

# 1. Erosion Hazard and Sediment Basins

Site Name:

Site Location:

Precinct/Stage:

Other Details:

Site area	Sub-catchment or Name of Structure						Notes
Total catchment area (ha)							
Disturbed catchment area (ha)							

## Soil analysis (enter sediment type if known, or laboratory particle size data)

Sediment Type (C, F or D) if known:							From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group							Automatic calculation from above

## Rainfall data

Design rainfall depth (no of days)							See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)							
x-day, y-percentile rainfall event (mm)							
Rainfall R-factor (if known)							
IFD: 2-year, 6-hour storm (if known)							Only need to enter one or the other here

## RUSLE Factors

Rainfall erosivity ( <i>R</i> -factor)							Auto-filled from above
Soil erodibility ( <i>K</i> -factor)							RUSLE LS factor calculated for a high rill/interrill ratio.
Slope length (m)							
Slope gradient (%)							
Length/gradient ( <i>LS</i> -factor)							
Erosion control practice ( <i>P</i> -factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover ( <i>C</i> -factor)	1	1	1	1	1	1	

## Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)

Storage (soil) zone design (no of months)	2	2	2	2	2	2	Minimum is generally 2 months
Cv (Volumetric runoff coefficient)							See Table F2, page F-4 in Appendix F

## Calculations and Type D/F Sediment Basin Volumes

Soil loss (t/ha/yr)							
Soil Loss Class							See Table 4.2, page 4-13
Soil loss (m <sup>3</sup> /ha/yr)							Conversion to cubic metres
Sediment basin storage (soil) volume (m <sup>3</sup> )							See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m <sup>3</sup> )							See Sections 6.3.4(i) for calculations
Sediment basin total volume (m <sup>3</sup> )							

NB for sizing of Type C (coarse) sediment basins, see Worksheet 3 (if required).





NB for flow calculations on sediment basin spillways, see Worksheet 3 (if required).

### 3. Sediment Basin Spillway Design

#### Structure Details

Structure Name							Auto-filled from Worksheet 1
Catchment Area (ha)							Auto-filled from Worksheet 1
Time of concentration (tc)							Auto-calculated assuming tc is halved

#### Rainfall Intensities (IFD Values)

1 year, tc							Enter the relevant rainfall intensities (in mm/hr) for each of the nominated rainfall events. The time of concentration (tc) determines the duration of the event to be used
2 year, tc							
5 year, tc							
10 year, tc							
20 year, tc							
50 year, tc							
100 year, tc							

C <sub>10</sub> runoff coefficient							Use AR&R or Table F3, pg F-6
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Design ARI event (select):	100	100	100	100	100	100	Select design ARI (years) from dropdown
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Frequency Factor	1.2	1.2	1.2	1.2	1.2	1.2	Auto-filled based on selected ARI
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Flow Calculation							Auto-calculated based on selected ARI
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### 4. Volume of Type C (Coarse) Sediment Basins

#### Type C Basin Design Criteria

Structure Name							Auto-filled from Worksheet 1
Catchment Area (ha)							Auto-filled from Worksheet 1
Sediment type (C, F or D)							Auto-filled from Worksheet 1
Design rainfall event							Choose design event from dropdown
Flow volume (m <sup>3</sup> /s)							Calculated from IFD values above
Area Factor	4100	4100	4100	4100	4100	4100	Default is 4,100. See pg 6-12
Depth of settling (water zone) (m)	0.6	0.6	0.6	0.6	0.6	0.6	Minimum is 0.6m (pg 6-12)

#### Type C Basin Volume Calculations

Basin Surface Area (m <sup>2</sup> )	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated
Settling (water) zone volume (m <sup>3</sup> )	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated
Storage (soil) zone volume (m <sup>3</sup> )	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated
Total basin volume (m <sup>3</sup> )	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Not Type C	Auto-calculated

#### Basin Shape

Enter length:width ratio	3	3	3	3	3	3	E.g. for 3:1 (L:W) enter 3.
Length (m)	N/A	N/A	N/A	N/A	N/A	N/A	These figures should be taken as a guide only. Detailed calcs might be required.
Width (m)	N/A	N/A	N/A	N/A	N/A	N/A	

