



**DUBLIN CITY COUNCIL**

**DESKTOP FLOOD RISK ASSESSMENT**

**SOCIAL HOUSING BUNDLE 4,  
DEVELOPMENT AT  
CROKE VILLAS, SACKVILLE AVENUE.**

Job: 23006

Date: July 2024

## Contents Amendment Records

**Document:** Desktop Flood Risk Assessment

**Project:** Social Housing Bundle 4, Development at Croke Villas, Sackville Avenue

**Client:** National Development Finance Agency and Dublin City Council

**Job Number:** 23006

**Prepared By:** Caolan Carty

**Signed:**



**Checked By:** Corwun O'Brien

**Signed:**



**Approved By:** Douglas Weir

**Signed:**



Revision	Date	Description	Prepared By	Checked By	Approved By
PL	April 2024	Pre-planning Issue	C Carty	C O'Brien	D Weir
P3	July 2024	Part 8	C Carty	C O'Brien	D Weir

# CONTENTS

	Page No.
<b>1 INTRODUCTION.....</b>	<b>1</b>
<b>2 PROPOSED SITE DESCRIPTION.....</b>	<b>2</b>
2.1 Site Description	2
2.2 Surrounding Watercourse	2
2.3 Project Description	3
2.4 Land Use Zone	4
2.5 Existing Topography Levels at Site	6
<b>3 FLUVIAL FLOOD RISK ASSESSMENT.....</b>	<b>8</b>
3.1 The National Preliminary Flood Risk Assessment	8
3.2 Climate Change	9
3.3 OPW Flood Records	9
3.4 Ordnance Survey Historic Mapping	10
3.5 Strategic Flood Risk Assessment, Dublin City Development Plan 2022 – 202811	10
<b>4 OTHER FLOOD SOURCES.....</b>	<b>14</b>
4.1 Tidal Flooding	14
4.2 Pluvial Flooding	14
<b>5 SEQUENTIAL APPROACH TO PLANNING.....</b>	<b>16</b>
5.1 Flood Zones	16
5.2 Vulnerability Class of Proposed Development	16
<b>6 SUMMARY AND CONCLUSIONS.....</b>	<b>19</b>

Appendix A – Land Use Zoning Map  
Appendix B – Past Flood Summary Report  
Appendix C – DCC Composite Flood Map  
Appendix D – DCC Justification Test

## 1 INTRODUCTION

This Desktop Flood Risk Assessment (DFRA) has been prepared on behalf of the National Development Finance Agency (NDFA) and Dublin City Council, to accompany a Part 8 proposal for the development of 52no. residential units on a site of circa 0.88 hectares in area, located at Croke Villas, Sackville Avenue, Dublin 3. The full development description given in Section 2.3.

The purpose of this DFRA is to assess the potential flood risk to the proposed development site 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 floor levels relate to Ordnance Datum (Malin) unless stated otherwise.

The flood risk assessment has been carried out in accordance with the Government's 2009 Planning System and Flood Risk Management Guidelines (hereafter referred to as the 2009 Planning Guidelines). These guidelines adopt a staged approach to the assessment of flood risk.

This report describes a Stage 2 Initial Flood Risk Assessment which is defined within the 2009 Planning Guidelines as follows:

*“A qualitative or semi-quantitative study to confirm sources of flooding that may affect a plan area or proposed development site, to appraise the adequacy of existing information, to provide a qualitative appraisal of the risk of flooding to development, including the scope of possible mitigation measures, and the potential impact of development on flooding elsewhere, and to determine the need for further detailed assessment.”*

The study was principally focused on examining flooding risks to the proposed site from the Tolka River and Royal Canal.

## 2 PROPOSED SITE DESCRIPTION

### 2.1 Site Description

The proposed site contains an existing four-storey block of flats. The site is located in Dublin 3 and is bordered by Sackville Avenue to the north, Ballybough Road to the east, Sackville Gardens and a railway line to the south, and Croke Park to the west. The site surrounds the GAA handball facility, which is not included within the red line boundary. The bordering areas are primarily residential, with the exception of Croke Park.

The total area of the proposed development site is c.0.88 hectares.

The location of the proposed site is illustrated in Figure 1 below.



Figure 1 – Site Location showing the indicative Site Boundary and Adjacent Developments

### 2.2 Surrounding Watercourse

The most significant hydrological feature within the vicinity of the site is the Royal Canal, which connects the River Liffey to the Upper Shannon. The southern site boundary is approximately 20m from the canal at the closest point. The canal connects to the River Liffey approximately 1.3km to the southeast.

The other significant hydrological feature is the Tolka river which is located approximately 450m northeast of the site. The river flows southeast to enter the Dublin Bay just north of its midpoint. The mouth of the river lies in the Irish sea.

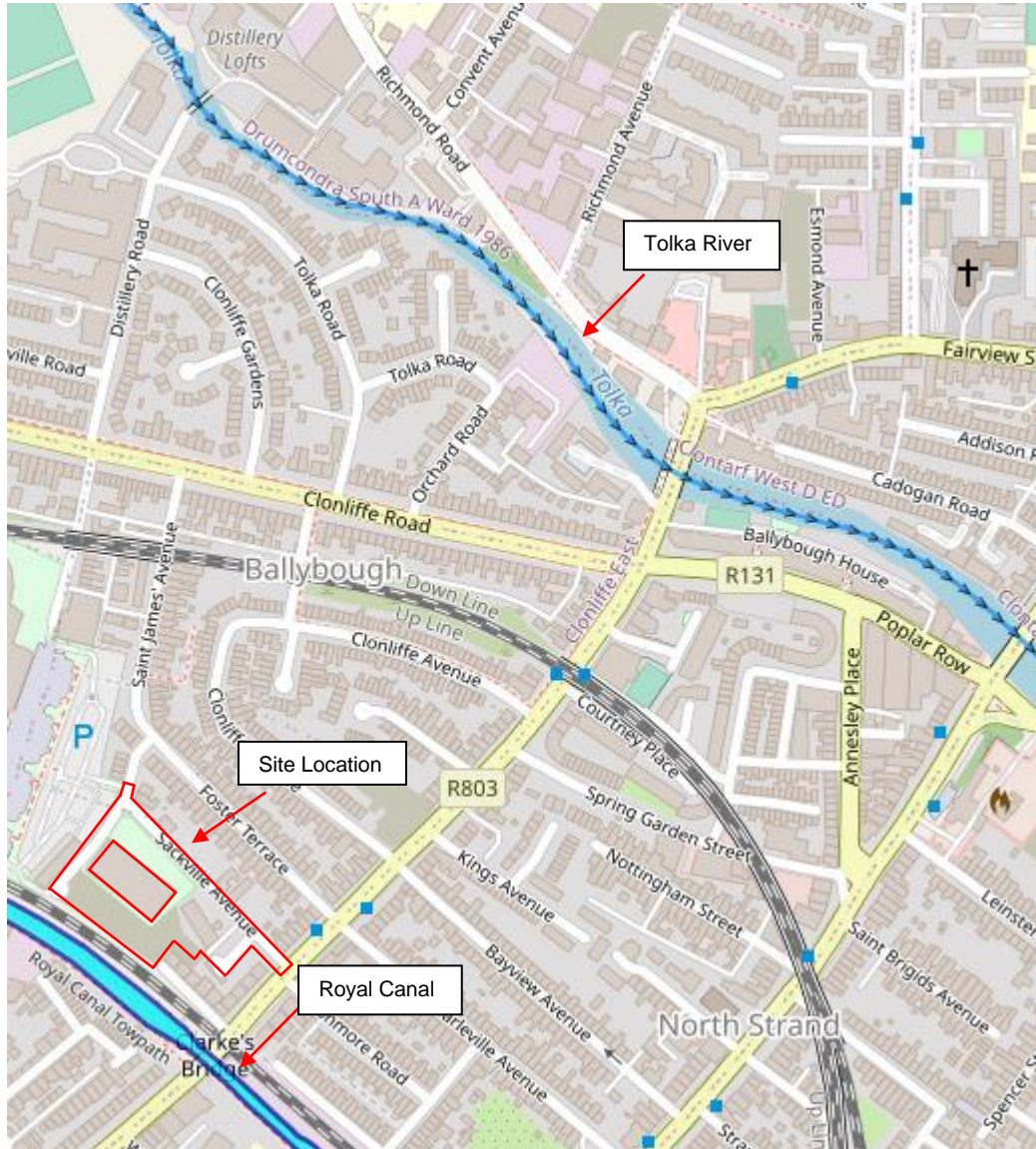


Figure 2 – Surrounding Watercourse  
(Extract from the EPA Maps)

### 2.3 Project Description

The project description is as follows;

Notice is hereby given of the construction of 52 no. apartments at a site c.0.88 ha at Croke Villas, Sackville Avenue, bounded by Ballybough Road, Sackville Gardens, Sackville Avenue, Ardilaun Square, Ardilaun Road and GAA National Handball Centre, Dublin 3, which will consist of the following:

- Clearance works at the site will comprise the removal of walls and perimeter fencing and an allotment garden at the Croke Villas site bounded by Ballybough Road, Sackville Gardens, Sackville Avenue, Ardilaun Square, Ardilaun Road and GAA National Handball Centre. A wall along the boundary of the site and Irish Rail lands and railway line (to the south) will also be removed and replaced with a new boundary wall.
- Demolition of 1 no. remaining Croke Villas flat block will be demolished in accordance with PA. Reg. Ref. 2946/16
- Construction of two apartment blocks between 4 to 5 storeys, consisting of a total of 52 no. residential units:
  - Block A consists of 35 no. residential units (1 no. 1 bed and 34 no. 2 bed apartments); and
  - Block B consists of 17 no. residential units (4 no. 1 bed and 13 no. 2 bed apartments) and 152 sqm of internal community, arts and cultural space at ground floor.
- 4 no. car parking spaces and 129 no. cycle spaces.
- Sackville Gardens street will be extended to join with Ardilaun Square to form a new perimeter street to the southern edge of Block A, which will function as a new pedestrian and cycle link and also serve as an emergency vehicle access.
- Removal of undesignated car parking spaces along Sackville Avenue and construction of a new Boulevard on Sackville Avenue from the Ballybough Road junction to Ardilaun Road, which will also facilitate vehicular access.
- Provision of c. 961 sqm public open space, c.500 sqm communal open space, c.367 sqm private open space and 68 sqm of outdoor community, arts and cultural space (55 sqm facing Sackville Avenue and 13 sqm in internal courtyard).
- Boundary treatments, public lighting, site drainage works, road surfacing and footpaths, ESB substation, ESB meter rooms, plant rooms, stores, bin and bicycle storage, landscaping; and
- All ancillary site services and development works above and below ground.

#### 2.4 Land Use Zoning

Land use zoning map is used in order to assess which types of developments, based on vulnerability to flood risk, are appropriate for each Flood Zones.

Where developments/land uses are proposed that are considered inappropriate to the Flood Zone that may be identified in the future at project level following adoption of the Plan, then a Development Management Justification Test and site-specific Flood Risk Assessment will be required in accordance with The Planning System and Flood Risk Management Guidelines 2009 (and as updated).

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

Vulnerability Class	Land Use and Types of Development which include
Water compatible development Contd.	Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms; and Essential ancillary sleeping or residential accommodation for staff required by uses in this category (subject to a specific warning and evacuation plan).

*Table 1 - Matrix of Vulnerability vs. Flood Zone*  
(Extract from the Strategic Flood Risk Assessment of the Dublin City Development Plan 2022-2028)



Refer to Flood Risk Management Guidelines 2009 and 'Strategic Flood Risk Assessment for the Dublin CDP 2022-2028' for additional detail:

- Highly vulnerable developments include houses, schools, hospitals, residential institutions, emergency services, essential infrastructure, etc.
- Less vulnerable developments include economic uses (retail, leisure, warehousing, commercial, industrial, non-residential institutions, etc.), land and buildings used for agriculture or forestry, local transport infrastructure, etc.

Land use zone map is provided in the SFRA of the Dublin CDP 2022-2028. The different land zone is illustrated in Figure 3 below and the full map is provided in Appendix A.

The proposed development is located within land zoned as “Z1: Sustainable Residential Neighbourhoods – To protect, provide and improve residential amenities” and “Z9: Amenity/ Open Space Lands/ Green Network.”

The lands to north and east are within land zones as “Z1: Sustainable Residential Neighbourhoods”. There is the Royal Canal to the south which is zoned as “Z11: Waterways Protection.” Croke Park to the West is zoned as “Z9: Amenity/ Open Space Lands/ Green Network.”



Figure 3 – Land Use Zoning Map  
(Extract from SFRA of the Dublin CDP 2022 – 2028)

## 2.5 Existing Topography Levels at Site

A topographical survey has been completed for the site, which shows the site is flat with levels generally between 3.5m and 4.5m O.D. The area to the south of the site, at the rear of the GAA facility, is very slightly elevated by approximately 0.5 - 1m. This area was identified in the site investigations as predominantly made ground.

The existing four-storey apartment block will be demolished under a separate, previously-granted Part 8 permission.

### 3 FLUVIAL FLOOD RISK ASSESSMENT

The following sources of information were reviewed in order to identify any flood risk to the proposed development site as a result of fluvial flooding:

- The National Preliminary Flood Risk Assessment (PFRA) – Overview Report & Indicative Flood Maps
- Climate Change
- OPW Flood Records from [www.floodmaps.ie](http://www.floodmaps.ie)
- Ordnance Survey Historic Mapping
- Strategic Flood Risk Assessment, Dublin City Development Plan 2022 – 2028

#### 3.1 The National Preliminary Flood Risk Assessment

The National Preliminary Flood Risk Assessment (PFRA), which was carried out by the OPW in March 2012, identified Areas of Further Assessment (AFA) where further, more detailed assessment was required to determine the degree of flood risk. Flood Risk Assessment Maps were prepared by the Catchment Flood Risk Assessment and Management (CFRAM) Study which indicates the extent of flooding caused by fluvial flood events with an annual exceedance probability (AEP) of 10% (10yr event), 1% (100yr event) and 0.1% (1000yr event) in these areas. The final versions of the maps were published in May 2017.

At the time of writing this report, the PFRA Maps for the Tolka River was under review and no information could be provided.



Figure 4 – CFRAM Fluvial Flood Extent Map (Extract from OPW)



However, action was taken after these severe flooding events. The river mouth which was subjected to flooding, was deepened and widened after each event. While the river is likely to flood in extreme rainfall, these efforts will mitigate the severity of any future flood events. Additionally, the site's location adjacent to the canal will help prevent flooding of the site.

Based on the information available, there has been a significant decrease in floods since 2002, and the site can be considered less prone to flooding than in the past.

### 3.4 Ordnance Survey Historic Mapping

Historic Groundwater Flood Maps were produced by Geological Survey Ireland. The historic groundwater flood map is a national-scale flood map presenting the maximum historic observed extent of karst groundwater flooding. The map is primarily based on the winter 2015/2016 flood event, which in most areas represented the largest groundwater flood event on record. The map was produced based on the SAR imagery of the 2015/2016 event as well as any available supplementary evidence. The floods were classified by flood type, differentiating between floods dominated by groundwater (GW) and floods with significant contribution of groundwater and surface water (GWSW).

The appropriate map for this site was the historical 6-inch map (pre-1900). Figure 6 below illustrates the historic mapping for the area of the proposed development site.

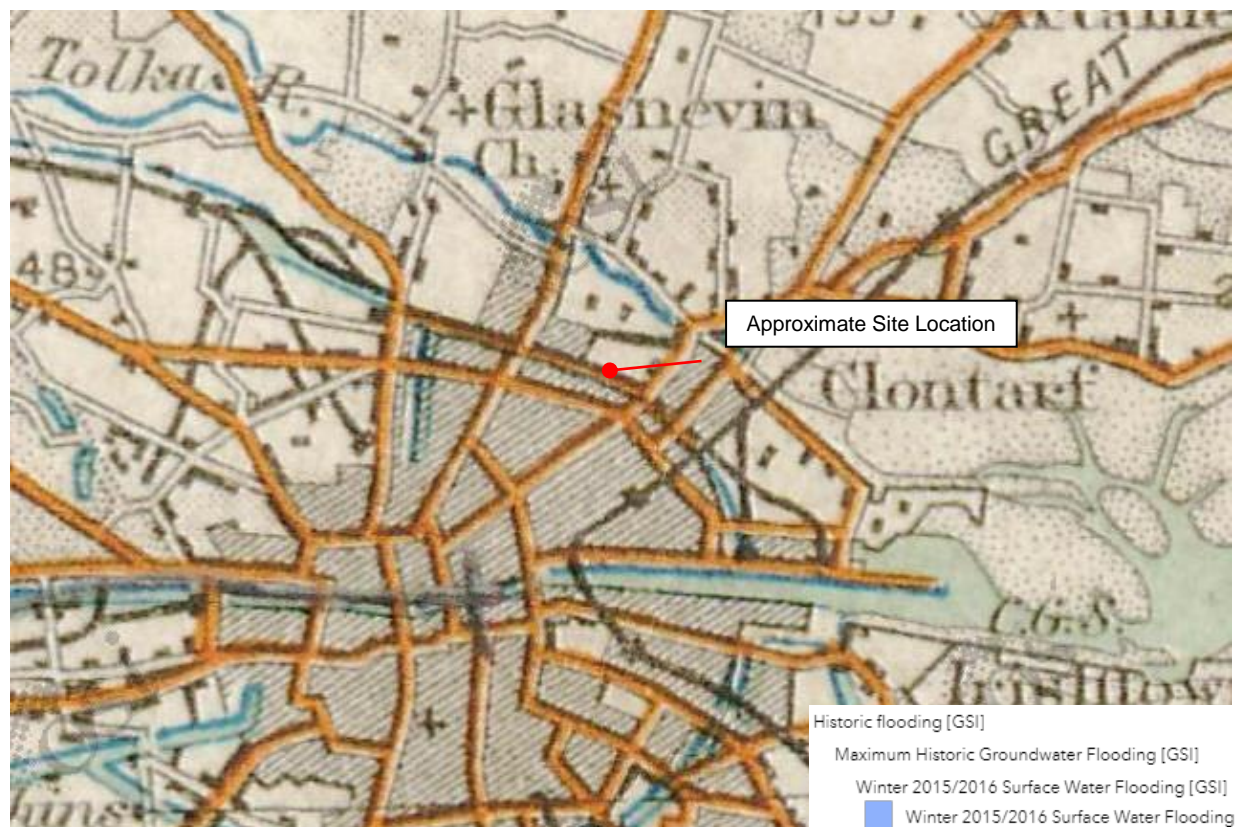


Figure 6 – Historic 6 Inch Mapping

Figure 6 illustrates that the historic 6-inch mapping does not indicate any historical or anecdotal instances of flooding within or adjacent to the boundary of the proposed

development site. The nearest historical flood zone is 6.3km north-west and should have no impact on the site.

3.5 Strategic Flood Risk Assessment, Dublin City Development Plan 2022 – 2028

A Strategic Flood Risk Assessment (SFRA), as required by ‘The Planning System and Flood Risk Management Guidelines for Planning Authorities’ (DEHLG and OPW, 2009), has been undertaken as part of the preparation of the Dublin City Development Plan 2022 2028.

3.5.1 Composite Flood Zone Map



The SFRA contains a Composite Flood Zone Map, the map is included in Appendix C, and an extract is shown in Figure 7.

Figure 8 indicates that the proposed development falls within a predictive Flood Zone C. There is both Zone A and Zone B within the vicinity of the site. It should be noted that the Zone areas are defended to the 1% AEP Fluvial level.

Figure 7 – Composite Flood Map – Zoomed In

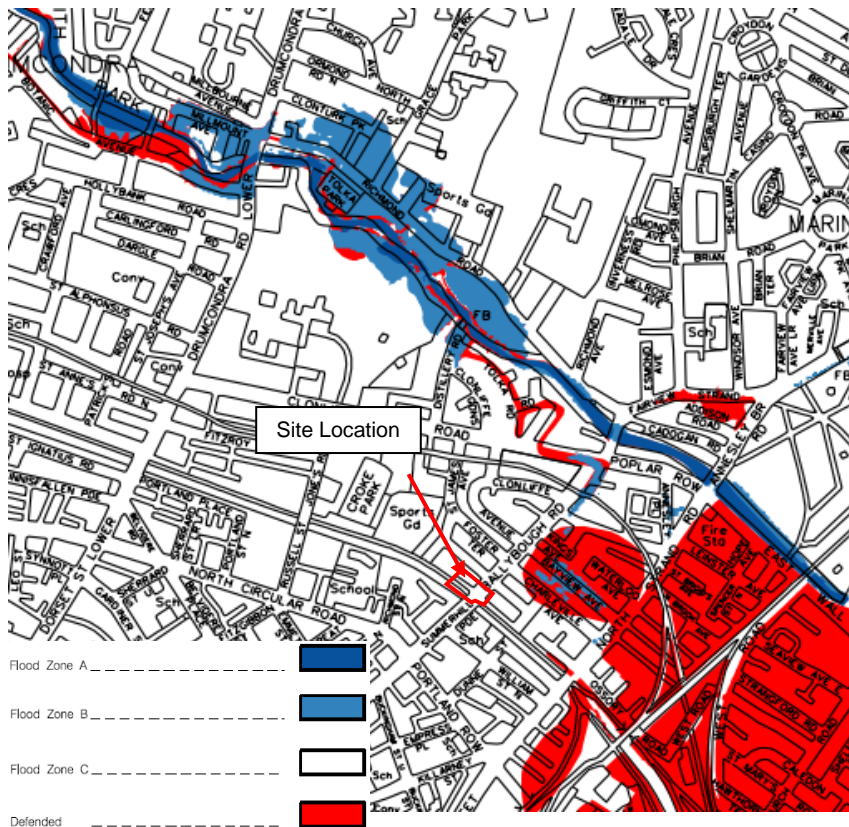


Figure 8 – Composite Flood Map  
 (Extract from the SFRA of the Dublin City Development Plan 2022 – 2028)

### 3.5.2 Justification Test

The Guidelines direct new development primarily towards areas at low risk of flooding. The Guidelines recognise that flood risks should not be the only deciding factor in zoning for development; the Guidelines recognise that circumstances will exist where development of a site in a floodplain is desirable in order to achieve compact and sustainable development of the core of urban settlements.

In order to allow consideration of such development the Guidelines provide a Justification Test, which establishes the criteria under which desirable development of a site in a floodplain may be warranted.

The full Justification test for the development site is provided in Appendix D. An extract from the Justification Test for is presented in Table 2. The development site is located within an area identified as 'Area 20 Tolka: Dublin Port to Drumcondra Bridge'.

#### Justification Test for Development Plans

##### 1. Urban Settlement is targeted for growth.

Yes: The subject site is within Dublin City, which is targeted for growth in the National Spatial Strategy 2002-2020, Regional Planning Guidelines for the Greater Dublin Area 2010-2022 and in the Dublin City Development Plan 2022-2028.

##### 2. The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:

###### i. Essential to facilitate regeneration and/ or expansion of the centre of the urban settlement.

Yes: This area is an established residential and mixed-use part of the inner suburbs. The Tolka River flows from Drumcondra Bridge through the Tolka Estuary to Dublin Port. It crosses under Alfie Byrne Road, Dublin – Belfast Railway Line and Annesley Bridge. It flows adjacent to East Wall Road from Alfie Byrne Road, the western end of Fairview Park, Poplar Row, Cadogan Road, Luke Kelly Bridge, Orchard Road, Tolka Road, Distillery Road and Bridge. It is also adjacent to Richmond Road, Tolka Park, the Arch Bishop's House and Cian Park. The area is essential for the expansion of Dublin City and comprises a mixture of high and low density commercial and residential with infill development of both. There are a number of parks which are natural flood plains also in this area.

###### ii. Comprises significant previously developed and/ or under-utilised lands.

iii. Yes: The lands form part of the established / designated urban settlement of Dublin City.

###### iv. Is within or adjoining the core of an established or designated urban settlement.

Yes: The lands are located within the canals and form part of the Inner City.

###### v. Will be essential in achieving compact and sustainable urban growth.

vi. Yes: (see response to (iii) above).

vii.	<p><b>There are no suitable alternative lands for the particular uses or development type in areas at lower risk of flooding, within or adjoining the urban settlement.</b></p> <p>There are no suitable alternative lands for the particular uses or development type in areas at lower risk of flooding, within or adjoining the urban settlement. Areas identified as being in Flood Zones A and B are considered essential to achieving a consolidated urban centre and to comply with the NPF and RSES.</p>
<b>3.</b>	<p><b>A flood risk assessment to an appropriate level of detail has been carried out.</b></p> <p>Yes: The current report comprises a detailed site-specific flood risk assessment for the subject site that identifies and recommends mitigation measures.</p>
<b>4.</b>	<p><b>Conclusion:</b></p> <p>The subject area passes the Justification Test for Development Plans.</p>

*Table 2 – Justification Test for Development  
(Extract from the SFRA of the Dublin City Development Plan 2022 – 2028)*



## 4 OTHER FLOOD SOURCES

### 4.1 Tidal Flooding

The proposed development site is located approximately 1000m south-west of the nearest potential source of tidal flooding in the Tolka River Estuary. A review of the OPW Tidal Flood Extents Mapping was carried out and indicates that the proposed development site does not fall within a the predicted extreme 0.1% (1 in 1000-year current scenario) tidal flood event.

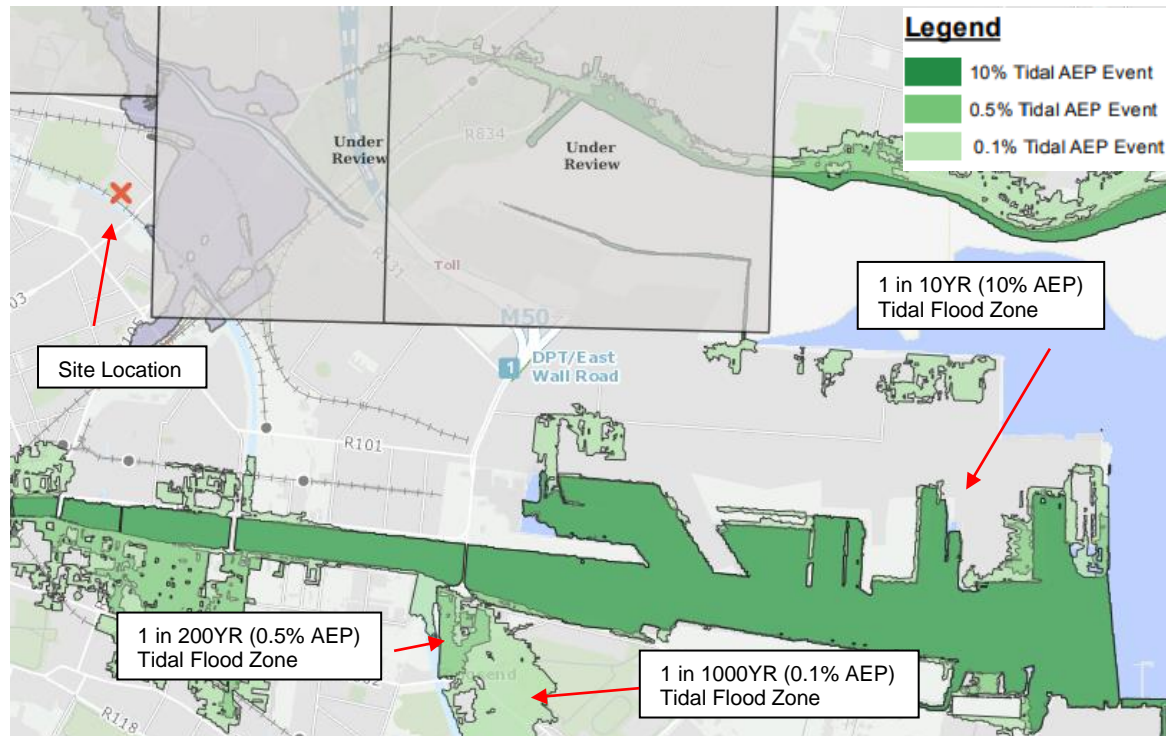


Figure 9 – CFRAM Tidal Flood Extent Map  
(Extract from OPW)

### 4.2 Pluvial Flooding

Pluvial flooding occurs when the amount of rainfall exceeds the capacity of urban surface water drainage systems or the ground to absorb it. A review of the available literature including the DCC FloodResilienCity (FRC) project was carried out and indicates some pluvial flooding surrounding the site. Note, these maps are 'predictive' flood maps showing areas predicted to be inundated during a theoretical or 'design' flood event with an estimated probability of occurrence, rather than information for actual floods that have occurred in the past, which is presented on 'historical' flood maps.

The flood mapping shows pluvial flood risk for the boundary of the site along the canal. This is likely due to the canal overflowing during significant rain events. In the proposed development, the existing residential area will be redeveloped to incorporate sustainable drainage that will intercept and attenuate surface water. This should reduce the runoff entering the canal, thus reducing the chance of it overflowing during a rain event.



Figure 10 – Pluvial Flood Extent Map  
(Extract from OPW)

## 5 SEQUENTIAL APPROACH TO PLANNING

The document “Planning Systems and Flood Risk Management: Guidelines for Planning Authorities November 2009”, requires the adoption of a sequential approach to flood risk management when assessing the location for new developments. This approach is a risk-based method to guide development away from areas that have been identified through flood risk assessment as being at risk from flooding. The philosophy used in this approach is outlined in Figure 11 below.

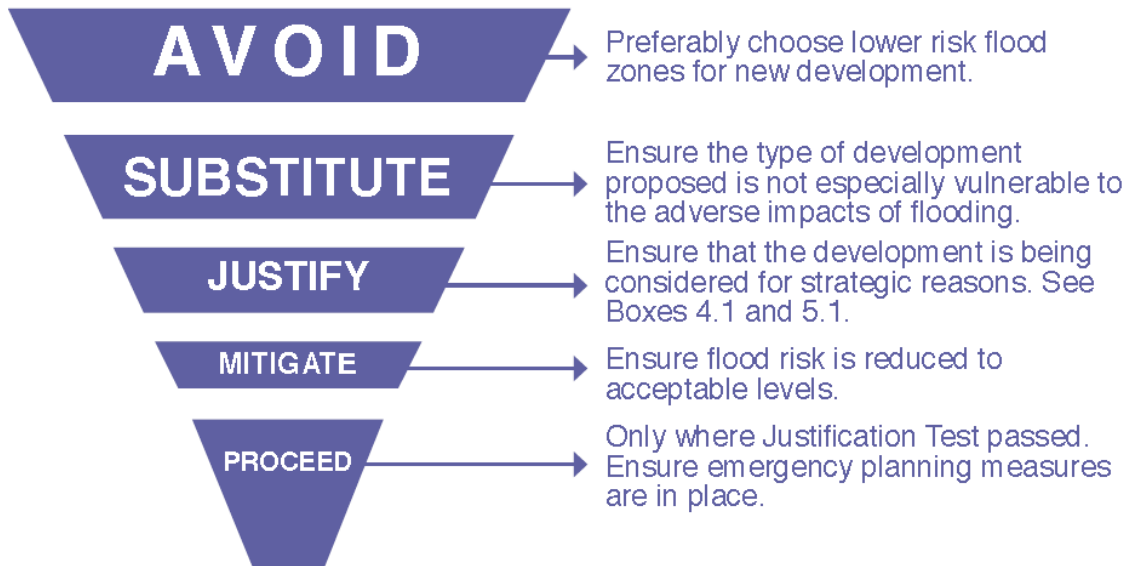


Figure 11 Source: *The Planning Systems and Flood Risk Management: Guidelines for Planning Authorities November 2009*

The sequential approach uses mapped flood zones alongside considerations of the vulnerability of different types of development to give priority to development in zones of low flood probability.

### 5.1 Flood Zones

The flood zones are defined on the basis of flooding from rivers and the sea. The different flood zones recommended in the 2009 Planning Guidelines are:

- Flood Zone A** – Highest risk area where there is a 1% chance of flooding in any one year from rivers and a 0.5% chance of coastal flooding.
- Flood Zone B** – Moderate risk area where the chance of flooding in any one year is 0.1-1% for rivers and 0.1-0.5% for coastal flooding.
- Flood Zone C** – Low risk area with less than 0.1% chance of flooding from rivers or the sea in any given year.

As described in Section 3 and Section 4, the proposed development is outside of the area predicted to flood during a 0.1% AEP (1 in 1000year) fluvial flood event. The development is therefore located within Flood Zone C in accordance with the 2009 Planning Guidelines.

### 5.2 Vulnerability Class of Proposed Development

The vulnerability class of the development is dependent on the land use and type of development proposed. See Table 4 for the vulnerability classes.

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

\*Uses not listed here should be considered on their own merits

*Table 3 - Classification of Vulnerability to Flooding for Various Development Types  
(Source – Table 3.1 Planning System and Flood Risk Management – Guidelines for Planning Authorities DEHLG, OPW, November 2009)*

The 2009 Planning Guidelines presents a matrix of vulnerability versus flood zone to illustrate appropriate developments and the requirement of justification tests. That matrix can be seen in Table 4. Based on the land uses listed in Table 4, the proposed residential development is classified as a highly vulnerable development. However, the development

will be located in Flood Zone C and is therefore considered to be appropriate and a Justification Test is therefore not required.

	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable development (including essential infrastructure)	Justification Test	Justification Test	Appropriate
Less vulnerable development	Justification Test	Appropriate	Appropriate
Water-compatible development	Appropriate	Appropriate	Appropriate

*Table 4 - Matrix of Vulnerability vs. Flood Zone*

*(Source – Table 3.1 Planning System and Flood Risk Management – Guidelines for Planning Authorities DEHLG, OPW, November 2009)*

## 6 SUMMARY AND CONCLUSIONS

The analysis of the flood zone delineation undertaken as part of this DFRA indicates that the proposed site is not expected to be directly impacted during the occurrence of a 0.1% AEP fluvial event. While the exact potential for present and future flooding is unknown due to the lack of PFRA data, there is at least some known risk of flooding in the surrounding area. This risk is made clear given the Flood Zones A and B in the vicinity of the site, and the historical flood events.

However, the site is located near the open watercourse of the Royal Canal. The canal should reduce flooding on the site, even when surrounding areas are flooded. In extreme events, surplus surface water will overflow to the canal due to it being at a lower elevation than the surrounding areas. Additionally, historic floods have resulted in revisions which increase the water holding capacity of the canal and Tolka River itself.

Additionally, the development proposed to replace impervious surfaces and buildings (including a region of made ground with poor infiltration qualities) with a permeable paving, landscaped courtyards, tree pits, rain gardens and green roofs to the proposed new buildings. These proposals will reduce the potential for the site itself to flood by promoting interception, attenuation and natural groundwater recharge prior to excess runoff entering the wider drainage network.

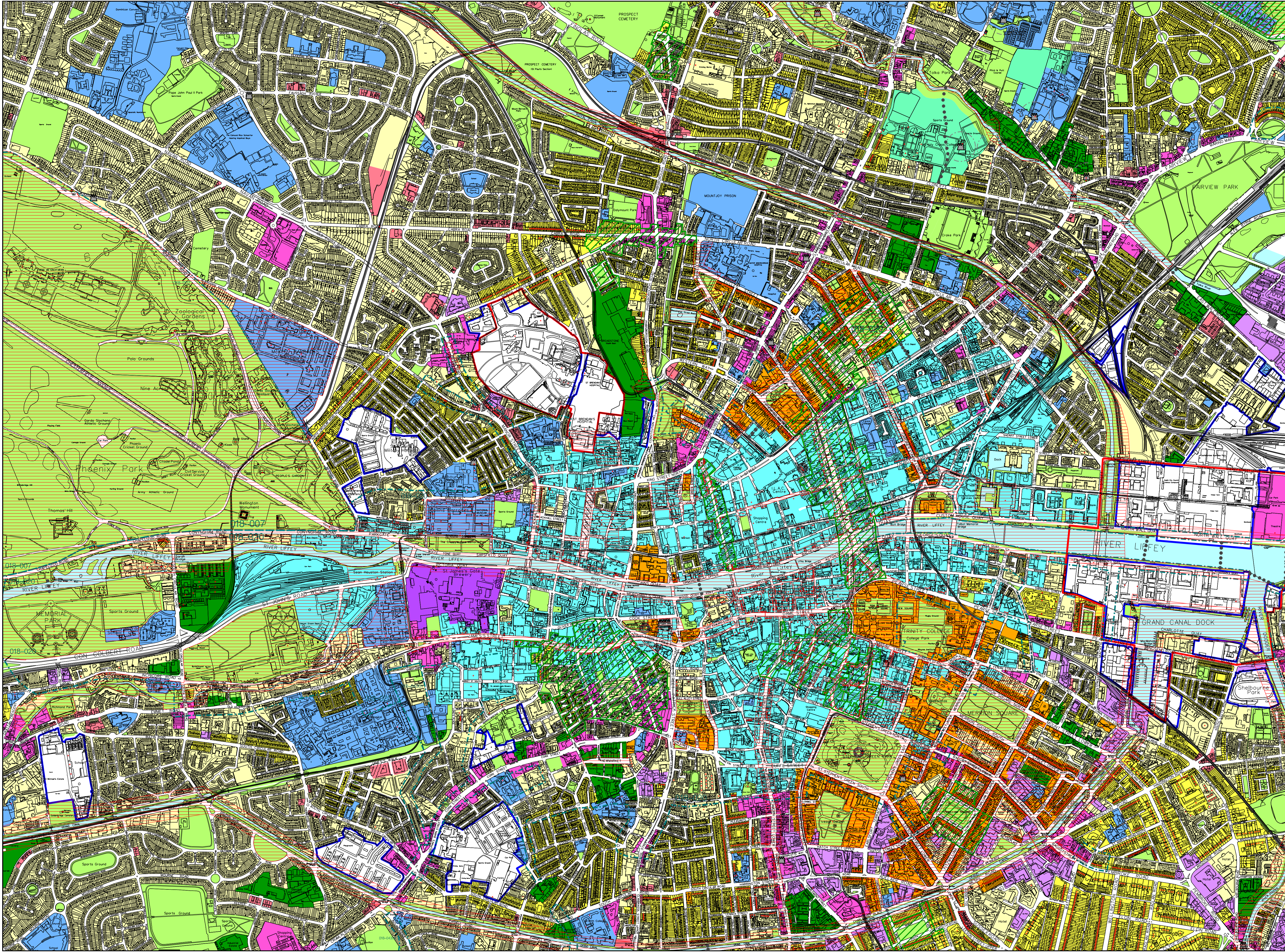
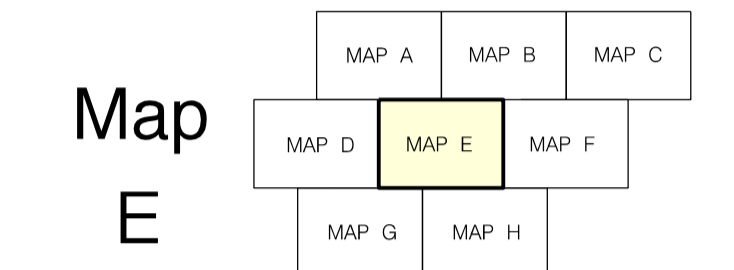
The site also passes the DCC Justification Test for Development as it is both highly valuable and has infrastructure in place for flooding.

In consideration with the above assessment, analysis and recommendations, overall, the development of the site as a residential area incorporating landscaped communal open spaces and nature-based drainage solutions, will not have an adverse impact on the existing hydrological regime of the area or result in increased flood risk elsewhere.

# Appendix A

## Land Use Zoning Map

# Dublin City Development Plan 2022-2028



**PRIMARY LAND USE ZONING CATEGORIES**

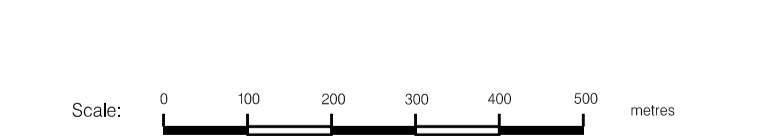
- Zone Z1 Sustainable Residential Neighbourhoods
- Zone Z2 Residential Neighbourhoods (Conservation Areas)
- Zone Z3 Neighbourhood Centres
- Zone Z4 Key Urban Villages / Urban Villages
- Zone Z5 City Centre
- Zone Z6 Employment/Enterprise
- Zone Z7 Employment (Heavy)
- Zone Z8 Georgian Conservation Areas
- Zone Z9 Amenity/Open Space Lands/Green Network
- Zone Z10 Inner Suburban and Inner City Sustainable Mixed-Uses
- Zone Z11 Waterways Protection
- Zone Z12 Institutional Land (Future Development Potential)
- Zone Z14 Strategic Development and Regeneration Areas (SDRAs)
- Zone Z15 Community and Social Infrastructure

**SPECIFIC OBJECTIVES**

- Conservation Areas
- Architectural Conservation Areas
- Protected Structures (RPS takes precedence)
- Record of Monuments and Places (RMP) as Established under Section 12 of the National Monuments (Amendment) Act 1994
- Record of Monuments and Places (RMP) as Established under Section 12 of the National Monuments (Amendment) Act 1994
- National Monuments
- COMAH establishments (SEVESO establishments)
- LAP (Local Area Plan) & SDZ (Special Development Zone)
- Dublin Airport Outer Public Safety Zone
- Dublin Airport Noise Zones
- ROADS  
Roads, Street and Bridge Schemes

1. Map to be read in conjunction with the written statement  
 2. Roads objectives are shown diagrammatically  
 3. See Record of Monuments and Places (RMP) at <https://www.archaeology.ie/publication-forms/#/rmp/record-of-monuments-and-places>  
 For updated information see the Historic Environment Viewer at <https://maps.archaeology.ie/HistoricEnvironment/>  
 The RMP does not include all known archaeological sites and monuments, given that further such sites and monuments are found on an ongoing basis. For that reason it is very important (in the context of considering proposed development) to take account of all information available on the Historic Environment Viewer (HEV)  
 4. See written statement (Chapter 14) for full zoning text

Includes Ordnance Survey Ireland data reproduced under  
 OS Licence Number 10001270200001 © 2022 OS/Ordnance  
 Survey Ireland and Government of Ireland and other copyright  
 © Ordnance Survey Ireland, 2022



**John O'Hara**  
Dublin City Planner



# Appendix B

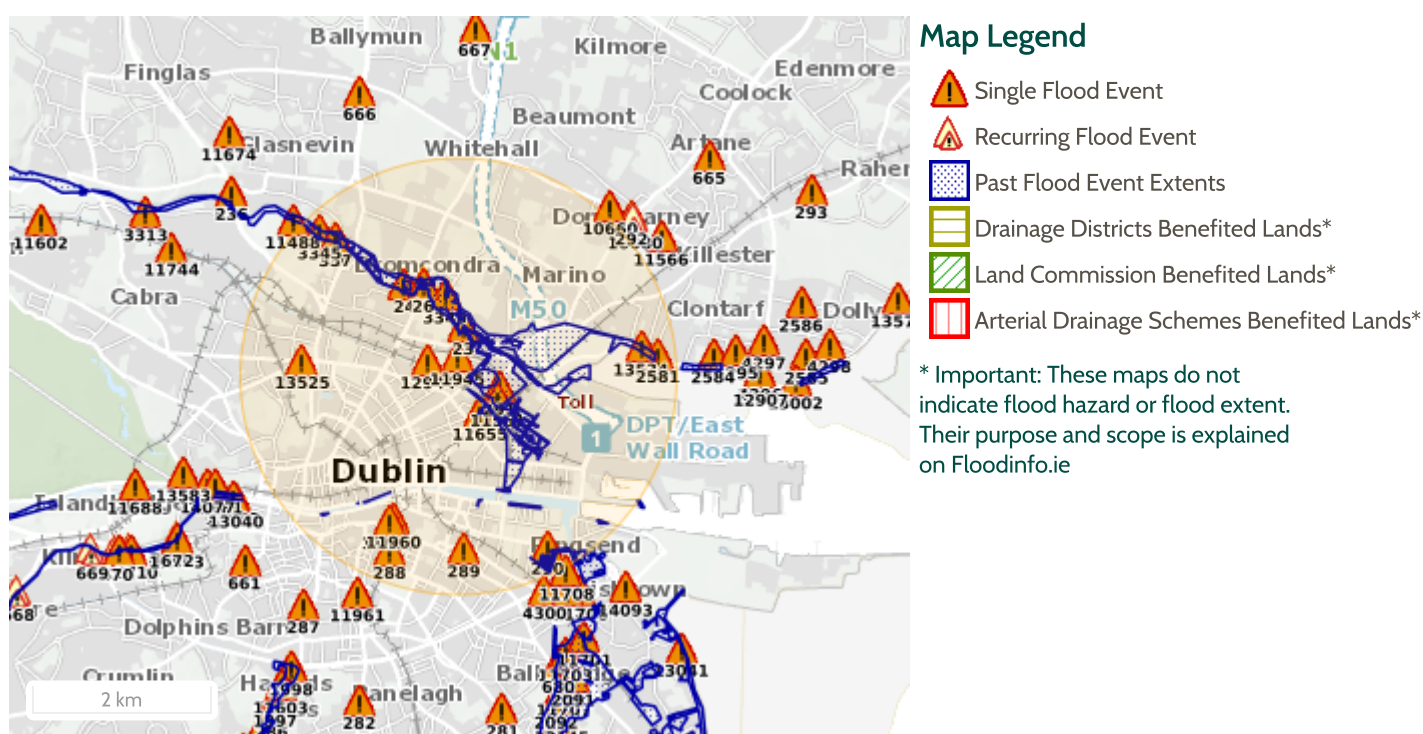
## Past Flood Summary Report



Report Produced: 23/5/2023 12:38







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](http://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.



## 31 Results

Name (Flood_ID)	Start Date	Event Location
1.  Tolka September 1931 (ID-26) Additional Information: <a href="#">Reports (12)</a> <a href="#">Press Archive (1)</a>	02/09/1931	Approximate Point
2.  Tolka Nov 1965 (ID-23) Additional Information: <a href="#">Reports (9)</a> <a href="#">Press Archive (2)</a>	25/11/1965	Approximate Point
3.  Report of flooding at Jones Road, Dublin 3 on 26th July 2013 (ID-11945) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	25/07/2013	Approximate Point
4.  Flooding at Trinity College, Dublin 2, 26th July 2013 (ID-11960) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	25/07/2013	Approximate Point
5.  Flooding at Dublin City on 30/07/2019 (ID-13659) Additional Information: <a href="#">Reports (0)</a> <a href="#">Press Archive (0)</a>	30/07/2019	Approximate Point
6.  Clontarf Rd Seaview Avenue August 2004 (ID-2581) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (0)</a>	23/08/2004	Exact Point

Name (Flood_ID)	Start Date	Event Location
7.  Tolka November 1901 (ID-25) Additional Information: <a href="#">Reports (9)</a> <a href="#">Press Archive (0)</a>	12/11/1901	Approximate Point
8.  Flooding at Clontarf on 02/02/2017 (ID-13534) Additional Information: <a href="#">Reports (0)</a> <a href="#">Press Archive (0)</a>	02/02/2017	Approximate Point
9.  Tolka November 1915 (ID-30) Additional Information: <a href="#">Reports (11)</a> <a href="#">Press Archive (0)</a>	12/11/1915	Approximate Point
10.  Tolka April 1909 (ID-31) Additional Information: <a href="#">Reports (5)</a> <a href="#">Press Archive (0)</a>	03/04/1909	Approximate Point
11.  Tolka Richmond Road August 1986 (ID-3346) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (0)</a>	24/08/1986	Approximate Point
12.  Tolka Botanic Ave area August 1986 (ID-24) Additional Information: <a href="#">Reports (11)</a> <a href="#">Press Archive (1)</a>	24/08/1986	Approximate Point
13.  Tolka November 1898 (ID-29) Additional Information: <a href="#">Reports (10)</a> <a href="#">Press Archive (0)</a>	23/11/1898	Approximate Point
14.  Tolka October 1880 (ID-21) Additional Information: <a href="#">Reports (8)</a> <a href="#">Press Archive (0)</a>	28/10/1880	Approximate Point
15.  Grafton Street June 1963 (ID-288) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (2)</a>	10/06/1963	Exact Point
16.  Fenian Street June 1963 (ID-289) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (2)</a>	10/06/1963	Exact Point
17.  Ringsend June 1963 (ID-290) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (2)</a>	10/06/1963	Exact Point
18.  North Strand Road June 1963 (ID-291) Additional Information: <a href="#">Reports (4)</a> <a href="#">Press Archive (2)</a>	10/06/1963	Exact Point
19.  Tolka September 1946 (ID-28) Additional Information: <a href="#">Reports (11)</a> <a href="#">Press Archive (0)</a>	19/09/1946	Approximate Point
20.  Tolka Glasnevin August 1986 (ID-3345) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	24/08/1986	Approximate Point
21.  Flooding at Dublin City on 15/06/2016 (ID-13525) Additional Information: <a href="#">Reports (0)</a> <a href="#">Press Archive (0)</a>	15/06/2016	Approximate Point
22.  Tolka November 2002 (ID-5) Additional Information: <a href="#">Reports (143)</a> <a href="#">Press Archive (13)</a>	13/11/2002	Area
23.  Dublin City Tidal Feb 2002 (ID-456) Additional Information: <a href="#">Reports (45)</a> <a href="#">Press Archive (27)</a>	01/02/2002	Area
24.  Tolka December 1954 (ID-4) Additional Information: <a href="#">Reports (16)</a> <a href="#">Press Archive (9)</a>	08/12/1954	Area

	Name (Flood_ID)	Start Date	Event Location
25.	 Flooding at Bessborough Avenue, North Strand, Dublin 3 on 24th Oct 2011 (ID-11561) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Exact Point
26.	 Flooding at Shamrock Place, Cottages and Terrace, Dublin 3 on 24th Oct 2011 (ID-11655) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Exact Point
27.	 Flood report for Shamrock Cottages on the 24th October 2011 (ID-12684) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	23/10/2011	Approximate Point
28.	 Tolka Richmond Road Drumcondra Nov 2000 (ID-20) Additional Information: <a href="#">Reports (6)</a> <a href="#">Press Archive (5)</a>	05/11/2000	Approximate Point
29.	 Tolka Jan 2005 (ID-357) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	07/01/2005	Approximate Point
30.	 Tolka Nov 1968 (ID-27) Additional Information: <a href="#">Reports (5)</a> <a href="#">Press Archive (1)</a>	24/11/1968	Approximate Point
31.	 Flooding at Dublin City on 25/07/2013 (ID-12944) Additional Information: <a href="#">Reports (0)</a> <a href="#">Press Archive (0)</a>	25/07/2013	Approximate Point

# Appendix C

## DCC Composite Flood Map

# Dublin City Development Plan 2022-2028

## Composite Flood Map for Dublin City Council

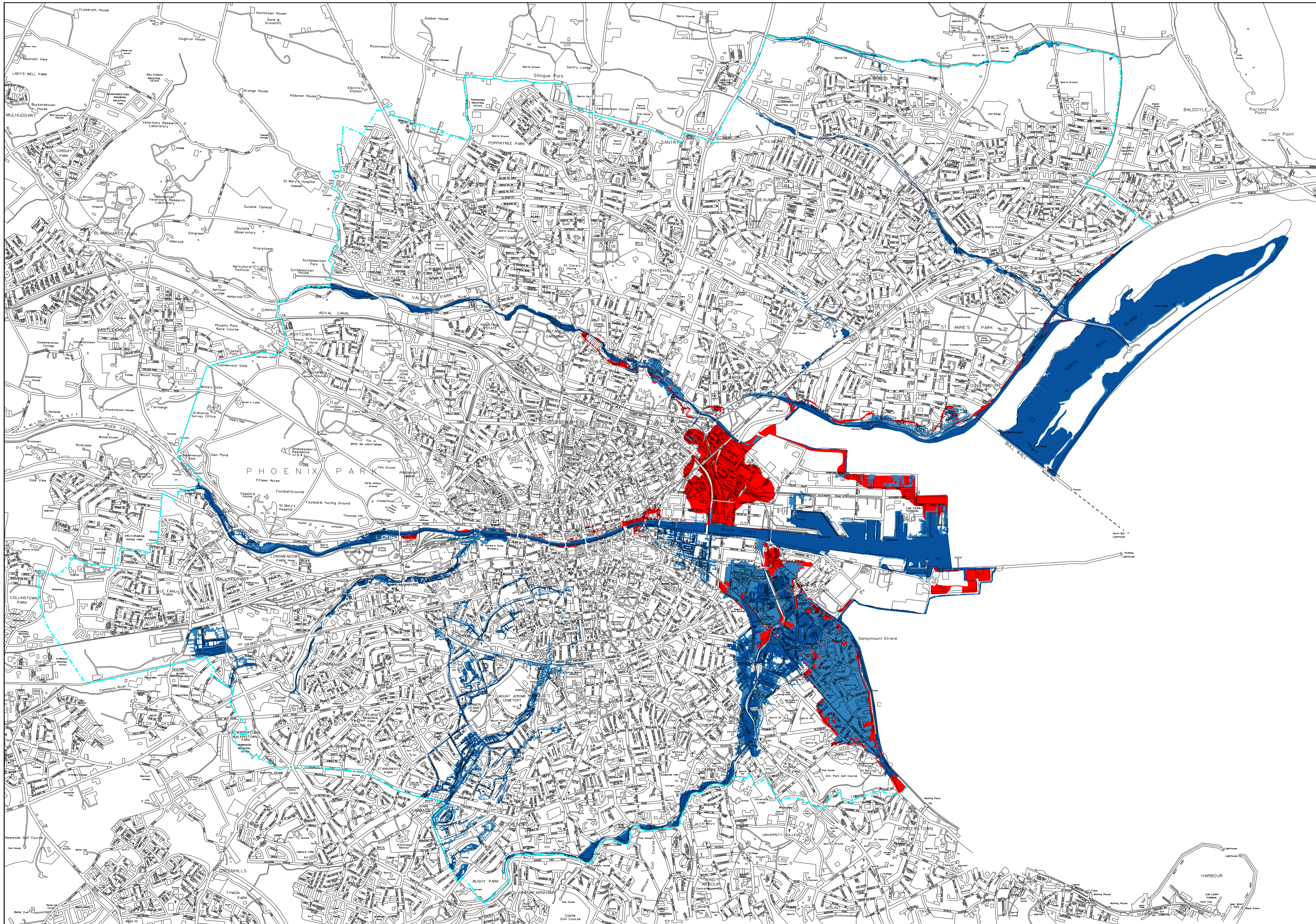
Note: The Composite Flood Map, and all other map extracts, illustrate Flood Zone A, B and Defended Areas (in red), where defended areas indicates lands defended to the 1% AEP fluvial and /or the 0.5% AEP tidal flood events and should therefore be considered also to be Flood Zone A.



Refer To OPW Website – FloodRisk

Includes Ordnance Survey Ireland data reproduced under  
OS Licence Number 2022/22/02/000/001 in City Council's  
unpublished reports and information. Ordnance Survey Ireland  
and Government of Ireland copyright.  
© Ordnance Survey Ireland, 2022

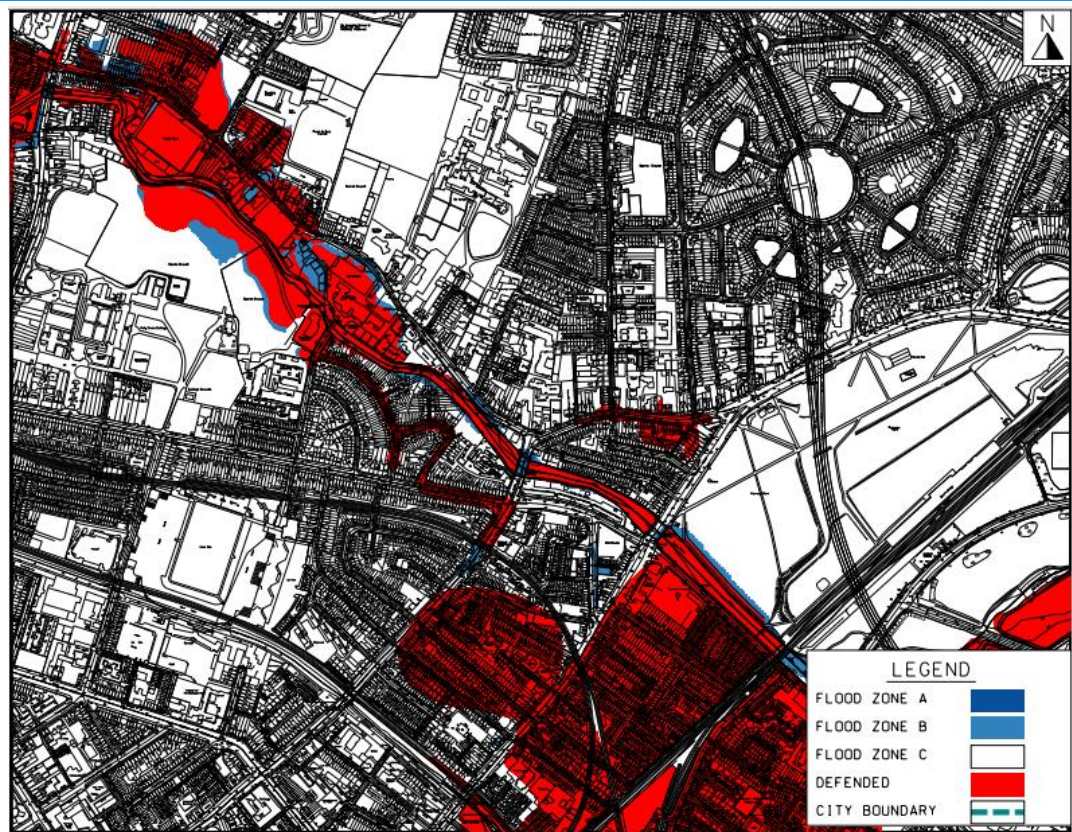
**John O'Hara**  
Dublin City Planner



# Appendix D

## DCC Justification Test

**Area: 20 Tolka: Dublin Port to Drumcondra Bridge**



**For Land Use Zoning Maps Overlaid with Flood Zones see [Dublin City Council Development Plan 2022 - 2028, Flood Map E](#).**

<p><b>Area Description</b></p>	<p>The area on the Tolka Estuary goes from East Wall to Drumcondra Bridge. It crosses under Alfie Byrne Road, the Dublin – Belfast Railway line and Annesley Bridge. It is adjacent to East Wall Road from Alfie Byrne Road, the western end of Fairview Park, Poplar Row, Cadogan Road, Luke Kelly Bridge, Orchard Road, Tolka Road, Distillery Road and Bridge. It is also adjacent to Richmond Road, Tolka Park, the Arch Bishop’s House and Cian Park. It is currently tidal to approximately 100m below Drumcondra Bridge. Development in this area is a mixture of high and low density commercial and residential with infill development of both.</p> <p>There are a number of parks beside the Tolka River which are natural flood plains.</p>
<p><b>SDRAs within this Area</b></p>	<p>Strategic Development and Regeneration Area (SDRA) 6 Docklands. Strategic Development and Regeneration Area (SDRA) 10 North East Inner City.</p>
<p><b>Benefitting from</b></p>	<p>Flood defences incorporating 200-year tide</p>



Area: 20 Tolka: Dublin Port to Drumcondra Bridge	
<b>Defences (flood relief scheme works)</b>	level, plus 300mm freeboard, plus allowance for fluvial surcharge at high tide have been constructed from East Wall Road to Drumcondra Bridge. These defences incorporate the latest design and together with a flood gate at the pedestrian bridge on East Wall Road to Fairview Park provide the statutory level of protection.
<b>Sensitivity to Climate Change</b>	Significant, particularly where likely sea level rise exceeds the height of existing defences.
<b>Residual Risk</b>	An appropriate assessment of residual risk of defence failure should be carried out. A structural inspection of all new defences is carried out each year.
<b>Historical Flooding</b>	The flood maps attached are consistent with previous flooding of this section of the River Tolka in 1954 and 2002. The highest recorded tide (3 <sup>rd</sup> January 2014) was contained by the new flood defences. These maps are under review by the OPW.
<b>Surface Water</b>	<p>All surface water in this area needs to be carefully managed and provision made for significant rainfall events during high tides. A five year high tide event should be assumed during a 100-year rainfall event. Should development be permitted, best practice with regard to surface water management should be implemented across the development area, to limit surface water run-off to current values. Separation of surface water and foul sewage flows should be carried out where possible. Assume 2 year rainfall with the 200 year tidal flood event.</p> <p>All developments shall have regard to the Pluvial Flood Maps in their Site Specific Flood Risk Assessment, see FloodResilientCity Project, Volume 2 City Wide Pluvial Flood Risk Assessment at <a href="http://www.dublincity.ie/main-menu-services-water-waste-and-environment-drains-sewers-and-waste-water/flood-prevention-plans">http://www.dublincity.ie/main-menu-services-water-waste-and-environment-drains-sewers-and-waste-water/flood-prevention-plans</a>.</p>
<b>Commentary on Flood Risk:</b>	
The flood extents indicate flow paths generally coming directly out of the tidal region. These can be compounded with local pluvial flooding if heavy rainfall coincides with a high tide. Wave action is not deemed significant in this section of the Tolka Estuary.	

## Area: 20 Tolka: Dublin Port to Drumcondra Bridge

The flood maps were produced based on the OPW CFRAM Plan and checked against historic flooding in the area.

### Development Options:

Commercial and residential development (some infill) would be a natural extension of existing development. South of Poplar Row and East Wall Road the lands form part of the North East Inner City Strategic Development and Regeneration Area (SDRA No. 10), and also the Docklands SDRA (No. 6), see sections 13.12 and 13.8 of the Written Statement of the Development Plan.

### Justification Test for Development Plans

1. **Part 1 of the Justification Test is covered under Section 3.2.1 in the main body of the SFRA report.**
2. **The zoning or designation of the lands for the particular use or development type is required to achieve the proper planning and sustainable development of the urban settlement and, in particular:**
  - (i) **Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement.**

**Answer: Yes:** This area is an established residential and mixed-use part of the inner suburbs. The Tolka River flows from Drumcondra Bridge through the Tolka Estuary to Dublin Port. It crosses under Alfie Byrne Road, Dublin – Belfast Railway Line and Annesley Bridge. It flows adjacent to East Wall Road from Alfie Byrne Road, the western end of Fairview Park, Poplar Row, Cadogan Road, Luke Kelly Bridge, Orchard Road, Tolka Road, Distillery Road and Bridge. It is also adjacent to Richmond Road, Tolka Park, the Arch Bishop's House and Cian Park. The area is essential for the expansion of Dublin City and comprises a mixture of high and low density commercial and residential with infill development of both. There are a number of parks which are natural flood plains also in this area.

- (ii) **Comprises significant previously developed and/or under-utilised lands.**

**Answer: Yes:** Most of the lands within Flood Zone A and B are already built-up or comprise of brownfield sites. The Tolka River also flows through a number of parks which act as natural flood plains.

- (iii) **Is within or adjoining the core of an established or designated urban settlement.**

## Area: 20 Tolka: Dublin Port to Drumcondra Bridge

**Answer: Yes:** The lands form part of the established / designated urban settlement of Dublin City.

- (iv) **Will be essential in achieving compact and sustainable urban growth.**

**Answer: Yes:** (see response to (iii) above).

- (v) **There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.**

**Answer:** There are no suitable alternative lands for the particular uses or development type in areas at lower risk of flooding, within or adjoining the urban settlement. Areas identified as being in Flood Zones A and B are considered essential to achieving a consolidated urban centre and to comply with the NPF and RSES.

### 3. Specific Flood Risk Assessment

- See also Area Assessment No. 3 Liffey: O'Connell Bridge to Tom Clarke Bridge.
- See Justification Test for Strategic Development and Regeneration Area No. 6 Docklands in Appendix C2 for specific recommendations in relation to that area.
- Areas of open space within Flood Zones A and B must be preserved as they supplement the flood defences to provide protection.
- Climate change risks are significant and need to be assessed under the site specific FRA with guidance on finished floor levels applied as detailed in the SFRA.
- Development behind flood defences should proceed in line with the general recommendations flood assessment and management in this SFRA.

**Conclusion: The subject area passes the Justification Test for Development Plans.**