

Darwin International Airport
2023 Master Plan
Preliminary Draft – Summary

September 2023



We welcome your feedback on the Darwin International Airport Preliminary Draft 2023 Master Plan.

The Preliminary Draft 2023 Master Plan is available for public comment for a period of 60 business days.

Written public comment submissions can be emailed to **masterplan@adgnt.com.au** or sent to Darwin International Airport at the address below. Submissions must be made prior to close of business on 18 December 2023.

2023 Master Plan
Darwin International Airport
PO Box 40996
Casuarina NT 0811

Darwin International Airport Pty Limited (ACN 081 258 157) (DIA) is a wholly owned subsidiary of Airport Development Group Pty Limited (ACN 081 422 915) (ADG). This DIA Master Plan has been prepared by ADG as part of its internal strategic planning process for DIA, and in satisfaction of its obligations under Part 5 of the Airports Act 1996 (Cth) and the Airports Regulations 1997 (Cth).

While this master plan has been prepared with due care, it is based on forecasts, assumptions and information available at the time of writing. For this reason, ADG makes no representation or warranty as to the accuracy or completeness of the master plan, and no person should act in reliance of any information provided in, or omitted from, this master plan or any other written or oral information or opinions provided in connection with this master plan.

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Welcome

It is with great pleasure I present the Darwin International Airport 2023 Master Plan.

Darwin International Airport provides vital infrastructure for industry and the community, playing an integral role in the growth of the Northern Territory economy and linking Darwin to Australia and the rest of the world.

The 2023 master plan is a blueprint for the development and management of the airport for the next 20 years, supporting the growth of key industries including tourism, agriculture, mining and fishing.

Darwin International Airport's parent company, Airport Development Group (ADG), has been a major contributor to northern Australia for 25 years, since acquiring the leases for Darwin International Airport, Alice Springs Airport and Tennant Creek Airport during the Australian Government's airport privatisation program in the late 1990s.

Darwin is one of only two joint-user airports in Australia, being co-located with RAAF Base Darwin. A unique agreement between the Department of Defence and ADG sets out the relationship and responsibilities of both parties as well as civil aircraft access rights to the Defence-owned runways and taxiways.

With the Territory forecasting robust growth over the next 20 years, the master plan identifies the infrastructure and investment required across the airport precinct to accommodate and support this growth.

Major projects detailed in the master plan include the redevelopment of adjacent hotels to create a world class resort, realignment of roads to improve safety and access, terminal enhancements to improve the experience of our customers, and long-term plans for the 80 hectares of commercial land across the airport site.

ADG has enormous confidence in the continued growth of the Northern Territory, and the investment, innovation, and strategic planning outlined in the 2023 master plan will ensure Darwin International Airport continues to play a major role in leading economic growth and sustainability in the Top End.

TONY EDMONDSTONE

Chief Executive Officer

Darwin International Airport



Background on Darwin International Airport

Darwin International Airport Pty Ltd holds a 50-year lease (plus a 49-year option) over the Darwin International Airport site from the Australian Government under the Airports Act 1996.

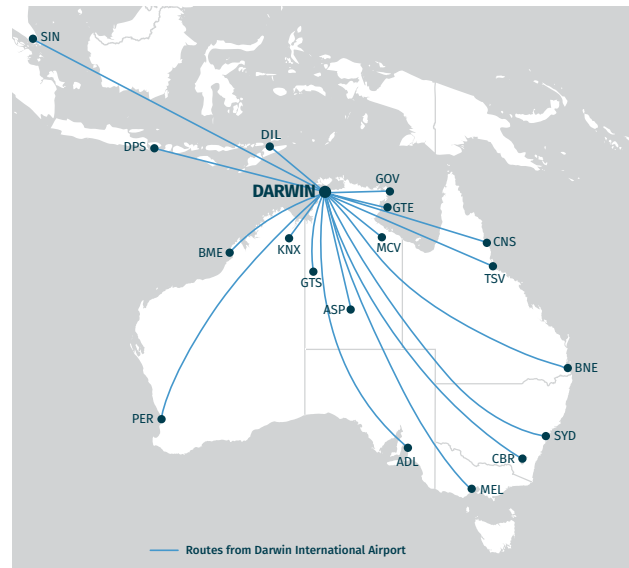
Darwin International Airport is a curfew-free gateway to northern Australia, providing domestic, international and general aviation services. The airport is currently served by 7 airlines flying to 12 domestic cities, 3 international destinations, 5 regional ports and 3 major fly-in, fly-out operations. Other regional and remote destinations are served by general aviation operations.

Darwin International Airport is also a joint-user airport under the Airports Act, being co-located with the Royal Australian Air Force (RAAF) Base Darwin. A Joint User Deed with the Department of Defence governs all aspects of the civil-military use of the runway and taxiway system, known as the Jointly Used Area. The deed also defines each party’s aviation responsibilities in the separate civil and military areas.

The Airports Act and its regulations set out the requirements for the airport’s management and operation. Under the Act, Darwin International Airport must prepare a 20-year master plan, including an airport environment strategy, to guide the development of

existing and proposed airport land uses and facilities. Until recently, we were required to renew the master plan every 5 years; however, recent amendments to the Airports Act have extended this to every 8 years.

As a result of the COVID-19 pandemic and the uncertainty in the aviation industry, Darwin International Airport sought – and was granted – a 12-month extension from the federal minister to deliver this master plan. During preparation of the 2023 master plan, the airport sought an additional 6-month extension due to Defence considerations, which too was granted. So the previous 2017 master plan for Darwin International Airport remains valid until 6 March 2024.



Darwin air routes



24/7
operations, curfew free



311
hectare site

Key features of the 2023 master plan

The 2023 master plan is an important document for Darwin International Airport's progressive and orderly development. It is both a regulatory requirement and a strategic planning tool that outlines our vision for growth and development over the next 20 years.

The new master plan retains the fundamental concepts of previous master plans. It provides long-term development concepts for the airport out to 2043 with an optimal mix of aeronautical and non-aeronautical uses. The 2023 master plan also includes the Airport Environment Strategy.

While the 2023 master plan provides a framework for future development until 2043, it is also flexible to meet changing conditions.

The 2043 development concept is based on comprehensive technical studies, wide consultation and confidence in the future of the airport business.

The 2023 master plan demonstrates that Darwin International Airport can accommodate forecast growth in aircraft movements and passenger activity, aviation support facilities and commercial developments.



Aircraft at Darwin International Airport

Planning context

While the 2023 master plan provides a framework for future development of the airport to 2043, we are conscious that the master plan must also be flexible to meet changing conditions.

Darwin International Airport has established the following objectives to guide our planning and development of aeronautical and non-aeronautical facilities and services:

- Ensure that planning supports long-term development as an airport with an optimal mix of aeronautical uses.
- Provide a safe, secure, reliable, efficient and sustainable airport operating environment.
- Enhance the airport's contribution to Northern Territory economic growth through developing the airport's aviation and property business and by facilitating the success of our business partners.
- Integrate environmental considerations into the development of facilities and services and seek to minimise their impact on the natural environment.
- Engage with key community, business and government stakeholders on airport-related economic, social and environmental issues, and be mindful of surrounding community interests.
- Provide airport infrastructure and facilities that are timely, cost-effective and flexible in use and provide a good customer experience.
- Undertake developments that enhance value to our shareholders and the broader economic community.

Northern Territory planning laws do not apply to Darwin International Airport because it is located on Commonwealth land. Where possible, the master plan has been developed to promote consistency with the NT Planning Scheme, particularly in relation to non-aviation development in the landside part of the airport site.

We are committed to effective and genuine consultation with airport stakeholders. Our clearly articulated approach to planning will ensure accurate information is shared and feedback about the airport's development is encouraged.

Sustainability

Darwin International Airport views corporate sustainability as conducting our business to create value for our present stakeholders while protecting the rights of future stakeholders. Sustainability is important for the health of the environment and the prosperity of communities, and it also represents good business.

Central to our Sustainability Strategy is our commitment to action, measure and demonstrate improvement against key sustainability indicators.

In 2018–19, Darwin International Airport’s parent company, Airport Development Group (ADG), developed an emissions reduction target in line with the Paris Agreement. The Paris Agreement aims to strengthen the global response to the threat of climate change by holding the increase in the global average temperature to well below 2°C above pre-industrial levels, and pursuing efforts to limit temperature increase to 1.5°C.

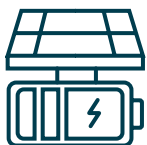
ADG’s reduction target has been developed utilising a science-based target where emissions reductions fall well within the Australian emissions reduction target under the Paris Agreement and United Nations Convention on Climate Change. We are on track to have zero net emissions (scope 1 and scope 2) by 2030 with continued growth of our solar energy investment.



Solar array at Darwin International Airport



We are on track to have **zero** net emissions (scope 1 and scope 2) by 2030



Toal solar capacity is **7.75MW** (AC)



We continue to invest in solar energy and are investigating storage opportunities

Social, economic and regional significance

Aviation is critical to the economic and social development of the Northern Territory. The remoteness of many communities, weather, road conditions and distance from major population centres makes NT residents more reliant on aviation services than those of any other jurisdiction.

Darwin International Airport is a crucial commercial, personal travel, essential services and military transport facility for northern Australia. It makes a substantial contribution to the Darwin and NT economies.

It is estimated that business activities at Darwin International Airport directly employ some 1,500 people from 72 businesses. A further 1,200 people are indirectly employed, bringing the airport's overall employment contribution to some 2,700 people.

The airport's contribution to the NT economy is significant, with direct and indirect contributions to gross state product (GSP) in 2021-22 estimated at \$544 million. In 2021-22, the total GSP of the NT was \$26.1 billion, suggesting that Darwin International Airport contributes around 2% of GSP.

It is estimated that activities arising from Darwin International Airport (both aviation related and non-aviation related) could contribute to the overall employment of some 7,400 workers by 2043.

The total economic contribution of Darwin International Airport to NT GSP is forecast to grow over the next 20 years and could reach an estimated \$1.8 billion in 2043 (in current dollar values).

In 2022 business activities at Darwin International Airport:



employed
2,700
people directly and indirectly



contributed
\$544m
to the NT economy



contributed to
approximately
2% of the
Northern Territory GSP

By 2043 business activities at Darwin International Airport:



may employ
7,000+
people directly and indirectly



may contribute
\$1.8b
to the NT economy



Aviation activity forecasts

Improving air access across the Northern Territory is one of the objectives of Darwin International Airport’s route development strategy.

Darwin International Airport is an important gateway in a growing tourism, trade and travel market between Asia and Australia. Darwin is within narrowbody aircraft range of all of South-East Asian hubs and Australia’s main population centres, which are all less than 5 hours away.

Since the last master plan, the Australian aviation industry has gone through unprecedented volatility – the COVID-19 pandemic, extreme weather events like bushfires and floods, the Russia–Ukraine conflict, constrained aviation sector resources, high jet fuel prices and a high inflationary environment.

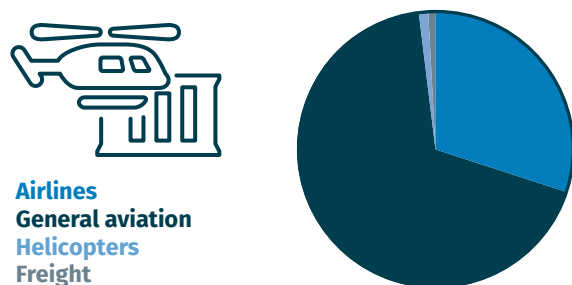
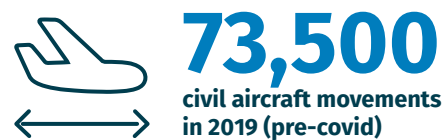
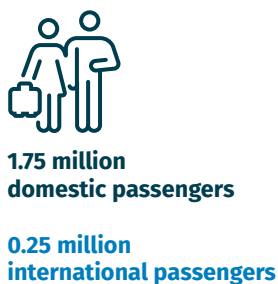
Before the pandemic, Darwin International Airport welcomed 2 million passengers through the airport in 2019. There is still uncertainty around how the aviation industry will continue to recover from the COVID-19 pandemic, particularly in the short- to medium term.

By 2031 (the 8-year lifespan of this master plan), total annual passenger numbers at Darwin International Airport are predicted to reach between 2.5 and 3.3 million passengers. In the longer-term, total annual passenger movements (including transit and transferring passengers) may grow to between 3.7 million and 5.5 million by 2043.

Airlines servicing Darwin International Airport continue to trend away from widebody code E aircraft, instead focussing their operations more on narrowbody code C aircraft. Total annual airline aircraft movements at Darwin International Airport are projected to reach around 27,000 movements by 2031, potentially growing to 39,000 movements by 2043. Of this figure, domestic airlines are anticipated to make up the majority, some 85% of movements.

General aviation growth is expected to be limited over the planning period of the master plan, with a small potential increase to around 55,000 movements per year by 2043.

In future, we expect domestic freight will continue to be carried largely in the cargo hold of passenger services and dedicated air freight services. As domestic airline movements increase, so will extra capacity for domestic freight. Darwin International Airport will continue to pursue our strategy to attract air freight service offerings to Darwin.



Airport Land Use Plan

Darwin International Airport incorporates 311 hectares.

Land use planning is fundamental to an airport master plan, to guide the progressive and orderly development of Darwin International Airport.

Land use planning in the Darwin International Airport 2023 Master Plan:

- ensures there is adequate land for expansion of aviation activity
- clearly separates aeronautical and nonaeronautical uses
- has been developed using terminology and definitions consistent with that used in the NT Planning Scheme where possible, with any variations highlighted
- reflects the significant long-term development potential of the airport
- provides a considerable amount of land for conservation reserves.

The Land Use Plan for Darwin International Airport remains largely unchanged from the previous master plan. Adjustments have been made primarily to the Tourist Commercial Zone, and as such to the Commercial Zone, Terminal & Facilities Zone and Aviation Reservation Zone immediately adjacent to it.

Airfield Development Plan

The airfield at Darwin International Airport consists of runways, taxiways and aircraft parking areas. The master plan provides for further development of the airfield to ensure it can efficiently handle the forecast aircraft traffic.

Under the Joint User Deed, the Department of Defence is responsible for operating and maintaining the runway and taxiway system within the Jointly Used Area.

The existing runway system has sufficient capacity to cater for future projected civil traffic movements over the 20-year planning period and beyond.

The master plan proposes a number of taxiway enhancements over the 20-year planning period to support the forecast increase in aircraft traffic.

Staged expansion of the air transport apron is anticipated, to address aircraft parking capacity constraints and provide greater operational flexibility.

General aviation facilities will developed on a commercial basis over the planning period of the master plan.



Northern and Southern General Aviation Area

Terminal Development Plan

The terminal at Darwin International Airport is a 2-storey building of 27,000 square metres that facilitates both domestic and international passenger movements.

As with the airport’s previous master plans, it is envisaged that the airport will continue to operate a single terminal that handles both domestic and international passengers.

In 2015, Darwin International Airport’s passenger terminal was significantly expanded – doubling its size. Our forecasting indicates we’re unlikely to need to further expand the building’s overall footprint in the short- to medium term. Some minor infills and internal reconfiguration may occur to better use the existing floor space and make the most of available capacity.

Any future growth of the terminal building will be accommodated by expanding the existing terminal within the Terminal and Facilities Zone and in line with peak-hour demand. In the longer-term, we envisage future terminal expansion will mainly be to the west, with the building footprint wrapping around to the northwest. There is scope for extra expansion to the east, as needed.

The experience of customers visiting the airport is paramount to Darwin International Airport. We are committed to improving the customer experience both in the terminal and across the broader airport precinct.

Darwin International Airport aims to provide facilities and services that are accessible for all members of the community. Future improvement to upgrade the airport terminal and facilities over time will seek to achieve access and mobility compliance with the relevant Australian Standards.

Commercial Development Plan

While Darwin International Airport’s first priority is aviation, a key part of the master plan is allowing for income diversification with clear strategic direction for growth while maintaining the flexibility to respond to market directions and demand. The COVID-19 pandemic proved the importance of our commercial development plans and diversified portfolio.

Of the 311 hectares in the airport lease area, some 80 hectares (just over 25%) is available for commercial development.

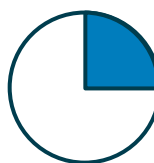
Darwin Airport Central is Darwin International Airport’s business, retail and entertainment precinct. Comprising 60 hectares of Service Commercial zoning, it is located along the northern boundary of the airport site.

Significant commercial developments since the last master plan include the emergency medical retrieval precinct, the freight and cold storage facility, and the refurbishment of the existing airport hotels into a world-class resort.

Possible developments over the 20-year planning period include commercial offices, showrooms, warehousing, large-format and speciality retail, entertainment / leisure, hotel and other short-stay accommodation, cafés and restaurants.



80
hectares available
for commercial use



25%
of airport site is
available for commercial
development

Ground Transport Plan

Ground transport planning is important for Darwin International Airport to operate efficiently. It relates to the journey of passengers and staff to and from the airport, as well as within the airport precinct. The Ground Transport Plan considers the airport’s internal and external road network, car parking, pick-up and drop-off facilities, taxis, rideshare, shuttle bus, car rental, public transport and active transport (such as cycling and walking).

In 2022, Darwin International Airport completed significant road improvements to Henry Wrigley Drive (within the airport’s lease boundary), including constructing 2 new roundabouts and realigning Sir Norman Brearley Drive.

Both existing external and internal road systems at the airport may need enhancing during the 20-year planning period of the master plan.

Daily vehicle trips to and from the airport could grow from around 20,000 currently to some 66,000 in 2043 as a result of projected aviation growth and commercial development.

As with the previous master plan, the major external road access development concept envisioned during the 20-year planning period of the master plan is a new signalised intersection on McMillans Road between Sabine Road and Rapid Creek Road.

We anticipate that during the planning period of the master plan the forecourt area immediately in front of the terminal building may be pedestrianised and landscaped to enhance passengers’ and visitors’ customer experience and enhance safety and aviation security. This would require relocating the existing taxi and commercial vehicle drop-off and pick-up lanes to the north towards the short stay car park. Suitable access for those with disabilities will be incorporated into any such improvements.

Utilities infrastructure

To ensure Darwin International Airport operates effectively into the future, our infrastructure and utility services must be able to meet future demands.

An early adopter of solar, Darwin International Airport installed 2 large scale solar arrays in 2016 and 2017, generating up to 5-megawatts of power (AC, alternating current) in total. In 2020, as part of climate change mitigation efforts, Darwin International Airport started constructing a 4-megawatt solar rooftop array across several businesses operating at the airport.

Darwin International Airport’s parent company, Airport Development Group, intends to continue making significant renewable energy investments. Darwin International Airport is investigating further opportunities to develop renewable energy, including using more available roof space on buildings across the airport’s lease area.



Smart irrigation installed to landscaped median strips during road network upgrades

Safeguarding the airport

Airports are important national infrastructure assets. They are essential transport hubs and contribute significantly to the national economy and the economies of the cities, regions, states and territories they operate in.

Building and activities near Darwin International Airport have the potential to create air safety hazards and seriously limit aircraft operations in and out of the airport. The 2023 master plan considers the National Airports Safeguarding Framework (NASF) guidelines, which were developed to enhance the safety, viability and growth of aviation operations at Australian airports.

Aircraft noise management

People living across the Darwin region may experience varying levels of aircraft noise relating to civil or military aircraft operations at Darwin International Airport and RAAF Base Darwin. Aircraft noise is an unavoidable impact of aircraft operations, from aircraft departing and arriving as well as ground-based aircraft operations on the airfield.

As the civil airport operator, Darwin International Airport has little direct control over noise produced by aircraft operations other than the ground running of civil aircraft engines.

The Australian Noise Exposure Forecast (ANEF) system has been in place for over 30 years and is the primary measure of aircraft noise exposure in the vicinity of Australian airports. The ANEF is a set of contours showing future forecasted levels of exposure to aircraft noise around an airport, to inform strategic land use planning.

The ANEF is an important noise metric because it is the only noise metric that has status under the:

- NT Planning Scheme for land use planning and development consent off-airport
- Airports Act for land use planning and development consent on-airport.

The ANEF is used in accordance with Australian Standard AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction (AS2021) to guide land use planning and development consent decisions by the relevant authority.

As Darwin International Airport is a joint-user airport, the Airports Act requires that the master plan has a joint military–civil ANEF. The 2023 master plan incorporates a standard 20-year ANEF to the year 2043. ANEF inputs include military and civil aircraft movement forecasts, runway and flight path usage, time of day, aircraft fleet mix, local topography and climate conditions. The overall extent of the ANEF contours for RAAF Base Darwin and Darwin International Airport is primarily driven by military aircraft, particularly military fast jets.

The ANEF contours are not necessarily an indicator of the full spread of noise impacts. As such, Darwin International Airport has also prepared N-contour diagrams, a complementary method of describing aircraft noise that shows the potential number of aircraft noise events above a certain decibel on an average day.

Environment strategy

The 8-year Environment Strategy is the framework for Darwin International Airport’s commitment to environmental management. It has actions to be implemented over the next 8 years to ensure continual improvement in all aspects of environmental management across the airport site.

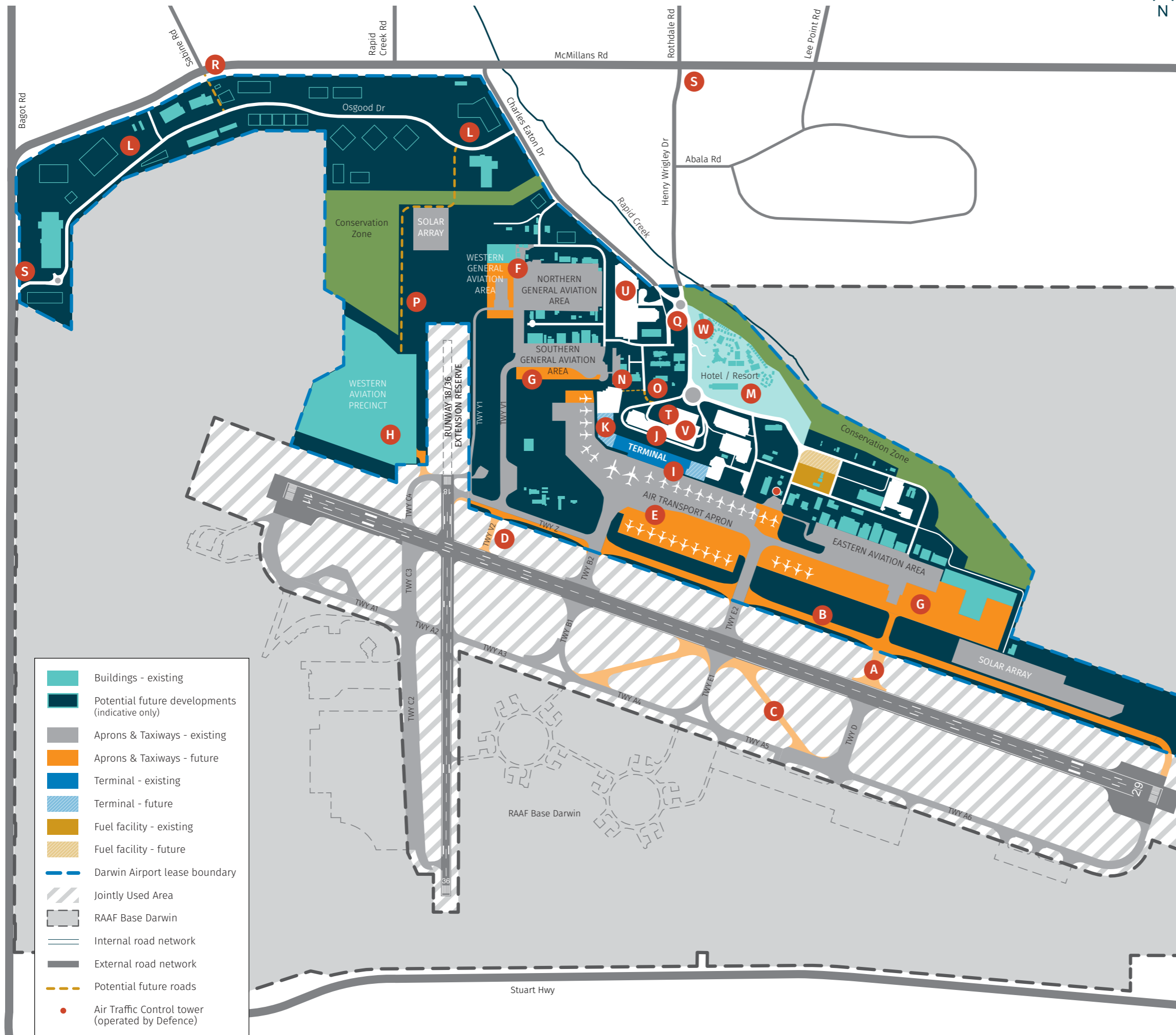
Our commitment to environmental management and sustainability looks to not only comply with regulatory requirements but also to build on these to move towards best practice in developing future environmental initiatives.

The Environment Strategy ensures relevant legislation, regulations and environmental standards are incorporated into all operations on-airport, including both aviation and non-aviation related activities carried out by airport staff, tenants and contractors.



Matboerrma Garden at Darwin International Airport

Darwin International Airport 2043 Development Concept



	Potential developments to 2031 (first 8 years)	Potential developments to 2043 (20 years)
Airfield Development Plan		
A	Potential construction of new taxiway D2	
B	Staged extension of taxiway Z to ultimately provide a full-length parallel taxiway to the north of runway 11/29	
C		Potential rapid exit taxiways for civil use from runway 11/29 to taxiway Z
D		Upgrade of taxiway V2 to accommodate code C aircraft
E	Staged expansion of the air transport apron to provide additional aircraft parking	
F	General aviation apron expansion to the west	
G		Potential future expansion of the general aviation areas
H	Commence development of the Western Aviation Precinct	
Terminal Development Plan		
I	Minor infills of the existing terminal building to better utilise available space	
J	Existing terminal forecourt to be landscaped and pedestrianised	
K		Any future terminal expansion will be predominantly to the west
Commercial Development Plan		
L	Further development of commercial-related land use zones as opportunities arise e.g. retail, offices, logistics, leisure, entertainment, warehousing	
M	Further development of the hotel/resort, including better connectivity to the terminal	
Ground Transport Plan		
N	New access road from Fenton Ct to Long Stay Plus car park	
O	Southbound lane of Fenton Ct may be extended to meet Henry Wrigley Dr	
P	Construction of a new access road from Osgood Dr to the Western Aviation Precinct	
Q		Capacity enhancements to roundabout
R	(Off-airport) Potential signalised intersection at McMillans Rd / Sabine Rd including connection through to Osgood Dr. Intersection of McMillans Rd / Charles Eaton Dr to become left-in, left-out	
S	(Off-airport) Potential staged improvements to increase the capacity at external intersections surrounding the airport	
T	Shade awnings to be installed in some car parks	
U	Expansion of Long Stay Saver car park	
V		Additional terminal car parking, potentially a multi-level car park
W	Staged extension of the shared path network within the airport precinct, and potential extension of Gurambai walking trail	

