

Predictive Fluvial Flood Extent Map



Fluvial (River) Flooding

Fluvial flooding occurs when rivers and streams breach their banks and water flows out onto the adjacent low-lying areas. The risk of fluvial flooding within the scheme area is from the River Corrib, the Terryland Watercourse, the Eglinton Canal and the mill races throughout the city. The target Standard of Protection for fluvial flooding for the scheme is to prevent flooding to properties during fluvial flood events with a 1% Annual Exceedance Probability (AEP). For further information on the Standard of Protection of the scheme, refer to the Boards Overview.

A dynamic fluvial/tidal hydraulic model of all the relevant watercourses in Galway City and the associated floodplain areas was used to assess the risk of fluvial flooding. The model included all the primary watercourses within the study area. The numerous hydraulic structures throughout the City such as the Salmon Weir, the Parkavara Weir, the Terryland Waterworks and all the bridges, culverts and sluices were accounted for as part of the hydraulics model. The model was well calibrated against several historic flood events (within a 0.1-0.2m tolerance of the maximum water levels) and is therefore robust and accurate enough for use as part of the study.

The areas of the scheme at risk from fluvial flooding are primarily those located upstream of the Salmon Weir as the primary source of flood risk downstream of the weir is coastal. A number of properties at Menlo are located adjacent to the floodplain but are not at risk as their floor levels are above the design water level. The area behind the dyke embankment along the Terryland watercourse is at risk from the embankment being overtopped by water from the River Corrib in a design exceedance event. Increasing the height of the existing embankment has therefore been considered to increase the available freeboard for the current scenario 1% Annual Exceedance Probability (AEP) event and also to mitigate the risk of overtopping in the mid-range future scenario 1% AEP event.

It is not based on flood records from actual flood events in the past. The map refers to a flood event probability in terms of a percentage Annual Exceedance Probability, or 'AEP'. This represents the probability of an event of this, or greater, severity occurring in any given year. This probability may also be expressed as a percentage (i.e. a 1% chance of this flood occurring in any given year). It is also commonly referred to in terms of a return period (i.e. the 1-in-100-year flood or simply the 100-year flood), although this period is not the length of time that will elapse between two such events occurring, as, although unlikely, two very severe events may occur within a short space of time.

Annual Exceedance Probability	Probability of Occurrence in a Given Year	Return Period (Years)
1%	1 in 100 chance	100