approximately 26mOD at the western boundary of the subject site to 20.02mOD at the eastern boundary.

The L3412 Road forms the northern boundary of the subject site. To the south of the site are Tirlan Belview, Kilkenny Cheese, and Celtic Anglian Water.

The Rathpatrick Stream flows through the subject site and is the nearest hydraulic feature. The Abbeylands Stream lies approximately 72m west of the site boundary, while the Gorteens Stream is located about 63m to the east. These streams flow southward and converge with the River Suir, which is situated approximately 1km south of the site and flows in an easterly direction.

The proposed works (see Figure 1-2), consist of upgrade works to the local road L3412 and ancillary site development works which will provide access to the IDA Ireland land bank at Kilmurry, Slieverue and Gorteen, Belview, Co. Kilkenny. The proposal will provide an upgrade of local road L3412 from the existing eastern IDA Ireland roundabout to the new IDA Ireland land bank at Kilmurray and will tie back into the existing L3412 to the west via a new roundabout. The upgrade will be taken online on the existing road and offline on adjoining land.

The works will consist of the following items:

- Widening and realignment of the existing road,
- Construction of cycle tracks and footpaths,
- Construction of new roundabout,
- Construction of a new culvert at the existing watercourse,
- Drainage works incorporating SuDS measures and interceptors as required,
- Landscaping including amendments to the existing screening berm,
- Ancillary road works including public lighting, signs and road markings,
- Construction of a new watermain,
- All associated site works

The purpose of this Stage 2 FRA report is to identify, quantify, and communicate the risks of flooding, if any, to the proposed development and surrounding area. It is anticipated that the main risk to the site is fluvial and coastal flooding given that the subject site is located near River Suir, which is estuarine in nature.

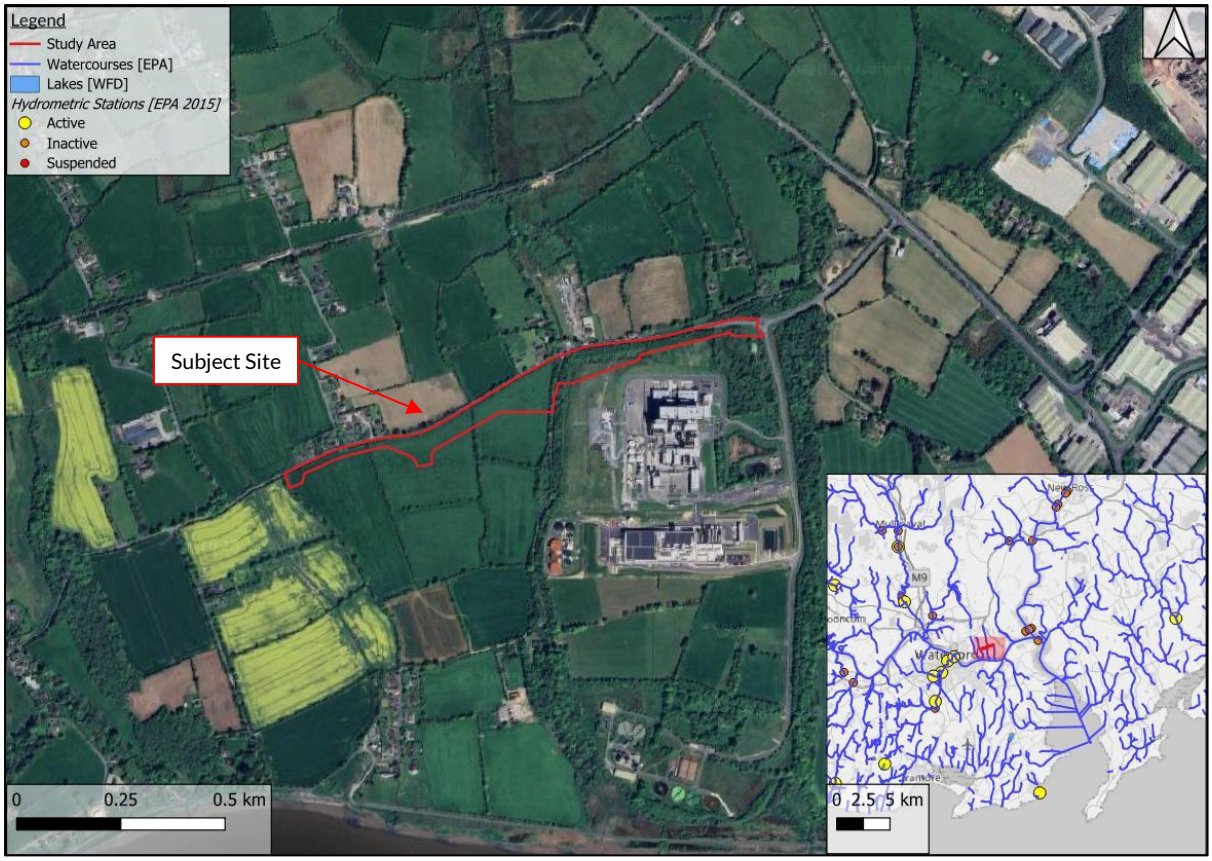


Figure 1-1: Site Location

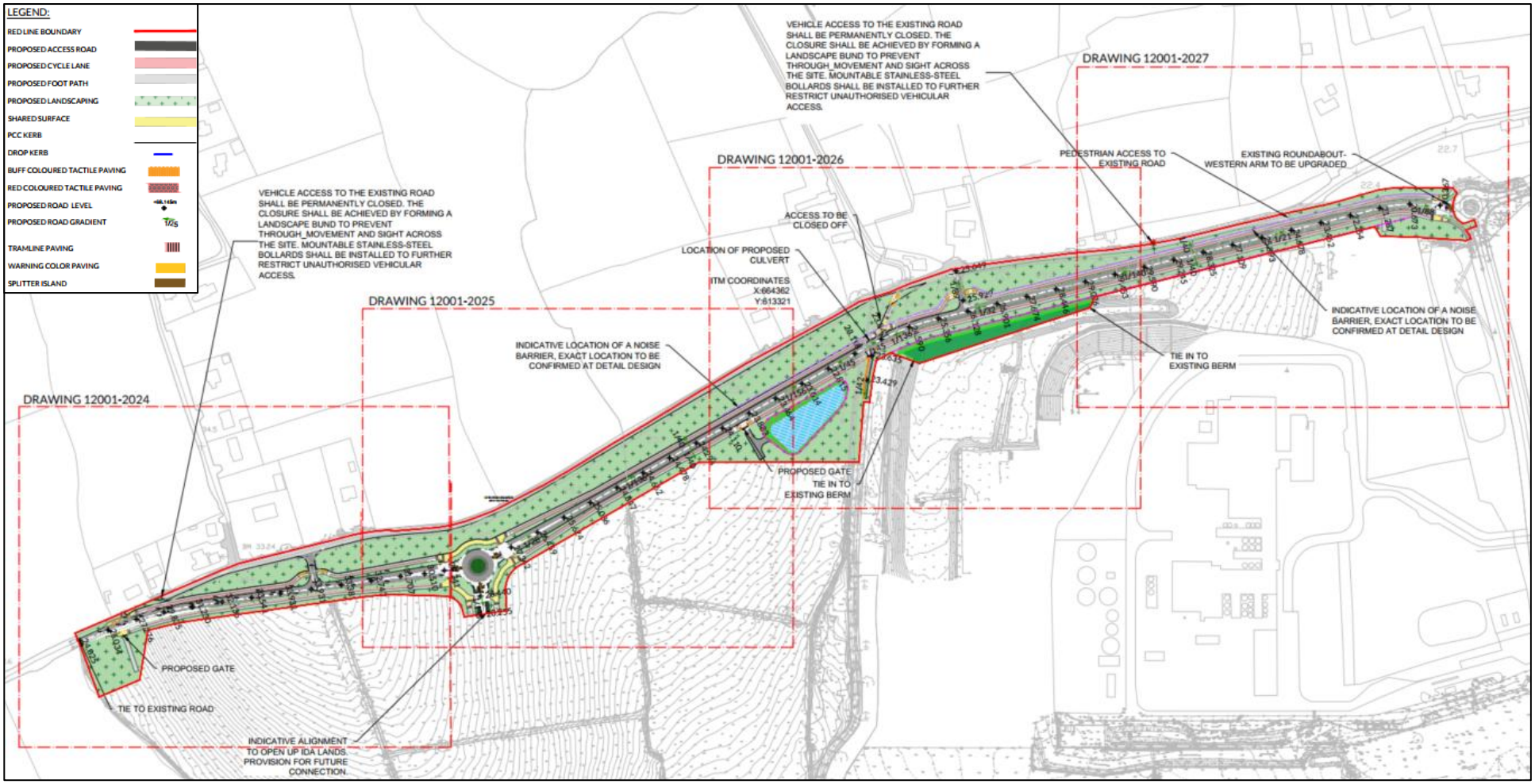


Figure 1-2: Site Layout Plan

2. FLOOD RISK MANAGEMENT GUIDANCE

This Stage 2 Flood Risk Assessment was carried out in accordance with the following flood risk management guidance documents:

- The Planning System and Flood Risk Management Guidelines for Planning Authorities
- Flood Risk Management Climate Change Sectoral Adaptation Plan
- Kilkenny City and County Development Plan (2021 – 2027)
    - Ferrybank/Belview LAP (2017)

2.1 THE PLANNING SYSTEM AND FLOOD RISK MANAGEMENT GUIDELINES

The Planning System and Flood Risk Management Guidelines for Planning Authorities (PSFRM Guidelines) were published in 2009 by the Office of Public Works (OPW) and Department of the Environment, Heritage, and Local Government (DoEHLG). Their aim is to ensure that flood risk is considered in development proposals and the assessment of planning applications.

2.1.1 Flood Zones and Vulnerability Classes

The PSFRM Guidelines discuss flood risk in terms of three flood zones (A, B, and C), which correspond to areas of high, medium, or low probability of flooding, respectively. The extents of each flood zone are based on the Annual Exceedance Probability (AEP) of various flood events.

The PSFRM Guidelines also categorise different types of development into three vulnerability classes based on their sensitivity to flooding. The guidelines classify essential infrastructure (such as primary transport) as "highly vulnerable" (appropriate in Flood Zone C, less frequently than 0.1% AEP fluvial flood risk).

Table 2-1 shows a decision matrix that indicates which types of development are appropriate in each flood zone and when the Justification Test (see Section 2.1.2) must be satisfied. The annual exceedance probabilities used to define each flood zone are also provided.

Table 2-1: Decision Matrix for Determining the Appropriateness of a Development

Flood Zone: (Probability)	Annual Exceedance Probability (AEP)	Highly Vulnerable	Less Vulnerable	Water Compatible
A (High)	Coastal Flooding More frequent than 0.5% AEP Fluvial & Pluvial Flooding More frequent than 1% AEP	Justification Test Required	Justification Test Required	Appropriate
B (Medium)	Coastal Flooding 0.1% to 0.5% AEP Fluvial & Pluvial Flooding 0.1% to 1% AEP	Justification Test Required	Appropriate	Appropriate
C (Low)	Fluvial, Pluvial & Coastal Flooding Less frequent than 0.1% AEP	Appropriate	Appropriate	Appropriate

2.1.2 Justification Test

Any proposed development being considered in an inappropriate flood zone (as determined by Table 2-1) must satisfy the criteria of the Justification Test outlined in Figure 2-1 (taken from the PSFRM Guidelines).

Box 5.1 Justification Test for development management (to be submitted by the applicant)

When considering proposals for development, which may be vulnerable to flooding, and that would generally be inappropriate as set out in Table 3.2, the following criteria must be satisfied:

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

The acceptability or otherwise of levels of residual risk should be made with consideration of the type and foreseen use of the development and the local development context.

Note: See section 5.27 in relation to major development on zoned lands where sequential approach has not been applied in the operative development plan.

Refer to section 5.28 in relation to minor and infill developments.

Figure 2-1: Criteria of the Justification Test

2.2 THE FLOOD RISK MANAGEMENT CLIMATE ADAPTION PLAN

The Flood Risk Management Climate Change Sectoral Adaptation Plan was published in 2019 under the National Adaptation Framework and Climate Action Plan. This plan outlines the OPW's approach to climate change adaptation in terms of flood risk management.

This approach is based on a current understanding of the potential impacts of climate change on flooding and flood risk. Research has shown that climate change is likely to worsen flooding through more extreme rainfall patterns, more severe river flows, and rising mean sea levels.

To account for these changes, the Adaptation Plan presents two future flood risk scenarios to consider when assessing flood risk:

- Mid-Range Future Scenario (MRFS)
- High-End Future Scenario (HEFS)

Table 2-2 indicates the allowances that should be added to estimates of extreme rainfall depths, peak flood flows, and mean sea levels for the future scenarios.

Table 2-2: Climate Change Adaptation Allowances for Future Flood Risk Scenarios

Parameter	Mid-Range Future Scenario (MRFS)	High-End Future Scenario (HEFS)
Extreme Rainfall Depths	+ 20%	+ 30%
Peak River Flood Flows	+ 20%	+ 30%
Mean Sea Level Rise	+ 0.5 m	+ 1 m

For the purpose of this flood risk assessment, the proposed development has been assessed against the Mid-Range Future Scenario as it represents a likely future scenario.

2.3 KILKENNY CITY AND COUNTY DEVELOPMENT PLAN (2021 – 2027)

The current Kilkenny City and County Development Plan[1] provides a strategic framework for planning and sustainable development in Kilkenny for 2021 to 2027. The Kilkenny City and County Development Plan 2021-2027 was adopted on 3rd September 2021 and came into effect on 15th October 2021.

Flood management objectives are given in Chapter 10: Infrastructure and Environment and details that "It is Council policy to adopt a comprehensive risk-based planning approach to flood management to prevent or minimise future flood risk. In accordance with the Planning System and Flood Risk Management – Guidelines for Planning Authorities, the avoidance of development in areas where flood risk has been identified shall be the primary response.

The Council will ensure that new developments do not reduce the effectiveness or integrity of any existing or new flood defence infrastructure, and will facilitate the provision of new, or the reinforcement of existing, flood defences and protection measures where necessary."

The policy also details the following development management requirements:

- *Where flood risk may be an issue for any proposed development, a detailed flood risk assessment should be carried out appropriate to the scale and nature of the development and the risks arising. In particular, any area within or adjoining flood zone A or B, or flood risk area, shall be the subject of a site-specific Flood Risk Assessment appropriate to the type and scale of the development being proposed. This shall be undertaken in accordance with the Planning System and Flood Risk Management – Guidelines and the Strategic Flood Risk Assessment accompanying this Plan.*
- *If a Site-Specific FRA demonstrates an unmanageable level of flood risk and/or impacts to 3rd party lands, development cannot proceed.*
- *Proposals for mitigation and management of flood risk will only be considered where avoidance is not possible and where development can be clearly justified with the Guidelines[2] Justification Test.*

2.3.1 Ferrybank/Belview LAP SFRA

A Flood Risk Assessment was prepared as part of the Ferrybank/Belview Local Area Plan 2025. The SFRA was completed in n line with The Planning System and Flood Risk Management – Guidelines for Planning Authorities. It should be noted that an updated LAP is being progressed but has not been completed at the time of this report. The Land use and Flood Zone mapping for Belview is shown in Figure 2-2 below. The mapping shows that the subject site is zoned for "Industrial/ Technology Park" with an area of "passive open space adjacent to the stream, which is not shown to cause any fluvial flooding, and therefore is assumed to stay within its banks.

[1]https://consult.kilkenny.ie/en/system/files/materials/7037/Appendix%204%20Ferrybank%20Belview%20Framework%20Plan%20Maps.pdf

[2] https://www.gov.ie/en/department-of-housing-local-government-and-heritage/

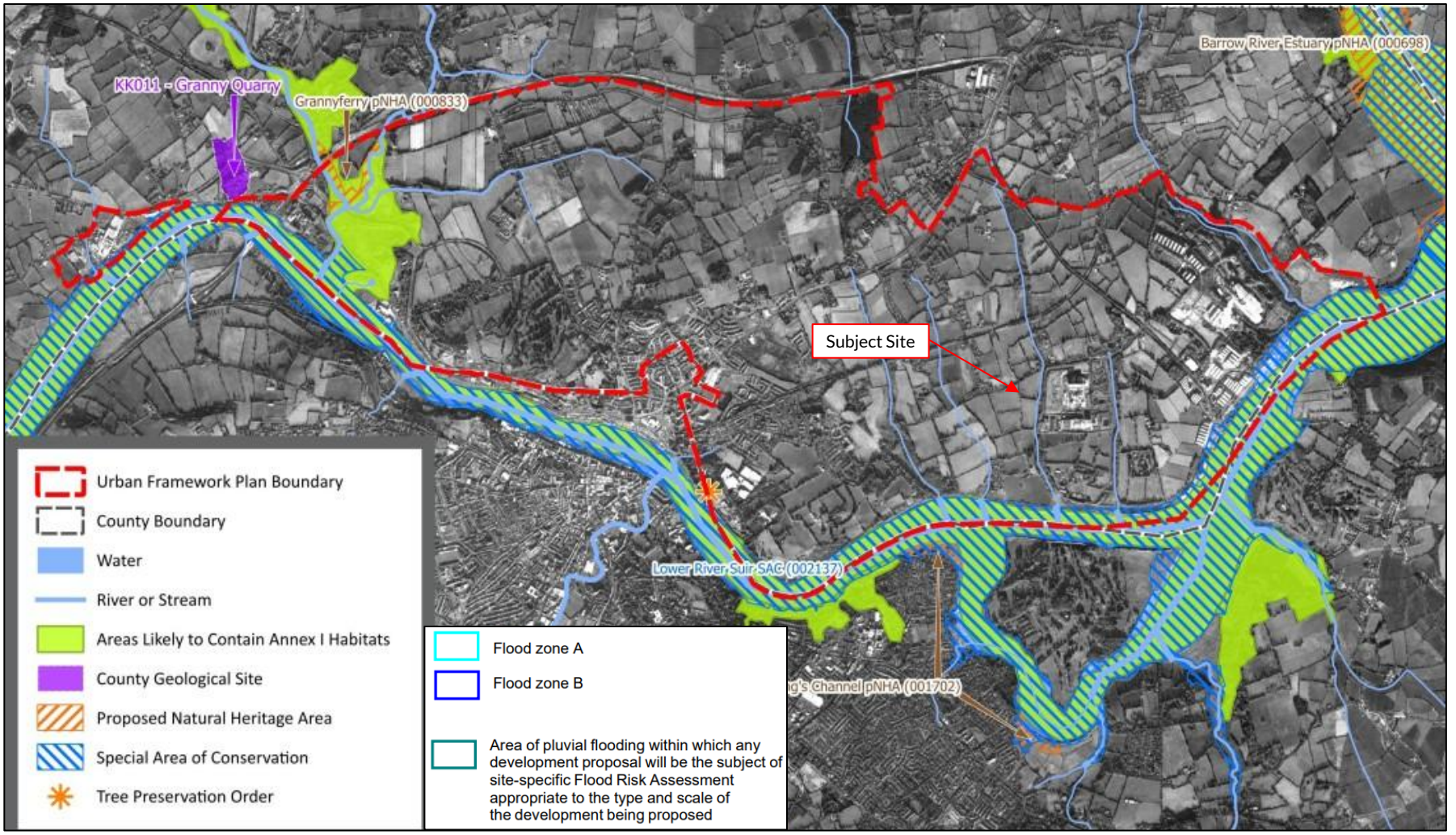


Figure 2-2: Belview Land Use and Flood Zone Mapping

3. INITIAL FLOOD RISK ASSESSMENT

3.1 PAST FLOOD EVENTS

The OPW's National Flood Information Portal[3] provides past flood event mapping with records of flooding reports, meeting minutes, photos, and/or hydrometric data. Based on the flood map shown in Figure 3-1, there are no flood events in the immediate vicinity of the subject site. The closest flood events (ID 2885 and ID 2884) are located 2.6 km southwest from the subject site in the Suir catchment. The river was highlighted as a source of flooding for both events. The recorded past flood event is not hydraulically linked to the subject site.

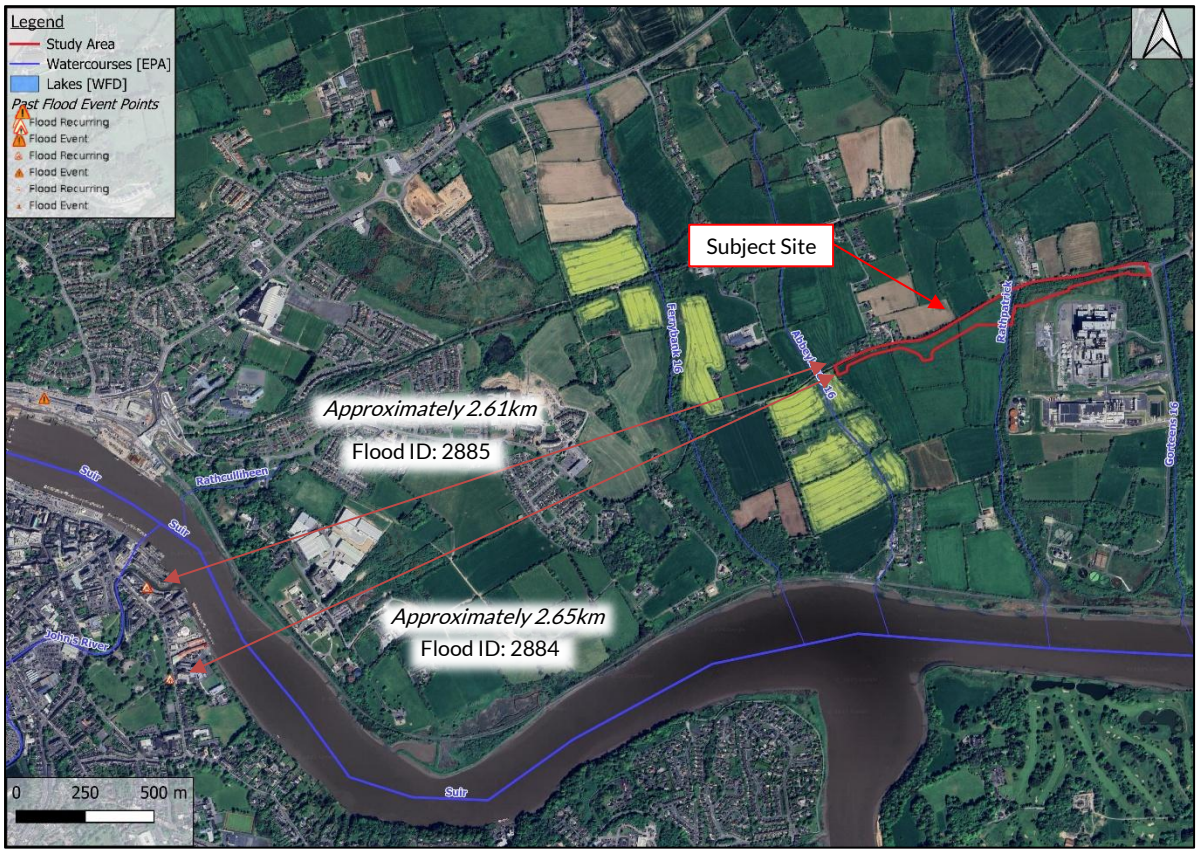


Figure 3-1: OPW Recorded Past Flood Events

[3] floodinfo.ie

3.2 OPW Preliminary Flood Risk Assessment (PFRA) Study

In 2009, the OPW produced a series of maps to assist in the development of a broad-scale FRA throughout Ireland. These maps were produced from several sources.

The OPW's National Preliminary Flood Risk Assessment (PFRA) Overview Report from March 2012 noted that *"the flood extents shown on these maps are based on broad-scale simple analysis and may not be accurate for a specific location".*

Figure 3-2 provides an overview of the fluvial, coastal, pluvial, and groundwater indicative flood extents in the vicinity of the subject site.

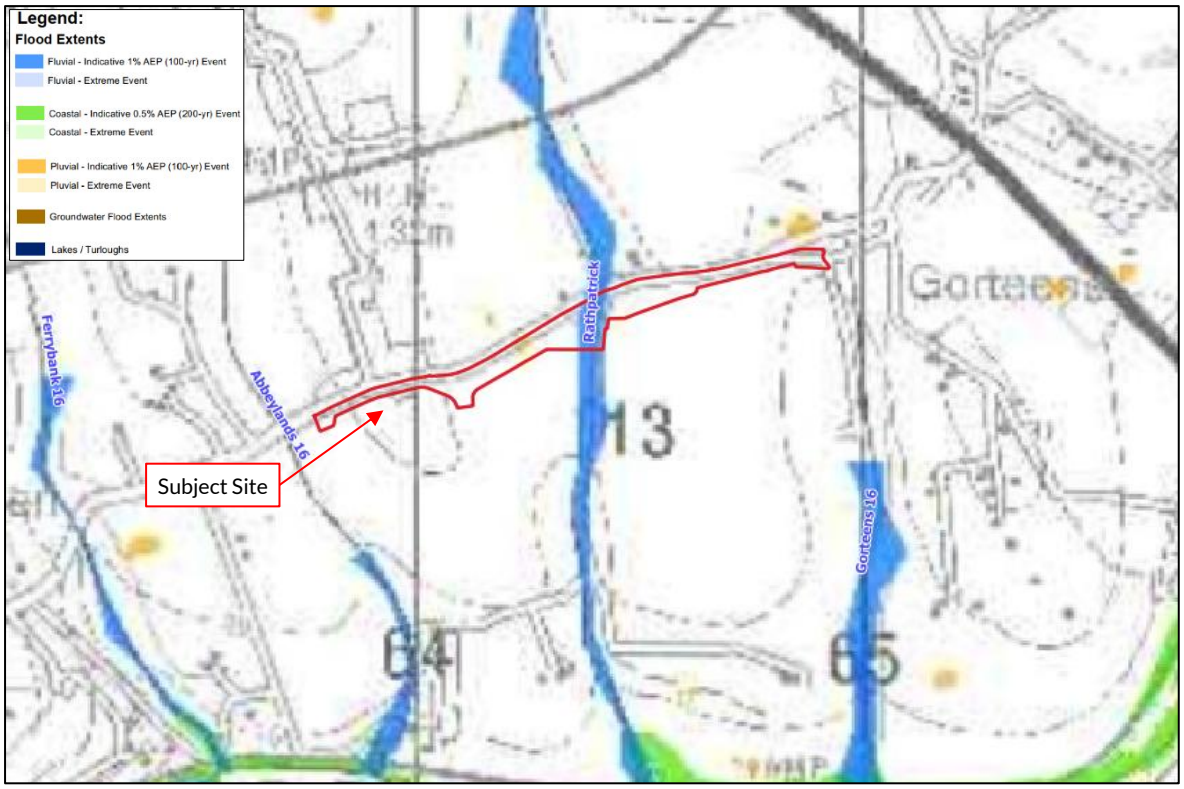


Figure 3-2: Indicative Flood Mapping [extract from PFRA Map 89]

Findings based on the PFRA mapping indicate that the site is liable to fluvial flooding with flood extents noted along the Rathpatrick Stream which flows southernly through the site, as indicated on Figure 3-2. The subject site is susceptible to pluvial flooding with a small area liable to fluvial flooding in the eastern half of the subject site.

Limitations on potential sources of error associated with the PFRA maps include:

- Assumed channel capacity (due to absence of channel survey information)
- Absence of flood defences and other drainage improvements and channel structures (bridges, weirs, culverts)
- Local errors in the national Digital Terrain Model (DTM).

Improved hydraulic modelling was carried out through the Catchment Flood Risk Assessment and Management Study (CFRAM) in 2015 (discussed in Section 3.4) and is considered more accurate than the PFRA study as it utilised surveyed river geometry and was subject to greater model calibration.

3.3 National Coastal Flood Hazard Mapping (NCFHM)

The National Coastal Flood Hazard Mapping (NCFHM) was completed in 2021. The aim of the project is to produce updated national scale coastal flood extent and depth maps for the 50%, 20%, 10%, 5%, 2%, 1%, 0.5% and 0.1% Annual Exceedance Probabilities (AEPs) for the present day scenario and for the Mid-Range Future Scenario (MRFS), High End Future Scenario (HEFS), High+ End Future Scenario (H+EFS) and High++ End Future Scenario (H++EFS) which represent a 0.5m, 1.0m, 1.5m and 2.0m increase in sea level respectively. The mapping is based on the extreme levels calculated in the Irish Coastal Wave and Water Level Modelling Study (ICWWS).

The Irish Coastal Wave and Water Level Modelling Study (ICWWS) was undertaken in 2018. The study provides an update to the Extreme Coastal Water Levels for the coastal of Ireland. The study provides an update to the water levels presented in the Irish Coastal Protection Strategy Study (ICPSS) undertaken between 2004 and 2013.[4]

Table 3-1 below outlines the extreme water levels at node W4 which is the closest ICWWS node to the subject site. The node is approximately 3.8km east of the subject site.

Table 3-1: ICWWS Modelled Extreme Water Levels

Return Period	Existing Scenario Water Level (mOD)	Mid-Range Future Scenario (MRFS) Water Level (mOD)
1 in 10-Year (10% AEP) Event	2.53	3.03
1 in 200-Year (0.5% AEP) Event	2.91	3.32
1 in 1,000-Year (0.1% AEP) Event	3.12	3.62

The NCFHM current flood extents are shown in Figure 3-3 below. The mapping shows that the subject site is not liable to coastal flooding in any current flood events. The water levels in a 1 in 10-, 1 in 200- and 1 in 1000-year (10%, 0.5% and 0.1% AEP) current event are 2.53mOD, 2.91mOD and 3.12mOD respectively.

[4]Irish Coastal Wave and Water Level Modelling Study(ICWWS)
Microsoft Word - IBE1505_ICWWS_Ph1_Rp01_F02.docx

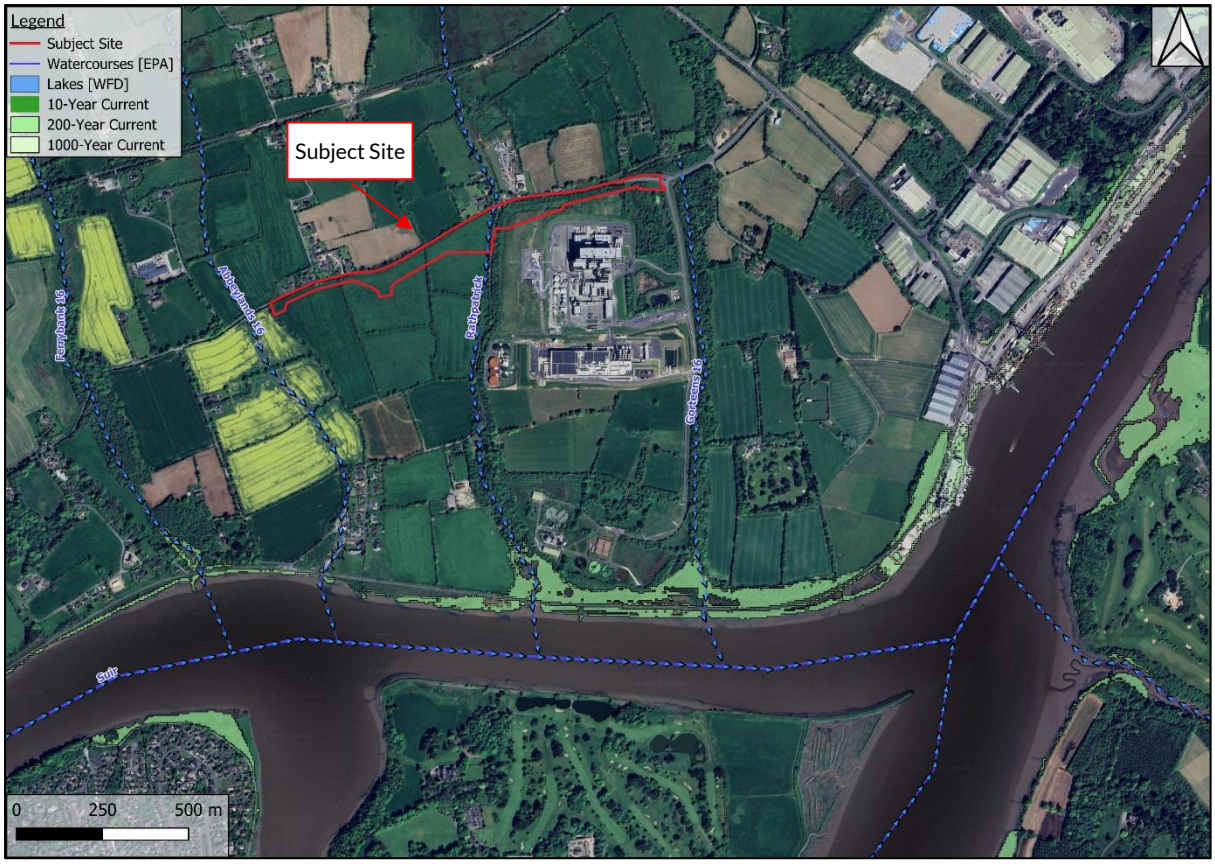


Figure 3-3: NCFHM Current day flood extents

The NCFHM mid-range future scenario (MRFS) flood extents are shown in Figure 3-4 below. The mapping shows that the subject site is not liable to coastal flooding in a 1 in 10-year, 1 in 200 or 1 in 1000 (10%, 0.5% and 0.1% AEP) MRFS event. The water levels in a 1 in 10-, 1 in 200- and 1 in 1000-year (10%, 0.5% and 0.1% AEP) MRFS event are 3.03mOD, 3.41mOD and 3.62mOD respectively.

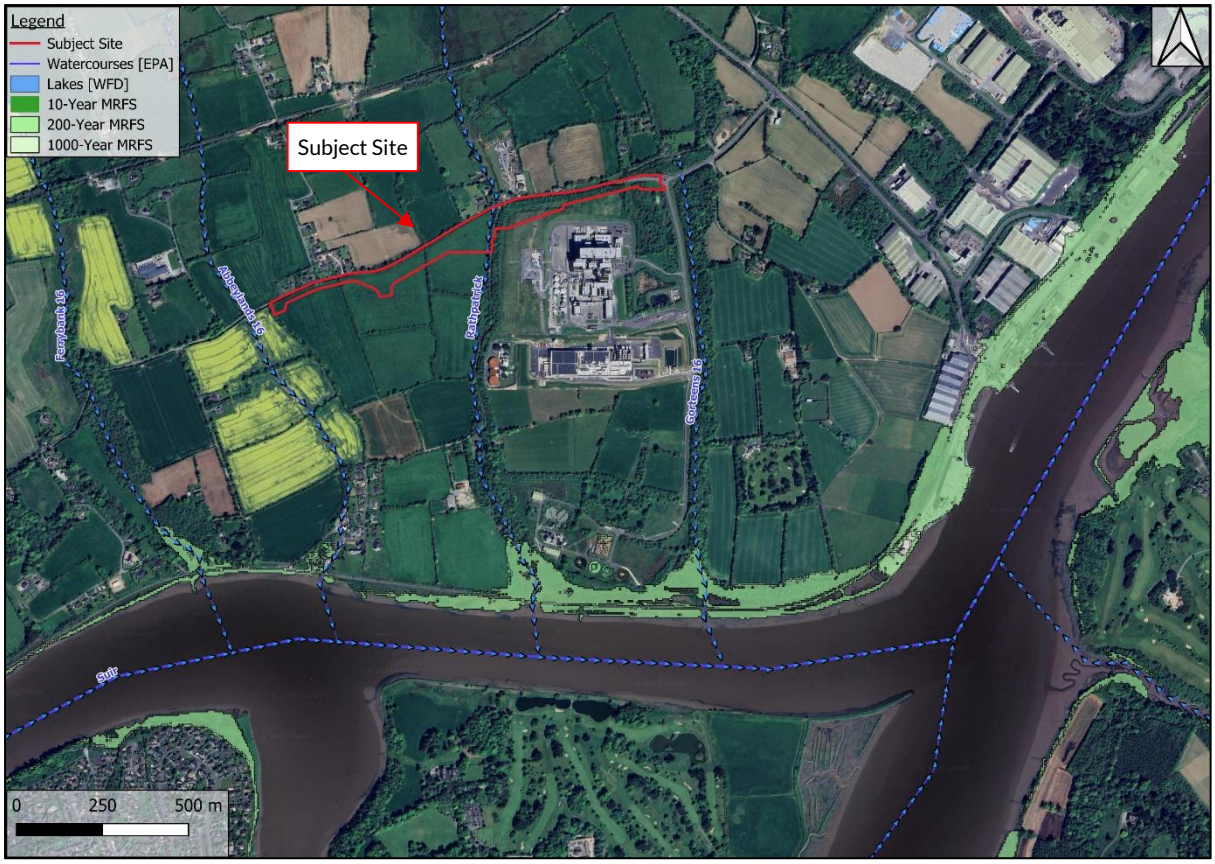


Figure 3-4: NCFHM MRFS flood extents

3.4 CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

In 2015, the OPW produced flood maps as part of the Catchment Flood Risk Assessment and Management (CFRAM) Study. The flood extents in these maps are based on detailed modelling of Areas for Further Assessment identified by the National Preliminary Flood Risk Assessment.[5].

3.4.1 Fluvial Flood Risk (CFRAM)

River Suir, which is located south of the subject site was modelled as part of the CFRAM Study. CFRAM mapping of the 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) current predicted fluvial flood extents shown in Figure 3-5. The predicted flood mapping produced as part of the CFRAM study indicates that the subject site is not liable to fluvial flooding during a 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) event.

Based on the fluvial flood extent mapping produced as part of the CFRAM study, the subject site is located entirely within Flood Zone C.

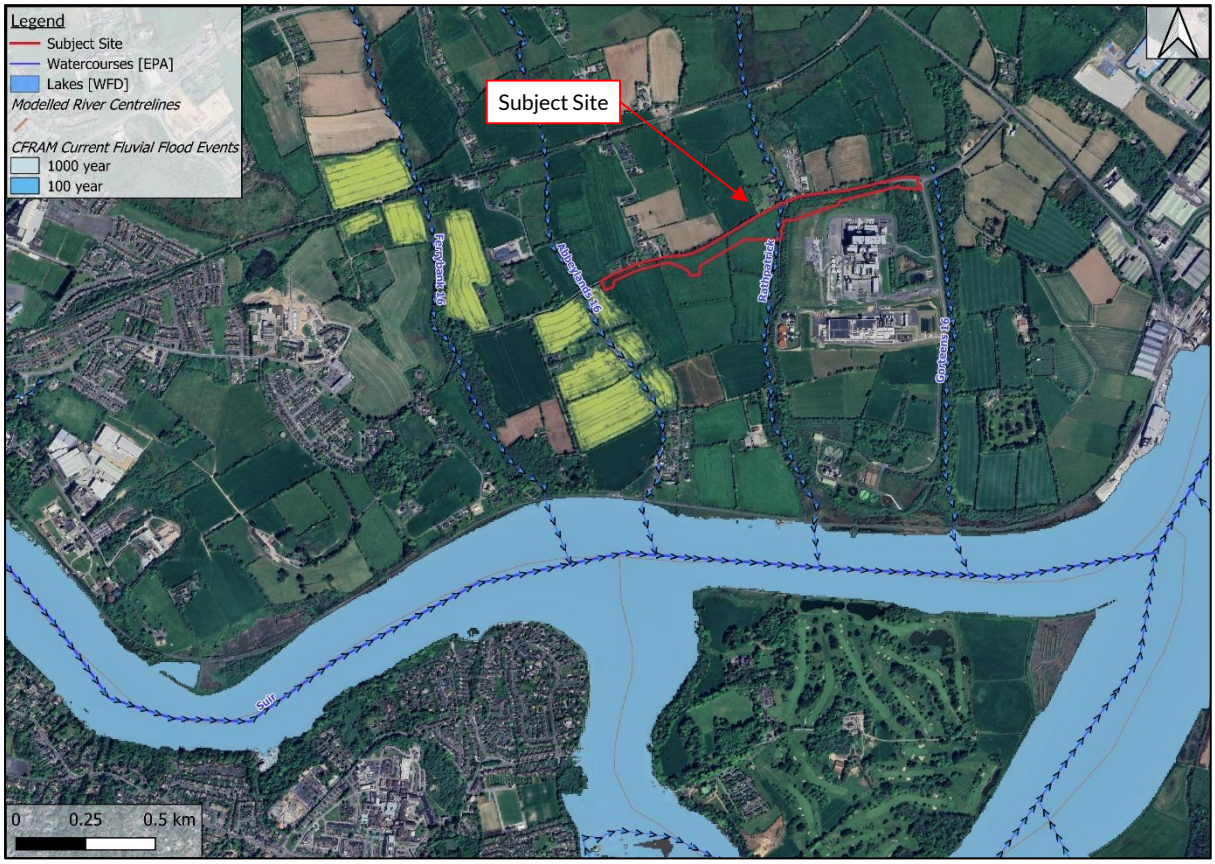


Figure 3-5: CFRAM Current Fluvial Flood Extents

The CFRAM Study also completed mapping which included an allowance for climate change for the mid-range future scenario (MRFS). Figure 3-6 shows the MRFS fluvial flood extents produced as part of the CFRAM Study during the 1 in 100-year (1% AEP) and 1 in 1000-year (0.1% AEP) MRFS flood events. The subject site is again not shown to be at risk of fluvial flooding.

[5] https://www.floodinfo.ie/about_frm/

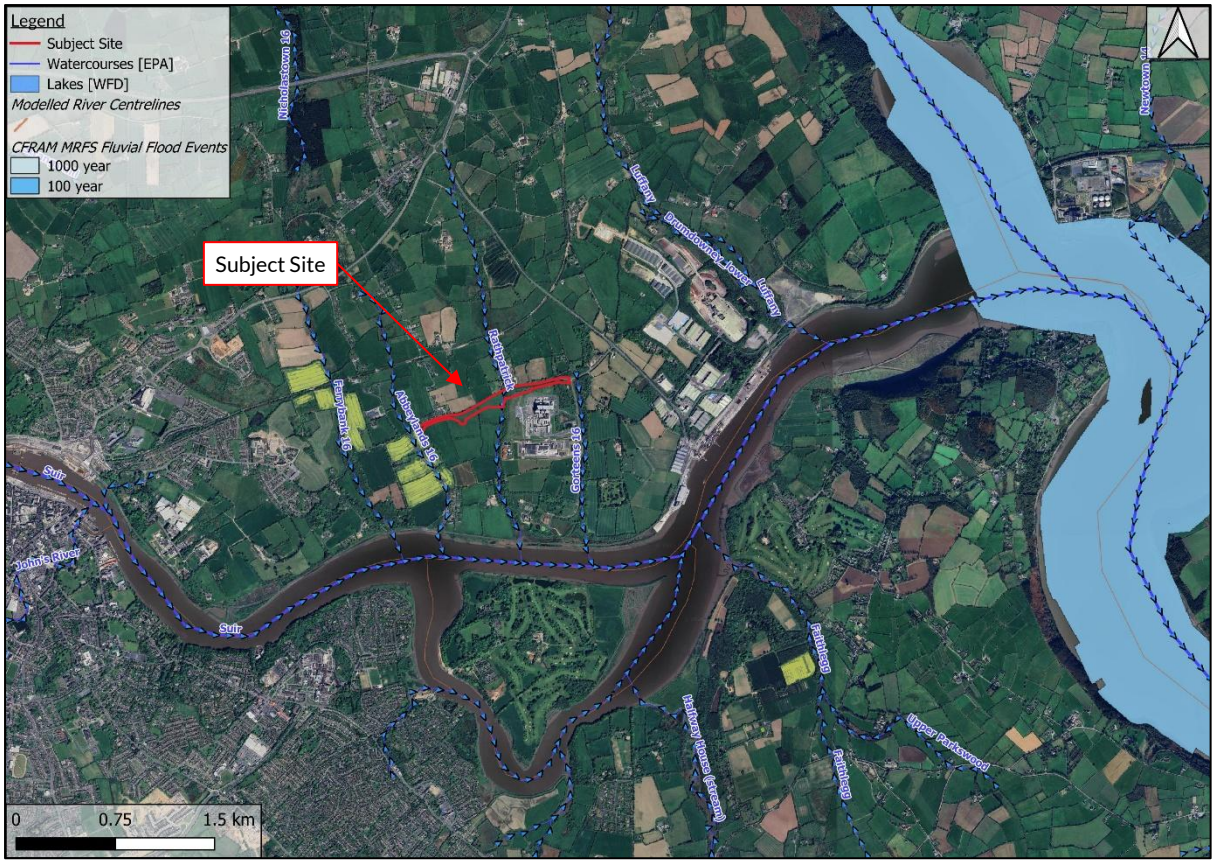


Figure 3-6: CFRAM MRFS Fluvial Flood Extents

3.4.2 Coastal Flood Risk (CFRAM)

The River Suir, adjacent to subject site is estuarine in nature, due to its distance to the coast (approx. 6km). The CFRAM coastal study is superseded by the NCFHM and therefore, the NCFHM will be used as a basis of assessment of flood risk at the subject site.

3.5 OPW Drainage Districts and Arterial Drainage Schemes

The OPW Drainage Districts were carried out by the commissioners of Public Works under several drainage and navigation acts from 1842 to the 1930s to improve land for agriculture and to mitigate flooding.[6] The local authorities are charged with the responsibility to maintain Drainage Districts.

Benefited lands are areas that were previously to poor drainage and/or flooding but that have benefited from the implementation of Arterial Drainage Schemes carried out under the Arterial Drainage Act 1945.

Although the River Suir is a land commissioned watercourse the subject site has not benefited from any arterial drainage scheme and is not located in a Drainage District.

[6] www.floodinfo.ie

3.6 GEOLOGICAL SURVEY IRELAND MAPPING

Based on a review of the OPW's Preliminary Flood Risk Assessment (PFRA) mapping (see Figure 3-2) there is no noted risk of groundwater flooding to the subject site.

GSI Groundwater Flooding Probability Maps[7] for the subject site were reviewed (as shown in Figure 3-7). There are no areas of GSI historic groundwater or surface water flood extents noted in the vicinity of the subject site. Surface water has been recorded within 1.2km west of the subject site on the opposite side of Ferrybank Stream. The closest groundwater flood extent was located 9km northwest of the subject site. The surface water feature is not within the same catchment and therefore not expected to be hydraulically linked to the site.

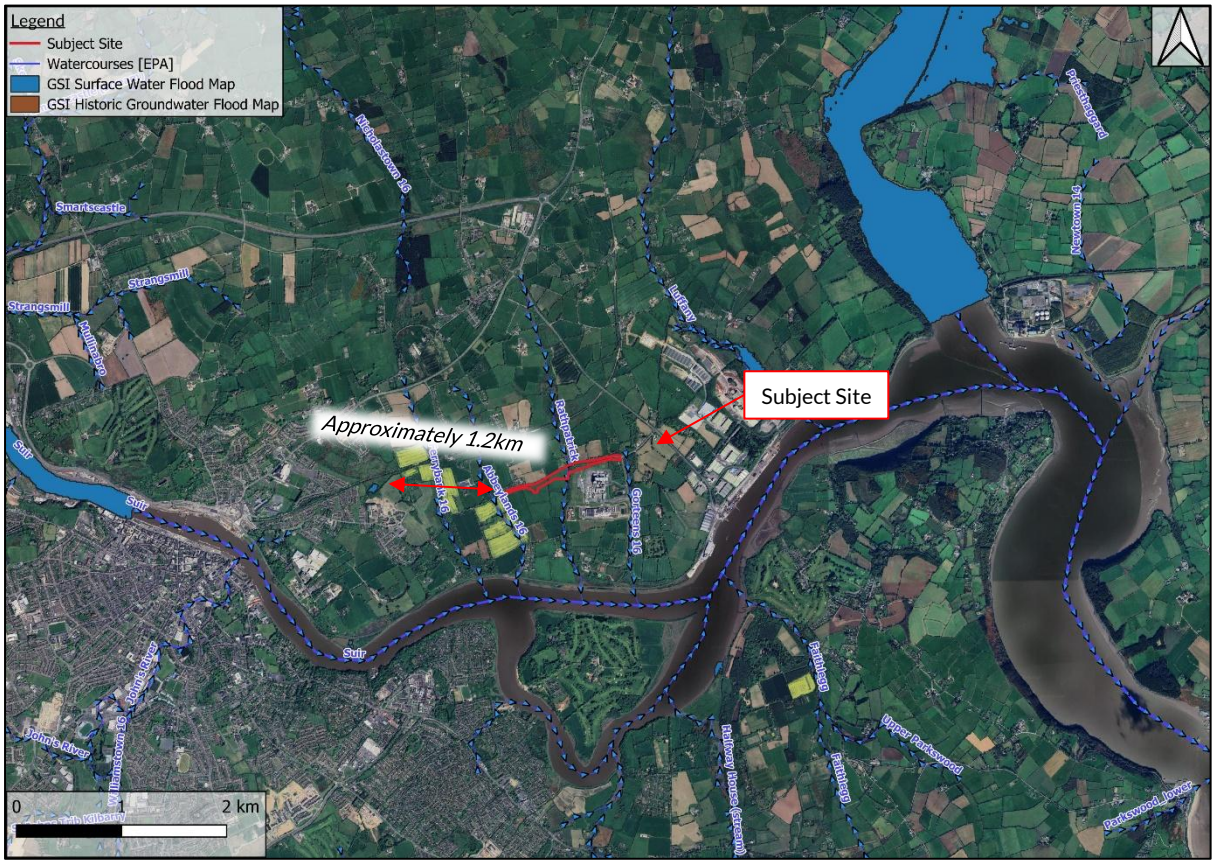


Figure 3-7: GSI Mapping of Groundwater and Surface Water Flooding

Geological Survey Ireland (GSI) subsurface mapping of karst features[8] in the area show that there is no karst features located in the vicinity of the subject site (see Figure 3-8). The closest karst feature to the subject site is a spring feature located approximately 6.6km northwest of the subject site, north of the River Suir watercourse. This karst feature is not located within the same catchment as the subject site and therefore, is not expected to be hydraulically linked to the site.

[7]FloodInfo.ie | National Flood Information Portal, Available at: https://www.floodinfo.ie/map/floodmaps/

[8]GSI Groundwater Data Viewer, Available at: https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=7e8a202301594687ab14629a10b748ef

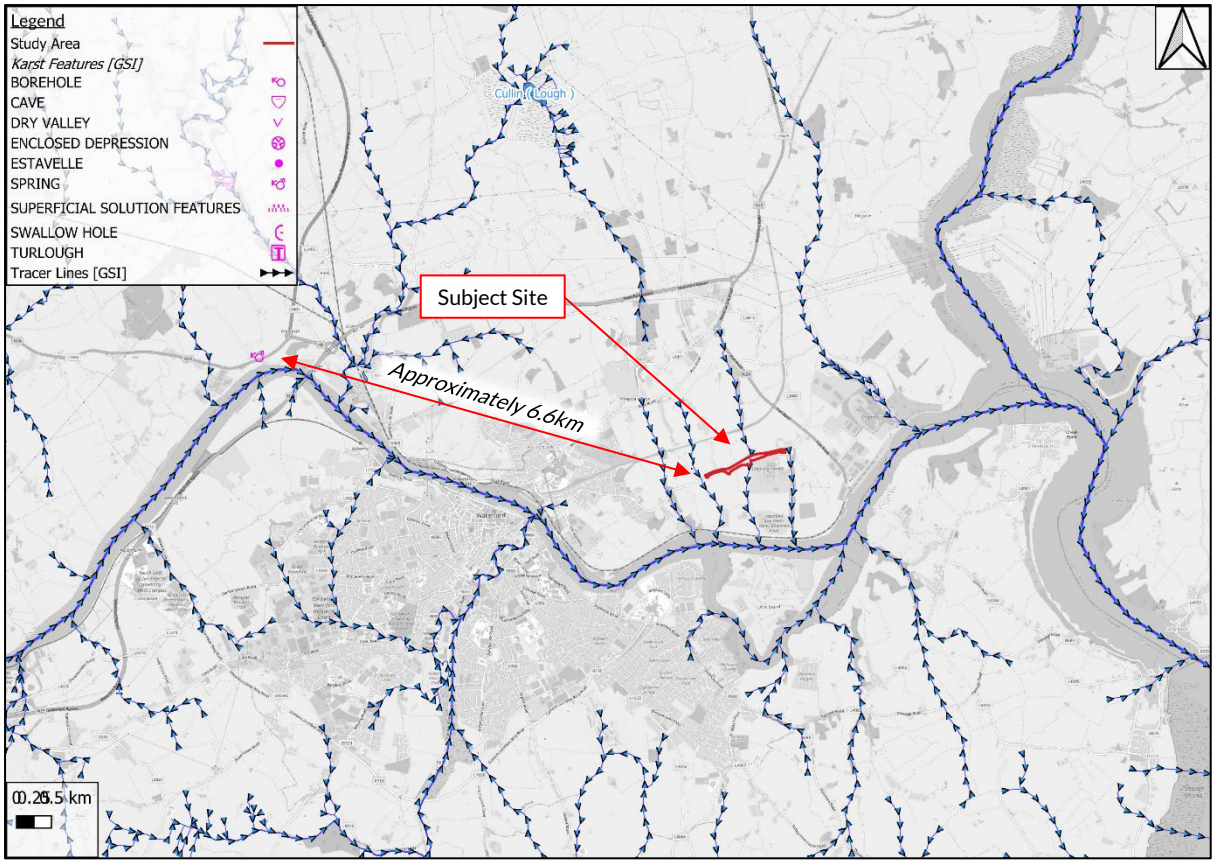


Figure 3-8: GSI Mapping of Karst Features

3.7 SITE SPECIFIC HYDRAULIC MODEL

A site-specific hydraulic model was created as part of the Section 50 application for the proposed crossing over the Rathpatrick Stream and was used to assess the fluvial flood risk from the Rathpatrick Stream to the subject site. The model results showed that in a 1 in 1000-year (0.1% AEP) MRFS event the maximum water level does not exceed the level of the banks at any location. It should also be noted that based on topographic surveys there is an embankment located on the left bank of the stream. The results of the model, through a section of the subject site is shown in Figure 3-9.

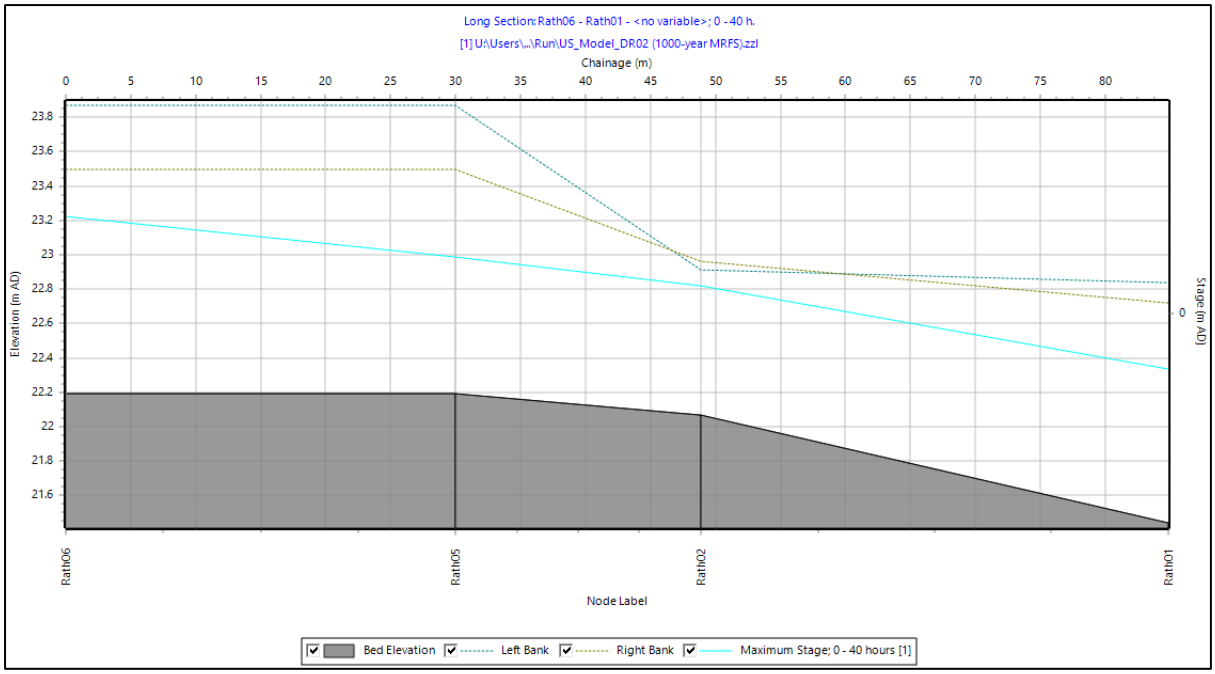


Figure 3-9: 1 in 1000-year (0.1% AEP) MRFS water level through the site

4. DETAILED FLOOD RISK ASSESMENT

With reference to the PSFRM guidelines, the proposed development is comprised of "highly vulnerable" elements.

Therefore, the essential infrastructure (such as primary transport) is "highly vulnerable" and therefore should be located in Flood Zone C (less than 0.1% AEP river flood risk).

4.1 FLUVIAL FLOODING

The hydraulic feature of consideration for the subject site is the Rathpatrick Stream, which is a tributary of the River Suir. CFRAM mapping was available for the River Suir and indicated that the subject site is not liable to fluvial flooding in a 1 in 100-year (1% AEP) or 1 in 1000-year (0.1% AEP) MRFS event. This mapping however did not include the Rathpatrick Stream.

As a results, the site-specific hydraulic model, which was created as a basis of assessment for the stream crossings Section 50 application, was used to assess the flood risk from the Rathpatrick Stream at the subject site. The model showed that in a 1 in 1000-year (0.1% AEP) MRFS event, the flood water level did not exceed the banks of the stream and was therefore maintained within the channel. Also to be noted is that based on the topographic survey, there is an embankment located on the left bank of the stream which will provide further protection.

In addition to this, mapping produced as part of the Ferrybank/Belview LAP SFRA showed that the areas adjacent to the stream were located in Flood Zone C.

Therefore, it is estimated that risk of fluvial flooding associated with the proposed development is minimal.

4.2 COASTAL FLOODING

The subject site is approximately located 6km inland from coastal waters, with minimum site elevations of approximately 20mOD. The nearest predicted 0.1% AEP HEFS coastal flood level (4km east of the subject site) is estimated by the South Coast ICWWS Study to be approximately 4.12mOD [Point 4].[9] Therefore, it is estimated that risk of coastal flooding associated with the proposed development is minimal.

4.3 PLUVIAL FLOODING

The PFRA indicative mapping indicates one area of pluvial flooding located within the subject site.

Surface water arising on the proposed development will be managed by a dedicated stormwater drainage system in accordance with Sustainable Drainage Systems (SuDS) principles, limiting discharge from the site to greenfield runoff rates.

The landscaping and topography of the developed subject site will provide safe exceedance flow paths and prevent surface water ponding to minimise residual risks associated with an extreme flood event or a scenario where the stormwater drainage system becomes blocked.

[9] Coastal Map - Floodinfo.ie

Therefore, it is estimated that risk of pluvial flooding associated with the proposed development is minimal.

4.4 GROUNDWATER FLOODING

Based on a review of Geological Survey Ireland (GSI) subsurface mapping of karst features (Figure 3-8), predicted no groundwater flooding in the area (Figure 3-7), and the PFRA study (Figure 3-2), there is no evidence to suggest liability to groundwater flooding at the subject site.

5. CONCUSIONS

TOBIN were appointed by IDA Ireland to carry out a Stage 2 FRA for the proposed road at Belview, Co. Kilkenny.

The PSFRM Guidelines also categorise different types of development into three vulnerability classes based on their sensitivity to flooding. The guidelines classify essential infrastructure (such as primary transport) as "highly vulnerable" (appropriate in Flood Zone C, less frequently than 0.1% AEP fluvial flood risk).

Fluvial Flooding

The Rathpatrick Stream, a tributary of the River Suir, is the key hydraulic feature near the site. While CFRAM mapping for the River Suir shows no fluvial flood risk at the site for both 1% and 0.1% AEP MRFS events, it does not cover the Rathpatrick Stream. A site-specific hydraulic model developed for a Section 50 application indicates that even in a 0.1% AEP MRFS event, floodwaters remain within the stream channel. An embankment on the left bank, confirmed by topographic survey, provides additional protection. Furthermore, the SFRA for the Ferrybank/Belview LAP places the area in Flood Zone C.

Therefore, it is estimated that the risk of fluvial flooding to the proposed extension is minimal.

Coastal Flooding

The subject site is approximately located within 6km inland, indicating a minimal potential risk of coastal flooding to the site. Ground levels at the site are at minimum 20mOD, and the 1 in 1000-year (0.1% AEP) HEFS water level is 3.62mOD. Therefore, the risk of coastal flooding to the subject site is minimal.

Pluvial Flooding

The PFRA indicative mapping indicates one area of pluvial flooding located within the subject site.

Surface water arising on the proposed development will be managed by a dedicated stormwater drainage system in accordance with Sustainable Drainage Systems (SuDS) principles, limiting discharge from the site to greenfield runoff rates.

The landscaping and topography of the developed subject site will provide safe exceedance flow paths and prevent surface water ponding to minimise residual risks associated with an extreme flood event or a scenario where the stormwater drainage system becomes blocked.

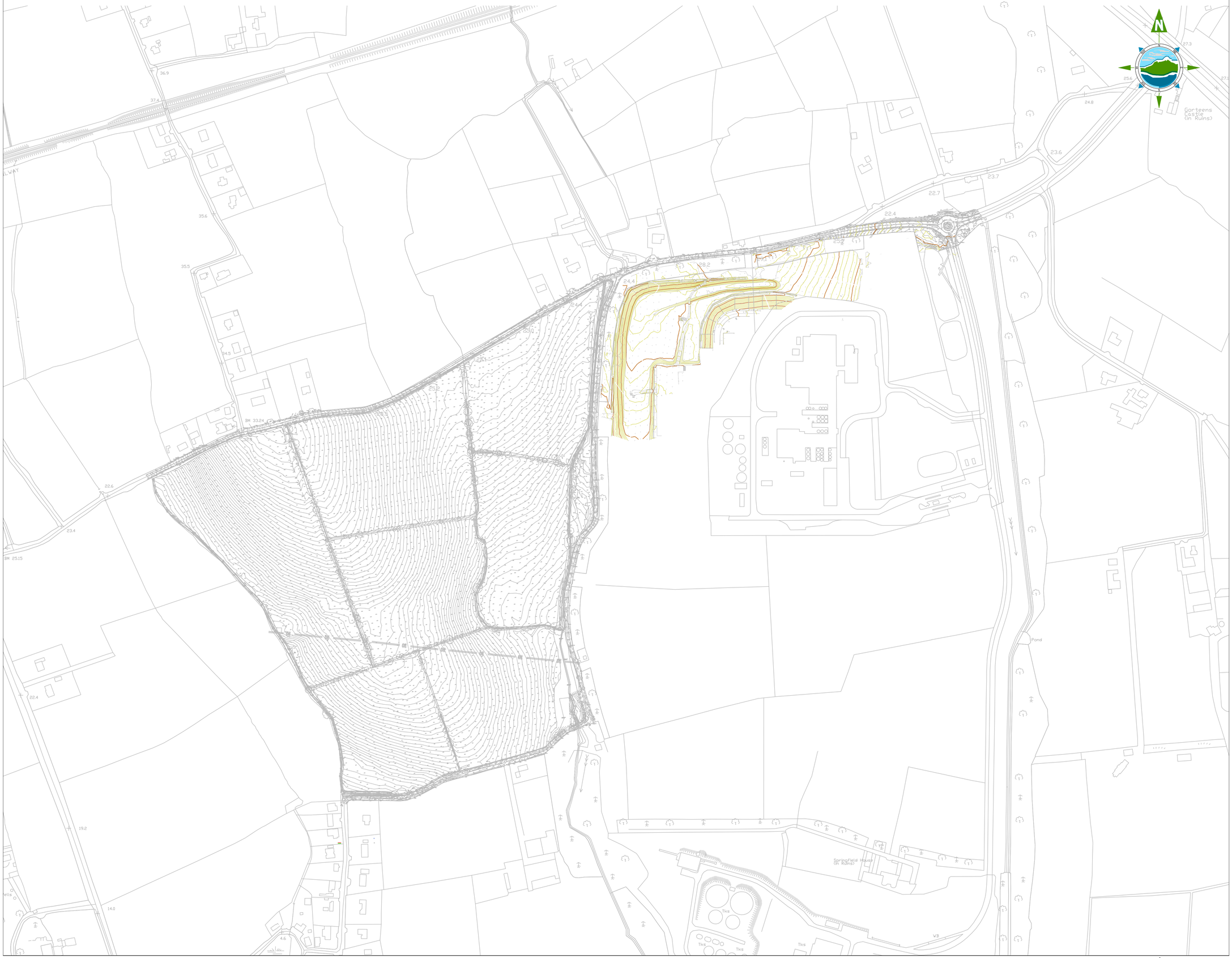
Therefore, it is estimated that risk of pluvial flooding associated with the proposed development is minimal.

Groundwater Flooding

There is no evidence to suggest groundwater as a potential source of flood risk to the proposed development at the subject site.

Based on the results of this flood risk assessment, the proposed development is appropriately located in Flood Zone C and that the development will not increase the risk of flooding elsewhere.

Appendix A TOPOGRAPHIC SURVEY



THE INFORMATION ON THIS DRAWING IS TO THE ORDNANCE SURVEY IRELAND ITM COORDINATE SYSTEM

NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES.
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
T0	23.07.25	Tender Issue	AP	AT

Client: IDA Ireland

Project:
PROVISION OF INFRASTRUCTURE DELIVERY FOR IDA IRELAND BELVIEW, CO. KILKENNY

Title:
Topographic Survey

Scale @ A1: 1:2500

Prepared by: A.P
Checked by: A.T
Date: 23.07.2025

Drawing Status: Tender

TOBIN
Tel: +353 (0)91 565 211
Email: info@tobin.ie
www.tobin.ie

Drawing No.: 12001-1001
Revision: A

Appendix B SITE LAYOUT

THE INFORMATION ON THIS DRAWING IS TO THE TAILTE ÉIREANN - SURVEYING ITM COORDINATE SYSTEM

LEGEND:

- RED LINE BOUNDARY
- PROPOSED ACCESS ROAD
- PROPOSED CYCLE LANE
- PROPOSED FOOT PATH
- PROPOSED LANDSCAPING
- SHARED SURFACE
- PCC KERB
- DROP KERB
- BUFF COLOURED TACTILE PAVING
- RED COLOURED TACTILE PAVING
- PROPOSED ROAD LEVEL (+68.145m)
- PROPOSED ROAD GRADIENT (1/25)
- TRAMLINE PAVING
- WARNING COLOR PAVING
- SPLITTER ISLAND
- PROPOSED BERM
- PROPOSED DRAINAGE DITCH
- PROPOSED FENCING
- PROPOSED POND
- PROPOSED NOISE BARRIER IN ACCORDANCE WITH TRANSPORT INFRASTRUCTURE IRELAND DETAIL CC-SCD-00323

VEHICLE ACCESS TO THE EXISTING ROAD SHALL BE PERMANENTLY CLOSED. THE CLOSURE SHALL BE ACHIEVED BY FORMING A LANDSCAPE BUND TO PREVENT THROUGH_MOVEMENT AND SIGHT ACROSS THE SITE. MOUNTABLE STAINLESS-STEEL BOLLARDS SHALL BE INSTALLED TO FURTHER RESTRICT UNAUTHORISED VEHICULAR ACCESS.

DRAWING 12001-2027

PEDESTRIAN ACCESS TO EXISTING ROAD

EXISTING ROUNDABOUT- WESTERN ARM TO BE UPGRADED

DRAWING 12001-2026

ACCESS TO BE CLOSED OFF

LOCATION OF PROPOSED CULVERT

ITM COORDINATES X:664362 Y:613321

VEHICLE ACCESS TO THE EXISTING ROAD SHALL BE PERMANENTLY CLOSED. THE CLOSURE SHALL BE ACHIEVED BY FORMING A LANDSCAPE BUND TO PREVENT THROUGH_MOVEMENT AND SIGHT ACROSS THE SITE. MOUNTABLE STAINLESS-STEEL BOLLARDS SHALL BE INSTALLED TO FURTHER RESTRICT UNAUTHORISED VEHICULAR ACCESS.

DRAWING 12001-2025

INDICATIVE LOCATION OF A NOISE BARRIER, EXACT LOCATION TO BE CONFIRMED AT DETAIL DESIGN

INDICATIVE LOCATION OF A NOISE BARRIER, EXACT LOCATION TO BE CONFIRMED AT DETAIL DESIGN

TIE IN TO EXISTING BERM

DRAWING 12001-2024

PROPOSED GATE

TIE IN TO EXISTING BERM

PROPOSED GATE

TIE TO EXISTING ROAD

INDICATIVE ALIGNMENT TO OPEN UP IDA LANDS. PROVISION FOR FUTURE CONNECTION.

NOTES:

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Rev	Date	Description	By	Chkd.
D6	26.03.2026	Issue for Planning	CP	NC
D5	18.02.2026	Draft Issue - Alignment Revised	NC	MG
D4	15.07.2025	Draft Issue	AO	SB
D3	25.06.2025	RSA Issue	AO	MG
D2	15.05.2025	Draft Issue	AO	MG
D1	10.04.2025	Draft Issue	AO	MG
D0	28.03.2025	Draft Issue	AO	SB

Client: Kilkenny County Council

Project: IDA Belview Infrastructure Development

Title: Proposed Access Road Layout Masterplan

Scale @ A1: 1:2000

Prepared by: PD | Checked by: SB | Date: 14.10.2024

Drawing Status: Planning

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Drawing No.: 12001-2001 | Revision: D6