Glossary of Terms used in the Stormwater Industry

Term	Code	Definition
Gabion	Eng	A basket filled with rock, or similar material, usually rectangular in profile, used in the construction of retaining walls and erosion-control structures. Historically, gabions consisted of cylindrical wicker baskets filled with earth and used for military defence. Gabion baskets are most commonly made from specially coated weir baskets, but can be made from Gabions filled with soil and brush cuttings (termed soft gabions) are used for stream stabilisation. Gabions that are relatively thin compared to their width and length, are commonly referred to as mattresses.
Gate and entrance screen	Sto	A coarse screen barrier placed across the face of a stormwater inlet that filters gross pollutants from stormwater entering the attached drainage system.
Gauge	Eng	A measure of the thickness of metal, e.g. diameter of wire, or wall thickness of sheet metal or steep pipe.
	Hyd	A device for measuring either precipitation, water level, discharge, velocity, pressure, temperature, or similar, such as a rain gauge.
Gauged catchment	Hyd	The drainage catchment upstream of a stream gauging station that allows for reliable calibration of its hydrologic characteristics.
Gaussian distribution	Hyd	A statistical analysis represented by a normal distribution of variables. Also known as NORMAL DISTRIBUTION.
Geocell	Eng	A three-dimensional structure filled with soil that forms a mattress. Used to increase the bearing capacity and manoeuvrability on loose or compressible subsoils.
Geocomposite	Eng	A manufactured material using geotextiles, geogrids, and/or geomembranes in laminated or composite form.
Geogrid	Eng	A geotextile formed by drawing a perforated polymer in one or two perpendicular directions forming large rectangular openings usually 10 to 100mm in size. The strands have a large degree of molecular orientation resulting from the drawing process. Geogrids are usually used for soil reinforcement.
Geological erosion	Geo	Erosion occurring under natural environmental conditions and over long geological periods, unaffected by human activities Also known as NATURAL EROSION.
Geomorphic characteristics	Geo	The features of a landform or landscape including, but not limited to, the bed and banks of a watercourse, floodplain of a watercourse or lake, cliffs, soils, rocks and other mineral forms.
Geomorphology	Geo	The branch of both physiography and geology that deals with the form of the earth, the general configuration of its surface, and the changes that take place in the evolution of landforms.

Geonet	Eng	A geotextile consisting of two sets of coarse parallel extruded strands intersecting with a constant angle (generally between 60 and 90 degrees). Strands of one set are connected to strands of the other set by partial melting at the intersection. Typically, the size of strands is 1 to 5mm and the size of opening is from a few millimetres to several centimetres. Geonets are typically used for soil reinforcement and fabricating gabions. They can also be combined with woven or non-woven geotextiles acting as filters to form a drainage structure.
Geosynthetics	Eng	The generic term for a human-made product, either made from synthetics or natural fibres, used to enhance the engineering performance of works constructed in or on the ground. The term includes geotextiles and geomembranes, or any combination thereof, used with foundation, soil, rock, earth or any other geotechnical engineering-related material.
Geotextile	Eng	Any permeable textile material used with foundation, soil, rock, earth, or any other geotechnical engineering-related material, that is an integral part of a construction project or construction system. Types of geotextiles that best fit this definition are the knitted, woven and non-woven fabrics.
Geotextile (composite)	Eng	A geotextile formed by combining two different geotextiles e.g. composite sediment fence fabric formed by combining a woven and a non-woven geotextile. Composites may also consist of layers of soil and polymeric elements such as: fibres, filaments, yarns, and microgrids.
Geotextile (geocomposite)	Eng	A geotextile formed by combining a geotextile and a geotextile-related product. Usually used to form subsoil drainage products.
Giardia	Res	The common name for single-celled microbes (Giardia lamblia) which, when ingested can cause a gastrointestinal disease called giardiasis (also commonly known as giardia). Symptoms may include diarrhoea, fatigue and cramps. Waterborne giardiasis may occur as a result of inadequate disinfection or filtration procedures.
GIS	Gen	The common name and abbreviation used to refer to a Geographic Information System (GIS) of hardware and software used for storage, retrieval, mapping, and spatial analysis of geographic data.
GPT	Sto	The abbreviation of gross pollutant trap. A pollution trap designed to intercept coarse particulate material (by settlement) and gross pollutants such as litter and organic debris (by screens or booms). The trap may operate either as a wet or dry basin, with a collection area/chamber is usually concrete-lined to allow for efficient pollutant removal.
GPT (Enclosed)	Sto	An in-ground, enclosed, combined sediment sump and trash rack usually located at the downstream end of a stormwater pipe network. Primarily designed to trap coarse pollutants such as litter, organic debris and coarse sediment. Also known as an ENCLOSED GPT, MINOR GPT and MINOR GROSS POLLUTANT TRAP.

GPT (Open)	Sto	An open gross pollutant trap consisting of a combined sediment basin and trash rack usually located at the downstream end of a stormwater pipe network or constructed drainage channel. Also known as a MAJOR GPT, OPEN GROSS POLLUTANT TRAP and OPEN GPT.
Gradation	Sol	The distribution of the various sized particles that constitute a sediment, soil, or other material such as riprap.
Grade (none)	Eng	The rate of longitudinal rise or fall of a slope with respect to the horizontal, usually expressed as a ratio or as a percentage, e.g. a 10:1(H:V) batter has a grade of 0.1 or 10%.
Grade (verb)	Eng	1. To design the longitudinal profile of a road.
	Eng	2. To secure a predetermined level or inclination to a road or other surface.
	Eng	3. To shape or smooth a surface using a grader or similar implement.
	Eng	4. To arrange aggregate or other material by particle size.
Grade control structure	Wwy	An engineered structure that stabilises the grade (slope) of a gully or other watercourse, thereby preventing further head-cutting or lowering of the channel bed. Grade control structures include flumes, chutes, and open channel drop structures.
Grade stabilisation structure	—	See GRADE CONTROL STRUCTURE.
Graded bank	Rur	A flow diversion bank built with a fall along its length to allow water to flow in a specified direction at a specified velocity. Primarily used on arable land, but also on grazing land to some extent.
Graded material	Eng	Material having a wide and continuous distribution for sizes from coarse to fine, the large size being several times larger than the small size.
Grading (noun)	Eng	The percentage of the various grain sizes present in a soil or other material, e.g. a well-graded soil has particles of a range of sizes; a poorly graded soil contains mainly particles of the same size.
Grading (verb)	Eng	The process of stripping, cutting, filling, stockpiling, or a combination of these processes that modifies the land surface.
Gradually varied flow	Hyd	A free surface flow condition characterised by relatively small changes in velocity and pressure distributions over a short distance.
Grain roughness	Hyd	The surface roughness associated with the texture of the surface rather than the shape of the surface or the irregularity of the channel cross-section. Also known as SURFACE ROUGHNESS or TEXTURE ROUGHNESS.
Grain size distribution	Sol	The statistical distribution of grain (by weight) passing a range of sieve sizes.
Grass channel	Eng	A drainage channel primarily vegetated with grasses.

Grass filter strip	Esc	A strip of turf placed along the contour and at regular intervals down a slope on exposed soil slopes, or around newly formed impervious surfaces, such as kerbs and footpaths as a minor (supplementary) sediment trap. When placed along the contour and at regular intervals down a slope of exposed soil, grass filter strips can also delay the formation of rill erosion by maintaining even sheet runoff down the slope.
	Sto	A large area of grass used to retard sheet flow runoff while filtering out pollutants – sediment, grit, coarse particulate matter and hydrocarbons – from the stormwater runoff and allowing the infiltration of only a portion of the water. Usually used to treat shallow overland flow before it enters an impervious drainage system, area of concentrated flow, or watercourse, drainage basin, reservoir, or adjacent property. Filter strips are narrower than buffer zones or filter beds and do not formally separate two distinct land-use categories. Also known as FILTER STRIPS and VEGETATED FILTER STRIPS.
Grass swale	Sto	A shallow, low-gradient, grass-lined drainage channel used to convey and treat shallow, concentrated stormwater runoff. The swale may or may not contain a subsoil drainage system. Grass swales treat stormwater by settling, filtration and infiltration; they remove pollutants such as sediment, grit, nutrients and hydrocarbons.
Grate	Sto	A grid of metal or other material used to prevent debris from entering a drain or pit while allowing pedestrians and vehicles to pass safely over the opening.
Grate and entrance screen	Sto	A metal screen that covers the inlet to the stormwater pit or chamber. The screen allows water to pass through while preventing larger gross pollutants from entering the pit. Also known as a GRATE INLET SCREEN.
Grating	Sto	The placement of a metal grid over the entrance to a drain or pit to prevent debris from entering a drain while providing for safe passage for pedestrians and vehicular traffic.
Gravel	Eng	A mixture of coarse mineral particles primarily larger than 2mm but less than 75mm in equivalent diameter. Washed gravel with a near uniform particle size is commonly referred to as aggregate.
	Wwy	Granular bed or bank material of a size 2 to 250mm in equivalent diameter.
Gravel-based stream	Wwy	A watercourse with a channel bed primarily consisting of gravel, cobbles and boulders. Flood events generally cause a slow, progressive movement of the gravel and cobbles down the watercourse. Gravel-based systems commonly contain pool-riffles systems along the bed.

Gravity dam	Eng	A dam that relies on its weight for stability. Usually refers to a masonry or concrete dam.
Greenfield	Eng	Relating to a previously undeveloped site for commercial development or exploitation.
Greenfield development	Eng	A broadacre subdivision on land previously used for agriculture or native vegetation.
Greenhouse effect	Sci	Changes in the Earth's climate as a result of human activities causing changes in the levels of certain atmospheric gases referred to as greenhouse gases. Such changes include global warming, and rising sea levels.
Greywater	Gen	Non-potable water derived from household uses, suitable (with or without treatment) for other uses such as toilet flushing or garden watering.
Greywater system	Res	Any appliance, fitting, or device that recycles greywater from any single source or a combination of sources.
Grid	Rur	An open floored structure designed to be crossed by motor vehicles but not by animals.
Gridiron subdrainage system	Sto	A combination of a herring-bone and parallel arrangements of subsurface drainage pipes (USA).
Grit	Eng	Fine sharp aggregate or coarse sand; or fine screenings substantially free from dust, usually passing a 4.75mm sieve.
Gross pollutant	Sto	A stormwater contaminant that would be retained by a 5mm mesh screen, usually consists of litter and organic debris.
Gross pollutant trap (GPT)	Sto	A pollution trap designed to intercept coarse particulate material (by settlement) and gross pollutants such as litter and organic debris (by screens or booms). The trap may operate either as a wet or dry basin, with a collection area/chamber that is usually concrete-lined to allow for efficient pollutant removal.
Gross water use	Eng	The act of taking water from a source for storage or use, and the recirculation or reuse of the water.
Ground	Gen	The Earth's solid surface consisting of firm or dry land. Also known as SOIL.
Ground cover	Bot	A low spreading plant that covers the soil and retards the growth of weeds.
	Esc	A vegetative layer of grasses, ground-hugging plants, or plant residues that protects the soil against erosion. Generally a minimum percentage ground cover of 70 per cent is required to provide adequate protection against soil erosion; however, as the expected rainfall intensity increases so does the minimum cover requirement.
Ground level	Eng	The elevation of the Earth's surface, at a given location, relative to a given survey datum.

Groundwater	Gen	The water beneath the surface of the ground.
	Eng	Sub-surface water contained in a saturated zone of soil or rock.
	Min	The water in a confined aquifer, or contained in interconnected pores below the water table in an unconfined aquifer.
	Wwy	The water that is naturally occurring under the channel surface. Subterranean streams are flows of groundwater parallel to and adjoining stream waters, and usually considered to be integral parts of the visible streams.
Groundwater (confined)	Min	The water contained in a confined aquifer. Pore water pressure is greater than atmospheric at the top of the confined aquifer.
Groundwater (perched)	Min	The water in an isolated, saturated zone located in the zone of aeration caused by a layer of material of low hydraulic conductivity, called a perched bed.
Groundwater (unconfined)	Min	The water in an aquifer where there is a water table.
Groundwater flow	Gen	Saturated flow through the ground as opposed to unsaturated flow, known as subsurface flow.
Grout curtain	Min	An underground wall designed to stop water flow through the ground. It can be created by injecting grout into the ground to form an impermeable barrier.
Grouting	Eng	The process of pouring or forcing liquids such as tar, bitumen, or concrete mortar into the interstices of a pavement surfacing, of a structure or of a natural formation.
Grubbing	Eng	The process of removing roots and stumps below ground level.
Guideline (water quality)	Wat	A recommendation in the form of a numerical concentration limit or a statement that aims to support and maintain a designated water use within a receiving water. A guideline may refer to the water quality of stormwater discharges from a site, or to conditions or water quality within a specific receiving water.
Gully	Lfm	An open, incised erosion channel in the landscape generally deeper than 30 cm deep. Active gullies are characterised by moderately to very gently inclined floors and precipitous walls. Gullies are formed by complex processes but a major factor is a concentrated surface water flow, hence they are frequently found in drainage lines. Major flows only occur in gullies during and/or immediately after periods of heavy rainfall.
	Sto	A pit, usually of concrete or brick, where surface water can enter an underground drain.
Gully inlet screen	Sto	A coarse screen barrier placed across the face of a stormwater inlet that filters gross pollutants from stormwater entering the attached drainage system.

Gully erosion	Esc	A complex of processes in which soil removal is characterised by large incised channels, usually deeper than 30cm. The severity of gully erosion may be recorded as minor, moderate, severe or very severe.
Gully head	Esc	The upstream end of a gully where runoff from the catchment above falls to the gully floor. It is the exposed part of the gully upon which erosive forces, including water flow, splash and seepage, act to cause the gully to extend upstream by headward erosion.
Gully inlet	Sto	A grated and/or side-flow weir drainage inlet located within the kerb of a road. Also known as a KERB INLET and SIDE INLET.
Gully inlet screen	Sto	A metal screen that covers the inlet to the stormwater pit or chamber. The screen allows water to pass while preventing larger gross pollutants from entering the pit. Also known as a GRATE AND ENTRANCE SCREEN.
Gully pit	—	See GULLY.
Gutter	Eng	A table drain that is pitched or paved.
	Sto	A hard surface channel at the side of a road or street
Gutter crossing	Sto	A structure prepared for vehicles to cross a gutter, which may be an invert crossing, a pipe or a small bridge.
Guttering	Sto	A channel on the eaves of a roof designed for carrying off rainwater.
Gypsum	Gen	A soft crystalline mineral that is the hydrated form of calcium sulphate ($CaSO_4 2H_2O$). It occurs naturally in arid inland areas of Australia. Gypsum is also a by-product of the manufacture of phosphoric acid (dump gypsum). Gypsum is normally used as a soil ameliorant to improve soil structure and reduce crusting in hardsetting clayey soils. When applied to certain soils, the calcium increases soil aggregation resulting in improved water infiltration, seed germination and root growth. Gypsum is a useful source of nutrient calcium and sulphur, and can also be used for flocculating suspensions of dispersive clay.