



REDWATER CREEK RAILTON
100 Year Annual Exceedance Probability Planning Map
 Based on the January 2011 Flood

General

This map shows the extent of flood experienced at Railton on the 14th January 2011. Analysis has determined that this flood's Annual Exceedance Probability (AEP) was equal to 1% AEP flood or a 1 in 100 year event. As such this map may be used for Planning assessments as the best information available at the time of publication.

Flood Frequencies

An AEP of 1:100 is the probability on average that a given flood height will be equalled or exceeded in any one year. A 1:100 AEP event flood height has a 1% chance of being exceeded in any one year. Another term is ARI or Average Recurrence Interval; this is the average period between events of a nominated size.

The table shows the chance of a 1:100 AEP event occurring in a nominated period.

Annual Exceedance Probability (AEP)	Probability of flood magnitude being exceeded in a 20 or 50 year period	
	20 Year Period	50 Year Period
1:10	88%	99.5%
1:20	64%	92%
1:50	33%	64%
1:100	18%	39%
1:200	10%	22%

Flood Surface

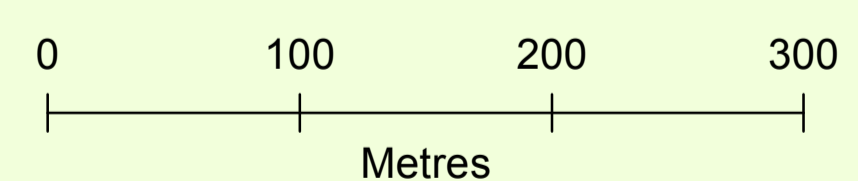
Flood surface levels can be determined from direct measurement by surveying in the levels in the aftermath of a flood and then assigning an AEP to the flood surface or by hydraulic modelling with mathematical models. Both approaches require flood frequency analysis or hydrological modelling to determine the floods AEP.

It is unusual for an actual flood event to match a standard AEP or ARI but in the case of the January 2011 event, flood frequency analysis and hydrological modelling together have shown that it can be equated to the 1:100 AEP flood event.

Flood levels were determined by surveying in flood levels recorded by Council staff after the flood, in some areas levels have been estimated and averaged. Council will continue to refine the map as more information becomes available, but for now it is the best estimate available for the 1:100 AEP flood surface.

Map Created by **M. McGovern (Esk Mapping & GIS)**
 Hydraulic and hydrological analysis by **S. Ratcliffe (SEMF)**

- Legend**
- Property Titles
 - 2011 Flood Extent
 - 2011 Water Level Height
- Water Surface Contours**
- Index Contour
 - Intermediate Contour



1:3,000 when printed at A1
 1 centimetre = 30 metres