



Roads and Maritime Services/Sydney Airport Corporation Limited

Sydney Gateway Road Project

Environmental Impact Statement/ Preliminary Draft Major Development Plan

Glossary of terms and abbreviations



November 2019

Glossary of terms and abbreviations

Term / abbreviation	Definition
$\mu\text{g}/\text{m}^3$	micrograms per cubic metre
μm	micrometre
Aboriginal cultural heritage	The tangible (objects) and intangible (dreaming stories, song lines and places) cultural practices and traditions associated with past and present day Aboriginal communities.
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 section 94 of the <i>National Parks and Wildlife Act 1974</i> (NSW).
ABS	Australian Bureau of Statistics
Acid sulfate soils	Naturally occurring soils, sediments or organic substrates (eg peat) that are formed under waterlogged conditions. These soils contain iron sulfide minerals (predominantly as the mineral pyrite) or their oxidation products. In an undisturbed state below the water table, acid sulfate soils are benign. However if the soils are drained, excavated or exposed to air by a lowering of the water table, the sulfides react with oxygen to form sulfuric acid.
AEP	annual exceedance probability
Afternoon peak	Trips travelling on the network during the average one hour peak period between 5pm and 6pm on a weekday.
AHIMS	Aboriginal Heritage Information Management System
Airports Act	<i>Airports Act 1996 (Cth)</i>
Alignment	The geometric layout (eg of a road or railway) in plan (horizontal) and elevation (vertical).
Annual exceedance probability	The frequency of flood events is generally referred to in terms of their annual exceedance probability (AEP) or average recurrence interval (ARI). For example, for a flood magnitude having a five per cent AEP, there is a five per cent probability (or 1 in 20 chance) that there would be floods of greater magnitude each year.
ANZECC guidelines	<i>Australian Guidelines for Water Quality Monitoring and Reporting</i> (ANZECC/ARMCANZ, 2000)
Aquifer	A groundwater bearing formation sufficiently permeable to transmit and yield groundwater or water bearing rock.
ARI	average recurrence interval
ARTC	Australian Rail Track Corporation
Arterial roads	The main or trunk roads of the road network that carry predominantly through traffic between regions
At-grade	A road at ground level, not on an embankment or in a cutting.
Australian Government	Government of the Commonwealth of Australia
Average recurrence interval	An indicator used to describe the frequency of floods. The average period in years between the occurrence of a flood of a particular magnitude or greater. Refer annual exceedance probability.
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016</i> (NSW)

Term / abbreviation	Definition
BDAR	Biodiversity Development Assessment Report
Biosecurity Act	<i>Biosecurity Act 2015 (NSW)</i>
Blue Book	<i>Managing Urban Stormwater: Soils and construction - Volume 1 (Landcom, 2004)</i>
Bore	Constructed connection between the surface and a groundwater source that enables groundwater to be transferred to the surface either naturally or through artificial means.
Botany Rail Line	A dedicated freight rail line that forms part of the Sydney Metropolitan Freight Network. The line extends from near Marrickville Station to Port Botany.
Candela	Measure for light intensity. One candela is roughly the equivalent to one common wax candle.
Capping layer	A layer of material with low permeability placed upon (usually) contaminated material or waste to contain the contamination and to minimise the infiltration of water.
Carbon dioxide	A naturally occurring gas, also a by-product of burning fossil fuels from fossil carbon deposits, such as oil, gas and coal, of burning biomass, of land use changes and of industrial processes (eg cement production). It is the principle anthropogenic greenhouse gas that affects the Earth's radiative balance.
Carriageway	The portion of a roadway used by vehicles including shoulders and ancillary lanes.
CASA	Civil Aviation Safety Authority
Catchment	The land area draining through the main stream, as well as tributary streams, to a particular site. It always relates to an area above a specific location.
cd	candela
CEMP	construction environmental management plan
Climate change	A change in the state of the climate that can be identified (eg by statistical tests) by changes in the mean and/or variability of its properties, and that persists for an extended period of time, typically decades or longer (CSIRO and BoM, 2015).
CLM Act	<i>Contaminated Land Management Act 1997 (NSW)</i>
CO	carbon monoxide
CO ₂	carbon dioxide
Commonwealth land	Land owned by the Commonwealth of Australia. For this project, the majority of the project site consists of Commonwealth-owned land leased to Sydney Airport Corporation for the operation of Sydney Airport. Refer also Sydney Airport land.
Concept design	An initial functional layout of a road/road system or other infrastructure. Used to facilitate understanding of a project, establish feasibility, provide basis for estimating, and determine further investigations needed for detailed design.
Construction	Includes all physical work required to construct the project.
Construction ancillary facilities	Temporary facilities during construction that include, but are not limited to, construction work areas, sediment basins, temporary water treatment plants, pre-cast yards and material stockpiles, laydown areas, parking, maintenance workshops and offices, and construction compounds.
Construction compound	An area used as the base for construction activities, usually for the storage of plant, equipment and materials, and/or construction site offices and worker facilities.
Construction environmental management plan	A site-specific plan developed for the construction phase of the project, to ensure that all contractors and sub-contractors comply with the environmental conditions of approval for the project, and that the environmental risks are properly managed.
Construction footprint	The construction footprint forms part of the overall project site. It consists of the land required to construct the project, including the location of construction compounds.
CSIRO	Commonwealth Scientific and Industrial Research Organisation

Term / abbreviation	Definition
Cth	Commonwealth
Cumulative impacts	Impacts that, when considered together, have different and/or more substantial impacts than a single impact assessed on its own.
Curfew	See Sydney Airport curfew
dB	Decibels
dBA	Decibels (A-weighted)
DECC	(previous) Department of Environment and Climate Change
DECCW	(previous) Department of Environment, Climate Change and Water
Detailed design	The stage of design where project elements are designed in detail, suitable for construction.
Discharge	The rate of flow of water measured in terms of volume per unit time, for example, cubic metres per second (m ³ /s). Discharge is different from the speed or velocity of flow, which is a measure of how fast the water is moving (eg metres per second (m/s)).
DITCRD	Australian Department of Infrastructure, Transport, Cities and Regional Development
Diverge	Where a single carriageway splits into two carriageways
Domestic terminals	Terminals 2 and 3 at Sydney Airport, as defined below.
DPI	Department of Primary Industries
Drainage	Natural or artificial means for the interception and removal of surface or subsurface water.
Drawdown	Reduction in the height of the water table caused by changes in the local environment.
Earthworks	All operations involved in loosening, excavating, placing, shaping and compacting soil or rock.
EIS	environmental impact statement
EMP	environmental management plan
Enabling works	Works required to enable the commencement of the main construction works
Environment	Includes all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings (from the EP&A Act).
Environment Strategy	<i>Sydney Airport Environment Strategy 2019-2024</i>
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EP&A Regulation	Environmental Planning and Assessment Regulation 2000 (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
Erosion	A natural process where wind or water detaches a soil particle and provides energy to move the particle.
EVM	excavated natural material
Exposure pathway	The route a substance takes from its source (where it began) to its endpoint (where it ends), and how people can come into contact with (or get exposed) to it. An exposure pathway has five parts: a source of contamination (such as chemical leakage into the subsurface); an environmental media and transport mechanism (such as movement through groundwater); a point of exposure (such as a private well); a route of exposure (eating, drinking, breathing, or touching), and a receptor population (people potentially or actually exposed). When all five parts are present, the exposure pathway is termed a completed exposure pathway.

Term / abbreviation	Definition
Feasible and reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. 'Feasible' relates to engineering considerations and what is practical to build. 'Reasonable' relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community expectations and nature and extent of potential improvements.
Flood	Relatively high stream flow which overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with major drainage before entering a watercourse, and/or coastal inundation resulting from super-elevated sea levels and/or waves overtopping coastline defences, excluding tsunamis.
Flood prone/liable land	Land susceptible to flooding by the probable maximum flood. Note that the flood prone land is also known as flood liable land.
Flood storage area	Those parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood. The extent and behaviour of flood storage areas may change with flood severity, and loss of flood storage can increase the severity of flood impacts by reducing natural flood attenuation. It is necessary to investigate a range of flood sizes before defining flood storage areas.
Floodplain	Area of land which is inundated by floods up to and including the probable maximum flood event (ie flood prone land).
FM Act	<i>Fisheries Management Act 1994</i> (NSW)
Grade	The rate of longitudinal rise (or fall) with respect to the horizontal expressed as a percentage or ratio.
Greenhouse gas	Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself, and by clouds. Water vapour (H ₂ O), carbon dioxide (CO ₂), nitrous oxide (N ₂ O), methane (CH ₄) and ozone (O ₃) are the primary greenhouse gases in the Earth's atmosphere (CSIRO and BoM, 2015).
Groundwater	Water that is held in rocks and soil beneath the earth's surface.
Groundwater dependent ecosystem	Refers to communities of plants, animals and other organisms whose extent and life process are dependent on groundwater, such as wetlands and vegetation on coastal sand dunes.
ha	hectare
Heavy vehicles	A heavy vehicle is classified as a class 3 vehicle (a two axle truck) or larger, in accordance with the Austroads vehicle classification system.
Heritage Act	<i>Heritage Act 1977</i> (NSW)
Heritage listed item	Any place, building or object listed on a statutory heritage register.
HIAL	high intensity approach lighting
High intensity approach lights	A series of lights that provide visual guidance to aircraft approaching a runway.
Hydrology	The study of rainfall and surface water runoff processes.
hz	hertz
Impact	Influence or effect exerted by a project or other activity on the natural, built and community environment.
Infrastructure SEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
IS	infrastructure sustainability
ISCA	Infrastructure Sustainability Council of Australia
JUHI	Joint User Hydrant Installation

Term / abbreviation	Definition
kg	kilogram
kg/yr	kilograms per year
km	kilometres
L _{A90}	The noise level which is exceeded for 90 per cent of the sample period. During the sample period, the noise level is below LA90 level for 10 per cent of the time. This measure is commonly referred to as background noise level.
L _{Aeq}	The equivalent continuous sound level – the energy average of the varying noise over the sample period equivalent to the level of constant noise that contains the same energy as the varying noise environment. A common measure of environmental and road traffic noise.
L _{Amax}	A-weighted, maximum sound level.
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.
Landscape character zone	An area of landscape with similar properties or strongly defined spatial qualities, distinct from areas immediately adjacent.
Lane	A portion of the carriageway allotted for the use of a single line of vehicles.
Leachate	Liquid that drains from a landfill or stockpile.
LEP	local environmental plan
Level of service	The standard measure used to assess the operational performance of these intersections. Level of service is ranked from A to F, with A representing the best performance and the worst. It is based on the average delay experienced by vehicles driving through the intersection (in seconds).
m ³	cubic metres
Major development	Development within Commonwealth-owned land leased to an airport lessee company for the operation of an airport, which meets the definitions under section 89 of the Airports Act.
Major development plan	A document required to support the application for approval of a major development under section 90 of the Airports Act, with the required contents defined by section 91 of the Airports Act.
Master Plan	<i>Sydney Airport Master Plan 2039</i>
MDP	major development plan
Median	The central reservation that separates carriageways from traffic travelling in the opposite direction.
Merge point	Where two separate carriageways meet to form one carriageway
Methodology	The method for analysis and evaluation of the relevant subject matter.
ML/yr	mega litres per year
mm	millimetre
mm/s	millimetres per second
Morning peak	The average one hour peak period between 8am and 9am on a normal working weekday.
Motorway	Fast, high volume controlled access roads. May be tolled or untolled.
NASF	National Airports Safeguarding Framework
NCA	noise catchment area
NO ₂	nitrogen dioxide

Term / abbreviation	Definition
Northern lands	Land leased and owned by Sydney Airport Corporation located to the north-west of Sydney Airport on the western side of Alexandra Canal, between Canal Road and Alexandra Canal.
NO _x	oxides of nitrogen
NSW	New South Wales
NSW EPA	NSW Environment Protection Authority
O ₃	ozone
Obstruction limitation surface	An invisible surface that defines the airspace surrounding an airport that must be protected from obstacles to ensure that aircraft flying in good weather during the initial and final stages of flight, or in the vicinity of the airport, can do so safely.
OEH	(previous) Office of Environment and Heritage
OLS	obstacle limitation surface
Operational footprint	The operational footprint forms part of the overall project site. It consists of land that would be occupied by permanent project infrastructure
OU/m ² /s	odour units per square metre per second
Overbridge	A bridge that conveys a road, rail or pedestrians over the described road.
PAH	polycyclic aromatic hydrocarbon
PANS-OPS	Procedures for Navigational Services – Aircraft Operations Surfaces
Pavement	The portion of a carriageway placed above the subgrade for the support of, and to form a running surface for, vehicular traffic.
PCBs	polychlorinated biphenyls
PCT	plant community types
Per-and poly-fluoroalkyl substances	Manufactured chemicals used in products that resist heat, oil, stains and water. There are many types, with the best-known examples being perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), which were used in some fire-fighting foams.
PFAS	per-and poly-fluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
Place making	A multi-faceted approach to the planning, design, and management of public spaces, which aims to create public spaces that promote people's health, happiness, and well-being.
PM	particulate matter
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of less than 10 micrometre (µm).
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of less than 2.5 micrometre (µm).
PMF	probable maximum flood
POEO Act	Protection of the <i>Environment Operations Act 1974 (NSW)</i>
Pre-construction	All work prior to construction.
Prescribed airspace	The airspace above any part of either the OLS or the PANS-OPS surfaces, regulated under the Airports Act.
Probable maximum flood	The flood that occurs as a result of the probable maximum precipitation on a study catchment. The probable maximum flood is the largest flood that could conceivably

Term / abbreviation	Definition
	occur at a particular location, usually estimated from probable maximum precipitation coupled with the worst flood producing catchment conditions.
Procedures for Navigational Services – Aircraft Operations	The Procedures for Navigational Services – Aircraft Operations (PANS-OPS) surface protects aircraft flying into and out of the airport when the flight is guided solely by instruments in conditions of poor visibility. The PANS-OPS surface is generally situated above the OLS.
Project	Construction and operation of the Sydney Gateway road project
Project site	The area that would be directly affected by construction and operation of the project, including the construction footprint and the proposed location of the project's operational infrastructure (the operational footprint).
Proponent	The person or organisation that proposes to carry out the project or activity.
RAP	remediation action plan
RBL	rating background level
Residual land	Acquired land that formed part of the project's construction footprint, but is not required as part of the pro.
Risk	Chance of something happening that will potentially have an undesirable effect. It is measured in terms of consequence and likelihood.
Road reserve	A legally defined area of land within which facilities such as roads, footpaths and associated features may be constructed for public travel.
Roads and Maritime	Roads and Maritime Services
Runoff	The amount of rainfall that ends up as streamflow, also known as rainfall excess.
Salinity	The total soluble mineral content of water or soil (dissolved solids), with concentrations of total salts are expressed as milligrams per litre (equivalent to parts per million).
Scour	The erosion of material by the action of flowing water.
Screenline	Theoretical boundaries specifically designed to collectively analyse directional and two-way traffic volumes.
SEARs	Secretary's Environmental Assessment Requirements
Secretary's environmental assessment requirements	Requirements and specifications for an environmental assessment prepared by the Secretary of the Department of Planning and Environment under section 115Y of the <i>Environmental Planning and Assessment Act 1979</i> (NSW).
Section 170 register	Under section 170 of the <i>Heritage Act 1977</i> , all state government agencies must keep and administer a database of heritage assets called a Section 170 Heritage and Conservation Register.
Sensitive receiver	Land uses and activities that are sensitive to potential noise, vibration, air and visual impacts, such as residential dwellings, schools and recreation areas.
SO ₂	sulfur dioxide
Span	The distance between the centres of adjacent supports of a bridge.
Species credit species	Threatened species that are assessed and require credits and offsets according to section 6.4 of the Biodiversity Assessment Method.
Spoil	Material generated by excavation.
St Peters interchange	A component of the New M5 project, located at the former Alexandria Landfill site at St Peters. In its ultimate configuration it would connect the New M5, the M4-M5 Link and the Sydney Gateway road project with Euston Road and Gardeners Road.
State significant infrastructure	Major transport and services infrastructure considered to have State significance as a result of size, economic value or potential impacts.
Stockpile	Temporary stored materials such as soil, sand, gravel and spoil/waste.

Term / abbreviation	Definition
Study area	The study area is defined as the wider area including and surrounding the project site, with the potential to be directly or indirectly affected by the project (eg by noise and vibration, visual or traffic impacts). The actual size and extent of the study area varies according to the nature and requirements of each assessment and the relative potential for impacts.
Surface water	Water flowing or held in streams, rivers and other wetlands in the landscape.
Sustainable development	Development which meets the needs of the present, without compromising the ability of future generations to meet their own needs (Brundtland, 1987).
Sydney Airport curfew	The curfew was established by the <i>Sydney Airport Curfew Act 1995</i> (Cth), which limits the operating hours of Sydney Airport between the hours of 11pm and 6am. The Act does not stop all aircraft movements during these hours, but limits movements by restricting the types of aircraft that can operate, the runways they can use, and the number of flights allowed
Sydney Airport land	Commonwealth-owned land leased to Sydney Airport Corporation for the operation of Sydney Airport.
Sydney Airport northern lands	Consists of land leased and owned by Sydney Airport Corporation, located between Canal Road and Alexandra Canal.
Sydney Water	Sydney Water Corporation
tCO ₂ -e	tonnes of CO ₂ -equivalent
tCO ₂ -e/year	tonnes of CO ₂ -equivalent per year
Tempe Lands	Consists of land owned by Inner West Council that was formally part of the Tempe landfill site. The land was remediated and now contains a number of open space and recreation facilities (including the Tempe Golf Range and Academy, off-leash dog exercise area and Tempe Wetlands).
Terminal 1	Sydney Airport's international terminal
Terminal 2	One of Sydney Airport's two domestic terminals, used by number of domestic and regional airlines including Virgin Australia, Jetstar and Rex.
Terminal 3	Qantas's domestic terminal
Terminals 2/3	Sydney Airport's domestic terminals
TEU	twenty foot equivalent units
THC	total hydrocarbons
Twenty foot equivalent units (TEU)	Unit of measure which describes the capacity of container ships and terminals. Measure is based on the volume of a twenty foot shipping container. For example a 40 foot container would be considered to be two TEUs.
Typical cross section	A cross section of a carriageway showing typical dimensional details, furniture locations and features of the pavement construction.
Urban design	The process and product of designing human settlements, and their supporting infrastructure, in urban and rural environments.
Viaduct	Elevated structure convey a road or rail across other infrastructure or landscape features.
Viewpoint	The specific location of a view, typically used for assessment purposes.
Visual amenity	The value of a particular area or view in terms of what is seen.
Visual envelope	Area in which a location (or project) is visible from the surrounding areas, taking into account topography and other structures.
Visual impact	The impacts on the views from residences, workplaces, and public places. This can be positive (ie benefit or an improvement) or negative (ie adverse or a detraction).

Term / abbreviation	Definition
Waste	Waste is defined by the NSW EPA as any matter (whether liquid, solid, gaseous or radioactive) that is discharged, emitted or deposited in the environment in such volume, constituency or manner as to cause an alteration to the environment.
Waste hierarchy	Approach of prioritising waste avoidance and resource recovery (including reuse, reprocessing, recycling and energy recover) before consideration of waste disposal.
Water table	The surface of saturation in an unconfined aquifer, or the level at which pressure of the water is equal to atmospheric pressure.
Windshear and turbulence	<p>Windshear is defined as a change of horizontal wind direction and/or speed with height. Rapid changes in wind velocity encountered during the landing and take-off phases of flight can be hazardous to aircraft.</p> <p>Turbulence is caused by a disruption to smooth air flow. Turbulence in the lower atmosphere is generally created by the flow of air around obstacles such as landforms or buildings. Meteorological conditions such as boundaries between different air masses can also result in turbulence.</p>
Work area	Individual areas within the project site that are subject to construction at any one time.