



Project Title: Proposed Strategic Housing Development at Dolcain House, Clondalkin, Dublin 22

Report Title: Stage 1/2 Flood Risk Assessment Report

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Client: Randelswood Holdings LTD

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1.0 Introduction:

This flood risk assessment has been conducted at the request of Randelswood Holdings Ltd. The flood risk assessment has been conducted in line with OPW Publication “The Planning System and Flood Risk Management Guidelines for Planning Authorities”.

The scope of works is generally the development of an existing brownfield office development to accommodate new residential development consisting of 130 No. apartment units with onsite car parking. The proposed site is situated on Monastery Road, Clondalkin, Dublin.

2.0 Stage 1 – Flood Risk Identification:

2.1 Site Location:

The site is located along Monastery Road as shown on map below (See Figure 1).



Figure 1: Site Location Map

2.2 Previous Flooding Occurrences:

Inspection of OPW records indicates that there have not been any recorded flood events in the vicinity of the subject site.

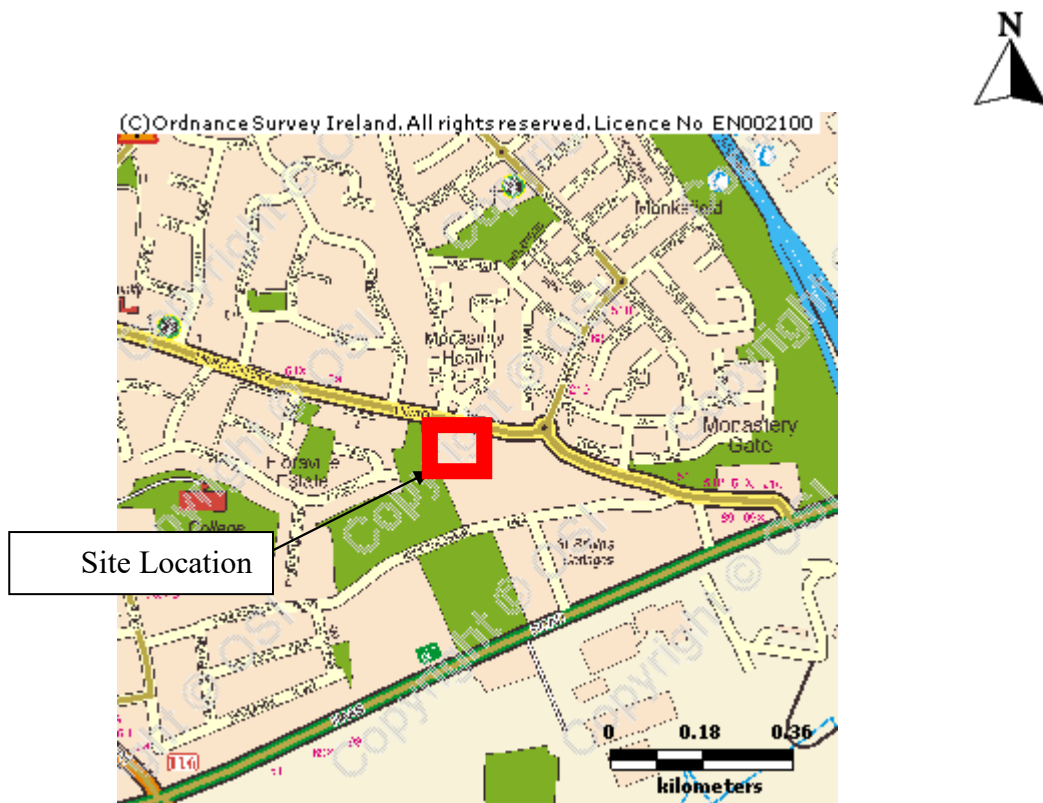
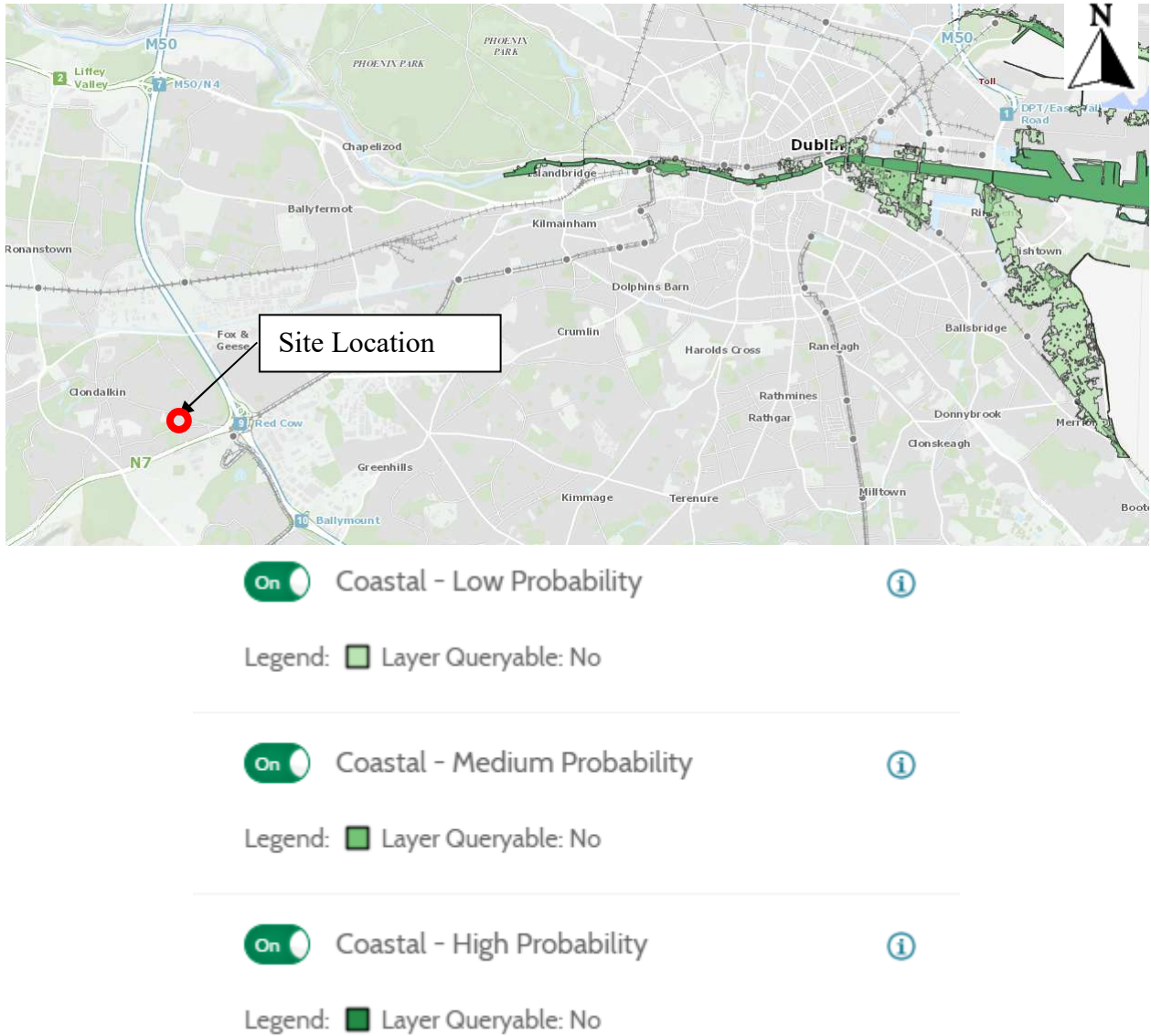


Figure 2: Map Extract from OPW Flood Maps Website

2.3 Likelihood of Flooding:

2.3.1 Tidal/Costal Flooding

The maps obtained from the floodinfo.ie indicate that areas in the vicinity of the site are not predicted to flood during in 0.1% Annual Exceedance Probability (AEP). The site is located 11.5km away from the coast (See Figure 3).



Low Probability flood events have an indicative 1-in-a-1000 chance of occurring or being exceeded in any given year. This is also referred to as an Annual Exceedance Probability (AEP) of 0.1%.

Figure 3: Map of Costal Flood Extents (Extract from floodinfo.ie)

2.3.2 Fluvial Flooding

The maps obtained from the floodinfo.ie indicate that areas in the vicinity of the site are not predicted to flood during in 0.1% Annual Exceedance Probability (AEP). The site is located 1.0km away from the nearest water course (See Figure 4).

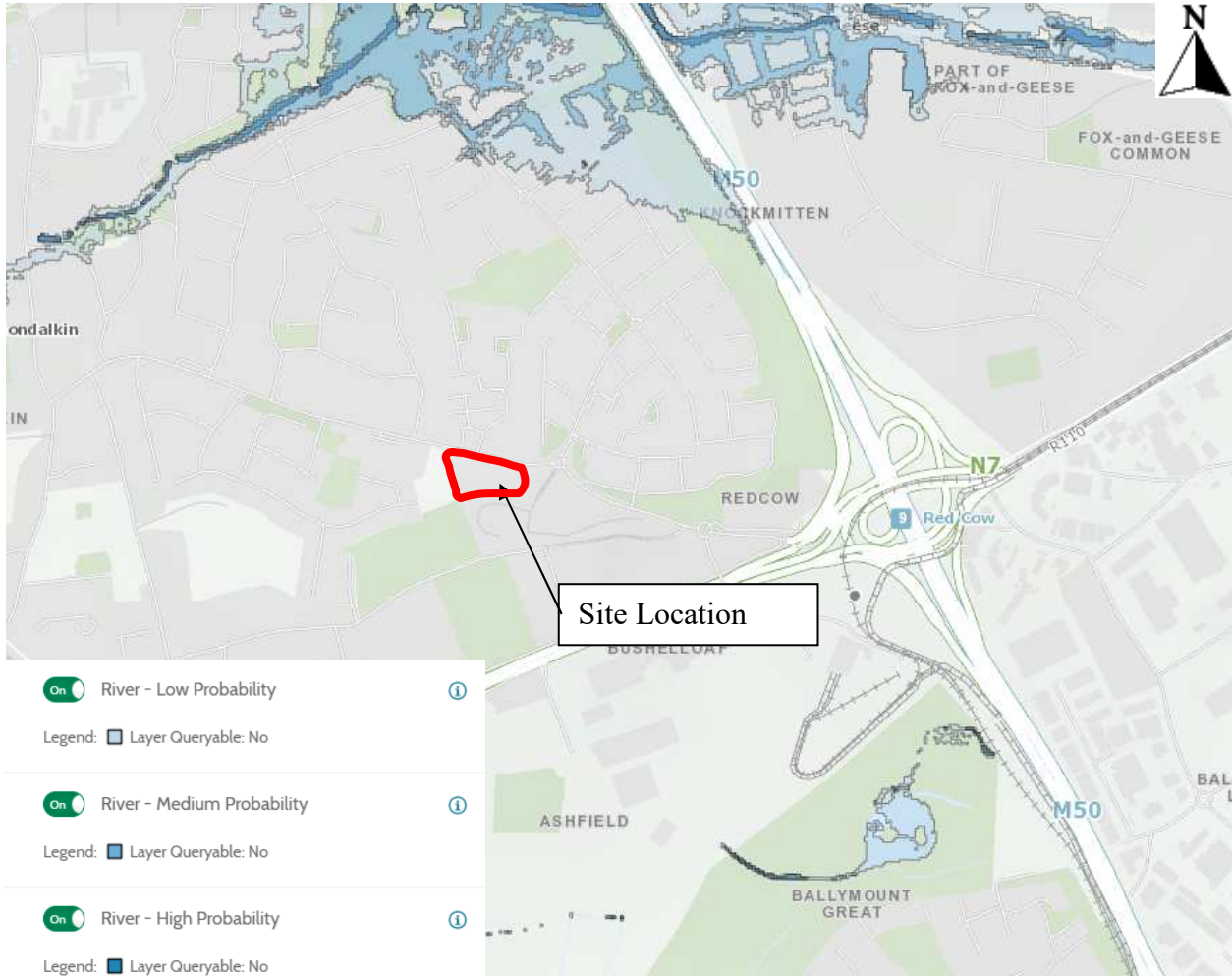


Figure 4: Map of Fluvial Flood Extents (Extract from floodinfo.ie)

2.3.3 Pluvial Flooding

Inspection of the maps obtained from MyPlan.ie shows no pluvial flooding of 1% Annual Exceedance Probability (AEP) event affecting the site.

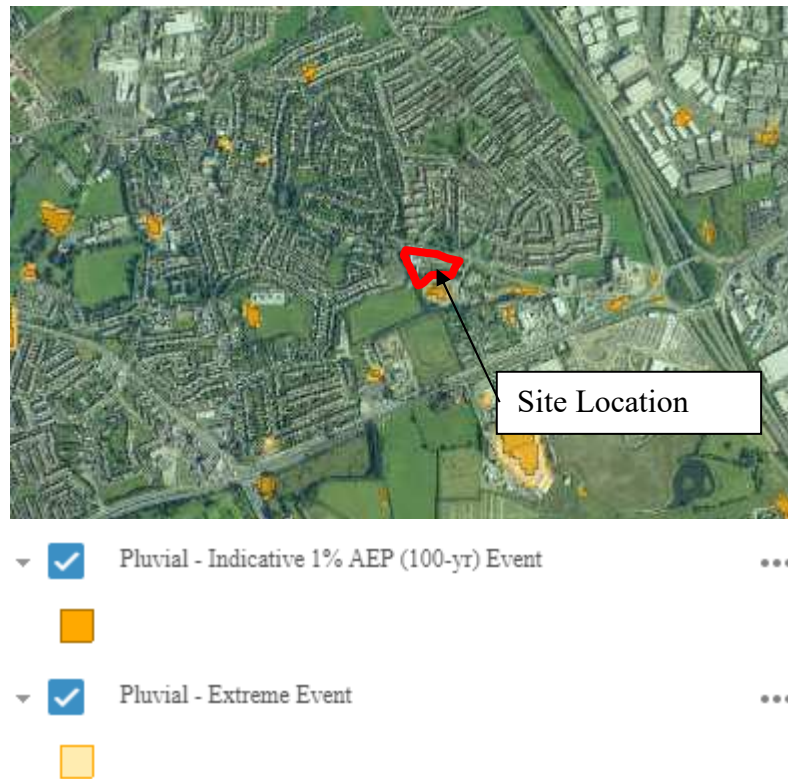


Figure 5: Map of Pluvial Flood Extents (Extract from MyPlan.ie)

2.3.4 Groundwater Flooding

Inspection of the maps obtained from floodinfo.ie shows no data of groundwater flooding on the site.

3.0 Stage 2 – Initial Flood Risk Assessment:

3.1 Existing Site Topography & Flood Alleviation Measures:

The current site is a brownfield site consisting of 4 No. multi-story office blocks and atrium, with surface level and undercroft car parking. The site topography is tiered from an elevated level in the south of the site to a lower level approaching Monastery Road, which is reflective of the natural topography of the locality. Existing surface water drainage systems within the site include a limited volume of stormwater attenuation storage volume installed mainly to cater for the paved surfaces formed as part of more recent developments within the site.

3.2 Proposed Redevelopment of Site & Flood Alleviation Measures:

The proposed redevelopment of the site involves the change the use of the existing office blocks to residential, the construction of an additional floor to selected structures, extension of floor plates to several existing blocks & the construction of a new standalone apartment block. It is proposed to provide a stormwater attenuation system to serve the entire site & limit the outflow from the site to a greenfield runoff rate. It is also proposed to incorporate a green roof system on each block in order to reduce the total amount of rainwater runoff exiting the site. Both of these measures will aid in reducing stormwater impact on the public drainage system & therefore reduce the likelihood of flooding in the area.

4.0 Stage 3 – Detailed Risk Assessment:

It is noted from stages 1 and 2 that the proposed development’s likelihood of flooding is low, which implies that it is not subject to any significant flood risk. Therefore stage 3 is deemed not applicable as per the OPW Publication “The Planning System and Flood Risk Management Guidelines for Planning Authorities technical Appendices Document”.

5.0 Conclusions:

The proposed development of a residential apartment block would be deemed as a **highly vulnerable development** in its vulnerability classification. Review of all available flood data for the site and the surrounding area indicates the likelihood of floodwater entering to be extremely low. The site is therefore classified as a **Flood Zone C** and therefore has a low probability of experiencing a flood. Applying the matrix of vulnerability from the OPW Guidelines for Planning Authorities indicates that the site is therefore appropriate for the proposed development without further justification or flood alleviation measures

There are no recorded flood events that have has an effect on the site in question or within the surrounding area of the site.

It is therefore our opinion that the risk of flooding at this site and the risk of flooding due to the development of this site in flood events is minimal.



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Director

Date: 17th January 2022

For Lohan & Donnelly Civil & Structural Consulting Engineers