



**Transport**  
Roads & Maritime  
Services

# RMS Road Projects

Glossary of terms and abbreviations

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Term	Meaning
<b>A</b>	
AADT	Average annual daily traffic counts are published by RMS. The total volume of traffic passing a roadside observation point over a period of a year, divided by the number of days per year. It is calculated from mechanically obtained axle counts.
Aboriginal cultural heritage	The tangible (objects) and intangible (dreaming stories, songlines, places) cultural practices and traditions associated with past and present day Aboriginal communities.
Aboriginal scarred tree	Aboriginal scarred trees show evidence of bark or timber removal by Aboriginal people for traditional purposes. Scarred trees provide significant evidence of Aboriginal occupation in what is now a highly modified landscape.
Aboriginal object	Any deposit, object or material evidence (not being a handicraft made for sale), including Aboriginal remains, relating to the Aboriginal habitation of NSW.
Aboriginal place	Any place declared to be an Aboriginal place under s.94 of the National Parks and Wildlife Act 1974.
Aboriginal stakeholders	Members of a local Aboriginal land council, Aboriginal groups or other Aboriginal people who have registered their interest with RMS to be consulted about a proposed RMS project or activity.
Absorption	Uptake and absorption of a substance.
Abutment	An end support of a bridge.
Acceptable Daily Intake	The amount of a chemical which can be consumed every day for an individual's lifetime which will, on the basis of known facts, not cause any harm.
Account	Motorists with tags or long-term passes have an account.
Adsorption	Accumulation of a substance on to the surface of another one that may be solid or liquid.
ACHA	Aboriginal cultural heritage advisor. RMS officer responsible for providing advice and guidance on Aboriginal cultural heritage matters associated with RMS road projects.
Acid gases	Gases which form acids when dissolved in water.
Acid sulfate soils	Naturally acid clays, mud and other sediments usually found in swamps and estuaries. They may become extremely acidic when drained and exposed to oxygen and may produce acidic leachate run-off that can pollute waters and liberate toxins.
Activity	This is broadly defined in the Environmental Planning and Assessment Act 1979 and includes most physical undertakings of RMS in construction and maintenance of roads and road infrastructure facilities. Activities are subject to assessment under Part 5 of the Act (or under Part 3A if declared by the Minister for Planning).
Acute noise levels	Road traffic noise levels received at private dwellings that are predicted to be greater than 65dB(A)Leq(15hr) (day) and 60dB(A)Leq(9hr) (night), as presented in Practice Note IV, Step 3, Part (2) of the RMS' <i>Environmental Noise Management Manual</i> .
Aeolian	Sediment deposited or formed by winds.
Aerodynamic	Pertaining to forces acting upon any solid or liquid body moving relative to a gas (especially air).
Afflux	An increase in water level resulting from a constriction in the flow path.
AFG	Aboriginal focus group. AFG meetings are held to consult with Aboriginal stakeholders who have registered their interest to be consulted regarding an

	RMS project.
Aggregate	A uniform sized material produced from sand, gravel, rock or metallurgical slag by screening, blasting or crushing. Used in concrete production and for bitumen sealing.
AHD	Australian Height Datum The standard reference level used to express the relative height of various features. A height given in metres AHD is essentially the height above sea level. Mean sea level is set as zero elevation.
AHIMS	Aboriginal heritage information management system. A register of NSW Aboriginal heritage information maintained by DECCW.
Airshed	An area delineated by topographical or meteorological characteristics within which emitted pollutants interact.
Air toxics	Gaseous, aerosol or particulate contaminants present in the ambient air in trace amounts with characteristics (toxicity, persistence) which make them a hazard to human health, plant and animal life.
Alignment	The geometric layout (of a road) in plan (horizontal) and elevation (vertical).
Alluvium	Unconsolidated deposit of gravel, sand or mud formed by water.
Ambient	The background or surrounding parameters occurring in the environment.
AM peak period	6-10am weekdays.
Annual exceedance probability	The probability of a rainfall or flood event exceeding a nominated level in a year. A 1% AEP is the probability of an event exceeding a nominated level in 100 years.
ANZECC	Australian and New Zealand Environment and Conservation Council.
Aqueduct	A bridge, conduit or artificial channel for conducting water, which usually flows by gravity.
Aquifer	Geologic formation, group of formations, or part of a formation capable of transmitting and yielding quantities of water.
Arboreal	To live in, or be connected with, trees.
Archaeological site	A site with any material evidence of past Aboriginal or European activity in which evidence of past activity is preserved.
Archaeology	The scientific study of human history, particularly the relics and cultural remains of the distant past.
ARI	Annual recurrence interval. Used to describe the frequency or probability of floods occurring. (Eg a 100 year ARI flood is a flood that occurs or is exceeded on average once every 100 years).
Arterial roads	The main or trunk roads of the State road network that carry predominantly through traffic between regions.
AS	Australian Standard.
AS 14000	Australian Standards for environmental management. Of note: <ul style="list-style-type: none"> <li>• AS 14001: Environmental management systems – requirements for guidance for use.</li> <li>• AS 14004: Environmental management systems – general guidelines on principles, systems and supporting techniques.</li> </ul>
AS 1940	Australian Standard: Guide to the Storage and Handling of Flammable and Combustible Liquids.
AS 2436	Australian Standard: Noise Control on Construction, Maintenance and Demolition Sites.
AS 2922	Australian Standard: Ambient Air Guide for Siting of Sampling Equipment.
AS 3580.10.1	Australian Standard: Methods for Sampling and Analysis of Ambient Air.
Asphalt or asphaltic	A dense, continuously graded mixture of coarse and fine aggregates, mineral

concrete	filler and bitumen usually produced hot in a mixing plant.
At-grade	A road at ground level, not on an embankment or in a cutting.
Avifauna	Birds.
AUSTROADS	Formerly the National Association of Australian State Road Authorities (NAASRA).
<b>B</b>	
Backfill	Fill replaced in an excavation.
Background noise level	The ambient sound-pressure noise level in the absence of the sound under investigation exceeded for 90% of the measurement period. Normally equated to the average minimum A-weighted sound pressure level.
Bailey bridge	A welded lattice bridge built in panels often used for temporary works.
Balanced earthworks	Earthworks design in which the quantity of material taken from road cuttings equals the fill required to construct the embankments in that length of road.
Bank protection	Devices for reducing scour by sea or river such as mattresses, groynes, pegged down brushwood, plantings etc.
Base case	Also known as 'do nothing' case. Used in evaluating projects to compare the cost and benefit of the existing road (the base case) with another or a number of other projects or options.
Batter	The constructed slope of road embankments and cuttings, usually expressed as a ratio of x horizontal to 1 vertical.
Batter drain	A drain formed in a batter to control runoff.
BCA	Building Code of Australia.
BCR	Benefit cost ratio. The ratio of the monetary benefits to the costs of a project as a measure of worth to the community.
Beaufort scale	A scale of wind velocity ranging from 0 for dead calm to 12 for a windspeed over 120 km/h.
Bedrock	Rock of substantial thickness underlying relatively soft and variable surface materials.
Bench	A ledge constructed in a batter or natural slope to provide sight distance around a curve, greater security against slip or to assist batter drainage.
Benchmark	A survey mark, established as a point of reference for future measurement.
Benzene	A colourless, volatile, inflammable, liquid hydrocarbon obtained chiefly from coal tar.
Berm	A ledge formed at the top, bottom or intermediate level of an earth slope.
Biodegradation	Microbial break down of a substance that is then either converted to other compounds or is totally degraded into constituent parts.
Biofilm	A thin covering of algae covering the surface of water or rocks.
Blasting	The use of explosive for excavating rock, demolition and other purposes.
Bore	A cylindrical drill hole sunk into the ground from which water is pumped for use or monitoring.
Borehole	A hole produced in the ground by drilling for the investigation and assessment of soil and rock profiles.
Bored pile	A pile formed by placing concrete in a hole formed in the ground using a rotary boring machine. The concrete is usually reinforced.
Borrow	Fill required for road construction obtained from some point outside the formation.
Borrow pit	An excavation outside the formation limits for obtaining filling.
Box culvert	A culvert of rectangular cross section.
<b>C</b>	
Camber	Slight convexity upwards often used as a general term to describe crossfall.
Canopy	The uppermost layer of a forest.
Capacity	The nominal maximum number of vehicles that can travel along a road in a given time.

Carriageway	The portion of a roadway used by vehicles including shoulders and auxiliary lanes.
Car pooling	An activity in which people who normally drive to a destination are encouraged to share a vehicle trip with another driver to that same destination, thus reducing the number of cars on the road.
Carbon monoxide	A colourless, odourless, poisonous gas that burns with a pale blue flame. It forms when carbon burns with an insufficient supply of air.
Carcinogen	A cancer-causing agent.
Cast in place/ in situ	Concrete which is cast directly into its final position.
Catalytic converter	A device fitted to the exhaust of a motor vehicle that breaks down nitrogen oxides to nitrogen and oxygen.
Catch drain	An open channel constructed along the high side of a road cutting or embankment outside the batter to intercept and redirect surface water.
Catchment	The area from which a surface watercourse or a groundwater system derives its water.
Cathodic protection	Electrical protection of underground or underwater structures (such as pipelines) from corrosion.
CE	RMS Chief Executive.
Centreline	The basic line that defines the axis or alignment of the centre of a road.
CEMP	Construction Environmental Management Plan. A site specific plan developed for the construction phase of a project to ensure that all contractors and sub-contractors comply with the environmental conditions of approval for the project and that environmental risks are properly managed.
Chainage	Any point on a control line selected to provide more detailed information about the cross-section or any other feature mentioned in the drawings. Also known as a station.
Charette	A town planning exercise involving an open forum of design professionals, government and community members.
CH <sub>4</sub>	Methane.
Clearing	The removal of vegetation or other obstacles at or above ground level.
Clear zone	The area from the outer edge of the traffic lane, next to the shoulder which is to be kept clear for emergency use by errant vehicles.
Climbing lane	An auxiliary lane primarily for the use of slow moving vehicles. Differs from overtaking lanes as line marking does not initially direct all traffic to the left hand side of the road.
Conservation management plan	A document explaining the significance of a heritage item or heritage conservation area and proposing policies to retain that significance. May include guidelines for additional development or maintenance of the place.
CO	Carbon monoxide.
CO <sub>2</sub>	Carbon dioxide.
CO <sub>2</sub> -e	A metric measurement used to compare the emissions from various greenhouse gases based upon their global warming potential.
Colluvial soils	Stony clays that have been moved downslope by soil creep and slopewash but may include a proportion of windblown red clay (pama) and higher terrace alluvium.
Commercial vehicle	Any vehicle of five tonnes gross weight or more – usually having dual rear wheels and/ or twin rear axle.
Compaction	An increase of the dry density of a soil material by mechanical means such as rolling, or for deep compaction, driving sand piles, vibration or impact methods.
Complying development	Certain types of development identified in an environmental planning instrument that complies with specified development standards and does not require any merit based environmental assessment. May be determined by a

	local council or an accredited private sector certifier.
Compound site	Facilities used to support the operation of a construction site including site offices, workshops, delivery areas, storage areas, crib sheds, staff vehicle parking, materials, plant and equipment.
Concentration (air quality)	Vehicles emit pollutants to the air, which are transported and diluted resulting in a volume of pollutant per volume of ambient air. Ambient air quality goals are expressed in terms of concentrations, which are measured in parts per million or micrograms per cubic metre.
Concept design	Initial functional layout design for a road or road system, to establish feasibility, to provide a basis for estimating, and to determine further investigations needed for detailed design.
Concrete	An artificial, stone-like material made by mixing cement, sand and broken stones with water and allowing the mixture to harden.
Congener	A specific member of a group of compounds that are structurally related.
Consent authority	Generally means the local council having the function to determine a development application. Can in some cases (as allowed for by the Environmental Planning and Assessment Act 1979) the Minister for Planning, the Planning Assessment Commission, a joint regional planning panel or other public authority.
Construction joint	A surface in a concrete structure or pavement along which concreting was stopped and completed later.
Container movements	Transport of freight containers from one place to another.
Corridor	The area investigated for environmental impact statement.
Cost benefit analysis	An economic based approach that considers the merits of a project from the viewpoint of the community at large rather than that of the organisation responsible for the project.
Critical habitat	The habitat that is necessary for the survival or recovery of a listed wildlife species and that is identified as the species' critical habitat in the recovery strategy or in an action plan for the species.
Critical infrastructure project	A major project (under Part 3A of the Environmental Planning and Assessment Act 1979) that has been declared by the Minister for Planning as being essential to the state for economic, environmental or social reasons.
Cul-de-sac	A street or road that is open for vehicular traffic at one end only.
Cultural heritage assessment report	A report combining an Aboriginal archaeological assessment and Aboriginal cultural assessment, required to be submitted to DECCW for any Part 6 National Parks and Wildlife Act 1974 approval or prepared for projects under Part 3A of the Environmental Planning and Assessment Act 1979 where Aboriginal cultural heritage is identified as a key issue.
Cultural mapping	Research carried out for the purpose of producing an Aboriginal cultural assessment that identifies Aboriginal cultural heritage features within the landscape. May involve undertaking interviews with cultural knowledge holders, site inspections and primary and secondary research.
Culvert	One or more adjacent enclosed channels for conveying a stream below formation level.
Culvert system	A network of box and/or pipe culverts that carries stormwater run-off.
Cumulative impacts	Impacts that, when considered together, lead to a stronger impact than any impact in isolation.
Curtilage	The land around a bridge, building or any structure or object that is essential or contributes to the value, function and enjoyment of that object (eg a heritage building and surrounding buildings and trees that relate to it form an

	entire setting).
Curing	The process of keeping fresh concrete or mortar damp so that the cement is provided with enough water to harden.
Customers	All motorists using toll roads are customers.
Cut	The material excavated from a cutting.
Cut and cover	A method of constructing tunnels whereby the structure is built in an open excavation and subsequently covered with backfill.
Cutting	Formation resulting from the construction of the road below existing ground level – the material is cut out or excavated.
<b>D</b>	
DA	Development application. An application for consent under Part 4 of the Environmental Planning and Assessment Act 1979.
dBA	Decibels using the A-weighted scale measured according to the frequency of the human ear.
DCP	Development control plan. A subsidiary plan to an environmental planning instrument (most commonly to a local environmental plan) that provides greater detail than the environmental planning instrument.
DECC	Former name for the NSW Department of Environment, Climate Change and Water.
DECCW	NSW Department of Environment, Climate Change and Water.
Decibel	A scale unit used in the comparison of noise and levels of sound energy.
Deck	The floor of a bridge directly carrying traffic loads.
Deferred payment request	The first request for a toll (plus applicable fee) from a motorist who has not paid within the relevant period.
Degree of saturation	The ratio of the traffic volume entering an intersection to the total capacity of the intersection in a specific period.
Design development	The concept stage of a project on an agreed route alignment.
Design speed	A nominal speed which determines the geometric design features of a road.
Design traffic	The cumulative traffic count expressed in terms of equivalent standard axles, predicted to use a road over the structural design life of the pavement. An hourly volume used to determine the geometric layout of the road that takes into account the variations in volume at various times of the day and the maximum turning volumes at intersections.
Design vehicle	A hypothetical road vehicle, the mass, dimensions and operating characteristics of which are used to give geometric requirements.
Design year	The predicted year in which the design traffic would be reached.
Designated development	Particular types of development as identified in an environmental planning instrument or the Environmental Planning and Assessment Act 1979. Designated development generally involves heavy industry or agriculture with high pollution potential and requires the preparation of an environmental impact statement.
Desire lines	Imaginary lines, used in traffic planning, linking an assumed series of origins with an assumed series of destinations; representing the directions in which there is a desire for people and freight to travel.
Detailed design	The detailed design details the final project. It includes designs, plans and construction drawings for all elements, including: <ul style="list-style-type: none"> <li>- Road alignment and geometry.</li> <li>- Retaining wall, pavements and traffic signals.</li> <li>- Urban design, landscaping and street lighting.</li> <li>- Construction staging and traffic management.</li> </ul>

	- Drainage and utilities.
Detour	An alternative route, using existing roads, made available to traffic during temporary closure of a road.
Development consent	Consent granted under Part 4 of the Environmental Planning and Assessment Act 1979. Usually relates to the approval of a development application by a local council.
Deviation	An alteration to the alignment of a portion of a road.
DEWHA	Commonwealth Department of Environment, Water, Heritage and the Arts (now DSEWPAC).
DSEWPAC	Australian Government Department of Sustainability, Environment, Water, Population and Communities.
Dioxin	A group of halogenated organic compounds, significant because they act as environmental pollutants.
Discharge	The volumetric rate of water flow.
Distance based toll	A toll based on the distance travelled by a motorist.
Diurnal roosts	Places where bats nest during the day.
Diversion drain	A drain leading water away from a given area.
Divided road	A road with a separate carriageway for each direction of travel created by placing a median between the opposing traffic directions.
DoP	NSW Department of Planning.
DGRs	Director-General's requirements. Requirements and specifications for an environmental assessment prepared by the Director-General of the Department of Planning under section 75F of the Environmental Planning and Assessment Act 1979.
DP	Deposited Plan. A plan of land deposited in Land and Property Information (part of the Land Management Authority) and used for legal identification purposes. They most commonly depict a subdivision of a parcel of land.
DPI	The former NSW Department of Primary Industries. Now part of Industry and Investment NSW.
Drainage	Natural or artificial means for the interception and removal of surface or subsurface water.
Driven pile	A steel, concrete or timber pile which is forced into the ground by blows from a pile driver.
Driveway	A defined area for vehicles to travel between a carriageway and a property adjacent or near to the road.
<b>E</b>	
EA	Environmental Assessment. A focused analysis undertaken for the purposes of Part 3A of the Environmental Planning and Assessment Act 1979, written generally to comply with the environmental assessment requirements (DGRs) issued by the Director-General of the Department of Planning.
EAPRMW	RMS Environmental Assessment Procedure for Routine and Minor Works.
Earthworks	All operations involved in loosening, excavating, placing, shaping and compacting soil or rock.
Easting	The X –coordinate (the vertical lines that divide a map from west to east and get larger to the east).
EC	Electrical conductivity. A measure of the ability of water to conduct an electric current between electrodes placed in a sample of the water. It is used as a surrogate measure for salinity. Expressed in microsiemens per centimetre ( $\mu\text{S}/\text{cm}$ ).
ECRTN	Environmental criteria for road traffic noise.

Ecology	The relationship between living things and the environment.
Ecosystem	A functional unit of energy transfer and nutrient cycling in a given place. It includes all relationships within the biotic community and between the biotic components of the system.
Endangered ecological community (EEC)	An ecological community identified by relevant legislation that is likely to become extinct or is in immediate danger of extinction.
Effects	The potential results, both positive and negative, of a particular option.
Edge effects	A change in species composition, physical conditions or other ecological factors at the boundary between two ecosystems or the ecological changes that occur at the boundaries of ecosystems (including changes in species composition, gradients of moisture, sunlight, soil and air temperature, wind speed and other factors).
Editorial Style Guide	This guide outlines RMS' preferred style for published material in printed and electronic format.
Environmental impact assessment (EIA)	EIA is the process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of proposals prior to major decisions being taken and commitments made.
EIAG	RMS environmental impact assessment guidelines.
Environmental impact statement (EIS)	An environmental impact assessment document prepared in accordance with the requirements of Division 4 of the Environmental Planning and Assessment Regulation 2000. Any application for designated development under Part 4 of the Environmental Planning and Assessment Act or any activity assessed under Part 5 of the Act as being likely to significantly affect the environment must be accompanied by an environmental impact statement. Note: Where the proponent and determining authority for an activity under Part 5 are the same and the activity is likely to significantly affect the environment, the activity will become subject to assessment under Part 3A of the Act.
Electronic tolling	Payment of toll without cash, that is, with an electronic tag or an electronic pass.
Electronic tag	An electronic tag is a toll payment device that is attached to a vehicle's windscreen. The tag is read by sensors at toll plazas and toll points and the related tag account is debited. All tags offered in Australia work on all motorways around the country. If you have a tag, look for the lanes marked with the red and yellow 'e' symbol.
Electronic pass	An electronic pass is a toll payment arrangement where your number plate is temporarily recorded in the tolling system. You can use a pass in lanes marked with the red and white 'e' symbol.
Embankment	An earthen structure where the road subgrade level is above the natural surface.
Environmental management plan (EMP)	A plan used to manage environmental impacts during each phase of project development. It is a synthesis of all proposed mitigation, management and monitoring actions, set to a timeline with defined responsibilities and follow up actions.
Environmental management system (EMS)	A quality system that enables an organisation to identify, monitor and control its environmental aspects. An EMS is part of an overall management system, which includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy.
ENMM	RMS Environmental Noise Management Manual.
Environment	All aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings (from EP&A Act).

EP&A Act	Environmental Planning and Assessment Act 1979 (NSW).
EPA	Former NSW Environment Protection Authority. Now part of the Department of Environment, Climate Change and Water.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth).
Ephemeral	Existing for a short duration of time.
Environmental planning instrument (EPI)	Legal documents that regulate land use and development – includes state environmental planning policies and local environmental plans.
Escarpment	A long, cliff-like ridge of rock commonly formed by faulting or fracturing of the earth's crust.
Ecologically sustainable development (ESD)	As defined by the Protection of the Environment Administration Act 1991, requires the effective integration of economic and environmental considerations in decision making processes including: <ul style="list-style-type: none"> <li>• The precautionary principle.</li> <li>• Inter-generational equity.</li> <li>• Conservation of biological diversity and ecological integrity.</li> <li>• Improved valuation, pricing and incentive mechanisms (includes polluter pays, full life cycle costs, cost effective pursuit of environmental goals).</li> </ul>
Estuarine environments	The mouth or lower course of a river in which its current meets the sea's tides and is subject to tidal effects.
ETC	Electronic toll collection.
Evolutionary strategy	A strategy that is subject to change as circumstances change.
Excavation permit	A permit issued under s.140 of the Heritage Act 1977 for archaeological excavation.
Exempt development	Development not requiring consent or environmental assessment that is of minimal environmental impact and specified in an environmental planning instrument (such as in State Environmental Planning Policy (Infrastructure) 2007).
<b>F</b>	
Feeder link	A bus service for commuters that carries them to a main railway station.
Fill	The material placed in an embankment.
Final deferred payment request	The final request before an infringement is issued for non payment of a toll.
Fixed toll	A toll paid at a particular point on a motorway. This is Sydney's traditional form of toll.
Flocculation	The intentional grouping of colloids in a suspension in water (or other liquids) to increase the settlement rate of solids.
Flood mitigation	Measures taken to control or minimise the effects of flooding.
Flue or stack gas	Gas that is emitted from a chimney stack or flue.
Fly ash	Particulate matter that is produced by combustion and emitted with gaseous effluents. It is usually recovered from the flue gas before leaving the stack by cleaning processes, such as electrostatic precipitation.
FM Act	NSW Fisheries Management Act 1994.
Footpath	The paved area in a footway.
Footprint	The extent (or area in plan) of a development on the land.
Footway	An area open to the public designated for the movement of pedestrians or has one of its main uses for pedestrians.
Formation	The final shape of the road after completion of earthworks but before placing any pavement layers.
Freeways	Fast, high volume, access controlled roads that primarily link regional hubs and cities usually without traffic lights and with grade separated junctions.

Frequency (sound)	Similar to the pitch of a musical note in sound pressure fluctuations of cycles per second (Hertz). Most sounds comprise a composite of frequencies of varying sound-pressure levels in the range of 20 Hertz to 20,000 Hertz.
Frequent users	These are motorists for whom an electronic tag account is the most appropriate option. However, while they will be encouraged to get a tag, it is acknowledged that some may opt not to for personal reasons.
Finished surface level (FSL)	The designed level of the finished road surface at any point.
Fully electronic tolling, fully electronic toll road	A fully electronic toll road does not have toll booths/plazas and does not accept cash tolls on the roads, but does accept tags and also provides electronic payment options for motorists without tags. Note: on this definition, a motorway could provide both elements of full electronic tolling, but still not be a fully electronic toll road because it continues to accept cash tolls.
Furans	Collective name for the chemical group that are termed polychlorinated dibenzofurans.
<b>G</b>	
Gas chromatography	Method used to separate a mixture of chemicals into individual compounds. The technique relies upon the distribution of gaseous compounds between a mobile gaseous phase and a stationary liquid or solid phase.
Geotechnics	The application of scientific methods and engineering principles to the solution of engineering problems involving materials of the earth's crust.
Geotextile	A synthetic, permeable cloth designed to be buried under the ground often used for soil strengthening or drainage purposes.
Grade	The rate of longitudinal rise (or fall) with respect to the horizontal expressed as a percentage or ratio. To trim or smooth an earth, gravel or other surface by means of a grader or similar implement.
Grade separation	The separations of road, rail or other traffic so that crossing movements at intersections are at different levels.
Greenhouse gases/emissions	Atmospheric gases that enhance the natural greenhouse effect, including carbon dioxide, methane, chlorofluorocarbons, nitrous oxide, ozone and water vapour.
Ground cover	A low growing woody or herbaceous plant.
Ground vibration	The combined speed of ground oscillation at a point from a source of vibration such as a blast or vehicle.
Groundwater	Water that is held in the rocks and soil beneath the earth's surface.
Grubbing	The removal of roots or stumps from below ground level.
Gullying	Erosion channels formed by running water.
Gully pit	A concrete (or prefabricated) pit forming an entry point for surface runoff water into an underground drain.
Gutter	A drain which is lined or paved, along the side of the road.
Gypsum	A common mineral, hydrated calcium sulphate, soft enough to be scratched by the fingernail, and is used as a fertiliser.
<b>H</b>	
ha	Hectare/s.
Habitat	The place where a species, population or ecological community lives (whether permanently, periodically or occasionally). Habitats are measurable and can be described by their flora and physical components.
Half life	The length of time necessary for the concentration of a chemical to be reduced by half.
Haul road	A designated road, often temporary, used for moving materials.
Hawkesbury	Medium-grained yellow quartz sandstone that weathers to sandy soil.

sandstone	
Heavy truck	A heavy vehicle at least 15 tonnes gross.
Heavy vehicle	A heavy vehicle is classified as a Class 3 vehicle (a two axle truck) or larger, in accordance with the Austroads Vehicle Classification System.
Herpetofauna	Reptiles and amphibians.
HFCs	Hydrofluorocarbons.
High volume sampler (HVS)	Provides 24-hour samples of particle levels on a 1-day-in-6 cycle.
Homogeneous groups	Groups that are the same or very similar.
Homologue	Those congeners of a chemical group that possess the same number of chlorine atoms and the same basic structure.
Hydrocarbon	Any organic compound — gaseous, liquid or solid — consisting only of carbon and hydrogen.
Hydrogeology	The study of subsurface water in its geological context.
Hydrology	The study of rainfall and surface water runoff processes.
Hydromulching	An effective procedure to establish grass over a large area. Instead of broadcasting grass seed by hand, a mixture of grass seed, chopped straw and fertiliser is sprayed over the area to be grassed.
Hydroseeding	Broadcasting of seed under pressure by spraying a slurry of water, seed and fertiliser in addition to mulch, binder and a green dye.
<b>I</b>	
I & I	Industry and Investment NSW.
Infrequent users	These are motorists most likely to use a pass. However, some infrequent users might still opt to get a tag.
Impact	Influence or effect exerted by a project or other activity on the natural, built and community environment.
Indigenous species	Plant species native to the area in which the project is located.
In-situ	In its original place. Usually referring to works undertaken at the construction site.
Integrated development	Development that requires development consent and at least one approval, permit, licence or consent under other specified legislation (eg from RMS under section 138 of the Roads Act 1993).
Intensity of rainfall	The rainfall in a unit of time, usually mm/h.
Interchange	A grade separation of two or more roads with one or more interconnecting carriageways.
Intersection at-grade	An intersection where carriageways cross at a common level.
Intrusive noise	An environmental noise source that may cause annoyance if clearly audible.
ISEPP	State Environmental Planning Policy (Infrastructure) 2007.
Isomer	Chemicals that have the same empirical formula.
<b>J</b>	
Junction	A place where two or more roads meet.
<b>K</b>	
Karst	An area of limestone terrain with sink holes, ravines and underground streams.
Kerb	An edge stone or concrete shape used for bordering a road and defining the footway.
<b>L</b>	
LA10	The noise level which is exceeded for 10% of the sample period. During the sample period, the noise level is below LA10 level for 90% of the time. The LA10 is a common noise descriptor for environmental noise and road traffic

	noise.
LA90	The noise level which is exceeded for 90% of the sample period. During the sample period, the noise level is below LA90 level for 10% of the time. This measure is commonly referred to as background noise level.
LAeq	The equivalent continuous sound level. This is the energy average of the varying noise over the sample period and is equivalent to the level of constant noise which contains the same energy as the varying noise environment. This measure is a common measure of environmental noise and road traffic noise.
LAm <sub>ax</sub>	The maximum noise level over a sample period is the maximum level, measured on fast response, during the sample period.
Lake	A body of fresh or salt water entirely surrounded by land.
LALC	Local Aboriginal Land Council.
Landscape	A tract of land. Also a prospect or piece of scenery or land which may include villages, towns, cities and infrastructure.
Landscape character	The aggregate of built, natural and cultural aspects that make up an area and provide a sense of place. Includes all aspects of a tract of land – built, planted and natural topographical and ecological features.
Lane	A portion of the carriageway for the use of a single line of vehicles.
Latitude	The angular distance north or south of the equator measured in degrees, minutes and seconds.
Lay by	A part of the road where vehicles may pull up clear of the through traffic.
Leachate	Liquid that percolates through a layer of material such as soil and extracts soluble constituents.
Lead	A heavy, comparably soft, malleable, bluish-grey metal present in petroleum products.
LEP	Local environmental plan.
LGA	Local government area.
Light vehicle	A vehicle of less than five tonnes gross.
Limit of detection	The minimum level of a containment that can be distinguished, with confidence, during analysis.
Lipophilic	The property of a substance to dissolve readily in oil and fats.
Live load	The load on a bridge from moving traffic, pedestrians and cyclists.
Local provenance species	Species found growing in the locality of a project.
Local road	Roads that have a low speed limit, have a small footprint, serve local communities and that are generally conducive to walking and cycling. A road or street used primarily for access to abutting properties.
Longitude	The angular distance east or west of the prime meridian measured in degrees, minutes and seconds.
Level of service (LoS)	A qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers.
Lot	A parcel of land defined by measurement as a lot in a deposited plan (DP) or as a Crown portion or allotment.
Longitudinal section	The section drawn along the length of the route showing vertical elevation.
<b>M</b>	
Macro level	The wider or higher level, in contrast to the micro level.
Mangrove	A type of tree found in tropical and sub-tropical areas on salt or brackish (especially estuarine) mudflats. Mangroves are characterised by a strongly developed system of aerial roots.
Median	A central area separating traffic travelling in the opposite directions.
Methane	A colourless, odourless and tasteless gas, lighter than air, which reacts violently with chlorine and bromine in sunlight.

Methodology	A method for analysis and evaluation of subject matter.
M5 corridor	The area bounded by Canterbury Rd, Gardeners Rd, O'Riordan St, General Holmes Dr, President Ave, Harrow Rd, Forest Rd and Fairford Rd.
mg/L	Milligrams per litre. A unit of concentration.
MIC	Maximum instantaneous charge.
Micron	One millionth of a metre.
Midden deposits	A mound consisting of shells of edible molluscs and other refuse, marking the site of prehistoric human habitation.
Mitigative measures	Methods employed to limit the impact of activities that have been identified as being potentially detrimental to the environment.
Mitre drain	A drain constructed at an angle to the water direction to redirect runoff water.
Modal split	Proportion of the transport task that is carried by the various carriers (eg road, rail, ferry, bike, pedestrian).
Mode	A type or method of movement – including for the road corridor: cars, buses, bikes and pedestrians.
Morning peak period	The period in the morning during which a maximum traffic flow occurs. A reciprocal flow of similar magnitude generally occurs in the evening peak period.
mL	Millilitre/s. A unit of volume equalling one thousandth of a litre.
ML	Megalitre/s. A unit of volume equalling 1,000,000 litres (about one Olympic sized swimming pool).
Motorway	Fast, high volume, access controlled roads or large scale that primarily link regional hubs and cities. A Motorway can be tolled or untolled. (See Freeway)
Motorway embankment	That portion of a motorway located on an earthen structure where the sub-grade level is above the natural surface.
MPF	Maximum probable flood. The theoretical discharge at a site given the worst combination of rainfall and catchment circumstances possible.
Mt	Million tonnes.
MVKT	Million vehicle kilometres travelled.
<b>N</b>	
N2O	Nitrous oxide.
NEPM	National Environment Protection Measures.
NES	Matters of national environmental significance (from the Commonwealth Environment Protection and Biodiversity Conservation Act 1995).
New Jersey Barrier	A concrete structure, usually about 0.8 metres high, designed to deflect out of control vehicles back on to the road without overturning.
Nitrogen oxides	Compounds containing oxygen and nitrogen.
NO	Nitrogen monoxide.
NO2	Nitrogen dioxide.
NOx	Oxides of nitrogen.
NODELAY model	A computer software package used to forecast traffic flows and a range of road network performance criteria (such as travel times).
Northing	The Y-coordinate (the horizontal lines that divide the map from north to south and get larger to the north).
NPWS	NSW National Parks and Wildlife Service (now part of the NSW Department of Environment, Climate Change and Water).
<b>O</b>	
Occupation	A certificate that authorises the occupation and use of a new building or a

certificate	change of use for an existing building. Issued under s.109C(1)(c) of the Environmental Planning and Assessment Act 1979.
OH&S	Occupational health and safety.
Orthophoto	An aerial photograph on which roads and contour lines are superimposed.
Overtaking lane	An auxiliary lane provided to allow for slower vehicles to be overtaken. Line marked so that all traffic is initially directed into the left hand lane with the inner lane being used to overtake.
Ozone	A gas made of three oxygen atoms; occurs naturally in the stratosphere where it provides protection for the earth from solar ultraviolet radiation; ozone in the troposphere is due to anthropogenic emissions and is a major component of photochemical smog.
Ozone depleting substances	Substances, such as chlorofluorocarbons and halons, which destroy ozone in the stratospheric ozone layer and allow increased ultraviolet radiation to reach the earth.
<b>P</b>	
PAD	Potential archaeological deposit. Any location considered to have a moderate to high potential for subsurface archaeological material.
Parish	One of 7459 areas of NSW formed by the division of 141 counties. Counties and parishes are administrative divisions of the state and are not separately disposable land parcels.
Part 3A approvals (EP&A Act)	Major project approvals. Relates to the approval of a major project / critical infrastructure project under Part 3A of the Environmental Planning and Assessment Act 1979.
Part 4 approvals (EP&A Act)	Development consents under Part 4 of the Environmental Planning and Assessment Act 1979. Usually relates to the approval of a development application by a local council.
Part 5 assessment (EP&A Act)	Activities that require approval by a determining authority under Part 5 of the Environmental Planning and Assessment Act 1979. Usually involve the preparation and determination of a Review of Environmental Factors.
Part 6 approvals (NPW Act)	Refers to s.87 permits and s.90 consents granted under Part 6 of the National Parks and Wildlife Act 1974.
Particulate matter	Dust and other particles.
Pavement	The portion of a carriageway placed above the subgrade for the support of, and to form a running surface for vehicular traffic.
Pass, e-pass	The payment arrangement for motorists without tags. A pass can be either long or short-term duration.
PCP	Plain concrete pavement.
PCB	Polychlorinated biphenyl, general term used to describe a family of chlorinated aromatic compounds.
Pedestrianisation	Allowing for and providing facilities to encourage walking.
pH	A measure of acidity or alkalinity of a solution, numerically equal to 7 for neutral solution, increasing with increasing alkalinity and decreasing with increasing acidity.
Photochemical reaction	A chemical reaction that takes place in sunlight.
Photochemical smog	Regional air pollution, consisting of ozone and other oxidants formed by the interaction of nitrogen oxides, hydrocarbons and sunlight.
Photolytic degradation	Breakdown of a substance as a result of exposure to certain wavelengths of radiation.
Piling, bored	A method of piling using drilling or boring.
Piling, driven	A method of inserting piles using a driving / hammering motion.
Piling , continuous	A CFA pile is formed by drilling into the ground with a hollow stemmed

flight auger (CFA)	continuous flight auger to the required depth or degree of resistance.
POEO Act	NSW Protection of the Environment Operations Act 1997.
Pollutant	Any measured concentration of solid or liquid matter that is not naturally present in the pristine environment.
Pollutant concentrations	Emissions from motor vehicles (including carbon monoxide, nitrogen oxides, particulate matter and hydrocarbons) and the resultant concentrations of these in the air.
Porosity	A measure of the space between soil particles.
Portal	The entry/exit area of a tunnel.
Post-tensioning	The structural method of prestressing concrete with cables which are tensioned after the concrete has cured.
PM	Particulate matter. Also may be used to refer to project manager.
PM2.5	Particulate matter less than 2.5 microns in diameter.
PM10	Particulate matter less than 10 microns in diameter.
Probable maximum flood (PMF)	Largest flood that could theoretically occur at a particular location and defines the extent of flood prone land (the floodplain).
Prestressed concrete	Concrete which is compressed by the tensioning of steel prestressing rods or cables. The steel may be pretensioned (tensioned before casting) or post-tensioned (after casting). Prestressed concrete enables larger spans between columns, greater loads, minimal cracking and fast construction cycles.
Prime agricultural land	Land with the best combination for soil, climate and topography for agricultural production as mapped by NSW Industry and Investment and often shown in the maps accompanying regional planning strategies and local environmental plans.
Proponent	The person or organisation that proposes carrying out the project or activity.
Provisional data	Data that has yet to be quality checked.
Public domain	The community's public space.
<b>Q</b>	
QA specification	Quality assurance specification. A contractual document that requires systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality will be met.
Quarry	An open pit from which stone, sand, gravel or fill is taken.
Quaternary	Geological time period corresponding to the last two million years.
Quiet piling technique	A relatively quiet method of constructing foundations for columns supporting a roadway.
<b>R</b>	
Radial routes	Transport routes, such as roads and railways, which radiate from a central point.
Rail infrastructure	Buildings and permanent installations associated with railways, such as rail lines, signals and platforms.
Ramsar	An intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.
RBL	Rating background level. The median value of the assessment background levels values for the period over all of the days measured. There is therefore an RBL value for each period — daytime, evening and night time.
Receptor/receiver	An environmental modelling term used to describe a map reference point where the impact is predicted. A sensitive receptor is a home, work place, school or other place where people spend some time. An elevated receptor is a point above ground level.
Recolonisation	Re-establishment of a species in a habitat after disturbance has occurred.

REF	Review of environmental factors. A report that documents the environmental impact assessment process and is prepared to satisfy RMS' obligations under section 111 of the Environmental Planning and Assessment Act 1979.
REP	Regional environmental plan. All regional environmental plans are now deemed state environmental planning policies.
Revegetation	To revegetate an area by direct seeding with native species using manual or mechanical means such as hydro mulching, straw mulching and tractor seeding.
Ribbon development	Development stretching in a narrow band alongside a road usually with direct access to the road.
Riparian	Relating to the banks of a natural waterway.
Road furniture	A general term covering all signs, street lights and protective devices for the control, guidance and safety of traffic and convenience of road users.
Road infrastructure	Permanent installations associated with roads, such as roadways, tunnels, bridges, interchanges and traffic signals.
Road reserve	A legally defined area of land within which facilities such as roads, footpaths and associated features may be constructed for public travel.
Roadside	The area from the edge of the carriageway to the boundary of the road reserve.
RoTAP	Rare or threatened Australian plant.
Roundabout	An intersection where all traffic travels in one direction around a central island.
RMS	Roads and Maritime Services.
Run off	That part of the rainfall on a catchment that flows as surface discharge past a specified point.
<b>S</b>	
Safe intersection sight distances	Safe intersection sight distance is the minimum sight distance that should be available from vehicles on legs of an intersection.
Safety ramp	A short trafficable spur road usually with a steep upgrade, provided for emergency use by vehicles on steep downgrades.
Saltmarsh communities	A wetland that is either in salt water or flooded by the sea.
Scour	The erosion of material by the action of flowing water.
Screenline	Theoretical lines used to group individual roads that are alternative routes of particular desire-lines. The traffic volumes are added to indicate total traffic flows in the corridor which the screenline spans.
Section 170 register	A register established in accordance with section 170 of the Heritage Act 1977 to record all heritage items in the ownership or under control of RMS.
Section 87 permit	A permit granted by DECCW under s.87 of the National Parks and Wildlife Act 1974 to allow for the disturbance or collection of Aboriginal objects, or disturbance of land with the purpose of discovering Aboriginal objects.
Section 90 consent	A consent granted by DECCW under s.90 of the National Parks and Wildlife Act 1974 to destroy, deface or damage an Aboriginal object or Aboriginal place.
Section 94 contributions plan	A plan established under s.94 of the EP&A Act that establishes the provisions under which a consent authority (usually a local council) can seek and manage contributions from developers towards local services.
Sediment	Material of varying size, both mineral and organic, that is being, or has been, moved from its site of origin by the action of wind, water or gravity, and comes to rest on the earth's surface either above or below water level.
Sedimentation	Deposition of sediment. The typical use of the term would infer deposition by water. In a soil conservation context, sedimentation is an end point in the

	erosion process, with transported soil material being deposited in locations such as in a channel, along a fence line, on an area of low slope, or in a gully, creek, river, sediment trap or dam.
Sedimentation basin	An area where runoff water is ponded to allow sediment to be deposited.
Sediment trap	A temporary or permanent structure or a vegetative barrier designed to trap sediment in run-off before it enters stormwater pipes, channels or streams. It is usually designed to control run-off from small catchments only.
Selected fill	Fill complying with specified requirements.
Selected material zone	The top layer of the sub-grade.
Self certification	Certification by RMS (as a Crown authority) that its building works are in accordance with the Building Code of Australia.
SEPP	State environmental planning policy.
Shared path	A pathway used for both cyclists and pedestrians, usually located on the side of the road.
Shoulder	The portion of the carriageway beyond the traffic lanes adjacent to and flush with the surface of the pavement.
Side track	A road built to take traffic while the carriageway is temporarily closed for construction or maintenance activities.
Sight distance	The distance measured along the carriageway over which objects of defined height are visible to a driver whose eyes are at a specified height above the pavement surface level.
Silt fence	A low fence up to 0.5 metres high made of hay bales, or a geotextile material that is placed around a site, to filter sediment from run-off.
Site compound	Area enclosing construction machinery, stockpiles, site offices and other ancillary facilities.
SIS	Species impact statement.
Slip lane	A lane providing for left turning vehicles allowing them to avoid stopping at an intersection.
Slumping	Sections of soil on a batter or embankment that have become loose and slipped.
Spall	Splintering or flaking of rock (often as a result of weathering).
Span	The distance between the centres of adjacent supports of a bridge.
Splay	The triangular setting back of property lines adjacent to an intersection.
Spoil	Surplus excavated material.
Stack	A chimney or funnel used to expel exhaust gases.
State Heritage Register	A register kept by the NSW Heritage Council that lists places, buildings, works, relics, moveable objects or precincts that the Minister for Planning considers are of state heritage significance.
Stockpile	Temporarily stored materials such as soil, sand, gravel and spoil/waste.
Stock underpass	A structure to permit the passage of stock beneath a road.
Sub-arterial road	A road connecting arterial roads to areas of development, and carrying traffic directly from one part of a region to another.
Subdivision certificate	A certificate that authorises the registration of a plan of subdivision.
Subgrade	The trimmed or prepared portion of the formation on which the pavement is constructed.
Subsoil drain	A drain below the ground surface that collects groundwater throughout its length.
Sulphur dioxide	A colourless gas or liquid with a strong and pungent odour, non-combustible, and soluble in water to give sulphuric acid.
Surface water	Water flowing or held in streams, rivers and other wetlands in the landscape.
Sustainability	Considering present and future needs and costs.
Swale	A shallow, grass-lined drainage channel.

Swept path	The area bounded by lines traced by the extremities of the bodywork of a vehicle while turning.
Sydney basin	An area of relatively low elevation, bounded by the Hornsby and Woronora Plateaux and the Great Dividing Range.
Synchronised green times	Coordination of traffic signals to give the main stream of traffic priority over other streams.
Synoptic	Refers to meteorological data describing the atmosphere over a wide area at the same point in time.
<b>T</b>	
Table drain	The drain adjacent to the shoulders of a road, having an invert lower than the subgrade level and formed as part of the formation.
Terrestrial mammals	Mammals that live on land.
Threatened	As defined under the Threatened Species Conservation Act 1994, a species, population or ecological community that is likely to become extinct or is in immediate danger of extinction.
TPH	Total petroleum hydrocarbon.
Traffic calming	The means by which local streets are kept relatively free of through traffic by the implementation of traffic management devices and/or by private vehicle demand management.
Traffic efficiency	Measured by savings (and delays) in travel time.
Transport infrastructure	Permanent installations including roads, rail, buildings and storage associated with transport (see also road infrastructure and rail infrastructure).
Transport interchange	A station or other transport node that offers transferability between modes – such as between rail, road, air, and sea.
Transportation reserve	An area of land reserved for future transport needs, usually roads and railways.
Tributary	A river or stream flowing into a larger river or lake.
Trophic level	Represents a broad class of organisms that have in common their source of food supply. The first trophic level is represented by the green plants, the second by herbivores, organisms which feed on the green plants. The third level is the carnivores which eat the herbivores.
TSC Act	NSW Threatened Species Conservation Act 1995.
Typical cross section	A cross section of a carriageway showing typical dimensional details, furniture locations and features of the pavement construction.
Turbidity	A measure of light penetration through a water column containing particles of matter in suspension.
<b>U</b>	
Underpass	A grade separation where the subject carriageway passes under an intersecting carriageway (or railway). A tunnel constructed for the use of pedestrians, cyclists, fauna and/or stock under the carriageway.
Urban consolidation	A planning initiative that aims to increase development and population densities in established areas to limit the spatial extent of urban areas.
Urban design	The process and product of designing human settlements, and their supporting infrastructure, in urban and rural environments.
<b>V</b>	
Verge	That portion of the formation not covered by the carriageway or footpath. Defined area of the formation in rural roads, outside the shoulder at the top of a batter slope.
Viaduct	A long bridge generally composed of a series of spans over land, which carries a road or railway.
VKT	Vehicle kilometres travelled.
VOC	Volatile organic compounds.

Vulnerable	As defined under the Threatened Species Conservation Act 1995, a species that is likely to become endangered unless the circumstances and factors threatening its survival or evolutionary development cease to operate.
<b>W</b>	
WARR Act	Waste Avoidance and Resource Recovery Act 2001.
Water-sensitive urban design	A sustainable approach to the design of stormwater drainage systems which integrates natural systems such as open swales, bio-infiltration and wetlands with the public domain in a constructed environment to improve stormwater quality and management.
Water table	The 'surface' of groundwater where the pressure of the water is equal to that of the atmosphere.
Waterway	Any flowing stream of water, whether natural or artificially regulated (not necessarily permanent).
Wetland	A swamp or marsh in which the soil is frequently or permanently saturated with water, or under water.
Wianamatta Shale	A fine-grained rock with relatively low strength, occurring on ridges. Weathering of Wianamatta Shale leads to clay soils.
WRAPP	Waste Reduction and Purchasing Policy.
<b>X, Y, Z</b>	
Zoning	Zoning regulates land use within an environmental planning instrument (usually by different colour codes on a map accompanying a local environmental plan). Land use tables set out the various purposes for which land may or may not be used or developed in each zone.