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## **SITE SPECIFIC FLOOD RISK ASSESSMENT**

**For Proposed Residential Development comprising 8 no. 2 storey dwellings on infill site on lands at Palmyra, Whitechurch Road, with vehicular and pedestrian access from Grangebrook Avenue, Rathfarnham.**

**at:**

**GRANGEBROOK AVENUE, RATHFARNHAM, DUBLIN 16**

**APPLICANT**

**Beckett Developments Ltd.**

**REG. REF. SD21A/0246 (POINT 10)**

**Date:**

**April 2022**

**Job ref no. D1194**

Prepared by Brendan English NCEA Dip. Eng. MIEI Terry & O'Flanagan Ltd.

## INTRODUCTION

This Flood risk assessment has been prepared in response to a request for Additional Information reg. ref. SD21A/0246 (Point 10) in respect of a planning application seeking approval for the construction of 8 no. 2 storey dwellings on infill site on lands at Palmyra, Whitechurch Road, with vehicular and pedestrian access from Grangebrook Avenue, Rathfarnham on a total site area of circa. 0.275 Hectares (0.68Ac.) and has been prepared in accordance with the OPW/ Department of the Environment, Heritage and Local Government publication *"The Planning System and Flood Risk Management – Guidelines for Planning Authorities"*, November 2009 (FRM Guidelines)

The information below should be considered as a Stage 2 Initial Flood Risk Assessment.

## SITE LOCATION

The subject site is located on the Southside of the city of Dublin in the Rathfarnham area and is situated on the eastern side of Grangebrook Avenue. The site forms part of the Palmyra house property and is bounded to the north by an existing 19th century burial site, to the south by existing houses within the Grangebrook Estate, to the west by the Palmyra house and gardens and to the west by the Grangebrook Avenue estate road.



*Fig.1 The site location.*

## **OUTLINE OF DEVELOPMENT**

The existing circa 0.275 Hectare site proposed to be developed with 8 no. dwellings including all associated site services.

### **Brief development description as follows:**

Proposed construction of 8 houses comprising of 1 no. 3 bedroom 2 storey detached, 1 No. 4 bedroom 2 storey detached and 6 No. 4 bedroom 2 storey semi-detached dwellings, all associated on and off ancillary site development works, landscaping, boundary treatments, removal of existing street boundary screen wall and the provision of vehicular and pedestrian access to Grangebrook Avenue at infill site which forms part of "Palmyra", Whitechurch Road (Grangebrook Avenue) Rathfarnham, Dublin 16.

### **Flood Risk Identification**

The subject site is situated circa 80m west of the Glin River, 0.65km south of the Owendoher River and 3km South of the Dodder River. The site is quite elevated from the Glin River (Stream) by approx. 7 – 10m. The surrounding area (generally existing established residential development) is served by an existing network of surface water sewers and drains which are in the control of the Local Authority.

The OPW Flood Hazard Mapping Website ([www.floodmaps.ie](http://www.floodmaps.ie)) which maintains records of flood events does not show any recorded flood events in close proximity to the subject site.

Figure 2 below outlines a screen grab of the subject site and surrounding area from [floodmaps.ie](http://floodmaps.ie) and demonstrates no recorded flood events in the subject area. The OPW listing for all recorded flood events within 2.5km of the subject site is enclosed in Appendix 1 for reference.

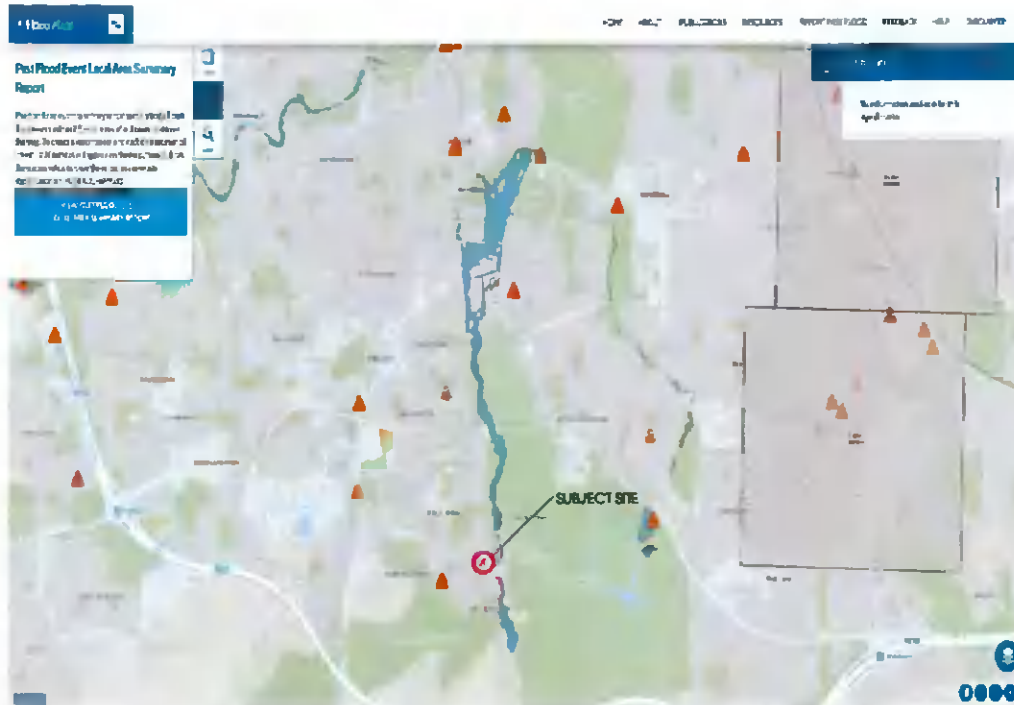


Figure 2: Extract from OPW Flood Mapping Resource.

The FRM guidelines promote a sequential approach to the flood risk assessment based on the flood zone and vulnerability class. Examination of the OPW website [www.floodmap.ie](http://www.floodmap.ie) revealed no recorded flood events in close proximity to the site.

In the case of the subject site the relevant flood sources are:

**Fluvial**

Fluvial Flooding is the result of any watercourse in close proximity to the site exceeding its capacity and excess water spilling out onto the adjacent lands. Flood risk from fluvial sources is low as the nearest river (Santry River) is located circa 1.6km from the site and there are no recorded flood events from same affecting the subject site or surrounding lands.

**Pluvial**

Pluvial flooding is the result of rainfall-generated overland flows which arise before run-off can enter any watercourse or sewer. It is usually associated with high intensity rainfall. Flood risk from pluvial sources is minimal in this instance due to the topography of the surrounding lands and minimal Greenfield runoff predicted.

We predict that the site lies within Flood Zone C as defined in the Planning System and Flood Risk Management Guidelines, where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding).

Table 3.1 of the Planning System and Flood Risk Management Guidelines for Planning Authorities gives a detailed classification of vulnerability of different types of development. Residential is classed as highly vulnerable development however a justification test is not considered necessary in this instance (refer to Table 3.2 of the guidelines).

Notwithstanding that the justification test does not apply in this instance we are satisfied that the proposed development satisfies all criteria as outlined in *"Box 5.1 Justification Test", Chapter 5, The Planning System and Flood Risk Management Guidelines for Planning Authorities*, as published by the OPW/ Department of the Environment, Heritage and Local Government. In this regard we are satisfied that a commensurate assessment of the risks of flooding has been carried out in respect of the subject site demonstrating that the proposed development would not have adverse impacts or impede access to a watercourse, floodplain or flood protection and management facilities.

### **Flood Risk Management**

Flood risk management under the EU Floods Directive aims to minimize the risks arising from flooding to people, property and the environment. Minimising risk can be achieved through structural measures that block or restrict the pathways of floodwaters, such as river defences or non structural measures that are often aimed at reducing the vulnerability of people and communities such as flood warning, effective flood emergency response, or resilience measures for communities or individual properties.

The information presented above suggests that the site in question by nature of its elevation in respect of adjoining lands, topography of the lands and local knowledge and site history, is not susceptible to a high flood risk.

It should be noted also that the proposed development has adopted SUDS measures to protect the receiving environment. Surface water discharge from the site will be restricted by means of on-site disposal/ infiltration or alternative attenuation with controlled flow to the existing surface water outfall drain.

Detailed design proposals for surface water management associated with the development in relation to disposal have been prepared and submitted with this planning application and reference can be made to same for details.

## **Conclusion**

While a detailed Flood Risk Assessment would assess flood risk issues in greater detail and would provide a quantitative appraisal of potential flood risk to the proposed development, its potential impact on flood risk elsewhere and the effectiveness of any proposed mitigation measures, such an assessment would involve the construction of a hydraulic model of the nearest watercourse across a wide enough area to appreciate the catchment wide impacts and hydrological processes involved. However, based on the assessment outlined above and local knowledge, no evidence of flooding on the subject site exists and therefore it is not considered necessary to provide such a detailed assessment for the above development.

SUDS best practice is being implemented for the subject site and this design caters for both a 1:30 year and 1:100 year storm event with an additional allowance of 20% for climate change.

There is no known flood event in close proximity to the site however due to the elevated nature of the site relative to the surrounding lands, proposed finished floor levels are considered to be well in excess of any 1 in 100 year river flood level.

The developer can confirm that the development has been designed such that the risk of flooding to the development has been reduced as far as is reasonably practicable and the proposals do not increase the risk of flooding to any adjacent or nearby area.

Report prepared by Brendan English NCEA Dip. Eng. MIEI Terry & O'Flanagan Ltd.

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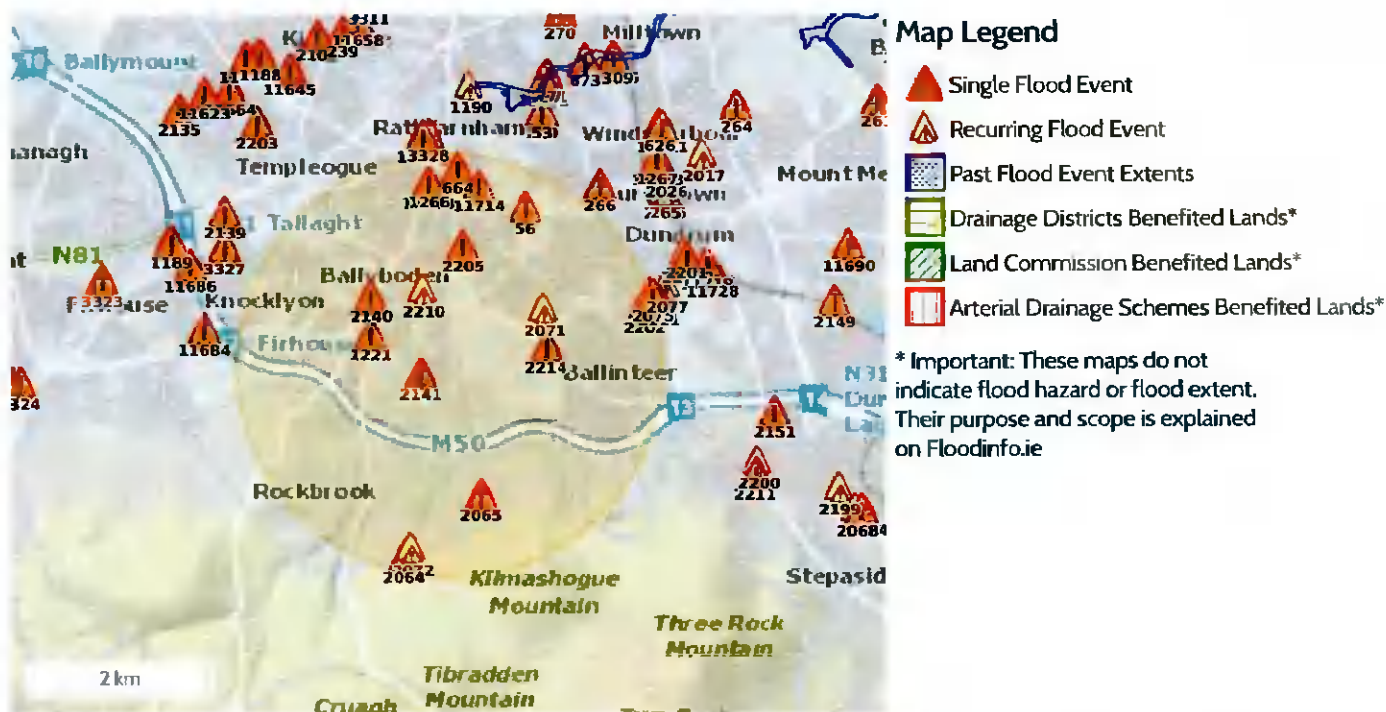


# Past Flood Event Local Area Summary Report







Report Produced: 3/5/2022 12:55









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.



## 16 Results

Name (Flood_ID)	Start Date	Event Location
1.  Little Dargle Sept 1957 (ID-56) Additional Information: <a href="#">Reports (3)</a> <a href="#">Press Archive (0)</a>	24/09/1957	Approximate Point
2.  Willbrook Rathfarnham Dec 1958 (ID-664) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	16/12/1958	Approximate Point
3.  Owendoher Edmondstown Road. Nov 2000 (ID-1221) Additional Information: <a href="#">Reports (3)</a> <a href="#">Press Archive (0)</a>	05/11/2000	Approximate Point
4.  Owendoher Willbrook Road August 1986 (ID-1266) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (1)</a>	25/08/1986	Approximate Point
5.  Grange River Tibradden Lane June 2003 (ID-2064) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	30/06/2003	Exact Point
6.  Grange River Kilmashogue Lane June 2003 (ID-2065) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	30/06/2003	Exact Point

Name (Flood_ID)	Start Date	Event Location
7.  Manor Rise Recurring (ID-2071) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
8.  Grange Stream Tibbradden Lane Mutton Lane Recurring (ID-2072) Additional Information: <a href="#">Reports (2)</a> <a href="#">Press Archive (0)</a>	n/a	Exact Point
9.  Boden Villas Feb 1994 (ID-2140) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	03/02/1994	Exact Point
10.  Whitechurch Court Feb 1994 (ID-2141) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	03/02/1994	Exact Point
11.  Ludford Area Ballinteer Recurring (ID-2202) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	n/a	Approximate Point
12.  Barton Drive Ballyboden Feb 1994 (ID-2205) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	03/02/1994	Exact Point
13.  Ballyboden Road Whitecliff Recurring (ID-2210) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	n/a	Approximate Point
14.  Little Dargle Grange Road Nov 1982 (ID-2214) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	07/11/1982	Approximate Point
15.  Flooding at Nutgrove Avenue, Rathfarnham, Dublin 14 on 24th Oct 2011 (ID-11714) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	24/10/2011	Exact Point
16.  Owendoher River 24th Oct 2011 Willbrook Road (ID-11484) Additional Information: <a href="#">Reports (1)</a> <a href="#">Press Archive (0)</a>	24/10/2011	Approximate Point