

## Glossary of Terms used in the Stormwater Industry

Term	Code	Definition
ICM	Sto	The abbreviation for Integrated Catchment Management, a system for managing natural resources within a 'whole of system' approach. In a stormwater context, this requires a whole of catchment approach incorporating the total water cycle. Consideration is given to all associated land and water processes and values.  Also known as TOTAL CATCHMENT MANAGEMENT.
ICOLD	Eng	The abbreviation for International Commission of Large Dams.
IFD	Hyd	The abbreviation for intensity-frequency-duration, which refers to tables and graphs that present design rainfall intensity data for various design storm frequencies and storm durations.
IFD data	Hyd	Tables or graphs that present design rainfall intensity data for various design storm frequencies and storm durations.
Imminent failure flood	Eng	A flood event that, when routed through a reservoir, just threatens failure of the reservoir embankment. The reservoir is assumed to be initially at maximum normal operating level.
Impact Assessment Study (IAS)	Gen	A detailed study of the likely effects (both positive and negative) on the environment and of the ameliorative strategies proposed for a particular project.
Impact block	Hyd	A solid, bluff (non-streamlined) object incorporated into an energy dissipater to dissipate the energy of an approaching jet or stream of water, and/or initiate significant turbulence within the passing fluid. The height of an impact block generally being no greater than its width (perpendicular to the direction of flow).
Impact column	Hyd	A solid, bluff (non-streamlined) column incorporated into an energy dissipater to dissipate the energy of an approaching jet or stream of water, and/or initiate significant turbulence within the passing fluid. The height of an impact column being significantly greater than its width (perpendicular to the direction of flow).
Impermeable	Gen	Describes the condition of not permitting the passage of a gas or fluid such as air or water, but commonly refers only to water penetration.
Impermeable area	Hyd	A surface or area that significantly restricts the infiltration of water, even though some minor infiltration may occur through minor pores and cracks, e.g. the initial 'wetting' of concrete surfaces.  Impermeable surfaces can include concrete, road surfaces, roofs and saturated ground such as a lake or pond.
Impervious	Gen	Relating to the condition of being impermeable to water.
Impervious area	Hyd	A surface or area within a drainage catchment that significantly restricts the infiltration of water, even though some minor infiltration may occur through minor pores and cracks, e.g. the initial 'wetting' of concrete surfaces.  Impervious surfaces can include concrete, road surfaces, roofs and

		saturated ground such as a lake or pond.
Impervious surface area	Hyd	The total area of impervious surfaces within a drainage catchment.
In vitro	Eco	Outside the intact organism—generally applied to experiments involving biochemical events occurring in tissue fragments or fractions.
In vivo	Eco	Within an intact animal or organism.
In-bank area	Wwy	The part of a channel, including bed and banks, below the channel bank elevation above which the water would spill out of the channel or begin to enter the floodplain.
In-bank flow	Wwy	The channel flow rate that exists when the water surface is below the channel bank elevation above which the water would spill out of the channel or begin to enter the floodplain.
Incident	Eco	An event that could deteriorate and become a situation causing serious environmental harm and/or significant structural damage.
Incidental release	Sto	An acceptable release of polluted water to waters, including groundwaters, that happens incidental to carrying out a controlled activity.
Incipient LC <sub>50</sub>	Eco	The concentration of a chemical that is lethal to 50% of the test organisms as a result of exposure for periods sufficiently long that acute lethal action has essentially ceased. The asymptote (part of the toxicity curve parallel to the time axis) of the toxicity curve indicates the value of the incipient LC <sub>50</sub> approximately.
Increased water temperature	Sto	A form of stormwater pollution resulting from the release of runoff that has a temperature higher (or lower) than natural receiving water in which such water has the potential to cause environmental harm.
Incremental flood hazard	Eng	The potential incremental loss of life, property or services that can be directly attributable to the failure of a reservoir due to inadequate spillway capacity.
Incremental flood hazard category	Eng	Categories of incremental losses and effects as a consequence of reservoir failure due to inadequate spillway capacity. Used for selection of the recommended design flood annual exceedence probability.
Indirect drainage	Sto	The drainage of impervious surfaces where runoff is forced to pass over a pervious surface before entering an impervious drainage system.
Indirectly connected impervious surface area	Sto	An impervious drainage surfaces that does not have a direct drainage connection to an impervious drainage system. Stormwater runoff from such areas is forced to pass over a pervious surface before entering any impervious drainage system.
Indirect potable water recycling	Res	The abstraction, treatment and distribution of drinking water from a natural source fed in part by wastewater discharge effluent or reclaimed water.

Indirect recycling	Res	The process in which reclaimed water is returned to a raw water source (e.g. lake, river aquifer) where it mixes with the natural water for later use in potable, industrial or agricultural purposes.
Infiltration	Sol	The downward movement of water into the soil, which is largely governed by the structural condition of the soil, the nature of the soil surface including presence of vegetation, and the antecedent moisture content of the soil.
	Sto	The downward movement of water into a catchment surface or infiltration system.
Infiltration basin	Sto	<p>An excavated basin designed to capture and temporarily retain stormwater runoff specifically for the purpose of allowing the stormwater to infiltrate into the underlying soil profile. Such basins are normally excavated at or very close to the source of runoff.</p> <p>Infiltration basins are normally maintained in a dry state between storms. They rely on suitable in-situ soil conditions for effective operation. Pollutant removal occurs principally through filtration and the adsorption of soluble pollutants onto soil particles.</p>
Infiltration practices	Sto	<p>A set of stormwater management practices that temporarily impound a specified volume of runoff (the treatment volume) allowing it to primarily discharge through percolation into the underlying soil profile.</p> <p>Infiltration systems that incorporate significant amounts of vegetation for the purposes of promoting evapo-transpiration are usually termed bioretention systems.</p> <p>Infiltration systems are normally maintained in a dry state between storms. They rely on suitable in-situ soil conditions for effective operation. Pollutant removal occurs principally through filtration and the adsorption of soluble pollutants onto soil particles.</p> <p>Infiltration practices include the use of basins, trenches, dry wells, pervious pavements and some stormwater treatment swales.</p>
Infiltration rate (soil)	Sol	<p>The rate at which water enters the soil surface, usually expressed in units of mm/hr or cm/hr.</p> <p>When the rainfall rate exceeds the infiltration rate on a given surface, runoff occurs. The infiltration rate usually varies with time during a storm and generally decreases as the soil profile approaches a saturated condition.</p> <p>The saturated infiltration rate is the soil infiltration rate that occurs when the soil is saturated and infiltration and soil drainage are equal.</p>
Infiltration system	—	See INFILTRATION PRACTICES.
Infiltration trench	Sto	<p>A pit, trench or other deep excavation filled with rock or highly porous modular units. Used for providing a sub-surface stormwater detention system that discharges primarily by allowing the stormwater to infiltrate into the underlying soil profile.</p> <p>The void capacity of the trench acts as the detention storage volume. The system's detention storage can be enhanced by recessing the infiltration trench into a surface basin.</p>

		Infiltration trenches can enhance runoff infiltration into low-porosity soils by increasing the hydraulic head and the effective surface area of the infiltration basin.
Inflow	Gen	The fluid flowing into a structure or location such as a stream cross-section.
Ingestion	Eco	The act of swallowing or taking in of food material.
Initial loss	Hyd	An assumed stormwater loss, measured as a depth of rainfall over a given portion of a catchment, that occurs during the initial stages of a storm, and continues to occur until the total rainfall equals the assumed initial loss.
Initial mixing zone	Sto	An area or volume of a receiving water where water released from a system mixes rapidly with the receiving waters primarily as a result of the momentum of the released (discharged) water and the natural turbulence of the receiving water flow.
Inlet	Coa	A narrow water passage between coastal heads, peninsulas or islands.
	Sto	The entrance to any structure through which water may flow. It can be as simple as a grated entrance to a pipe, or as complex as the entrance to a sophisticated stormwater pollution trap.
Inlet (basin)	Sto	A location or conduit from which water discharges directly into a basin.
Inlet control	Hyd	<p>A flow condition in which discharge through a culvert is governed by either critical flow or orifice flow conditions at the inlet of the culvert. In such cases flow conditions are dictated by the depth of headwater (relative to the culvert invert) and entrance geometry of the culvert.</p> <p>Inlet control can only occur when free surface flow conditions exist within the culvert immediately downstream of the inlet.</p>
Inlet pipe	Sto	A pipe or conduit that discharges water into a hydraulic structure or water body.
Inlet screen (grate)	Sto	A coarse screen barrier placed across the face of a stormwater inlet. The screen can provide maintenance access, filter gross pollutants from passing stormwater, and a trafficable surface (essential in the case of a kerb inlet screen).
Inlet screen litter trap	Sto	<p>A coarse screen barrier placed across the face of a stormwater inlet that filters gross pollutants from stormwater entering the attached drainage system.</p> <p>Also known as GRATE AND ENTRANCE SCREENS and GULLY INLET SCREENS.</p>
Input	Gen	Anything that flows into a system.
In-situ	Gen	A term meaning 'in place'.
	Eng	Construction activities that primarily occur on-site rather than being partially constructed off-site for later assembly on the site.

	Sol	Rocks, fossils and soil that are situated in the place where they were originally formed or deposited. When used to describe soils, the term usually refers to those formed directly from and on bedrock.
Intake	Eng	A structure in a reservoir through which water can be drawn into an outlet waterway or pipe.
Integrated Catchment Management (ICM)	Sto	A system for managing natural resources within a 'whole of system' approach. In a stormwater context, this requires a whole of catchment approach incorporating the total water cycle. Consideration is given to all associated land and water processes and values.  Also known as TOTAL CATCHMENT MANAGEMENT.
Integrated Catchment Planning (ICP)	Sto	The development of natural resource policies and planning tools within a 'whole of system' approach. In a stormwater context, this requires consideration of a whole of catchment approach incorporating the total water cycle and consideration of is all associated environmental values.
Intensity-frequency-duration (IFD)	Hyd	Tables or graphs that present design rainfall intensity data for various design storm frequencies and storm durations.
Intensity-frequency-duration data	Hyd	Design rainfall intensity data, presented as tables or graphs, for various design storm frequencies and storm durations.  Also known as IFD DATA.
Intercepting ditch	Sto	Drainage channel located at the top of a cutting to intercept lateral runoff and prevent it from spilling over the cutting.
Interception	Hyd	The process in which rainwater collects on a surface above ground level, and does not become part of storm runoff, e.g. rainfall landing on trees or roofs.
Interception drain	Sto	A drainage system installed to intercept the flow of lateral surface or sub-surface water that may otherwise have adversely affected a nearby area, such as a roadway.
Interceptor drain	Sto	A type of side drain that prevents water from flowing towards the road, normally sited away from the road.  Also known as a CATCH DRAIN.
Inter-event period	Hyd	The time period between the end of one rainfall event and start of the next. It may also refer to the period between rainfall events that are significant enough to cause runoff or trigger action by the device in question.
Interflow	Hyd	Water that infiltrates the soil surface and moves laterally through the upper soil layers (i.e. above normal groundwater levels) until it discharges as surface flow above the groundwater level.
Intermittent precipitation	Hyd	A type of irregular precipitation associated with stratiform clouds that cover the whole sky or nearly so, though there may be considerable variation in the density of the layers. Intermittent precipitation is characterised by gradual changes of intensity.

Intermittent stream	Wwy	A watercourse with a base flow only during the wet season or other periods of extended wet weather. An intermittent stream is a permanent stream during part of the year and ephemeral stream during the remainder of the year.
Interstitial	Eco	Relating to occurring in interstices or spaces. It applies to water, flora, and fauna found living between sand grains and soil particles.
Invert	Eng	The lowest portion of the internal surface of a drain at a given location or cross-section.
Invertebrates	Eco	Animals without backbones (dorsal column of vertebrae or a notochord), includes zooplankton, shellfish, worms, insects, shrimps, crabs and snails.
Ionic	Sci	Relating to ions, i.e. atoms with electrostatic charge caused by extra or less than usual numbers of electrons.
Ionic composition	Sci	The composition and concentration of anions and cations in water.
Isochrone	Hyd	A line on a catchment joining points at which water has an equal time of travel to the outlet.
Isoerodent map	Sol	A map showing lines of equal soil erosivity.
Isohyet	Hyd	A contour of constant rainfall depth.
Isohyet map	Hyd	A series of isohyets drawn to develop an interpolation of rainfall data recorded at gauged points.
Isolation valve	Eng	A flow control valve used to shut down portions of a pipeline or distribution system.
Isotropy	Gel	The condition in which hydraulic properties of an aquifer are equal in all directions.