

Institute of Hydrology: Report 124

Flood Estimation for Small Catchments Estimation of Greenfield Runoff

Project

Title:

Old Mead Farm - Site 2

Job No:

J19-046

Location:

Littlehampton

Date:

08/07/2019

CIRIA 609 guidance (Sustainable Drainage Systems, 2004) advocates the use of the Institute of Hydrology Report No. 124 (IH124) approach for the determination of peak greenfield runoff (or pre-development) flows. For developments smaller than 50ha, it is recommended that an area of 50ha is used within the calculations and then the resulting flows be scaled linearly based on the ratio of the development area to 50ha. This method is specifically intended for small areas and is based on the characteristics of the catchment or surface draining to the point of outfall.

The Values for SAAR and SOIL should be obtained from the FEH CDROM or published tables.

This method should only be used on catchments up to 25Ha. Refer to Ciria C609 for guidance.

- 1.0 Locate a suitable map of the area and determine the catchment area 'A' in hectares.

A (Ha)= 50

- 2.0 [Either determine agroclimatic region from chart](#)
or
Enter Standard Average Rainfall, SAAR from FEH CDROM directly.

Region No. 46

SAAR (mm) = 740

- 3.0 Enter soil class percentage, SOIL from from FSR Figure I.4.18.

[Soil winter acceptance values for Cornwall](#)

[Soil Key](#)

S1
S2
S3 100%
S4
S5

SOIL = 0.4

- 4.0 Peak Average Annual Flood Flow, QBAR

QBAR (m³/s)= 0.18

Estimation of Greenfield Flood Flows

To determine flood flows for extreme events it is necessary to apply a multiplier to QBAR. This is determined from the most suitable growth curve in appendix 1.

Return Period = 100.00

Multiplier = 3.19

Greenfield Runoff (m³/s) 0.58