

The Limerick Private Hospital Flood Risk Assessment

Contract Brief

JBA Consulting were commissioned to undertake a flood risk assessment for a proposed hospital development in Limerick.

The site and adjacent grounds are situated behind flood embankments on both the Ballynaclough River and the River Shannon. The main site has been filled in accordance with custom and development practice in this area to previously agreed levels which takes into account the residual flood risks behind the flood defences.



Ballynaclough River

Objectives

- To meet the requirements of Objective IN5 of the Southern Environs LAP (2011-2017) and the Planning System and Flood Risk Management: Guidelines for Planning Authorities (OPW/DóEHLG, 2009)
- To establish the actual risk of flooding to the site
- To investigate residual risks to the site which may arise in the unlikely event of the defences being breached.
- To consider how actual and residual risks may change over time
- To demonstrate that flood risk to the site can be managed to acceptable levels through both structural and operational adaptations

Services provided

The site is fully defended so actual risks of flooding is nil. Due to the high vulnerability of the development, residual risks associated with defence failure were investigated for a range of scenarios. The philosophy behind the choice of scenarios was to look across the risk continuum and use the results to design the core components that inform the management of flood risk, such as:

- Determination of potential inundation thresholds
- Floor levels for the hospital
- When the emergency plan should be triggered
- How the emergency plan can deal with more extreme combinations
- How adaptable the development is to different projections of climate change

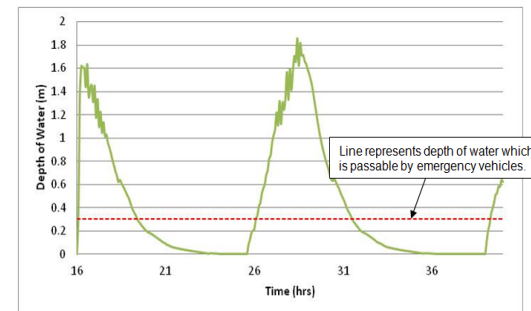
Outcomes

The development was shown to pass the Justification Test for Development Management.

Recommendations concerning flood protection, flood levels and siting of emergency equipment, such as generators were made. An outline emergency plan, focused on containment of patients was developed.

Through an iterative design process and consultation with the Local Authority, the development was granted planning permission in early 2013.

Figure 6-2 - Inundation across the Dock Road following "extreme" breach



Note: Graph shows typical water levels on Blackberry Park Road for the 200+ CC river breach. Water level taken at point of the road where the height is 2.97mOD.

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