Analysis Criteria

Analysis Criteria allows you to specify various settings that will dictate how the application performs the analysis.

This is composed of two components: the selected rainfall and general settings. The available rainfall is discussed in Rainfall Manager and Known Rainfall, while the general analysis settings are discussed below.

Runoff Type

This setting allows you to select the runoff method that will be used for the analysis and therefore what sort of rainfall source is needed. The following options are available:

> ⚠ Some of the methods may not be available for your region. For more information, refer to the Regionalisation topic.

- **Dynamic** - The default option that is used by all runoff methods that utilise a rainfall hyetograph to produce the inflow hydrograph.
- **Static** - This is only used by the Simplifed Modified Rational runoff method, which uses a peak rainfall intensity to produce the inflow hydrograph rather than a full hyetograph.

Select Rainfall

Select the radio button to **Create New** or select **From Library**.

> ⚠ This is relabelled as Rainfall Source and allows the selection of an IDF source when using the Static runoff type.

The following fields are automatically displayed in the form:

- **Method** - Displays the method that will be used for analysis.
- **Number of Storms** - Displays the number of storms present from the selected rainfall.
- **Max Run Time (mins)** - Displays the maximum run time from the selected rainfall.

Output Interval (mins)

This is the interval at which the results of the analysis will be presented. By default, this is set to every five minutes. A big interval is maybe more suitable for a long duration analysis, while a shorter interval increases the temporal resolution when analyzing a short duration storms.

Time Step

This controls the internal time step range used in the analysis. The default setting will be suitable for most designs.

If results begin to show some instabilities, the **Reduced** or **Shortest** option may be used. However, the engine may take longer to analyse for these settings.

ⓘ The engine updates the length of the computational time step at every time step based on the hydraulic conditions. This is to ensure that the time step has the optimum length to balance the accuracy of the results and the runtime of the simulation.

Urban Creep

This scales the impermeable area by the amount specified (see table below for more details). This can be used to take the increase of urban areas, or other factors into account.

Scale is applied to the methods below as follows:

Runoff Method	Scale Method
Time of Concentration / Time Area Diagram / Modified Rational	Increases PIMP by the percentage entered.
SCS / SBUH	Increases Percentage Impervious by the percentage entered.
FSR	Increases Urban by the percentage entered.
FEH / ReFH	Increases URBEXT by the percentage entered.
Laurenson	Increases Degree Urbanization by the percentage entered.

Junction Flood Risk Margin

This is the depth below the top of the junction the water level must reach before the status of the junction changes from surcharged to flood risk.

Perform First Flush / No Discharge Analysis

When selected, a First Flush / No Discharge event is added as an extra event in the analysis, which is based on the First Flush / No Discharge Rainfall Depth and Run Time provided in the form.

Rainfall Depth

The depth of rainfall that will be applied to the First Flush / No Discharge event.

Run Time

The run time that will be applied to the First Flush / No Discharge event.

ⓘ **Note**

First Flush / No Discharge is only compatible with the Dynamic runoff type.