

Quarterly Review

Since our last quarterly review (Newsletter 10 – June 2007) the project teams have been making good progress on a number of different aspects of the project.

The hydraulic computer modelling phase of the project is well-advanced (please see the March and May newsletters for further information on the hydraulic modelling). The computer modelling of Cork Harbour has been completed and provides the project team with an estimate of water levels in Cork Harbour for flood events of various magnitudes. The project teams are currently checking a number of the river computer models against known flood events and levels to ensure that the models are working correctly.

The hydrological analysis of the catchment (February '07 newsletter) is being finalised. This analysis will provide an estimate on the rates and quantities of rainfall runoff into the catchment water bodies. Work has also been completed on assessing the impact of climate change and land use changes on flood risk in the catchment (June '07 newsletter). The data provided by both the hydrological analysis and hydraulic modelling combined with digital 3D models of the floodplain will be used to develop the flood maps for the catchment (August '07 newsletter) over the coming months.

Next issue

In the next issue of the newsletter we will be focussing on the Flood Defence Asset Database. This software has been developed as part of the LeeCFRAMS for collecting, storing and analysing data on the condition of various structures in the Lee catchment. The next issue of the newsletter will be available at the end of October.

Old Gunpowder Mills
in Ballincollig



Contact details

If you have any questions or require any further information relating to this study or if you would like to be included on a distribution list for future issues of this newsletter please email LeeCFRAMStudy@opw.ie

Further information is also available on our project website at www.leecframs.ie

Barryscourt Castle close to the
town of Carrigrohilly



LEE CATCHMENT FLOOD RISK ASSESSMENT AND MANAGEMENT STUDY

Newsletter - 13
September 2007

Halcrow



Introduction

Welcome to the thirteenth edition of the Lee CFRAM Study Newsletter. In this month's newsletter we focus on the flood risk management for the Cork South Docklands, as set out in the Local Area Plan Infrastructure Strategy.

We also provide a quarterly review giving a brief summary of the project work that has been undertaken over the last three months. Don't forget that you can keep up to date on all aspects of the project by visiting our project website at www.leecframs.ie

Focus On

Cork South Docklands – flood risk management

The Cork South Docklands is a large area of land lying to the east of Cork City Centre extending from Custom House Quay to Blackrock. The Cork South Docklands Local Area Plan (LAP) published in June 2007, proposes the redevelopment of this area into a high density urban quarter with residential and employment targets of 20,000 and 25,000 respectively. Further information on the South Docklands LAP can be found at <http://www.corkcity.ie/docklands>

The South Docklands is generally located on land that has been reclaimed from the River Lee Estuary. The River Lee is tidal at the location of the docklands with the area protected from flooding by the quay walls along the river front. Ground levels in the South Docklands are generally below high tide levels, forming a general 'bowl' shape with lower levels in the central sections generally rising to all boundaries.

South Docklands along Kennedy Quay



Aerial photo of Cork City with the red boundary line showing the extent of the South Docklands

The LAP has identified flooding as one of the critical issues for the area. Flooding of the South Docklands last occurred in October 2004 with overtopping of the quay walls resulting in a limited flow of water at Victoria Road to Centre Park Road. Flooding of the South Docklands has been rare, however the vulnerability of the area to flooding is expected to increase in the future as a consequence of climate change which will result in a rise in sea levels and an increase in the severity of Atlantic storms.

The LeeCFRAMS project team has been working with Cork City Council on providing a design level for the flood defences and guidance on the best possible flood risk management measures. The hydraulic computer model of Cork Harbour (March '07 newsletter) together with analysis of climate change has been used to estimate design flood levels in the River Lee at the location of the South Docklands. The hydraulic computer modelling has included analysis of surge, tide and wind data to provide an estimate of the flood water level with a 0.5% annual exceedance probability. This describes the likelihood of a flood event which has a 0.5% chance of occurring or being exceeded in any given year.

Flood risk in the South Docklands will be managed through the raising of ground levels and the implementation of flood protection devices such as flood walls & embankments, demountable barriers and flood resistant buildings. The key issues which have been considered in assessing flood risk management options in the LAP are as follows:

- The South Docklands needs to be an area which people feel safe and are happy to work and live.
- Developers require a certain level of confidence in order to invest in the area.
- Flood defence systems should be kept as simple and robust as possible, so that the minimum of manual intervention is required.
- Sensitive buildings such as schools and hospitals need to be protected at all times, preferably with access to such buildings at all times.
- Access roads into and within the South Docklands need to be kept open to allow access for the Emergency services even during flood events.
- Providing a good accessibility relationship between buildings and the public realm.