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**Universal Access and Landscaping Works at The Mansion House
for Dublin City Council**

SITE-SPECIFIC FLOOD RISK ASSESSMENT

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Job No. 20006



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1. INTRODUCTION

1.1. Site Location

The site is located on the East Dawson Street, Dublin 2. It is bounded to the North by The Royal Irish Academy, to the East by Molesworth Place and School House Lane East, and to the South by the Mansion House itself and a private access serving office buildings further to the South.

1.2. Site Description

The site is situated over seven hundred metres to the south of the River Liffey on the East side of Dawson Street, Dublin between Trinity College, and St. Stephen's Green. Figure 1 below shows the Mansion House as it is now. Access to the site is from Dawson Street.

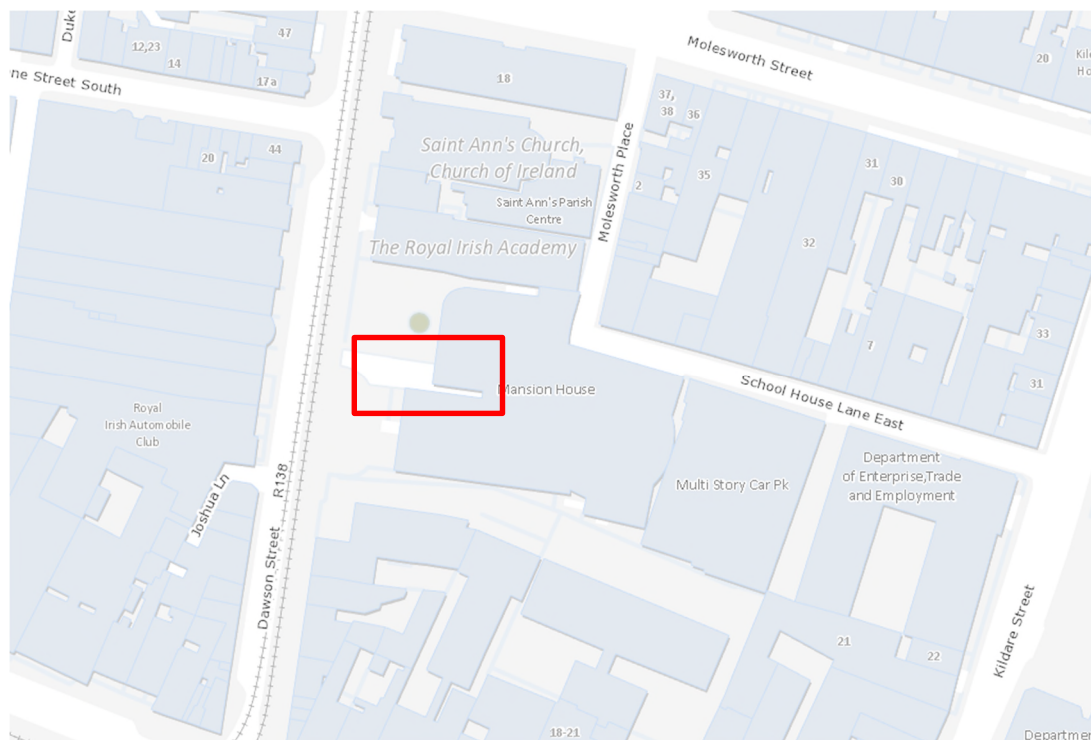


Figure 1 Current Map OSI Mapgenie - Works Location in Red

1.3. Basis of Assessment

This Site-Specific Flood Risk Assessment (Site FRA) is based on “The Planning System and Flood Risk Management Guidelines for Planning Authorities” published by the OPW and DOEHLG in November 2009, the flood risk mapping for coastal, fluvial and pluvial flooding prepared by the OPW and available at www.floodinfo.ie which includes CFRAM Programme (Catchment Flood Risk Assessment and Management). The OPW is the lead agency for flood risk management in Ireland and the CFRAM programme delivers on core components of the National Flood Policy.

The purpose of this assessment is to:

1. identify the sources of flood risk, and the effects of climate change on these.
2. assess the impact of the development.
3. assess the effectiveness of the proposed flood mitigation and management measures.
4. assess the residual risks that remain after those measures are put in place.

1.4. Summary

The site is located outside of all flood risk zones for coastal and fluvial flooding. There is a risk of pluvial flooding which is a general risk applicable to central Dublin.



Figure 2 Coastal Flooding Extent Map High-End Future Scenario 0.1% AEP Flood extent(site indicated in red)

2. RISK IDENTIFICATION

2.1. Records of Historical Flood Events

The OPW National Flood Hazard Mapping Record contains one report of a flood event within 150-200m of the site location. A flood event occurred in September 1963.

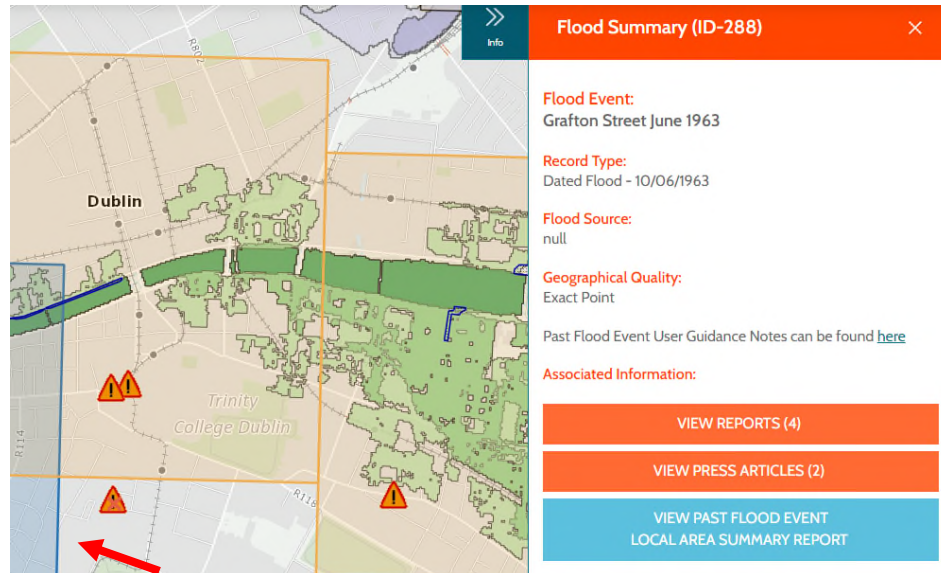


Figure 3. Recorded flood events in proposed development.

2.2. Hydrological Studies

Flood Risk Assessment and Management Study prepared by the OPW, provides strategic current scenario and future scenario (up to 2100) fluvial flood hazard maps. The available flood data indicates that the building is not at risk of fluvial flooding.

2.2.1. Fluvial

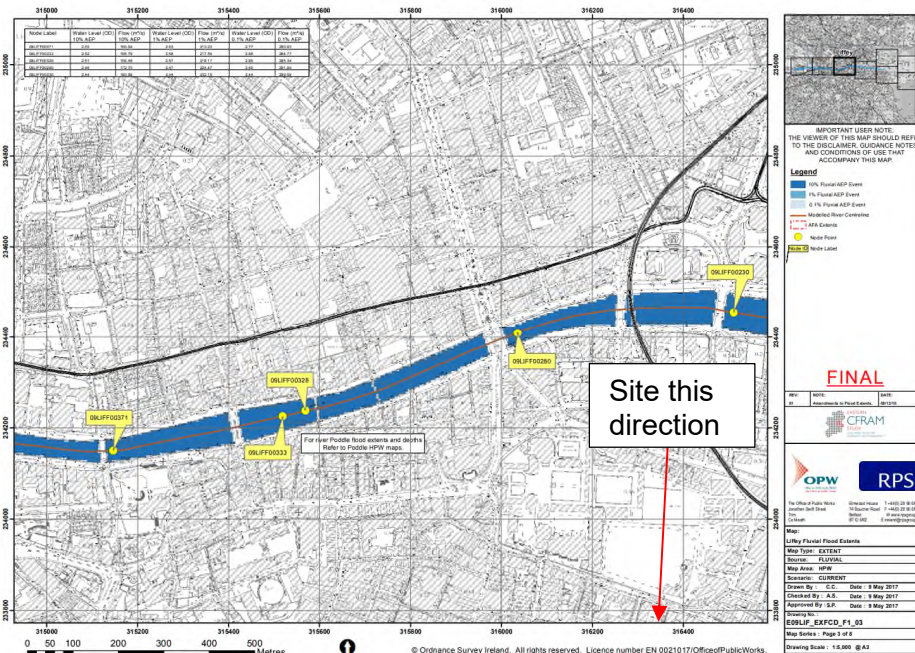


Figure 4. Closest Fluvial Flood Extents Map

2.2.2. Coastal

There is no record or indication of risk of coastal flooding.

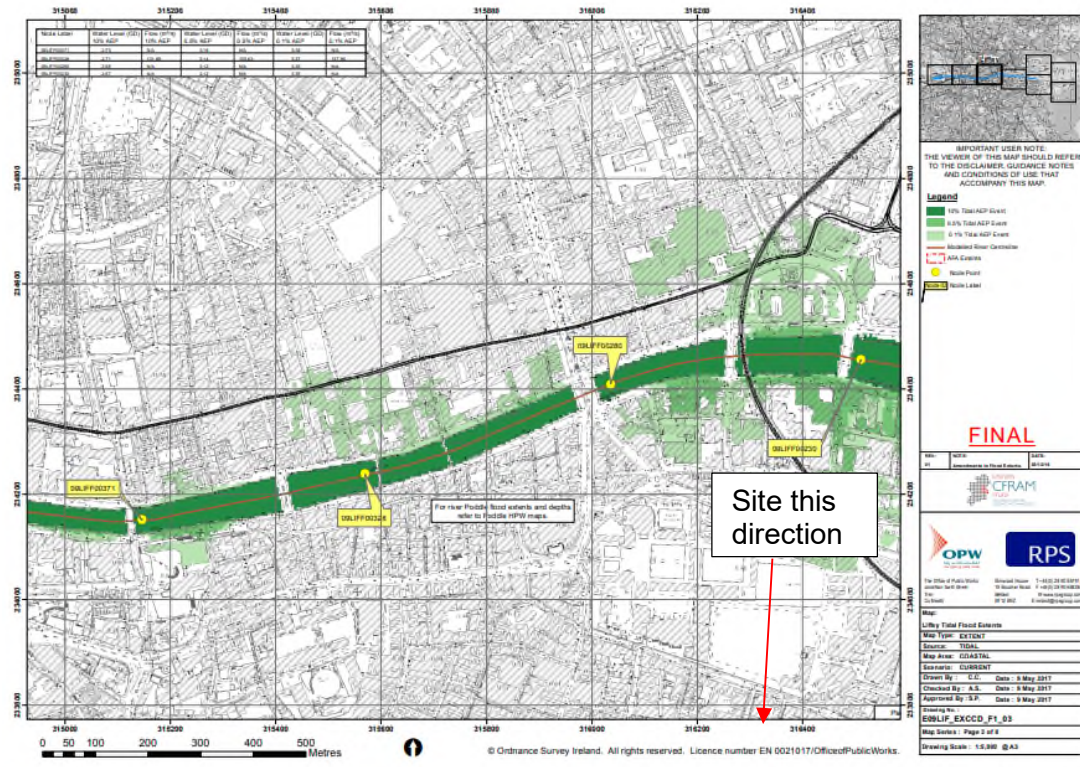


Figure 5. Closest Coastal Flood Extents Map

2.2.3. Pluvial

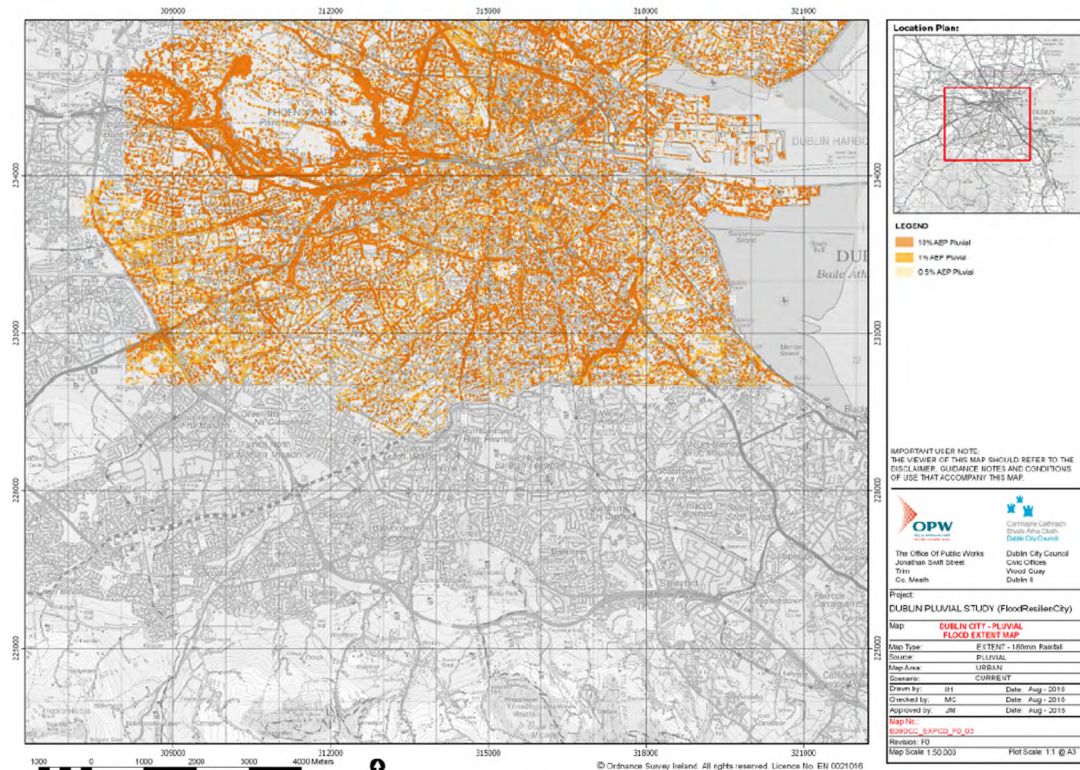


Figure 6. Dublin City Pluvial Flood Extent Map

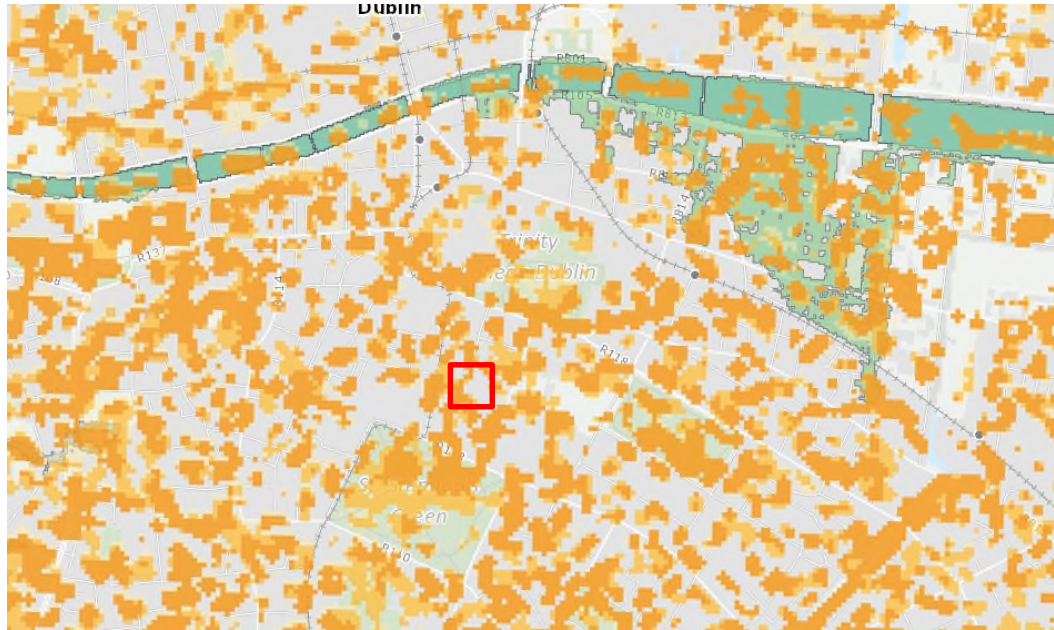


Figure 7. Pluvial Flood Extent Map – site location in red outline

The flood mapping indicates that the site is at risk of pluvial flooding – a general risk for central Dublin.

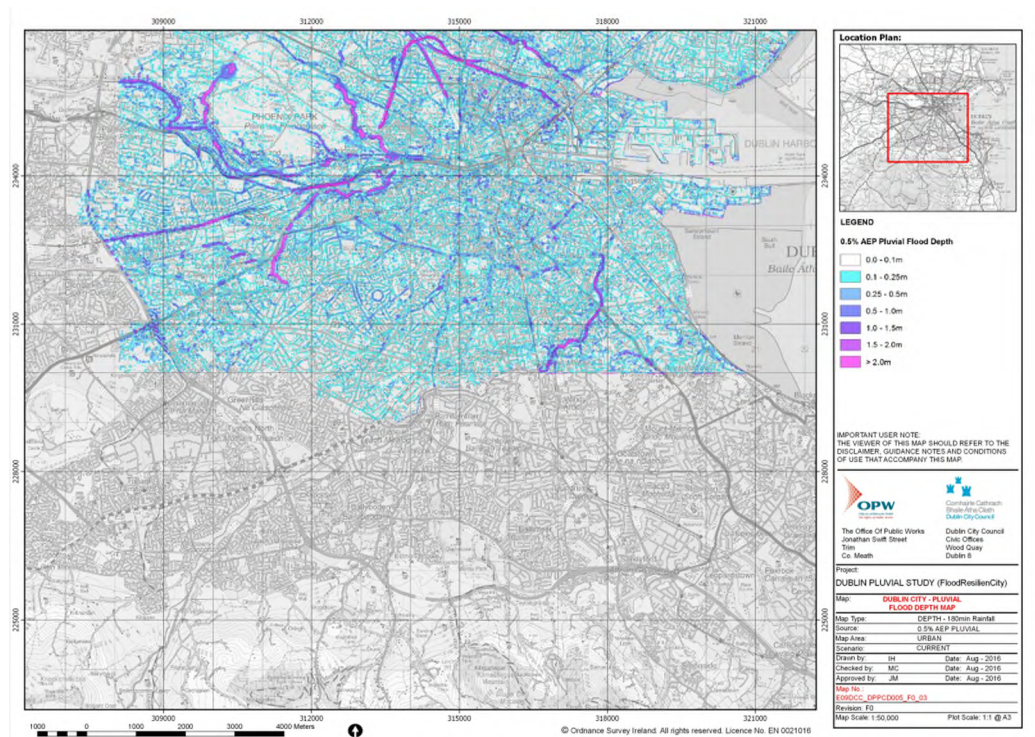


Figure 8. Pluvial Flood Depth Map – 0.5% AEP Event

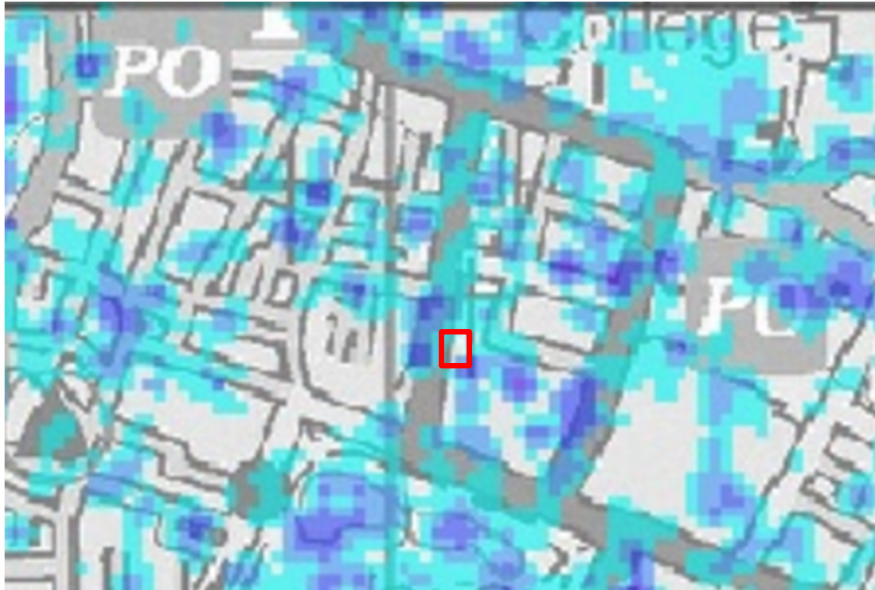


Figure 9. Enlargement 0.5% AEP Pluvial Flood Depth (light blue 0.1-0.25m)

3. JUSTIFICATION TEST

The Justification Test described in “The Planning System and Flood Risk Management Guidelines for Planning Authorities” published by the OPW and DOEHLG in November 2009 assesses the appropriateness of developments being considered in areas of moderate or high flood risk. A Justification Test for development management as described in chapter 5 of the above guidance is set out below.

3.1. Zoning

Local Authority Zone: Zone Z5: City Centre.
 Conservation Area
 Architectural Conservation Area
 Protected Structure

3.2. Flood Risk Assessment

3.2.1. Flood Risk Elsewhere

The proposed development will not increase flood risk to adjoining areas. There is no increase in hard-surfaced area. The level of the site is slightly above street and footpath level. Dawson St falls to the North (at a gradient of approx. 1 in 70 immediately in front of the Mansion House).

Surface water run-off from the site will not increase. It will be contained within the site and discharge to the existing surface water drainage system. This will not impact the surrounding streets or any residential areas.

3.2.2. Risk Minimisation

The new gently sloping access to the new basement floor level entrance will cause surface water run-off from approx. 120 sq. m of hard-surfaced area (the sloping section of the access route) to be directed towards the new entrance doors.

(Pluvial) Flood risk will be minimised by:

1. Incorporating a mid-slope drainage channel in addition to the drainage channel at the base of the sloping access.
2. The existing surface water drainage system within garden has silted drainage pipes and the attenuation tank has also accumulated some silt. The surface water drainage within the garden, to which the new sloped access drainage will connect will be replaced with larger diameter pipework, and the attenuation tank cleaned, and all silt removed.
3. The new drainage channels will incorporate silt traps to minimise silt transport into the new drainage system. The channels will discharge to the enlarged surface water drainage which will conduct the run-off to attenuation storage in the adjoining garden before discharging to the public drainage system in Dawson St.
4. A maintenance regime will be implemented to ensure the silting up of the drainage system does not recur.
5. A high-level overflow from the drainage channel at the base of the sloping access will be provided to an existing independent, combined drainage pipe in the basement well of the Mansion House which has a separate connection to the public drainage system in Dawson St. so that in the event of a blockage of the main surface water drainage system, an alternative drainage route is available.

3.2.3. Residual Risk Management

The design incorporates measures to mitigate residual flood risk including provision for emergency overflow to an independent drainage route. As a highly trafficked public area the floor finishes will be flood resilient.

3.2.4. Wider Planning Objectives

The flood risk management strategy for the proposed development has been designed to be compatible with the wider planning objectives of the development articulated elsewhere in the planning application. The proposed development is consistent with the Dublin City Development Plan.

4. DEVELOPMENT IMPACT

4.1. Development Run Off

The proposed development will not result in increased surface water run-off from the site. Surface water run-off will be attenuated through the existing attenuation system serving the development.

4.2. Contamination

There is no risk of contamination from the proposed pedestrian access.

5. PROPOSED FLOOD MITIGATION AND MANAGEMENT

5.1. Coastal Flood Risk

There is no risk of coastal flooding.

5.2. Fluvial Flood Risk

There is no risk of fluvial flooding.

5.3. Pluvial Flood Risk

There is a minor risk of pluvial flooding as the proposed entrance is below the adjoining ground levels. This is addressed by improving the existing drainage system and incorporating an overflow to an independent drain in the event of blockage of the main surface water drainage system.

6. RESIDUAL RISKS

There is a residual risk of flooding if the drainage system is not maintained, however as this is a well-managed site operated by Dublin City Council this risk is very low.

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