Glossary of Terms used in the Stormwater Industry

Term	Code	Definition
Abatement	Gen	The act of alleviation, mitigation or reduction of an action.
	Sto	Any action that reduces factors such as the level or intensity of peak stormwater discharge, pollutant concentrations or loads, during storms or floods.
Abiotic	Sci	Relating to non-living components of an ecosystem, such as climatic and soil features.
Absorb	Sci	To take up or receive in by chemical or molecular action.
Absorption	Gen	The process of sucking up or drawing in of a liquid by a porous substance.
	Bot	The process of taking substances such as water and nutrients into the body through cell membranes or, in plants, through root hairs.
Absorptivity	Gen	The ability to absorb matter (e.g. water, nutrients, dissolved chemicals, gases).
Abutment	Gen	A point or structure on which something abuts or the place where projecting parts meet.
	Eng	The part of a valley side against which a dam is constructed, or an end support of a bridge or similar structure.
Accelerated erosion	Gel	Any increase over the rate of natural erosion from wind or water as a result of human activities.
Access hole	Eng	An opening constructed in a structure to permit human access for the purpose of construction, inspection and/or maintenance. This term is replacing MANHOLE.
Access systems	Eng	The measures and devices that allow personnel and equipment access to a stormwater system or component.
Accretion	Coa	The process of sand being gradual added to a beach or lake shoreline during periods of light on-shore wind and/or lowered sea level.
	Eng	The process of an increasing channel bed elevation resulting from the accumulation of sediment deposits.
	Geo	A gradual increase in land elevation due to the accumulation of sediment and other matter.
Acid-soluble metal concentration	Sci	A measure of sediment contamination, being the concentration of a metal that passes through a 0.45μm membrane filter after the sample is acidified to pH 1.5 to 2.0 with nitric acid.
Acid sulfate soil (ASS)	Sol	A soil type containing significant amounts of iron sulfide (usually pyrite, FeS_2) which generates sulfuric acid when exposed to oxygen; typically associated with coastal lowlands (< 5m AHD) and estuarine floodplains.
ACMCANZ	Gen	The abbreviation for Agriculture and Resource Management Council of Australia and New Zealand.
Activated carbon	Wat	A type of carbon, especially in the form of charcoal, treated to have a high capacity to remove (adsorb) trace compounds from mixtures.

Acute-chronic toxicity ratio	Eco	The ratio of the mean acute toxicity value divided by the mean chronic toxicity value for the same species.
Acute toxicity	Eco	A rapid adverse effect (e.g. death) caused by a substance ingested or absorbed by a living organism. Can be used to define either the exposure or the response to an exposure (effect).
Additive toxicity	Eco	The toxicity of a mixture of chemicals approximately equivalent to the sum of the known toxicities of the individual chemicals present in the mixture.
Adsorption	Gen	The action of gas, liquid or dissolved substance gathering on the surface of another substance.
	Sci	The process of attaching a substance to the surface of a solid by virtue of forces arising from molecular attraction.
	Sto	The process of bonding of metals and nutrients onto the surfaces of suspended particles by way of physical, chemical and biological processes. Typical pollutants affected include hydrocarbons, phosphorus, nitrogen and metals.
Advanced water treatment	Res	The tertiary treatment of water.
Advection	Min	The process by which solutes are transported by the motion of flowing groundwater.
Advective force	Wwy	The gravitational force that moves water and its constituents longitudinally downstream.
AEP		Annual exceedance probability
Aeration	Eng	The injection of air through diffusers into water bodies, or rapid mechanical mixing of the surface of water bodies to promote entrainment of atmospheric air into the water column; a treatment process adopted in situations of high loading of oxygen-demanding substances.
	Sci	A process by which a substance becomes permeated with air or another gas. The term is usually applied to aqueous liquids being brought into intimate contact with air by spraying, bubbling or agitating the liquid.
Aerial fauna	Eco	The animals that inhabit or frequent air space.
Aerobic	Gen	Relating to an environment in which there is free oxygen.
	Sci	Relating to a metabolic state where free oxygen (0_2) is available.
	Sol	Relating to soil conditions in which free oxygen is plentiful, and oxidising processes prevail. Such conditions are usually found in well-drained soils with good soil structure.
Aesthetics	Gen	The study of the mind and emotions in relation to the sense of beauty.
	Eng	Those aspects of water, a water body, or water conveyance system relating to the sense of beauty.
Afflux	Eng	A measure of the increase in water elevation at a given location caused by a given structure, relative to the water elevation that would have occurred at that location if no structure existed.
Aggradation	Geo	The process of building up of levels, such as stream beds and floodplains by the deposition of sediment or detritus.

Aggrade	Geo	To raise the grade or elevation of river valley or stream bed by the deposition of detritus.
Aggregate	Gen	Any hard material added to cement to make concrete, or to bitumen to make asphalt.
	Sol	A cluster of primarily soil particles held together by inter-particle (electrostatic) forces or bonds.
	Eng	**1.** A collection of mineral particles which through the agency of a suitable binder can be formed into a solid mass. Coarse aggregate is usually material retained on a 4.75 mm or 2.36 mm sieve. Fine aggregate is usually material passing a 4.75 mm or 2.36 mm sieve.
	Eng	**2.** Washed gravel with a near uniform particle size.
Ag-pipe	Gen	A flexible, perforated, corrugated drainage pipe used in agricultural sub-drainage. Also known as an AGRICULTURAL (SUB-DRAINAGE) PIPE.
Agricultural effluent	Wwr	The liquid waste that flows from piggeries, feedlots, dairy and aquaculture entities. Usually excludes irrigation runoff.
Agricultural purpose	Agr	Relates to a resource allocation for a specific agricultural purpose such as food crops, hydroponics, pasture production, turf farms, field crops, horticulture (nurseries, vineyards and cut flowers), forestry, irrigation and other activities (e.g. shed cleaning); not including potable purposes.
Agricultural sub-drainage	Agr	A subsoil drainage system consisting of a perforated pipe usually surrounded by a specially prepared porous media that allows lateral infiltration of soil moisture. Typically used to control soil moisture levels usually within the plant/crop root zone.
Agricultural sub-drainage pipe	Agr	The perforated subsoil drainage pipe used in agricultural sub-drainage. Also known as an AG-PIPE.
Agricultural water	Hyd	Water for agricultural purposes.
Algae	Gen	Comparatively simple chlorophyll-bearing plants that are capable of photosynthesis, and are mostly aquatic and microscopic in size without roots and leaves.
Algal bloom	Eco	An extensive growth of algae in water.
Alkalinity	Sol	The chemical condition of soil with a pH greater than 7.0. Often associated with saline soils and sodic soils.
Alkalinity factor	Sto	A measure of the acid-neutralising capacity of an aqueous system.
Allochthonous	Eco	Relating to growth in plants and animals supported by external inputs of nutrients.
	Wwy	Relating to organic material developed or derived from an external source, for example organic matter entering a stream or lake but derived from adjacent terrestrial areas.
Allotment drainage	Eng	A system of field gullies, access chambers and underground pipes constructed within private property to convey flows through and from allotments.
Alluvial	Gen	Relating to material formed from or pertaining to alluvium.
	Wwy	Relating to material deposited by, or in transit in, flowing

		water.
Alluvial channel	Wwy	A natural waterway channel formed primarily from flood-laid deposits of sand, silt and gravel, or a constructed channel primarily lined with alluvial material extracted from a waterway or floodplain.
Alluvial fan	Wwy	A cone or fan-shaped deposit of boulders, gravel and fine sediments that has been eroded from upstream sources and transported by flood flows, debris flows and channel migration.
Alluvial floodplain	Lfm	A floodplain formed by the ongoing long-term accumulation of alluvium directly resulting from overbank stream flow.
Alluvial plain	Lfm	A landform with extremely low relief formed by the long-term accumulation of alluvium resulting from overbank stream flow. This accumulation may still be occurring (floodplain) or may have ceased (terrace).
Alluvial terrace	Lfm	A landform with extremely low relief formed by the relatively inactive accumulation of alluvium resulting from overbank stream flow.
Alluvium	Gen	A deposit of sand, mud, and so on, formed by flowing water.
	Wwy	Extensive deposits of sand, silt and/or clay formed by a river or flood, typically forming a floodplain. Alluvium is generally unconsolidated.
Ambient water quality monitoring	Eco	A measurement of the general quality of the water without specifically measuring the effect of particular releases of contaminants into the water.
Ameliorate	Gen	To make or become better, improve or meliorate.
Amelioration	Gen	The act of ameliorating, putting into effect actions or efforts to minimise adverse effects of an event.
Amine	Sci	Any of a class of compounds derived from ammonia by replacing one, two, or all hydrogen atoms with organic (hydro-carbon) radicals.
Amphipod	Eco	Any invertebrate belonging to the order of Crustacea, (crustacean) including shrimps, crabs, barnacles, woodlice, etc. Amphipod bodies are commonly covered with a hard shell or crust.
Anabranch	Wwy	**1.** A branch of a watercourse which leaves the main channel and later re-enters it, in the form of a secondary channel in both size and flow.
	Wwy	**2.** One of the channels that make up a braided channel.
Anaerobic	Gen	Relating to a process or organism requiring the absence of free oxygen or not destroyed by its absence.
	Sci	Relating to a metabolic state where neither free nor bound oxygen is available.
	Sol	Relating to soil conditions in which free oxygen is deficient and chemically, reducing processes prevail. Such conditions are usually found in waterlogged or poorly drained soils in which water has replaced soil air.
ANCOLD	Eng	Australian National Committee on Large Dams
Angle of repose	Eng	The angle with the horizontal that the sloping face of a bank of loose material assumes.

Anion	Sci	A negatively charged ion attracted to the anode during electrolysis.
Anisotropy	Min	A condition where one or more of the hydraulic properties of an aquifer vary according to the direction of flow.
Annual exceedance probability (AEP)	Hyd	The probability that a particular storm or flood event will be equalled or exceeded in any year. It is the complement of the *return period* or the average recurrence interval. For example, a 20-year return period is equivalent to a 5% annual exceedance probability.
Annual flood	Hyd	The highest peak discharge in a calendar year or *water year*, the latter usually commencing at the end of the period of lowest average flow during the year.
Annual series	Hyd	A data set consisting of the highest event in each year of record, whether a calender year or some arbitrarily defined *water year* bounded at the time of lowest average rainfall or runoff. Statistical analysis of an annual series results in an assessment of the annual exceedance probability.
Anoxic	Sci	Relating to a metabolic state where there is no free oxygen, but molecularly bound oxygen is still available. It is commonly characterised as measuring less than 2mg/L of dissolved oxygen.
Antagonism (chemical)		See *Chemical antagonism*.
Antecedent condition	Hyd	The catchment conditions, in particular soil moisture and storage level, prior to commencement of a storm.
Antecedent moisture condition	Hyd	The degree of wetness of a catchment at the beginning of a storm.
Anthropogenic	Gen	Relating to being produced or caused by humans.
Anti-seep collar	Eng	A flange fitted around a pipe to prevent seepage of water along the outside of the pipe. Typically used on the outflow pipe in earth embankment dams and sediment basins.
Anti-vortex device	Eng	A device, usually a vertical or horizontal plate, placed at the entrance of a pipe to prevent the formation of a vortex (whirlpool effect) at the pipe entrance.
ANZECC	Gen	Australian and New Zealand Environment and Conservation Council.
Application factor (AF)	Eco	A measure used to determine species toxicity sensitivity, being a numerical, non-dimensional value calculated as the threshold chronically toxic concentration of a chemical divided by its acute toxic concentration. The AF is usually reported as a range and is multiplied by the median lethal concentration of a chemical as determined in a short-term (acute) toxicity test to estimate an expected no-effect concentration under chronic exposure.
Appurtenant works	Eng	Those structures ancillary to a main structure, e.g. on a dam, such works include spillways, inlet and outlet works, tunnels, pipelines, penstocks, power stations and diversions.
Apron	Eng	A layer of concrete, stone, or other permanent material placed on the bed of a channel at the entrance and/or outlet of hydraulic structures, such as a culvert, chute, or grade

		control structure. Aprons are primarily used to protect the structure from excessive erosion.
Aquatic	Gen	Relating to water.
	Eco	Relating to living or growing in water.
Aquatic biota	Eco	Plant or animals with at least one phase of their life history dependent on the temporary or permanent presence of an aquatic environment.
Aquatic fauna	Eco	Animals that inhabit or frequent aquatic environments.
Aqueduct	Eng	**1.** A conduit or channel constructed for conducting water over long distances, the water usually flowing by gravity.
	Eng	**2.** A structure which supports a conduit or canal across a valley or over a river.
Aquifer	Gel	An underground water-bearing layer of soil, rock, sand or gravel able to store and transmit water.
Aquifer (confined)	Gel	An aquifer that is overlain by a confining bed. The confining bed has a significantly lower hydraulic conductivity than the aquifer.
Aquifer (perched)	Gel	A region in the unsaturated zone where the soil may be locally saturated because it overlies a low-permeability unit.
Aquifer (unconfined)	Gel	An aquifer in which there are no confining beds between the zone of saturation and the surface. There will be a water table in an unconfined aquifer.
Aquifer recharge	Eng	The infiltration or injection of natural waters or recycled waters into an aquifer, providing replenishment of the groundwater resource. Aquifer recharge may be to supplement the natural recharge, or to allow storage of water for subsequent reuse.
Aquifer storage and recovery (ASR)	Res	The process if injecting stormwater or reclaimed water into aquifers for temporary storage and later recycling.
Aquitard	Gel	A layer in the geological profile that separates two aquifers and restricts the flow between them.
Arboreal fauna	Eco	Animals adapted for living in trees.
Arboviruses	Gen	A category of viruses transmitted to people and animals by insects and acarines (mites and ticks). Arboviruses multiply in an arthropod as the immediate host and in a vertebrate as final host.
Arch bridge	Wwy	An arch structure resting on supports at both extremities (footing or abutments) without intermittent supports or piers.
Arch dam	Eng	A dam that depends on a structural arch (viewed in plan form) for transferring water-bearing forces laterally into the adjoining abutments.
Arched dam	Eng	A gravity dam that is curved in plan. Variations include the curved-gravity dam and the arch-gravity dam.
Areal reduction factor	Hyd	A factor applied to design rainfall intensities within large catchments to adjust for the fact that the statistical analysis of rainfall probabilities at any given point in time is not necessarily equally applicable over the whole catchment.
ARI		The abbreviation for Average Recurrence Interval. The average or expected value of the periods between exceedances of a given rainfall total accumulated over a

		given duration. Usually expressed as Y years.
Arid	Geo	Relating to a climate or region which lacks sufficient rainfall for crop production or extensive sown pastures. Usually defined as a climate with annual average rainfall less than 250mm.
Armouring	Gen	The process of progressive coarsening of the upper rock layer protecting a soil through erosion of fine particles. The remaining coarse material layer forms an armour capable of protecting the soil below from wind or flowing water.
	Eng	The act of introducing rock, geotextile and/or vegetation to bind the soil forming the bank or bed of channels such as to resist erosion by elevated flow velocities.
Armouring layer	Wwy	The coarse layer that remains on the surface of a channel or shoreline following armouring.
ARQ	Sto	The abbreviation for *Australian Runoff Quality*, a publication produced by Engineers Australia.
ARR	Hyd	The abbreviation for *Australian Rainfall and Runoff*, a publication produced by Engineers Australia.
Artificial system	Gen	A structure or system made by human skill and labour.
Artificial wetland	Gen	Any wetland system made by human skill and labour.
	Sto	A water treatment system utilising wetland processes that do not necessarily reflect the natural environment, and where significantly high levels of maintenance are required to achieve their design performance. Examples may include some constructed sub-surface flow wetlands (i.e. gravel bed biological filters).
Aspect	Geo	The direction (e.g. north, north-west) that a slope faces, measured at right angles to the contour.
Aspect ratio	Eng	The length to width ratio, length being the longest side or the length in the direction of flow, and width the shortest side length or the length at right angles to the direction of flow.
Asphalt	Eng	A mixture of bituminous binder and aggregate with or without mineral filler, produced hot in a mixing plant. It is delivered, spread and compacted while hot.
Assimilation	Eco	The process of incorporating absorbed substances into cellular material.
Assisted natural regeneration	Wwy	The process of assisted revegetation of waterway bank or other landscape using plants generated from a local seed source and by support of any natural seed germination. Typically undertaken when the soil's natural seed bank has been depleted and species diversity is low.
Atmospheric deposition	Sto	The process of pollutants accumulating across urban surfaces as a result of the deposition of fine airborne solids.
Attached growth biological reactor	Sto	A system in which water treatment is achieved by micro-organisms growing on a solid support matrix, as opposed to a system using micro-organisms in suspension.
Attenuation	Sto	The reduction in the magnitude of stream flow, pollutant concentrations, or total pollutant loads.
Attenuation zone	Sto	The area around a release to ground water in which the concentration of contaminants in the release is reduced to ambient levels through physico-chemical and microbiological

		processes.
Australian Height Datum (AHD)	Eng	A level datum, uniform throughout Australia (with some adjustment for Tasmania), based on an origin determined from observations of mean sea level at 30 tide gauge stations located along the Australian coastline.
Autochthonous	Gen	Relating to having been formed in the place where found.
	Eco	The plant and animal growth sustained within the given habitat or community.
	Wwy	The organic material that is developed or produced within a particular water body.
Auxiliary spillway	Eng	A secondary spillway designed to operate only during exceptionally large floods.
Available soil water	Agr	The part of the water in the soil that can be absorbed by plant roots. This is the amount of water held between the moisture content prevailing at any point in time and the moisture content at which plant growth ceases.
Average annual volumetric runoff coefficient	Hyd	The ratio of the average annual volume of stormwater runoff from a given catchment, to the average annual volume of rainfall on the catchment.
Average recurrence interval (ARI)	Hyd	The average or expected value of the period between exceedances of a given rainfall intensity or discharge. Usually expressed as Y years.
Avoidance threshold	Eco	The lowest concentration of a substance that causes aquatic life (or any other living thing) to actively move away from the substance.
AWQ guidelines	Sci	The abbreviation for Australian Water Quality Guidelines for Fresh and Marine Waters published by ANZECC.