

1. The steps set out in the tool should be applied for each inflow or 'runoff area' (ie each impermeable surface area separately discharging to a SuDS component).
2. The supporting 'Design Conditions' stated by the tool must be fully considered and implemented in all cases.
3. Relevant design examples are included in the SuDS Manual Appendix C.
4. Each of the steps below are part of the process set out in the flowchart on Sheet 3.

5. Sheet 4 summarises the selections made below and indicates the acceptability of the proposed SuDS components

DROP DOWN LIST RELEVANT INDICES NEED TO BE SELECTED FROM THESE LISTS FOR EACH STEP

USER ENTRY USER ENTRY CELLS ARE ONLY REQUIRED WHERE INDICATED BY THE TOOL

STEP 1: Determine the Pollution Hazard Index for the runoff area discharging to the proposed SuDS scheme

This step requires the user to select the appropriate land use type for the area from which the runoff is occurring.

If the land use varies across the 'runoff area', either

- use the land use type with the highest Pollution Hazard Index
- apply the annomorph for each of the land use types to determine whether the proposed SUDS design is sufficient for all. If it is not, consider collecting more hazardous runoff separately

If the generic land use types suggested are not applicable, select "Other" and enter a description of the land use of the runoff area and agreed user defined indices in the row below the drop down lists

Runoff Area Land Use Description		Pollution Hazard Index				DESIGN CONDITIONS	
Hazard Level	Total Suspended Solids	Metals	Hydrocarbons				
Select land use type from the drop down list (or "Other" if none applicable): → If the generic land use type in the drop down list above are not applicable, select "Other" and enter a description of the land use of the runoff area and agreed user defined index in this row:	Low traffic roads (e.g. residential roads and general access roads, < 300 traffic movements/day)	Low	0.5	0.4	0.4	1	2
Landuse Pollution Hazard Index		Low	0.5	0.4	0.4		

STEP 2A: Determine the Pollution Mitigation Index for the proposed SuDS components

This step requires the user to select the proposed SuDS components that will be used to treat runoff - before it is discharged to a receiving surface waterbody or downstream infiltration component

If the runoff is discharged directly to an infiltration component, without upstream treatment, select "None" for each of the 3 SuDS components and move to Step 2B

This step should be applied to evaluate the water quality protection provided by proposed SUDs components for discharges to receiving surface waters or downstream infiltration components (note: in England and Wales this will include components that allow any amount of infiltration, however small, even where infiltration is not specifically accounted for in the design).

If you have fewer than 3 components, select 'None' for the components that are not required.

If the proposed component is bespoke and/or a proprietary treatment product and not generically described by the suggested components, then 'Proprietary treatment system' or 'User defined indices' should be selected and a description of the component and agreed user defined indices should be entered in the rows below the drop down lists.

		Pollution Mitigation Indices			DESIGN CONDITIONS																	
		Total Suspended Solids	Metals	Hydrocarbons	1	2	3															
SUDS Component Description Select SUDS Component 1 (i.e. the upstream SUDS component) from the drop down list: Select SUDS Component 2 (i.e. the second SUDS component in a series) from the drop down list: Select SUDS Component 3 (i.e. the third SUDS component in a series) from the drop down list:																						
Scale		0.5	0.6	0.6																		
None																						
None																						
If the proposed SUDS components are landscape/permeable and/or the generic indices above are not considered appropriate, select 'Regulatory treatment system' or 'User defined index' and enter component descriptions and agreed user defined indices in these rows: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="height: 30px;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> </tr> <tr> <td style="height: 30px;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> </tr> <tr> <td style="height: 30px;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> <td style="background-color: #d9ead3;"></td> </tr> </table>																						
Annotated Surface Water Pollution Mitigation Index		0.5	0.6	0.6																		

Note: If the total aggregated mitigation index is >= 1 (which is not a realistic outcome), then the outcome is fixed at "0.99". In this scenario, the proposed components are likely to have a very high mitigation potential for reducing pollutant levels in the runoff and should be sufficient for any proposed land use.

Is the runoff now discharged to an infiltration component?

Yes ? [Go to Step 2B](#)
No ? [Go to Step 2C](#)

STEP 2B: Determine the Pollution Mitigation Index for the proposed Groundwater Protection

This step requires the user to select the type of groundwater protection that is either part of the SuDS component or that lies between the component and the groundwater.

This step should be applied where a SuDS component is specifically designed to infiltrate runoff (note: in England and Wales this will include components that allow any amount of infiltration, however small even where infiltration is not specifically accounted for in the design).

¹Groundwater protection describes the proposed depth of soil or other material through which runoff will flow between the runoff surface and the underlying groundwater.

Where the discharge is to surface waters and risks to groundwater need not be considered, select 'None'

If the proposed groundwater protection is bespoke and/or a proprietary product and not generically described by the suggested measures, then a description of the protection and agreed user defined indices should be entered in the row below the drop down list.

Pollution Mitigation Indices						
Total Suspended Solids	Metals	Hydrocarbons	1	2	3	
Select type of groundwater protection from the drop down list: None						
If the proposed groundwater protection is biopore/permeability and/or the generic indices above are not considered appropriate, select "Proprietary product" or "User defined indices" and enter a description of the protection and agreed user defined indices in this row:						
Groundwater Protection Pollution Mitigation Index	0	0	0			

STEP 2C: Determine the Combined Pollution Mitigation Indices for the Runoff Area

This is an automatic step which combines the proposed SuDS Pollution Mitigation Indices with any Groundwater Protection Pollution Mitigation Indices

	Combined Pollution Mitigation Indices		
	Total Suspended Solids	Metals	Hydrocarbons
Combined Pollution Mitigation Indices for the Runoff Area	0.5	0.6	0.6

Note: If the total aggregated mitigation index is > 1 (which is not a realistic outcome), then the outcome is fixed at ~ 0.95 . In this scenario, the proposed components are likely to have a very high mitigation potential for reducing pollutant levels in the runoff and should be sufficient for any proposed land use (note: where risk assessment is required, this outcome would need more detailed verification).

STEP 2D: Determine Sufficiency of Pollution Mitigation Indices for Selected SuDS Components

This is an automatic step which compares the Combined Pollution Mitigation Indices with the Land Use Hazard Indices, to determine whether the proposed components are sufficient to manage each pollutant category type.

When the combined mitigation index exceeds the land use pollution hazard index, then the proposed components are considered sufficient in providing pollution risk mitigation.

In England and Wales, where the discharge is to protected surface waters or groundwater, an additional treatment component (in or over and above that required for standard discharges), or other equivalent protection, is required that provides environmental protection in the event of an unexpected pollution event or poor system performance. Protected surface waters are those designated for drinking water abstraction. In England and Wales, protected groundwater resources are defined as Source Protection Zone 1. In Northern Ireland, a more precautionary approach may be required and this should be checked with the environmental regulator on a site by site basis.

DESIGN CONDITIONS

Sufficiency of Pollution Mitigation Indices			
Total Suspended Solids	Metals	Hydrocarbons	
Sufficient	Sufficient	Sufficient	1

Reference to local planning documents should also be made to identify any additional protection required for sites due to habitat conservation (see Chapter 7 The SUDS design process). The implications of developments on or within close proximity to an area with an environmental designation, such as a Site of Special Scientific Interest (SSSI), should be considered in consultation with relevant conservation bodies.