Alice Springs Airport

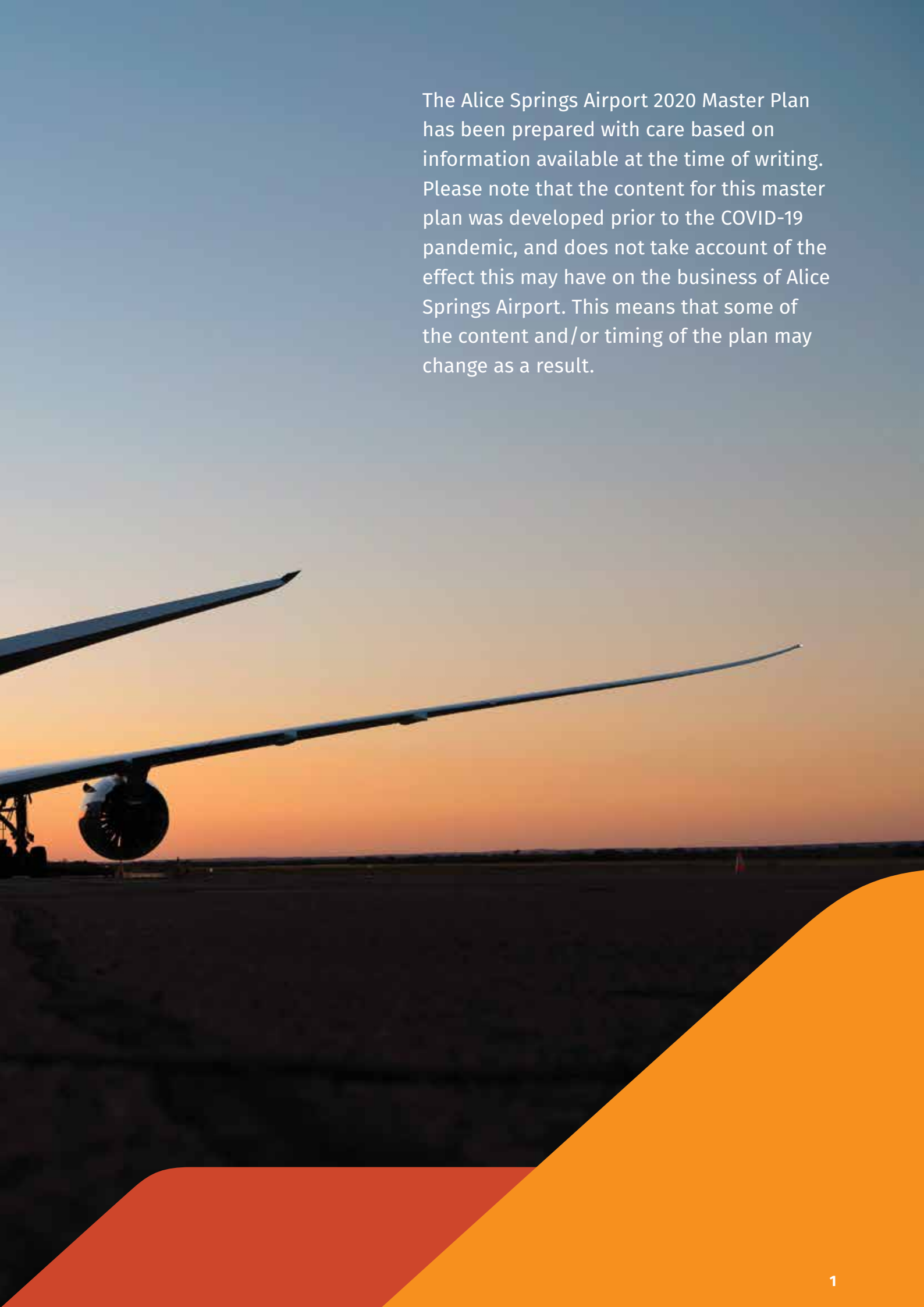
2020 **Master Plan**

Final

Approved 30 November 2020

Alice Springs Airport

Please note that this document has been prepared with care based on current information available. NT Airports makes no representation or warranty as to its accuracy or completeness and readers should note that this plan does not take account of the effect of the COVID-19 circumstances on the business of the Airport. This means that the content and/or timing of the plan may change considerably. No person should act in reliance on any information provided in, or omitted from, this document or any other written or oral information or opinions provided in connection with this document. NT Airports accepts no liability whatsoever to any person who relies in any way on information contained in this plan.



The Alice Springs Airport 2020 Master Plan has been prepared with care based on information available at the time of writing. Please note that the content for this master plan was developed prior to the COVID-19 pandemic, and does not take account of the effect this may have on the business of Alice Springs Airport. This means that some of the content and/or timing of the plan may change as a result.

Contents

Welcome

I am proud to present the Alice Springs Airport 2020 Master Plan, which includes the Alice Springs Airport Environment Strategy.

This important document outlines our vision for Alice Springs Airport over the next 20 years. Both a regulatory requirement and an important strategic planning tool, it is a blueprint for the airport's development, painting a coherent picture of the airport's operational, economic, commercial, social and environmental aspects that will guide our planning out to 2040.

Alice Springs Airport has long been the gateway to the 'Red Centre' and welcomes some 620,000 passengers every year. Our close partnerships with the tourism industry, government, regulators and many other stakeholders help us connect Territory communities and provide essential facilities for the aviation and defence industries.

Since privatisation in 1998, more than $80 million has been invested in Alice Springs Airport.

This 2020 master plan covers the same core concepts as the previous four master plans. The updates mainly reflect the airport's modest growth projections, its evolving airport business and the needs of our business partners. The eight-year Airport Environment Strategy included in the master plan continues our strong environmental management regime.

This 20-year master plan also describes a 2040 development concept for our 3550 hectare airport site, with aeronautical and commercial uses.

Yours sincerely

TONY EDMONDSTONE
Chief Executive Officer
Alice Springs Airport

Executive summary

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

The *Airports Act* and its Regulations set out the requirements for the airport's management and operation. Under the Act, Alice Springs 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 five years; however, recent amendments to the *Airports Act* have extended this to every eight years.

The previous master plan and environment strategy for Alice Springs Airport is valid until 1 October 2020. That 2015 document covered the airport's future aeronautical development, the development strategy for the airport's property portfolio, a framework for assessing compliance with environment standards and legislation, and continual improvement of environmental management at the airport.

Key features of the 2020 master plan

Alice Springs Airport incorporates around 3550 hectares, making it Australia's largest airport in terms of area (see Figure 1).

The 2020 master plan is a blueprint for Alice Springs Airport's progressive and orderly development. It is both a regulatory requirement and an important strategic planning tool that outlines our vision for projected 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 2040 with an optimal mix of aeronautical and non-aeronautical uses. The 2020 master plan also includes the Airport Environment Strategy.

While the 2020 master plan provides a framework for future development until 2040, it is also flexible to meet changing conditions.

The current Alice Springs Airport layout is shown in Figure 2. The 2040 development concept, shown in Figure 3, is based on comprehensive technical studies, wide consultation and confidence in the future of the airport business.

The 2020 master plan demonstrates that Alice Springs Airport can accommodate forecast growth in aircraft movements and passenger activity, aviation support facilities and commercial developments.

Planning context

Alice Springs Airport has established the following development 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 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.

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.

In preparing the 2020 master plan, we consulted with government agencies, airlines, general aviation operators and airport businesses, and the community to ensure it will meet the needs of all stakeholders.

Sustainability

Corporate sustainability means 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. We report annually on our performance in this area in line with the Global Reporting Initiative (GRI) Sustainability Reporting Standards, prepared in accordance with the 'Core' option.

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.

Alice Springs Airport is the major Central Australian airport. It is estimated that its business activities directly employ some 360 people from 60 businesses. A further 270 people are indirectly employed, bringing the airport's overall employment contribution to some 630 people.

Alice Springs Airport's economic benefit to the Northern Territory economy is significant, with direct and indirect contributions to gross regional product (GRP) in 2018 estimated at $123 million. This could grow to $149 million by 2040.

The airport's contribution to the Territory economy as an enabler of tourism spending is considerable, Alice Springs Airport facilitated an estimated $209 million in tourism activity in 2018 and more than 1520 tourism jobs
Alice Springs Airport has been an enthusiastic supporter of the Central Australian community for more than 20 years. We take our social performance in the community we operate in seriously. That includes respect for the traditional owners of the land, the Arrernte people, as well as the cultural and social values of the Alice Springs community.

Aviation activity forecasts

In the 2018-19 financial year, Alice Springs Airport welcomed 622,000 passengers through the airport. Annual passenger movements (including transit) are projected to grow moderately over the next 20 years, to some 718,000 passengers by 2040.

Regular public transport (RPT) aircraft movements account for approximately one-third of the total movements at Alice Springs Airport. General aviation aircraft make up the remaining two-thirds of aircraft movements. Combined airline and general aviation aircraft movements are forecast to increase marginally to around 25,000 movements by 2040.

It is expected that airlines will fully utilise existing Alice Springs' capacity and will tend to use larger aircraft rather than schedule extra services. Air freight will continue to be carried predominantly in the cargo hold of passenger services.

Airport Land Use Plan

Land use planning is fundamental to an airport's master plan to guide its progressive and orderly development.

In the 2020 master plan, land use planning:

- ensures there is adequate land for expanding aviation activity
- clearly separates the airport's aeronautical and non-aeronautical uses
- has been done using terminology and definitions in line with the NT Planning Scheme's where possible, with any variations highlighted
- reflects the large land holding and the significant long-term development potential of the airport.

As with the 2015 and 2009 master plans for Alice Springs Airport, 'residential' continues as a potential land use in the Future Development Zone. This provides a long-term residential land bank for the Alice Springs region, integrated with future development of the Alice Springs suburb of Kilgariff. Alice Springs Airport's intention is that the Future Development Zone is excised from the airport lease and converted to freehold tenure because 'residential' development is considered a sensitive development under the *Airports Act*.

Airfield Development Plan

No runway extensions are needed in the 2020 master plan's planning period. The existing runway system is adequate to cater for projected traffic and is proposed to be retained in its current configuration. Constructing a runway turning loop for the main runway was identified to improve the runway's usability.

Taxiway enhancements may be required to support the increase in regular public transport (RPT) and general aviation traffic and new apron areas.

The RPT apron will continue to effectively use the space and infrastructure available and expand in a linear manner.

Other general aviation facilities will be developed on a commercial basis. The aircraft storage facility will be expanded in line with demand.

Terminal Development Plan

Any future growth of the Alice Springs Airport terminal will be accommodated by expanding the existing terminal within the terminal and facilities zone. The main areas that will drive the expansion of the terminal footprint are baggage reclaim and baggage make-up.

In line with Alice Springs Airport's development objectives, future terminal developments will improve operational efficiency and enhance passengers' customer experience. Planning and delivering any developments will be done in close consultation with our airport stakeholders.

Commercial Development Plan

At 3550 hectares, Alice Springs is Australia's largest airport in area. Only around 800 hectares is used for airport operations—just 25 per cent of the total airport lease area. That leaves some 2000 hectares available for commercial use.

A significant amount of airport land will never be required for aeronautical purposes and land that won't be needed for aeronautical purposes for many years to come. Both categories can be considered for commercial (non-aviation) opportunities and developed for use in the short-, medium- and long term.

Alice Springs Airport is developing the Seven-Mile Precinct Business Park, located near the western boundary of the airport estate on Maryvale Road. The Seven-Mile Precinct Business Park is one kilometre from the Stuart Highway and 14 kilometres from Alice Springs town centre. Given the current land constraints of Alice Springs, the business park's 280 hectares could be an attractive potential commercial development.

Commercial development opportunities exist in the Seven-Mile Heritage Zone. Developments will be compatible with the heritage value and character of the area.

Ground Transport Plan

Ground transport planning is important for Alice Springs Airport to operate efficiently.

The airport's existing external and internal road systems may need enhancing during the master plan's 20-year period. Any upgrades to the airport's access to the external road network will be done in consultation with the Northern Territory Government.

Minor changes in the airport's ground transport arrangements may occur during the planning period to meet changing security demands and any need for increased capacity. This may also include accommodating more 'ridesharing' transport and growth of the public transport network. Car parking capacity will be expanded in line with demand.

Utilities infrastructure

Alice Springs Airport was the first Australian airport to invest in large-scale solar power generation. In 10 years, we have installed three solar farms that together provide almost 100% of the airport's peak daytime power requirement—the equivalent of powering 90 average Australian households. The solar facilities offset approximately 1270 tonnes of carbon dioxide the airport produces a year.

Safeguarding the airport

Building and activities near an airport have the potential to create air safety hazards and seriously limit aircraft operations in and out of the airport.

The 2020 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.

An airport has two sets of invisible surfaces above the ground around it, which together form the airport's 'protected airspace': obstacle limitation surfaces (OLS) and procedures for air navigation services – aircraft operations (PANS–OPS) surfaces. Both have been prepared for Alice Springs Airport.

OLS define the airspace around an airport that must be free of obstacles to provide protection for aircraft flying into or out of the airport when the pilot is flying by sight. PANS–OPS surfaces help safeguard an aircraft from collision with obstacles when the aircraft is being flown only by navigation instruments (in conditions when visibility is poor). Both help protect the airspace and ensure safe airport operations (see figures 20 and 21).

Aircraft noise management

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

The most important noise metric at an airport is the Australian Noise Exposure Forecast (ANEF). The ANEF is a set of contour maps showing forecasted levels of aircraft noise for building control purposes. The ANEF 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 2020 master plan incorporates a 2060 ANEF to provide a longer-term view of aircraft noise than the standard 20-year ANEF required.

Being a land use planning tool, the ANEF does not appropriately describe the impact on or exposure to aircraft noise for the surrounding community. For this reason, Alice Springs Airport has incorporated the NASF Guideline A recommendation of additional complementary methods of describing aircraft noise, like 'Number Above' contours. This is more explanatory than the ANEF system because it shows noise in a way that a person perceives it—as a number of single aircraft movement events per day above a certain noise level.

Environment strategy

The Airport Environment Strategy is at Appendix 1 to this 2020 master plan.

This eight-year plan is the strategic framework for Alice Springs Airport's commitment to environmental management. It has actions to be implemented over the next eight 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 Airport 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.

Figure 1: Alice Springs Airport Lease Boundary

Note: The Stuart Highway, Roger Vale Drive and Santa Teresa Road are Northern Territory Government roads

Figure 2: Alice Springs Airport 2020

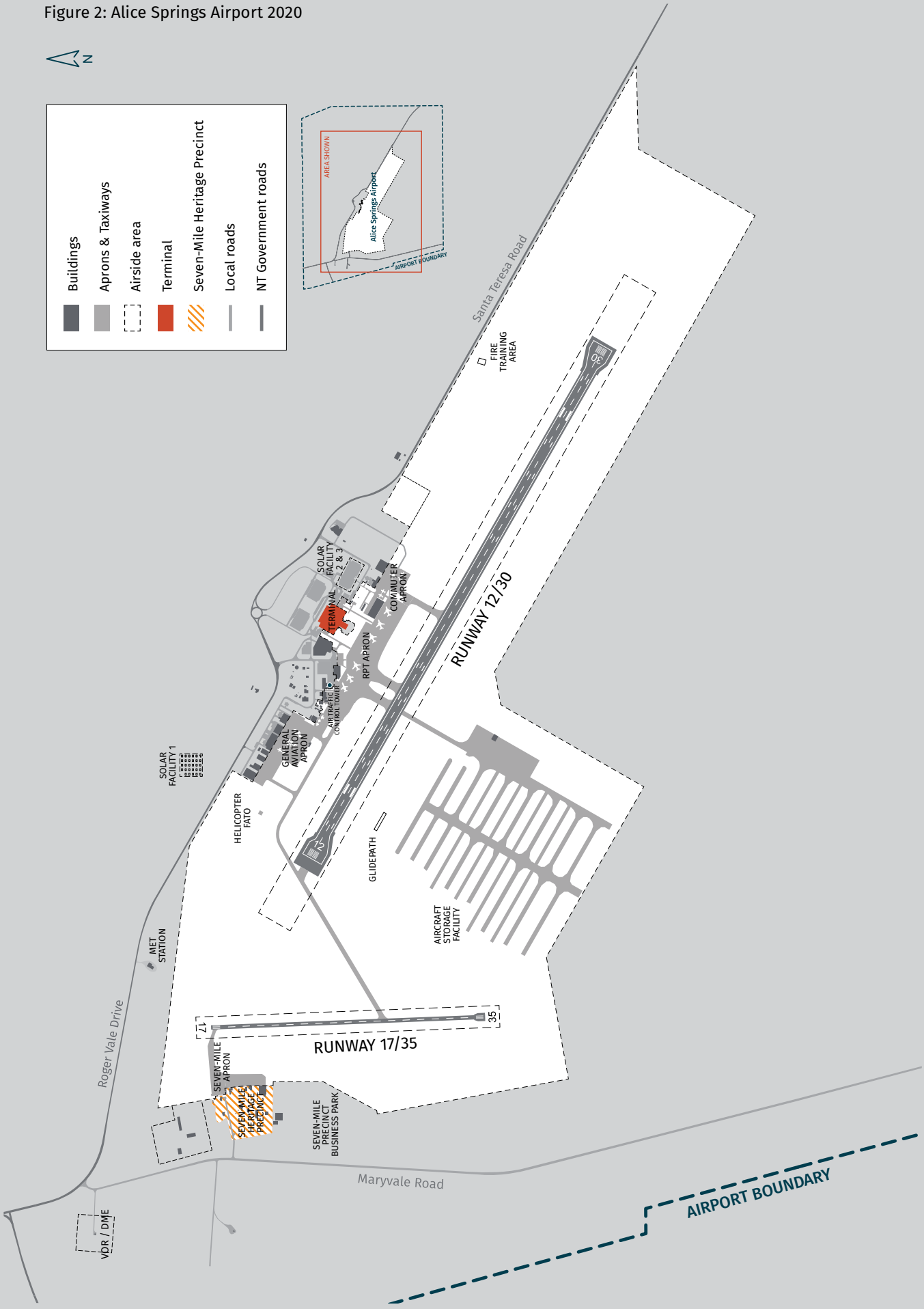
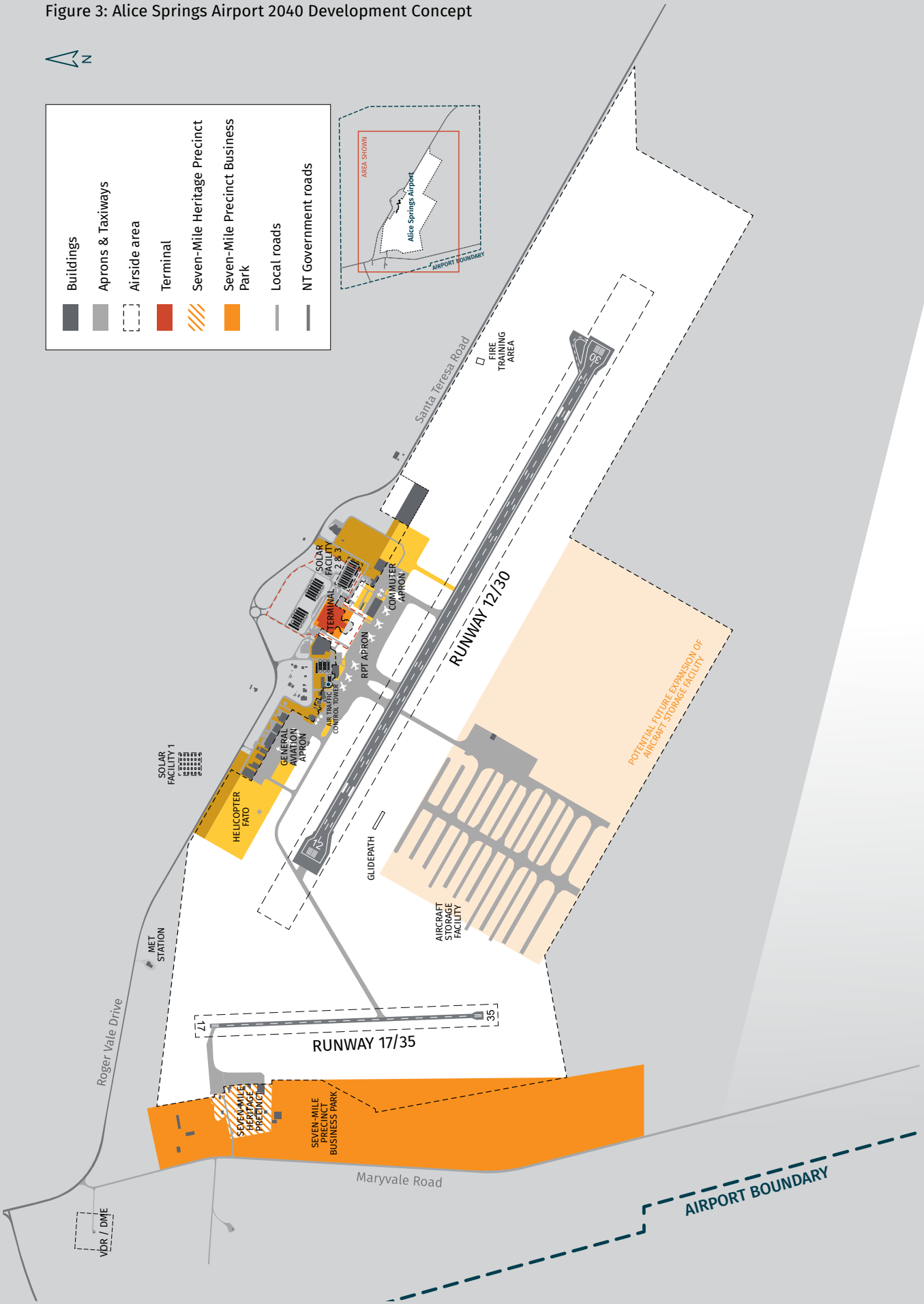


Figure 3: Alice Springs Airport 2040 Development Concept



SECTION 1:

Introduction

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Background

Alice Springs has always been the tourist gateway to Central Australia. As well as the tourism sector, the airport also serves the Alice Springs community, businesses and government, with a sizeable general aviation sector servicing the surrounding region and remote communities.

Alice Springs Airport Pty Ltd holds a 50-year lease (plus 49-year option) over the Alice Springs Airport from the Australian Government under the *Airports Act*.

Figure 4: Alice Springs Location

Airport ownership

Alice Springs Airport's parent company is Airport Development Group (ADG), which owns 100 per cent of Northern Territory Airports Pty Ltd (NTAPL). NTAPL owns all of Darwin International Airport Pty Ltd and Alice Springs Airport Pty Ltd, which hold the leases over Darwin International Airport and Alice Springs Airport respectively. ADG also owns 100 per cent of Tennant Creek Airport Pty Ltd. See Figure 5.

ADG has been part of the Northern Territory community for two decades. It is 100 per cent Australian owned by IFM Investors (77.4%) and Palisade Investment Partners Limited (22.6%), contributing to the retirement funds of some 70,000 Territorians.

Airport site

Alice Springs Airport is 14 kilometres by road south-east of the town of Alice Springs in the Northern Territory (see Figure 6). The total airport site covers 3550 hectares, which makes it the largest Australian airport in terms of area. The airport's lease boundary is shown in Figure 1.

Alice Springs Airport is on Commonwealth land and adjacent to two local government areas: Alice Springs Town Council and MacDonnell Regional Council. See Figure 7.

Figure 5: Airport Development Group company structure

Figure 6: Proximity of Alice Springs Airport to the town of Alice Springs

Figure 7: Local Government areas surrounding Alice Springs Airport

Airport history

Town Aerodrome: 1920s - 1960s

The township of Alice Springs was known as Stuart until 1933. The first airstrip was constructed to the west of the township and received its first aircraft on 5 October 1921. The aircraft, a DH4 bi-plane, was chartered by writer and explorer Francis Birtles and crewed by Francis Briggs, pilot, and George Bailey, mechanic. Facilities at the airfield were non-existent; the aircraft had to wait for a camel train loaded with fuel to arrive to take its return flight.

In the 1930s a new aerodrome site was developed in what is now the present day suburb of Araluen. This became known as the 'Town Aerodrome'.

In August 1935, the first commercial air service began into Alice Springs' Town Aerodrome. It formed part of a two-day service operated by Australian Transcontinental Airways between Adelaide and Darwin, with an overnight stopover in Alice Springs. Guinea Airways started a charter service in 1936 between Adelaide and Alice Springs, and a year later provided a scheduled service between Adelaide, Alice Springs and Darwin.

On his 40,000-mile survey of the Northern Territory, E.J. Connellan landed in Alice Springs in 1938. He later established Connellan Airways and flew the trial 'mail run' between Alice Springs and Wyndham in Western Australia on 10 July 1939. Connair, as the company was to become, spent its first 29 years operating from the Alice Springs Town Aerodrome. It became known as 'the biggest little airline in the world'.

The Town Aerodrome served Alice Springs until around 1963. The only jet aircraft to land at the Town Aerodrome was a Royal Australian Air Force (RAAF) Canberra bomber in April 1958, which mistakenly took the Town Aerodrome for the modern and larger Seven-Mile Aerodrome.

Seven-Mile Aerodrome: 1940s - 1950s

In 1940 a second aerodrome was developed some seven miles to the south of the Alice Springs township. It was called 'Seven-Mile Aerodrome' to differentiate it from the Town Aerodrome.

Originally a part of the E. and A.J. Hayes' Undoolya pastoral lease 116A, the seven-mile site was taken over by the Department of Defence in 1939. Development work on the aerodrome started in early 1940, and the facility was partially complete by mid-year, including three runways: 06/24, 17/35 and 12/30.

Like many of the aerodromes in the Northern Territory, the Seven-Mile Aerodrome has its origins in the military build-up of the north during the late 1930s and the start of the Pacific War during World War II.

During the early years of World War II the aerodrome was predominantly used by the RAAF and the United States Air Forces. Although some civilian airlines used Seven-Mile Aerodrome, most civilian aviation activity continued to operate from the Town Aerodrome.

In July 1940, the Lockheed Hudson bombers of the RAAF's Number 1 Squadron passed through Seven-Mile Aerodrome during their deployment to Malaya to help bolster the RAAF commitment both there and in Singapore. A major defence exercise in Darwin that same year also saw a number of aircraft pass through the Alice Springs facility during the trans-continental flight to the newly developed RAAF station in Darwin. When Japan entered the war, the military increasingly used Seven-Mile Aerodrome—particularly the United States Army Air Forces units heading north.

The Seven-Mile Aerodrome was made a RAAF station on 28 May 1942, with No.57 Operational Base Unit taking over administrative control. By 1944, however, the site was effectively little more than a transit base for military aircraft and more an airport facility for civilian airline operations.

The end of World War II saw a final flurry of military activity at the Seven-Mile Aerodrome as it was used extensively by military aircraft and personnel transferring to southern depots and demobilisation centres. After this the aerodrome reverted to mainly civilian use, however into the 1960s it was used as a major transit base by the RAAF's newer aircraft, the jet-propelled Meteor, Vampire, Sabre and Canberra, during the deployments to Darwin on major air-defence exercises.

The post-war development of Alice Springs township saw the older Town Aerodrome used less and less, with only Connellan Airways remaining as the sole user. As a result of technological advances in aviation, civilian aircraft were becoming heavier and faster and requiring larger airfields like the Seven-Mile Aerodrome. These factors combined to become the catalyst for a post-war building program at the Seven-Mile Aerodrome, with the site

eventually taking over from the Town Aerodrome as the main airfield for the township of Alice Springs.

Several Bellman hangars from the RAAF's Gorrie Airfield, near Larrimah further north, were re-erected at the Seven-Mile Aerodrome and new airport buildings were constructed. The Shell Company installed underground fuel tanks and a fuel storage area in 1946, and a very high frequency (VHF) radio range facility was formalised in 1948. A meteorological aids site was established three years later in mid-1951.

In November 1947, the newly formed Trans-Australia Airlines (TAA) commenced regular DC3 flights between Adelaide and Darwin, via Alice Springs and other intermediary ports including Oodnadatta, Tennant Creek, Daly Waters and Katherine. At the same time, TAA also began a weekly Adelaide to Alice Springs return service.

Alice Springs Airport: 1960s - 1980s

In 1956, the Seven-Mile Aerodrome featured in the film adaptation of Neville Shute's A Town Like Alice, and in 1958 the aerodrome was officially renamed to 'Alice Springs Airport'. However the existing facilities were becoming inadequate for the increasing civilian air traffic. In 1961, the main runway, 12/30, was extended to 2438 metres, and in 1965 a new terminal and fire station were opened to handle the increase in airline traffic. These buildings were constructed at a location half way along the main runway.

During the 1960s, land surrounding the airport was progressively acquired to prevent livestock grazing, which was thought to contribute to airport dust storms. As a consequence, Alice Springs Airport land holding increased to 35 square kilometres, the largest airport site in Australia.

The airport continued to grow with the addition of the Royal Flying Doctor Service, Aboriginal Aircraft Maintenance and others.

In the 1960s, the Town Aerodrome was acquired for the creation of the suburb of Araluen. By 1968, Connellan Airways had relocated entirely from the Town Aerodrome to Alice Springs Airport.

Seven-Mile Heritage Precinct

Following the construction of the new terminal facilities in the 1960s, the buildings at the Seven-Mile Aerodrome were predominantly abandoned. The buildings remained under the control of the (then) Commonwealth Department of Civil Aviation. Over the years, these buildings have continued to be used primarily by aviation-oriented groups such as the Alice Springs Aero Club and the Parachute Club. Others have used the site as well, and the buildings' structural integrity have been maintained.

In 2005, the Seven-Mile Aerodrome was declared a heritage place, and three buildings at the Seven-Mile Aerodrome were placed on the Northern Territory Heritage Register: the former control tower, the former passenger terminal and the Bellman hangar. The Seven-Mile Aerodrome is of historical and cultural significance in terms of both its military and civilian uses, its role in developing Central Australia, and as an example of the type of airport development that occurred at remote airfields across Australia during the 1950s.

Changing ownership: 1980s - today

On 1 April 1989, control of Alice Springs Airport passed from the Australian Government to the Federal Airports Corporation (FAC), a self-regulated Government-owned business enterprise. It immediately started building

Seven-Mile Aerodrome control tower. *Credit:* NT Heritage Register

New terminal under construction

a new terminal building at the airport, that was commissioned in 1991.

The terminal was designed mainly around the requirements of Australian Airlines (now Qantas) and Ansett. The symmetrical design of the building was due to the requirement at the time to provide exactly equivalent domestic passenger facilities for both airlines.

The airport continued to experience a significant growth in passengers, supporting infrastructure and tenants, but in 1992, airport traffic was adversely affected by new direct interstate B737-400 flights into Ayers Rock (now known as Uluru). All interstate traffic to Ayers Rock was lost, with some Alice Springs to Ayers Rock flights returning later.

Privatisation

Between 1997 and 2003, the Australian Government sold long term leases over the FAC-operated airports to the private sector. In 1998, Airport Development Group acquired the three Northern Territory airports of Darwin, Alice Springs and Tennant Creek.

In 2019, Alice Springs Airport celebrated 21 years since privatisation.

Recent achievements

Since ADG acquired Alice Springs Airport in 1998, more than $80 million has been spent on improving the airport's infrastructure and facilities

In line with previous master plans and environment strategies, many developments and initiatives have been or are being implemented, including:

New terminal inauguration, 1991

- $5.2 million on three new solar facilities (2010–2015)
- $1.8 million on NT Police hangar and associated apron works (2013)
- $1.6 million to replace airfield lighting (2014)
- introduction of AeroAscent Airside Tracker field automated reporting tool for improved record keeping of wildlife hazard management (2017)
- car parking equipment upgrades including online booking engine (2018)
- $3.5 million in terminal infrastructure improvements, including replacing the terminal's air conditioning system and upgrading its existing light fittings to LED. These improvements have resulted in a 25 per cent reduction in power usage (2018)
- innovative weed management trials using cattle to manage buffel grass (2018)
- $17 million to resurface main runway (2019)
- $3 million to resurface RPT apron (2019)
- $1.7 million to install new high intensity approach lights (HIAL) and precision approach path indicator (PAPI) to the main runway (2019)
- two solar-powered electric vehicle charging stations installed in long-term car park (2019)
- Alice Springs Airport incorporated in Northern Territory Airports' first sustainability report (2019).

NAIF loan

In September 2018, Northern Territory Airports welcomed the announcement of a $150 million loan from the Northern Australia Infrastructure Facility (NAIF) to contribute to significant infrastructure projects across all three airports of Darwin, Alice Springs and Tennant Creek.

At the time, Minister for Resources and Northern Australia, Matthew Canavan, commented that 'these investments will increase the operational capacity of each airport, and that will increase economic opportunities for each community.'

The loan is one of NAIF's largest investments to date and makes up half of NT Airports' overall $300 million investment in infrastructure projects across its three airports.

In Alice Springs, the NAIF loan has supported the resurfacing of the airport's main runway, taxiway and apron and installing new runway lighting.

SECTION 2:

Planning context

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Introduction

Alice Springs Airport is on Commonwealth land and is subject to the planning framework in the *Airports Act*. The *Airports Act* was passed by federal parliament in 1996 to govern the development and operations of federal airports leased to the private sector.

The federal Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) is responsible for the design and implementation of the Australian Government's infrastructure, transport and regional development policies and programs. DITRDC manages the administration of the government's interests in privatised airports under the *Airports Act*.

Part 5 of the Act requires Alice Springs Airport to prepare a 20-year master plan that incorporates an environment strategy.

Development objectives

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

1. Ensure that planning supports long-term development as an airport with an optimal mix of aeronautical uses.
2. Provide a safe, secure, reliable and sustainable airport operating environment.
3. 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.
4. Integrate environmental considerations into the development of facilities and services and seek to minimise their impact on the natural environment.
5. Engage with key community, business and government stakeholders on airport-related economic, social and environmental issues, and be mindful of surrounding community interests.
6. Provide airport infrastructure and facilities that are timely, cost-effective and flexible in use and provide a good customer experience.
7. Undertake developments that enhance value to our shareholders and the broader economic community.

Purpose of the master plan

The master plan is a blueprint for Alice Springs Airport's development. It is both a regulatory requirement and an important strategic planning tool that outlines our vision for projected growth and development over the next 20 years.

Section 70 of the *Airports Act* says the purposes of an airport's final master plan are:

- to establish the strategic direction for efficient and economic development at the airport over the planning period of the plan
- to provide for the development of additional uses of the airport site
- to indicate to the public the intended uses of the airport site
- to reduce potential conflicts between uses of the airport site, and to ensure that uses of the airport site are compatible with the areas surrounding the airport
- to ensure that all operations at the airport are undertaken in accordance with relevant environmental legislation and standards
- to establish a framework for assessing compliance at the airport with relevant environmental legislation and standards
- to promote the continual improvement of environmental management at the airport.

The previous four master plans for Alice Springs Airport (1999, 2004, 2009, 2015) were prepared every five years, in keeping with the Act's requirements of the time. Recent amendments to the Act in 2018 have increased this to eight years for Alice Springs Airport. After approval of the Alice Springs Airport 2020 Master Plan by the federal minister, all future master plans will be prepared every eight years.

Relevant legislation and Regulations

Commonwealth legislation and Regulations relevant to the planning of leased federal airports includes:

- *Airports Act 1996*
- Airports Regulations 1997
- Airports (Building Control) Regulations 1996
- Airports (Control of On-Airport Activities) Regulations 1997
- Airports (Environment Protection) Regulations 1997
- Airports (Ownership Interests in Shares) Regulations 1996
- Airports (Protection of Airspace) Regulations 1996
- *Environment Protection and Biodiversity Conservation Act 1999.*

Contents of the master plan

The *Airports Act* specifies that the master plan must set out:

- development objectives for the airport
- an assessment of the future needs of civil aviation users, and other users of the airport, for services and facilities relating to the airport
- intentions for land use and related development of the airport site, where the uses and developments embrace airside, landside, surface access and land planning/zoning aspects
- an Australian Noise Exposure Forecast for the areas surrounding the airport
- flight paths at the airport
- plans for managing aircraft noise within the area
- an assessment of environmental issues associated with the implementation of the plan
- plans for dealing with the environmental issues
- in relation to the first eight years of the master plan – a plan for a ground transport system on the landside of the airport
- in relation to the first eight years of the master plan – detailed information on the proposed developments that are to be used for commercial, community, office or retail purposes; or for any other purpose that is not related to airport services
- in relation to the first eight years of the master plan – the likely effect of the proposed developments on employment levels at the airport, and the local and regional economy and community
- in relation to the first eight years of the master plan – an environment strategy.

2020 master plan

While the 2020 master plan for Alice Springs Airport provides a framework for future development to 2040, we are conscious that the master plan must also be flexible to meet changing conditions.

This master plan has been prepared by Alice Springs Airport with the assistance of a consultant team. The consultants and their technical work area are outlined in Table 1.

Consultant	Technical Area
Airbiz Aviation Strategies Pty Ltd	Noise management
ACIL Allen	Economic impact study
Tourism Futures International	Passenger and aircraft movement forecasts
The Aviation Group	Prescribed airspace

Table 1: Consultant team

Master plan process

Preparation of the 2020 master plan

The preparation of the Alice Springs Airport 2020 Master Plan involves a number of steps, which are highlighted in the diagram below.

Figure 8: Master plan process

Exposure draft 2020 master plan

In preparing the master plan, Alice Springs Airport consulted with the airport's Community Consultation Group, government agencies, airlines, general aviation operators and airport businesses to ensure it will meet the needs of all stakeholders. We shared an 'exposure draft' version of the master plan with these stakeholders:

- Australian Government Department of Infrastructure, Transport, Regional Development and Communications (DITRDC)
- Australian Government Department of the Environment and Energy
- Civil Aviation Safety Authority (CASA)
- Airservices Australia
- Northern Territory Government
- Alice Springs Town Council
- MacDonnell Regional Council
- airlines and other users of the airport
- Alice Springs Airport Community Aviation Consultation Group
- Northern Territory Airports Planning Coordination Forum.

Preliminary draft 2020 master plan for public comment

In line with Section 79 of the *Airports Act*, the preliminary draft master plan was released for public comment for 60 business days. Alice Springs Airport made the preliminary draft master plan available through:

- publishing a newspaper notice advising of the preliminary draft master plan's release and inviting written comment
- publishing an electronic copy of the preliminary draft master plan to the Alice Springs Airport website (www.alicespringsairport.com.au/planning)
- printed copies to view at several Alice Springs locations and to purchase from the Alice Springs Airport management centre

Before the public comment period, Alice Springs Airport sent written advice about our intention to release the preliminary draft master plan for public comment to:

- the Northern Territory Minister for Infrastructure, Planning and Logistics
- the Northern Territory Department of Infrastructure, Planning and Logistics
- Alice Springs Town Council
- MacDonnell Regional Council.

Submission of the draft 2020 master plan for approval

When the public comment period closed, Alice Springs Airport submitted the draft master plan to the Minister for Infrastructure, Transport and Regional Development. Included was a copy of any written comments received during the public comment period and a summary of those comments. This summary contained the following:

- the names of people/organisations that made comments
- a summary of the comments
- a statement declaring that Alice Springs Airport has taken due regard of the comments
- any other information relating to the comments that may be required by the Regulations.

The minister had 50 business days to decide whether to approve or refuse to approve the draft master plan. In making their decision, the minister must have regard to:

- the extent to which the plan achieves the purpose of a final master plan
- the extent to which the plan meets the need of the airport users
- the effect on the use of land, including within the airport site and the areas surrounding the airport
- consultation undertaken in preparing the master plan
- the views of the Civil Aviation Safety Authority (CASA) and Airservices Australia in respect to safety and operational aspects
- any other matters considered relevant.

Final 2020 master plan

In line with Section 86 of the *Airports Act*, following the minister's approval of the draft master plan, Alice Springs Airport:

- published a notice in the newspaper advising that the master plan had been approved
- made printed copies of the final master plan available to view and purchase from Alice Springs Airport management centre
- published an electronic copy of the final master plan on the Alice Springs Airport website.

Stakeholder and community engagement

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.

Building positive, strong and long-term relationships with those involved in or affected by our airport's operation and development is a priority and vital to our success.

Stakeholder engagement occurs at many levels: from developing our airport master plan through to our daily operational activities.

Community Aviation Consultation Group

The Alice Springs Airport Community Aviation Consultation Group was established in 2010 and meets twice a year. The group's main role is to discuss community issues arising from airport operations and developments. This allows information to flow from the airport and its tenants to the community and vice versa. It also allows the community to make comments and suggestions about the airport's operation and development.

The group's work includes reviewing:

- existing and proposed airport development and operations
- steps being taken to implement or develop the airport's master plan
- noise (including aircraft noise) and environmental issues
- ground transport and access issues
- improvements or changes to airport facilities
- activities from Airservices Australia and the Civil Aviation Safety Authority that may change or affect airport operations and be of community interest
- the contribution of the airport to the local, regional and national economy.

Planning Coordination Forum

As well as the Community Aviation Consultation Group, Northern Territory Airports runs a Planning Coordination Forum three times a year. This forum sees high-level strategic discussions between the airport and Commonwealth, Northern Territory and local government representatives to improve the coordination of planning for the airport site and surrounding areas.

As most planning resources of both the Northern Territory Government and Northern Territory Airports are located in Darwin, it is sensible for one Planning Coordination Forum to cover both Alice Springs Airport and Darwin International Airport.

The Planning Coordination Forum's work includes the areas of:

- planning and development issues, including local planning integration
- development and implementation of airport master plans
- road access issues, including ground transport and public transport services
- environmental impacts from airport operations
- the role of the airports as a major consumer and employment centre in the urban and regional planning context, as well as the wider economic role of the airports as transport centres
- measures to address the impacts of airport operations, including aircraft noise
- land use planning issues in the vicinity of the airport, including planning measures to safeguard airport operations, amenity of neighbouring properties, and future development on- and off-airport
- government regulatory and policy issues.

SECTION 3:

Sustainability

SECTION 3: **Sustainability**

Introduction

Alice Springs 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.

Sustainability Strategy

Sustainability is incorporated across our business operations, our staff, our community and our environment. Adopting corporate sustainability across Alice Springs Airport operations delivers value to our business through:

- growing investor confidence
- maintaining our social licence to operate
- driving efficiency improvements in the use of natural resources
- minimising waste
- providing safe work environments
- supporting employee learning and development
- driving innovation within our projects
- managing risk.

Central to our Sustainability Strategy is our commitment to action, measure and demonstrate improvement against key sustainability indicators. We report annually on our performance in this area in line with the Global Reporting Initiative (GRI) Sustainability Reporting Standards, prepared in accordance with the 'Core' option.

Alice Springs Airport (as part of NT Airports) published our first annual sustainability report in 2018–19. The sustainability reporting demonstrates our performance in the following areas:

- approach to sustainability reporting
- stakeholder engagement processes
- workforce profile
- work health and safety systems
- resource use, emissions and waste.

We look forward to sharing progress on corporate sustainability against established targets in future reporting.

SECTION 4:

Social, economic and regional significance

SECTION 4: **Social, economic and regional significance**

Introduction

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

Alice Springs Airport is the major Central Australian airport. Its facilities are used by residents, tourists and other visitors to Central Australia, air services for remote communities (for which Alice Springs serves as the regional centre), the Joint Defence Facility at Pine Gap, general aviation and helicopter traffic, and other recreational activities.

A strong community focus is our continuing priority. Our sponsorship of local arts and cultural groups, and our corporate giving and workplace donation systems help us stay connected to the people living in the surrounding region.

Social and community benefit of Alice Springs Airport

Alice Springs is the second largest town in the Northern Territory and situated in the geographic heart of Australia. More than 25,000 people call Alice Springs home, with another 15,000 living in the wider Alice Springs region—a vast area covering more than 550,000 square kilometres. Alice Springs' population is 16% of the total Northern Territory population.

Connecting communities

Alice Springs Airport is critical in providing many services to the Central Australian region, which includes not only the Northern Territory but also parts of Queensland, South Australia and Western Australia. Three examples are the Royal Flying Doctor Service (RFDS), the Remote Air Services Subsidy (RASS) Scheme and the Northern Territory Police Air Section. The large general aviation sector at Alice Springs Airport is essential in delivering services to the communities of Central Australia.

In 2015, regional carrier Airnorth recommenced the 'Centre Run' service between Darwin and Alice Springs via the regional centres of Katherine and Tennant Creek. It initially operated three times a week, and in 2018 the service increased to five times a week. The service not only provides improved air connections for residents in these regional areas but supports the delivery of health, education and other essential services to these regional towns.

Medical services

Aircraft-based medical services are essential in Central Australia. Before they were introduced, the needs of many emergency or critical medical cases simply could not be met because land-based transportation often meant impossible time delays.

Alice Springs Airport plays a crucial role in giving people in remote areas timely access to emergency medical care, transporting critically ill people to Alice Springs Hospital and larger medical centres elsewhere in Australia, and providing preventative health care services in the remote areas of Central Australia.

The Royal Flying Doctor Service (RFDS) has six Pilatus PC-12 aircraft based at Alice Springs Airport, which service an area of around 1.25 million square kilometres. These aircraft fly some 7600 hours every year, providing clinical

and medical retrieval services to the Central Australian population. The Mental Health Services Rural and Remote Areas Program delivered by RFDS mental health clinicians is also based in Alice Springs.

Mail planes and remote policing

Chartair, on behalf of the Department of Infrastructure, Transport, Regional Development and Communications (DITRDC), delivers the Remote Air Services Subsidy (RASS) Scheme services to remote communities and stations hundreds of kilometres from Alice Springs. These services, also known as the 'mail plane', are part of the Australian Government's Regional Aviation Access Program, which subsidises a regular weekly air transport service to carry passengers and goods (such as educational materials, medicine, fresh food and other urgent supplies) to communities in remote and isolated areas. Mail is carried on these flights under a separate contract with Australia Post. Around 50 remote locations receive 'mail plane' services from Alice Springs, making it an essential service for many Australians.

General aviation operator Northern Territory Air Service is contracted with DITRDC to provide freight-only services under the RASS Scheme. The service is based at Alice Springs and delivers as far as Western Australia.

The Northern Territory Police Air Section has a Pilatus PC-12 aircraft based at Alice Springs Airport. This air capability is essential to deliver policing services to people and communities in Central Australia.

Community engagement and sponsorship

Alice Springs Airport has been an enthusiastic supporter of the Central Australian community for more than 20 years. We take our social performance in the community we operate in seriously. That includes respect for the traditional owners of the land, the Arrernte people, as well as the cultural and social values of the Alice Springs community.

Stakeholder relations and consultation are integral to Alice Springs Airport's social performance, including our Community Aviation Consultation Group and Planning Coordination Forum. We publish an annual Stakeholder Engagement Report on our website, which summarises the group's meetings for the year as well as the airport's stakeholder engagement with industry and business, the environment, corporate giving, community, education and the arts.

Our social performance includes sponsorships, our commitment to conservation, art and culture, and creating a workplace where staff are proud to come to work. For the past 10 years, our Workplace Giving program has seen staff voluntarily contribute to Northern Territory charities through payroll deductions, which the company matches dollar for dollar.

Alice Springs Airport is also a proud supporter of community, tourism and sporting events in the local region. Our significant sponsorship program has contributed to and supported many events in recent years, including the Alice Springs Masters Games, Tourism Central Australia Awards, Alice Springs International Beanie Festival, FABalice Festival, and the Henley-on-Todd Regatta.

In April 2019, we welcomed the engagement with Clontarf students from nearby Yirara College to assist in the flora and fauna monitoring at the airport. The results from this detailed survey informed the Airport Environment Strategy (see Appendix 1).

Economic contribution of Alice Springs Airport

We use input-output analysis to estimate the airport's economic impact using data from a survey of airport businesses and airport financial information.

Input-output analysis is a way to estimate the total economic impacts that arise after some initial stimulus to an economy. Total impacts include the initial (or direct) effect of the stimulus and the multiplier (or indirect) effects that arise as a result of the linkages between industries in an economy.

It is estimated that business activities at Alice Springs Airport directly employ some 360 people from 60 businesses. A further 270 people are indirectly employed, bringing the airport's overall employment contribution to some 630 people.

Alice Springs Airport's economic benefit to the Northern Territory economy is significant, with direct and indirect contributions to gross regional product (GRP) in 2018 estimated at $123 million. (see Table 2).

As well as those economic activities at the airport, Alice Springs Airport makes a significant contribution to the wider Northern Territory economy by facilitating the air travel of domestic and international visitors into Alice Springs and the surrounding region. An airport is especially important in a town like Alice Springs due to its remoteness and distance from other population centres in Australia.

The airport's contribution to the Territory's economy as an enabler of tourism spending is considerable. Alice Springs Airport facilitated an estimated $209 million in tourism activity in 2018 and more than 1520 tourism jobs (these numbers are net of the tourism impact due to visitor spending at the airport because these are already included in figures shown in Table 3).

	Aviation Business Impacts		Non-Aviation Business Impacts		Total Business Impacts	
	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)
Direct Contribution	255	54.2	103	16.8	358	71.0
Indirect Contribution	214	40.9	64	11.2	278	52.1
Total	**469**	**95.1**	**167**	**28.0**	**636**	**123.1**

Table 2: Annual economic benefit of Alice Springs Airport in 2018 (Source: ACIL Allen)

	Domestic Visitors		International Visitors		Total Visitors	
	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)
Direct Contribution	697	78.3	319	35.8	1016	114.2
Indirect Contribution	349	65.3	160	29.9	509	95.1
Total	**1046**	**143.6**	**479**	**65.7**	**1525**	**209.3**

Table 3: Annual airport-enabled tourism impacts on the NT economy in 2018 (Source: ACIL Allen)

Economic contribution of Alice Springs Airport in 2028

A requirement of the master plan is to forecast the economic contribution of the airport in the first eight years of the master plan. It is estimated that business activities at Alice Springs Airport will continue to grow over the coming years and by 2028 could support (directly and indirectly) some 650 jobs and contribute $130 million to the Northern Territory economy (in current dollar values). (See Table 4).

By 2028, Alice Springs Airport's direct and indirect contribution to tourism is also forecast to increase to more than $210 million annually in tourism spending and could support some 1500 jobs (see Table 5).

	Aviation Business Impacts		Non-Aviation Business Impacts		Total Business Impacts	
	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)
Direct Contribution	257	55.5	108	19.6	365	75.1
Indirect Contribution	216	42.3	72	13.0	288	55.3
Total	**473**	**97.8**	**180**	**32.6**	**653**	**130.4**

Table 4: Estimated annual economic benefit of Alice Springs Airport in 2028 (Source: ACIL Allen)

	Domestic Visitors		International Visitors		Total Visitors	
	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)
Direct Contribution	692	79.8	317	36.5	1009	116.3
Indirect Contribution	347	66.5	158	30.4	505	96.9
Total	**1039**	**146.3**	**475**	**66.9**	**1514**	**213.2**

Table 5: Estimated annual airport-enabled tourism impacts on the NT economy in 2028 (Source: ACIL Allen)

Economic contribution of Alice Springs Airport in 2040

Based on future passenger numbers and other non-aviation developments, the projected contribution of direct and indirect airport-related activities on the Central Australian economy in 2040 is significant. It is estimated that activities arising from Alice Springs Airport (both aviation related and non-aviation related) could contribute to the overall employment of some 740 workers by 2040.

The total economic contribution of Alice Springs Airport to Northern Territory GRP is forecast to grow by $30 million over the next 20 years to reach an estimated $149 million in 2040 (in current dollar values).(See table 6).

Over the next 20 years, it is anticipated that the airport's contribution to the Territory's economy as an enabler of tourism spending will continue to grow. Alice Springs Airport could facilitate an estimated $243 million annually in tourism activity by 2040 (in current dollar terms) and more than 1700 tourism jobs (see table 7).

	Aviation Business Impacts		Non-Aviation Business Impacts		Total Business Impacts	
	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)
Direct Contribution	283	61.9	129	24.5	412	86.4
Indirect Contribution	239	46.7	91	16.2	330	63.0
Total	**522**	**108.6**	**220**	**40.7**	**742**	**149.4**

Table 6: Estimated annual economic benefit of Alice Springs Airport in 2040 (Source: ACIL Allen)

	Domestic Visitors		International Visitors		Total Visitors	
	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)	Employment (FTE)	Value Added GRP ($M)
Direct Contribution	791	91.2	362	41.7	1153	132.9
Indirect Contribution	397	76.0	181	34.8	578	110.8
Total	**1188**	**167.2**	**543**	**76.5**	**1731**	**243.7**

Table 7: Estimated annual airport-enabled tourism impacts on the NT Economy in 2040 (Source: ACIL Allen)

Other related activities

There are some activities at Alice Springs Airport whose value to Alice Springs and the wider community have not been quantified in the above analysis.

Joint Defence Facility Pine Gap

The airport enables weekly supply flights that service the Joint Defence Facility at Pine Gap. It serves as a freight transfer base for United States Air Force cargo aircraft taking equipment in and out of the nearby facility.

Hot weather testing facility

Alice Springs Airport serves as a testbed for aircraft manufacturer Boeing, facilitating hot weather trials for new-in-service aircraft given the summer temperatures are frequently in excess of 40 degrees Celsius.

Australian Balloon Launching Station

Since 1974, more than 130 high-altitude scientific research balloons have been launched from the Australian Balloon Launching Station at Alice Springs Airport's Seven-Mile Aerodrome precinct.

Alice Springs Airport is an ideal location for the facility because the region is surrounded by vast expanses of open and largely unpopulated territory, the weather is predictable and the centre of the Milky Way galaxy is virtually overhead.

The launching station is managed by the CSIRO on behalf of NASA. CSIRO partnered with the University of New South Wales to oversee the technical, safety and regulatory requirements for each flight. Recent scientific ballooning campaigns have included collaborations with both the French and Japanese space agencies, with balloons typically being launched to an altitude of 30-40 kilometres, placing them above 99% of the Earth's atmosphere.

Pilot training academy opportunities

Alice Springs Airport continues to pursue opportunities for a pilot training academy. The airport is an ideal location for a training academy, with features including:

- uncongested airspace, providing both controlled and uncontrolled airspace with existing air traffic control tower capability
- optimal weather conditions that easily achieve some 300 training days per year, with an average of 9 to10 hours of sunshine each day, generally clear conditions, and low average rainfall
- curfew-free operations, with no restricted flight paths for noise abatement procedures
- opportunity to use Tennant Creek and Darwin International airports (also managed by NT Airports) as part of a training program. This allows three types of airports to be directly connected to a pilot academy: major international, regional and rural
- a significant volume of land readily available to develop hangars and training facilities
- a central location with daily flights connecting most of Australia's capital cities
- proximity to Alice Springs, a unique and friendly town that is the Northern Territory's second largest population centre.

Balloon inflation, 2019. *Credit:* Ravi Sood UNSW

SECTION 5:

Aviation activity forecasts

SECTION 5: **Aviation activity forecasts**

The Alice Springs Airport 2020 Master Plan has been prepared with care based on information available at the time of writing. The content for this master plan was developed prior to the COVID-19 pandemic, and does not take account of the effect this may have on the business of Alice Springs Airport. This means that some of the content and/or timing of the plan may change as a result.

COVID-19 has presented a hugely challenging environment for the aviation industry in 2020. The closure of state and territory borders in early 2020 in response to the pandemic significantly impacted airline flight schedules and passenger numbers at Alice Springs Airport. However, with the subsequent easing of many border restrictions in mid-late 2020, passenger numbers at Alice Springs Airport are now improving. The wellbeing and safety of staff, visitors and travellers remain the airport's top priority during the COVID-19 pandemic.

It is expected that the COVID-19 pandemic will have some, limited impact to the forecasts contained within the Alice Springs Airport 2020 Master Plan, which are conservative. The 2020 Master Plan is a 20 year planning document and its growth projection forecasts are modest in nature. As such, it is expected the conservative forecasts will be realised, despite the impacts of COVID-19.

Introduction

Alice Springs has direct domestic air services from Darwin, Adelaide, Ayers Rock (Uluru), Melbourne, Sydney, Brisbane, Perth and Tennant Creek. Over the years, the airport has received a number of international charter flights from Japan, the most recent being in 2018.

Figure 9: Alice Springs air routes

Industry outlook and recent performance

Industry outlook

The Australian airline industry continues to evolve, with the Qantas Group (Qantas, Jetstar and QantasLink) and Virgin Australia Group (Virgin Australia, Tigerair and Virgin Australia Regional Airlines) dominating the sector.

Qantas continues to provide most domestic capacity to Alice Springs. Virgin Australia entered the market in March 2015.

The Alice Springs passenger market is dominated by leisure traffic, which means it is affected more by economic cycles than markets with a significant business traffic component.

Alice Springs has struggled to sustain long-term growth in passenger numbers in the past decade due to economic conditions and arrival and departure of low cost carriers.

Alice Springs's general aviation sector continues to experience entry and exit of industry participants.

Recent performance

Alice Springs Airport's passenger performance has adjusted as it has become a destination rather than a hub. Since the last master plan, the number of domestic airline passengers at Alice Springs Airport (arriving/departing and transfer passengers) increased marginally, from 599,000 in the 2014-15 financial year to 622,000 in the 2018-19 financial year.

Passenger numbers at Alice Springs Airport are heavily affected by airline route decisions. The passenger numbers have varied considerably over time, and in 2017, Alice Springs had around 70 per cent of the passenger traffic it had in 1995 (see Table 8). This is unusual among Australian airports. Between 2010 and 2015, Tigerair entered and exited the Alice Springs market twice. Its departure in 2015 had a substantial impact on passenger numbers, essentially removing a decade of growth.

The current reduction in Qantas flights from Perth and the cessation of direct Cairns–Alice Springs services is expected to have a significant impact in 2020.

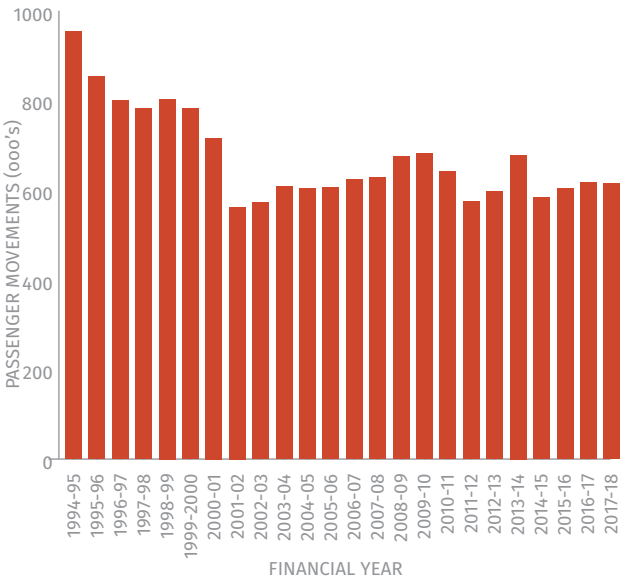


Table 8: Alice Springs Airport historic passenger movements

Since re-entering the market in 2015, Virgin Australia has increased the frequency of its services between Adelaide, Alice Springs and Darwin. In 2018, it extended its regional network to include twice-weekly services between Alice Springs and Brisbane (operated by its partner Alliance Airlines).

In early 2019, Qantas introduced bigger aircraft on flights between Darwin and Alice Springs, upgrading from a B717 to a B737 aircraft and providing up to an additional 1,300 seats per week on the route. However, Qantas subsequently downgraded this service to smaller aircraft six months later to suit the airline's existing and forecasted demand on the route.

Regional carrier Airnorth operates the 'Centre Run' service between Darwin and Alice Springs via the regional centres of Katherine and Tennant Creek.

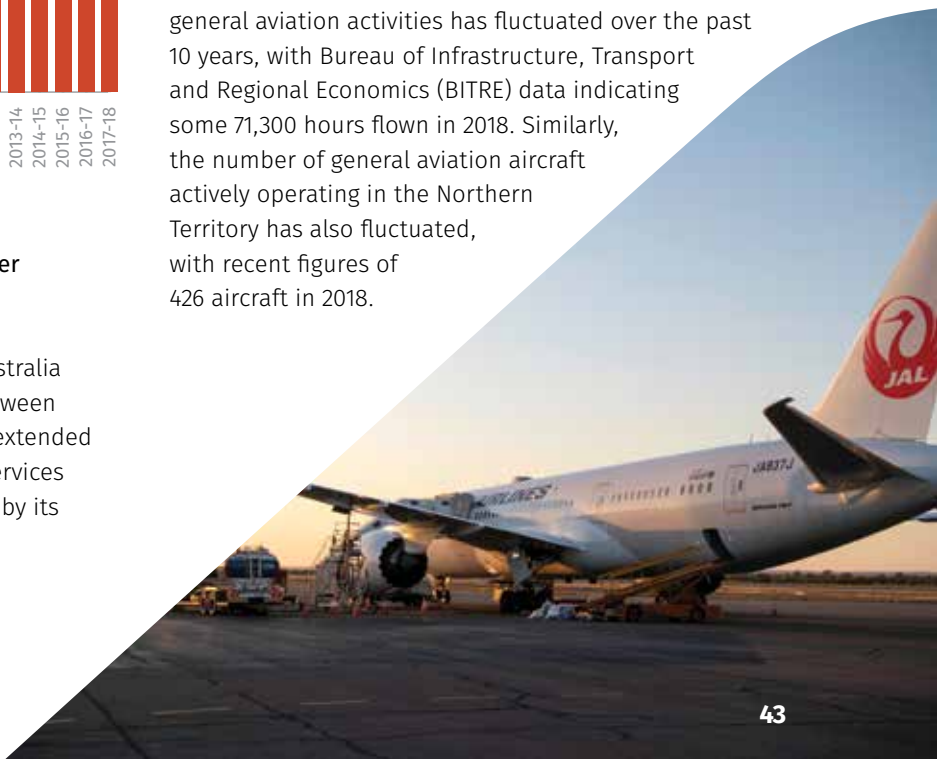
Regular public transport (RPT) aircraft movements account for approximately one-third of the total movements at Alice Springs Airport. General aviation aircraft make up the remaining two-thirds of aircraft movements. Since the last master plan, annual RPT aircraft movements have increased marginally, from approximately 6,500 movements in the 2014-15 financial year to 7,100 movements in the 2018-19 financial year.

Freight

Domestic air freight has continued to be carried in the cargo hold of scheduled passenger flight aircraft. Although international freight data is readily and publicly available, there is no central source of domestic freight data.

General aviation

In recent times, general aviation activities have been variable, with growth differing among the categories of general aviation flying (such as flight training, sport and pleasure flying, and aerial work like mustering). In the wider Northern Territory, total annual flying hours for general aviation activities has fluctuated over the past 10 years, with Bureau of Infrastructure, Transport and Regional Economics (BITRE) data indicating some 71,300 hours flown in 2018. Similarly, the number of general aviation aircraft actively operating in the Northern Territory has also fluctuated, with recent figures of 426 aircraft in 2018.



General aviation activities are essential to the Alice Springs region. Operations from Alice Springs Airport include medical, policing, remote services, industry, tourism, and charter (passenger and freight) flights. The main general aviation operators at Alice Springs Airport are Chartair, the Royal Flying Doctor Service, Alice Springs Aero Club and Northern Territory Police Air Section.

Overall, general aviation aircraft account for approximately two-thirds of total annual aircraft movements at Alice Springs Airport. General aviation activities have increased over the past five years to 17,000 movements in 2018.

Most general aviation activities at Alice Springs Airport are fixed-wing aircraft, accounting for around 90 per cent of all general aviation movements. Helicopters (rotary wing aircraft) make up the remainder.

International charter operations

In late 2018, Alice Springs Airport welcomed its first series of international charter flights from Japan in over a decade.

The four charter flights used a 161-seat Japan Airlines 787-800 Dreamliner aircraft. Most visitors on the charter flights spent time touring the sights of Alice Springs before heading to Uluru on especially arranged Alliance Airlines charter flights.

Japan is the fourth-largest visitor market in the Northern Territory and the fifth-largest market to Australia.

First port of entry compliance

The *Biosecurity Act 2015* introduced new requirements for first port of entry landing places for overseas aircraft previously proclaimed under the *Quarantine Act 1908*. Alice Springs Airport is pursuing to maintain its current determination as a first port of entry for international aircraft.

United States military operations

There is an average of 300 military movements per year at Alice Springs Airport. It serves as a freight transfer base for United States Air Force military cargo planes, taking equipment in and out of the nearby Joint Defence Facility with C-17 aircraft. In the past, the airport has catered for C-5 Galaxy aircraft.

Aviation forecasts

Forecast approach

The forecasts outlined below are produced by Tourism Futures International (TFI) in consultation with Alice Springs Airport. TFI has prepared scenarios around the forecast level to assist in master planning.

The forecasts have been based on the following assumptions:

- growth in the Northern Territory economy will contribute to outbound growth from Alice Springs
- Alice Springs will grow as a destination for tourists (allied with growth into Central Australia generally)
- most capacity will continue to be operated by the Qantas Group.

Forecast methodology

Developing passenger and aircraft movement forecasts for Alice Springs Airport involves a number of steps:

- review traffic history to establish the main drivers
- assess relationships between the main drivers and aviation traffic
- develop assumptions for the future of the main drivers
- develop forecasts.

For Alice Springs Airport, the main drivers include Australian and Northern Territory economic and population growth, movements in domestic travel costs and airline capacity developments.

Once the passenger forecasts have been developed, assumptions for average passenger seat factors and aircraft types are used to generate aircraft movement forecasts.

Baggage Claim at Alice Springs Airport

Passenger movements

It is projected that annual passenger movements (including transit) will likely drop in 2020 before growing moderately over the next 20 years to some 718,000 passengers by 2040 (see Table 9). This drop in the early years of the passenger forecasts is driven by the recent loss of capacity resulting from the reduction in Qantas flights from Perth and the cessation of direct Cairns–Alice Springs services, and subsequent incremental growth in passenger numbers.

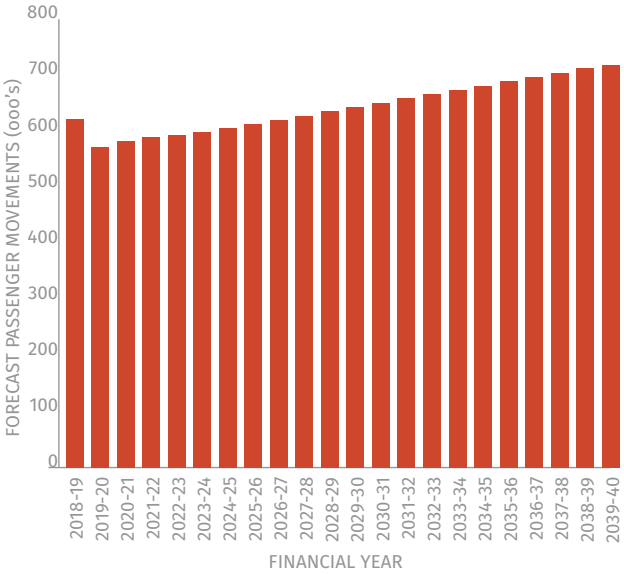


Table 9: Alice Springs Airport forecast passenger movements

Freight

Domestic freight will continue to be carried predominantly in the cargo hold of passenger services. As domestic airline movements increase, this will generate additional capacity for domestic freight uplift.

International charter operations

It is anticipated that a small number of international charter programs to Alice Springs will continue during the planning period of the master plan.

Aircraft movements

It is projected that the total annual aircraft movements at Alice Springs Airport will increase marginally to around 25,000 movements by 2040.

In the short term, RPT aircraft movements are expected to decline in 2020 as a result of the recent reduction by Qantas in flights servicing Alice Springs and grow incrementally to 6,800 by 2020. RPT aircraft movements are forecast to grow in line with passenger volumes, and it is anticipated that RPT aircraft movements servicing Alice Springs will continue to be narrow-body aircraft types.

It is expected that airlines will fully utilise existing Alice Springs's capacity and will also tend to use larger aircraft rather than schedule additional services.

General aviation aircraft movements are forecast to grow marginally over the next 20 years to 19,000 by 2040. General aviation forecasts are generated using an assumption that the underlying growth represents one-quarter of the growth rate in Northern Territory GRP per capita (see Table 10).

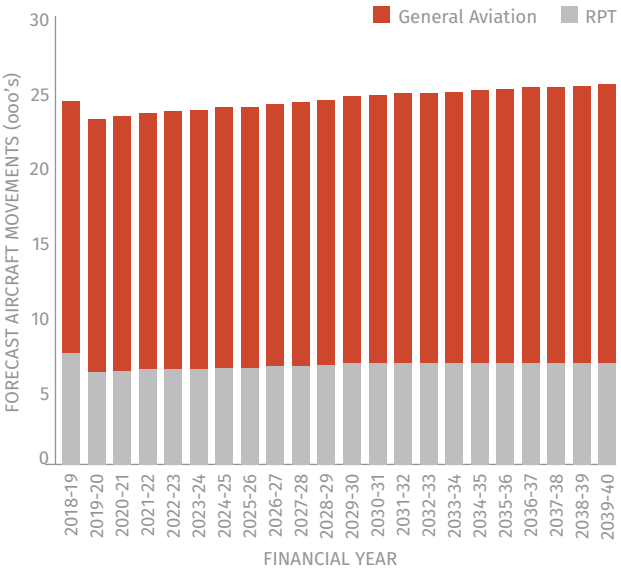


Table 10: Alice Springs Airport forecast aircraft movements

SECTION 6:

Airport Land Use Plan

SECTION 6: **Airport Land Use Plan**

Introduction

Alice Springs Airport incorporates around 3550 hectares, making it Australia's largest airport in terms of area. Fewer than 800 hectares is used for airport operations. The reason for this very large area is the acquisition of land in the 1960s for dust suppression purposes.

A requirement of the master plan is to specify Alice Springs Airport's intentions for its land use and related development of the airport site. The Airport Land Use Plan and land use zones have been developed observing this.

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

Development potential of airport land

The Alice Springs area and Alice Springs Airport have many development strengths. These include:

- a vibrant lifestyle and attractive tourist destination
- the major population and services centre in Central Australia
- high quality infrastructure
- large airport land area available for development.

Given these opportunities, Alice Springs Airport has identified these development opportunities:

- high technology industry, especially industries relevant to Alice Springs as a solar city
- industries that rely on logistical support (e.g. mining)
- air, road and other transport-based industries
- residential development.

Alice Springs Airport's largely undeveloped and mainly flat site is close to the Alice Springs township. It has no development constraints from potential native title or topography issues in an area where these issues loom large. The airport land is valuable for Alice Springs's development, providing a long-term reserve of residential land.

Figure 10: Alice Springs Airport looking along the main runway towards the north-west

Consistency with the Northern Territory Planning Scheme

Part 5.02(2) of the Airports Regulations 1997 states: *'an airport master plan must, in relation to the landside part of the airport, where possible, describe proposals for land use and related planning, zoning or development in an amount of detail equivalent to that required by, and using terminology (including definitions) consistent with that applying in, land use planning, zoning and development legislation in force in the state or territory in which the airport is located.'*

The Northern Territory planning framework is set out in planning laws including the *Planning Act 1999* and the Planning Regulations 2000. These laws provide for appropriate and orderly planning and control of the use and development of land. The planning laws are the responsibility of the Minister for Infrastructure, Planning and Logistics.

On 31 July 2020, planning laws changed in the Northern Territory. Amendments were made to the *Planning Act 1999*, Planning Regulations 2000 and the Northern Territory Planning Scheme. The purpose of these amendments are to deliver a modern planning system that aligns with best practice in Australia. Its purpose is to increase transparency and accountability within the planning system and to deliver better development outcomes, with an eye to the needs of future generations.

Unlike other jurisdictions, planning in the Northern Territory is the responsibility of the Northern Territory Government, not local government. The Northern Territory (NT) Planning Scheme is the 'rule book' for land use and development in the Northern Territory. The NT Planning Scheme:

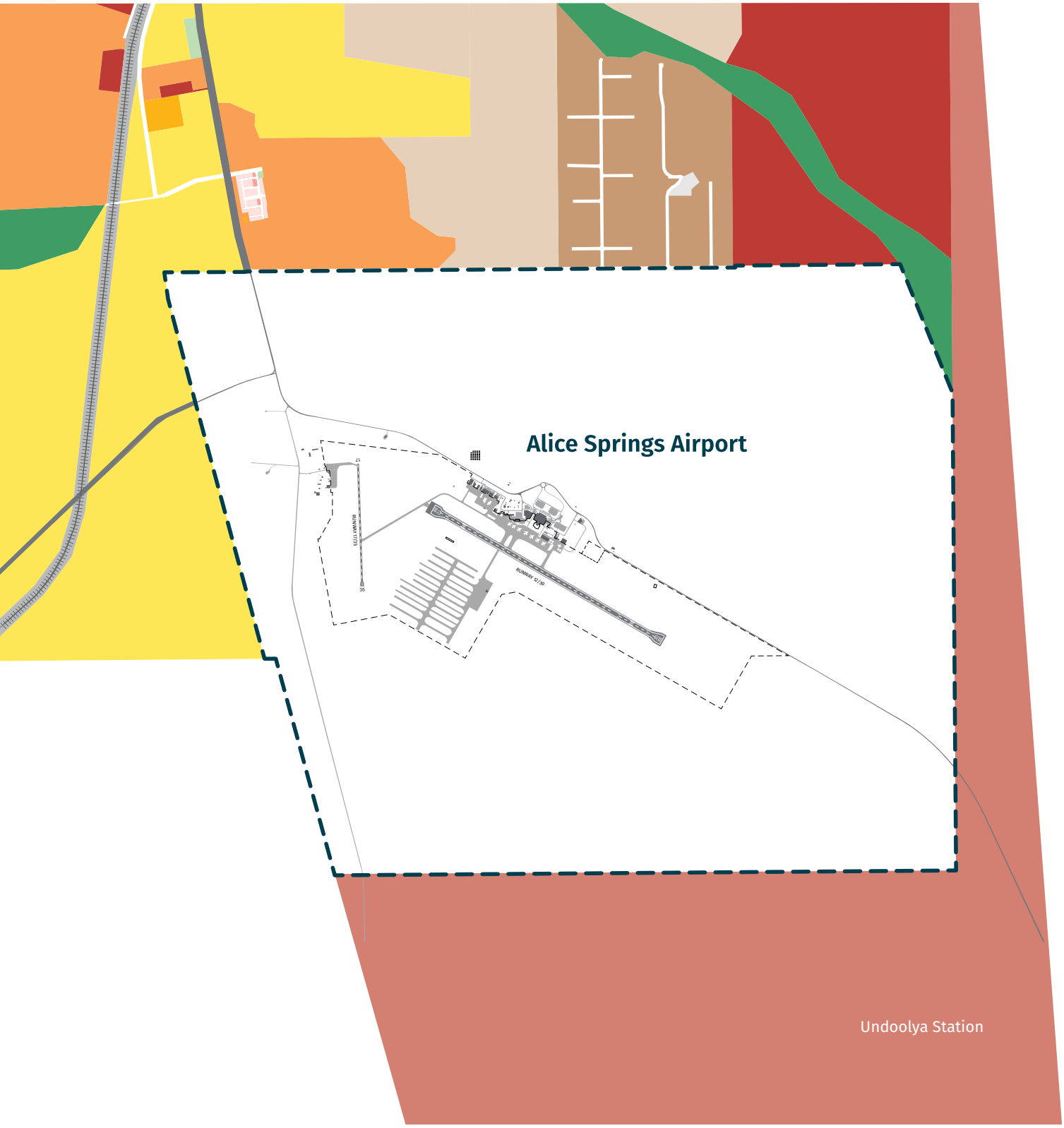
- describes how land use may change to meet future needs
- identifies factors and risks that could affect land use, e.g. flooding
- sets controls that allow, prohibit or put conditions on land use
- provides guidance to help consent authorities make decisions
- states the level of flexibility allowed for decisions about development applications.maps, plans, designs and diagrams.

Northern Territory planning laws do not apply to Alice Springs Airport because it is located on Commonwealth land. Where possible, the land use zones for Alice Springs Airport have been developed in an amount of detail and using terminology and definitions consistent with that of the NT Planning Scheme. Definitions of intended land uses are in Appendix 2.

Surrounding land uses

As can be seen in Figure 10, Alice Springs Airport is located in an area that is sparsely populated. Along the northern and western perimeter of the airport, the main land uses are Community Purpose, Rural, Rural Living, Community Living, Conservation and Future Development. The area bordering the southern and eastern perimeter of the airport estate is unzoned under the NT Planning Scheme.

Figure 11: Alice Springs Airport surrounding land use plan



Northern Territory Planning Scheme zones

- Rural
- Rural Living
- Residential - Low Density
- Residential - Low-Medium Density
- Residential - Community Living
- Service Commercial
- Public Open Space
- Organised Recreation
- Utilities
- Community Purpose
- Specific Use
- Conservation
- Future Development
- Unzoned

Land use zones

Land use zones for the airport land apply to areas on the land use plan shown in Figure 12. These are based on known airport land use needs and current market trends. The zoning regime aims to assist and encourage progressive and orderly development of the airport land. The zones have been categorised into:

- aviation and aviation-related uses
- interim uses
- non-aviation uses.

Where possible, the zones and associated uses (permitted, merit assessable and impact assessable) of the NT Planning Scheme 2020 have been adopted as zones and intended uses of airport land.

The Land Use Plan for Alice Springs Airport remains largely unchanged from the previous master plan. The Commercial Zone has been extended eastwards along Santa Teresa Road to the airport boundary.

Potential land uses can proceed through the normal environmental and building control (and major development plan if necessary) processes, except where a specific potential use is denoted as a sensitive development, in which case the process at Section 89A of the *Airports Act* applies.

Where there are inconsistencies between existing land uses and land uses proposed in the zone, the existing uses may continue. Expansion and/or replacement of the existing uses may be consented to by Alice Springs Airport and be regarded as an additional permissible form of the existing use.

Land use planning in the Alice Springs Airport 2020 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 Northern Territory Planning Scheme where possible, with any variations being highlighted
- reflects the large land holding and the significant long-term development potential of the airport
- the Future Development Zone has ‘residential’ as the major land use (Alice Springs Airport is actively pursuing the excision of this zone from the airport lease).

Development in any land use zone will have regard to AS2021:2015 (Acoustics – Aircraft noise intrusions – building siting and construction) and the endorsed 2060 ANEF (see Figure 23). Any development application to the Airport Building Controller must comply with the relevant noise standards.

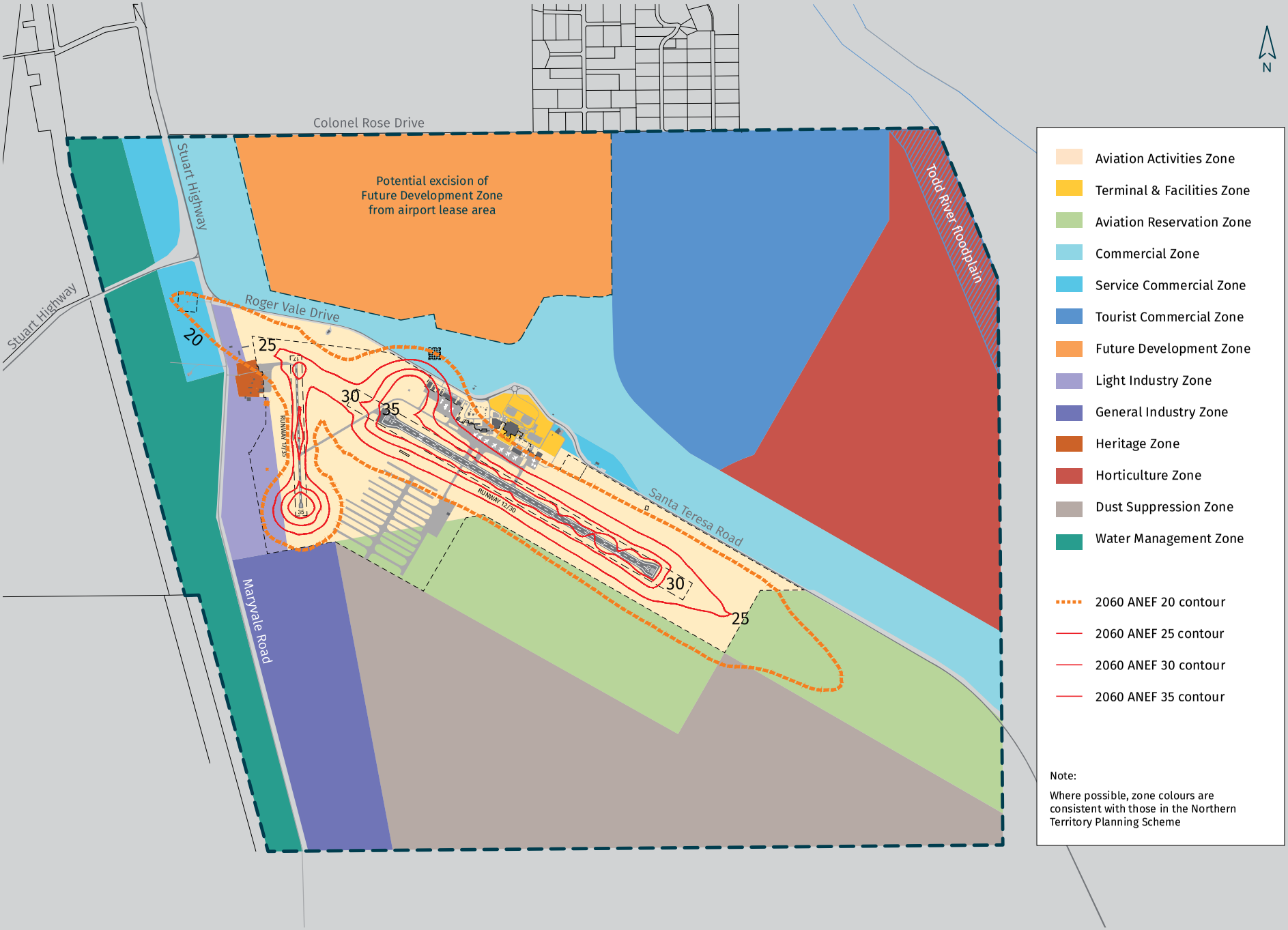
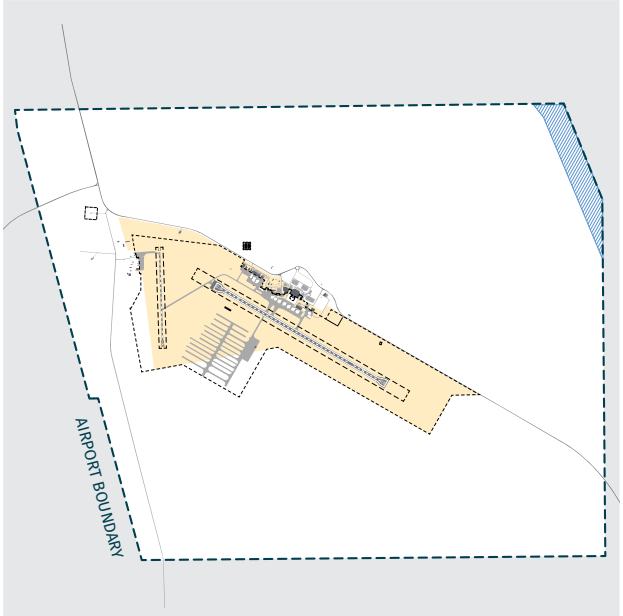


Figure 12: Alice Springs Airport Land Use Plan

Aviation and aviation-related uses

Aviation Activities Zone



Primary purpose

Provide for the future and current aviation operations and requirements of the airport and the airline passenger terminal.

Intended principal land uses

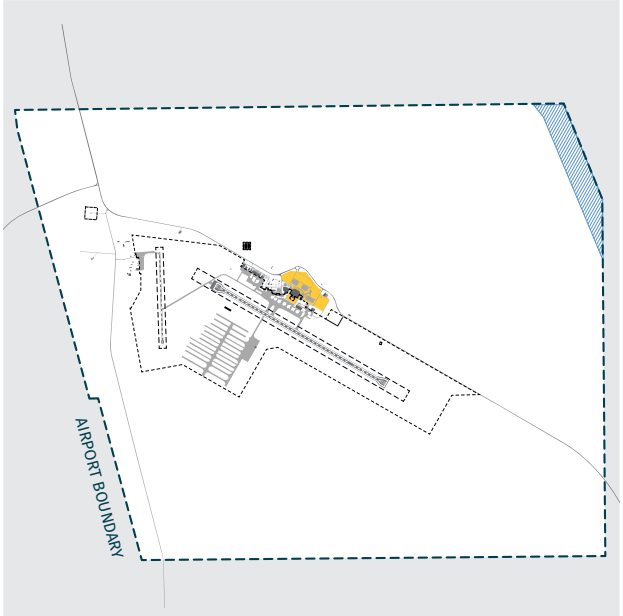
- aviation activities, including general aviation.

Development should	Potential land uses
Provide areas that are essential for aircraft operations and requirements.	- animal boarding - aviation activity - aviation support facility - business sign - car park - fuel depot - general aviation and support facilities - helipad - heliport - industry - general - industry - light - medical clinic - navigational aids - office - passenger terminal - place of worship - promotion sign - shop - transport terminal - utilities and infrastructure
Promote the safe and orderly operation of aircraft operations and the airport facilities in general.	
Facilitate compatible and ancillary uses within the zone that do not conflict with aviation activities or facilities.	

Table 11: Aviation activities zone

Aviation and aviation-related uses

Terminal and Facilities Zone



Primary purpose

Provide for a variety of goods, services and facilities to meet the needs of travelling passengers, airport visitors, the airport workforce and airlines. This zone includes the main terminal building, public car parking, airport and government offices, and associated land.

Intended principal land uses

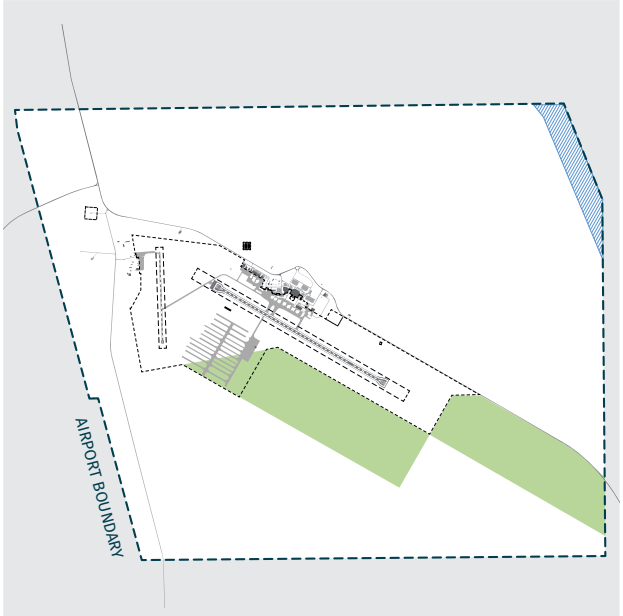
- airline passenger terminal
- car parking
- offices.

Development should	Potential land uses
Provide for an airport terminal and passenger facilities that meet the needs of travellers, airport visitors, the airport workforce and airlines. Not prejudice the safety or efficiency of the airport. Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping. Promote community safety in building design, having regard to adjacent and nearby uses. Ensure that adequate car parking is provided.	- animal boarding - aviation activity - aviation support facility - bar - public - bar - small - business sign - car park - child care centre - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - fuel depot - general aviation and support facilities - helipad - heliport - hotel / motel - leisure and recreation - medical clinic - navigational aids - office - passenger terminal - place of worship - promotion sign - service station - shop - shopping centre - transport terminal - utilities and infrastructure - vehicle sales and hire

Table 12: Terminal and Facilities Zone

Interim uses

Aviation Reservation Zone



Primary purpose

Provide for the potential future expansion of aviation and aviation-related uses.

Intended principal land uses

- Interim uses that do not conflict with future aviation and aviation-related uses.

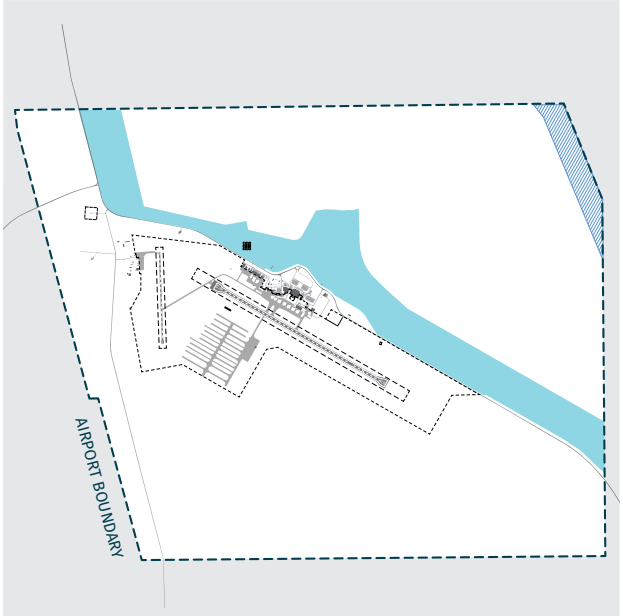
Development should	Potential land uses
Facilitate compatible and ancillary uses within the zone that do not conflict with aviation and aviation-related uses or render the land unfit for aviation and aviation-related uses when it is required for this use. Not prejudice the safety or efficiency of the airport. Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping. Promote community safety in building design, having regard to adjacent and nearby uses. Ensure that adequate car parking is provided. Have regard for ecological and hydrology value during the design stage.	- animal boarding - aviation activity - aviation support facility - bar - public - bar - small - business sign - car park - car wash - club - community centre - education establishment* - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - fuel depot - general aviation and support facilities - helipad - heliport - hotel / motel - industry - light - leisure and recreation - medical clinic - motor body works - motor repair station - navigational aids - office - passenger terminal - place of worship - plant nursery - promotion sign - rooming accommodation - service station - shop - short-stay accommodation - showroom sales - transport terminal - utilities and infrastructure - vehicle sales and hire - veterinary clinic - warehouse

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 13: Airport Reservation Zone

Non-aviation related uses

Commercial Zone



Primary Purpose

Provide for a range of business, office and retail activities as well as community uses.

Intended principal land uses

- office
- retail (shops).

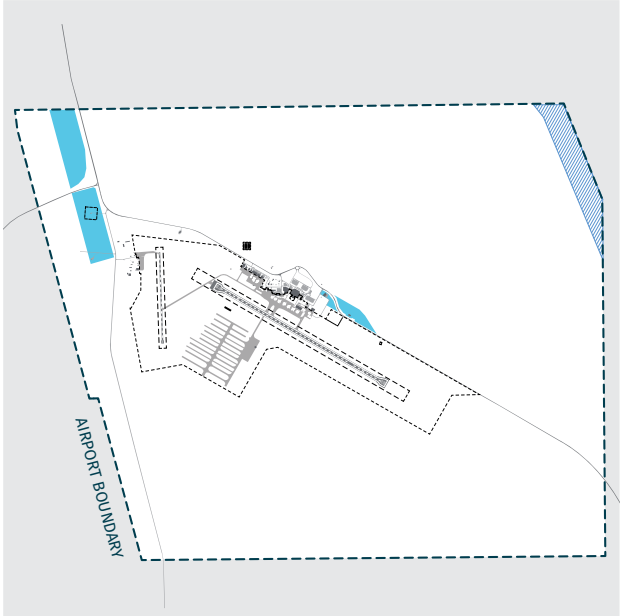
Development should	Potential land uses
Encourage a range of activities that would benefit from a location in close proximity to the airport and its terminal area.	- bar - public - bar - small - business sign - car park - car wash - child care centre - club - community centre - dwelling - caretakers* - education establishment* - exhibition centre - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - hotel / motel - leisure and recreation - market - medical clinic - motor repair station - navigational aids - office - place of assembly - place of worship - plant nursery - promotion sign - residential care facility* - rooming accommodation - service station - shop - shopping centre - showroom sales - utilities and infrastructure - vehicle sales and hire - veterinary clinic
Not prejudice the safety or efficiency of the airport.	
Respect the amenity of the adjacent and nearby uses.	
Promote community safety in building design, having regard to adjacent and nearby uses.	
Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping.	
Ensure that adequate car parking is provided.	
Have regard for ecological and hydrology value during the design stage.	

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 14: Commercial Zone

Non-aviation related uses

Service Commercial Zone



Primary purpose

Facilitate destination retailing, commercial and other activities that individually require a large floor area for the handling, display and storage of bulky goods, or activities.

Intended principal land uses

- office
- retail (shops)
- showroom sales
- warehouse.

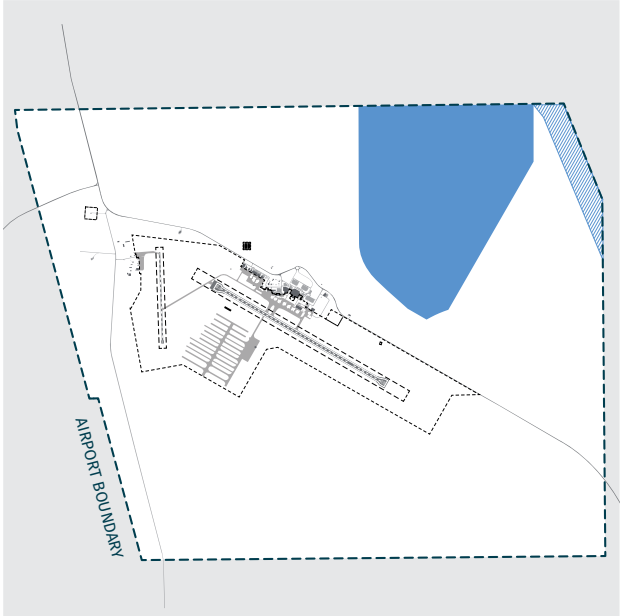
Development should	Potential land uses
Allow for a range of land uses including showroom sales and warehouse but will not, by the nature of its operations, detrimentally affect the amenity of the adjoining or nearby land developments.	- agriculture - bar - public - bar - small - business sign - car park - car wash - child care centre - club - community centre - education establishment* - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - hotel /motel - industry - light - leisure and recreation - medical clinic - motor body works - motor repair station - navigational aids - office - passenger terminal - place of worship - plant nursery - promotion sign - rooming accommodation - service station - shop - shopping centre - short-stay accommodation - showroom sales - transport terminal - utilities and infrastructure - vehicle sales and hire - veterinary clinic - warehouse
Not prejudice the safety or efficiency of the airport.	
Promote community safety in building design, having regard to adjacent and nearby uses.	
Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping.	
Ensure that adequate car parking is provided.	

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 15: Service Commercial Zone

Non-aviation related uses

Tourist Commercial Zone



Primary purpose

Facilitate commercial development that caters for the needs of visitors and supports tourism activities.

Intended principal land uses

- hostel
- hotel
- motel
- short-stay accommodation.

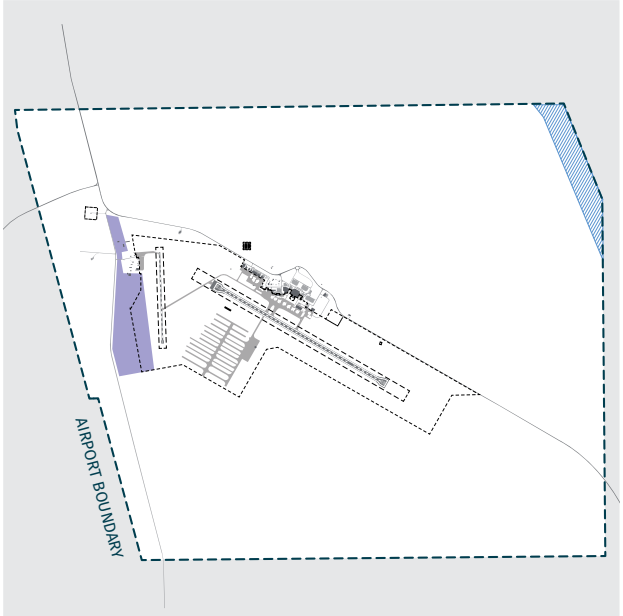
Development should	Potential land uses
Be of a scale and character compatible with uses of development nearby. Not prejudice the safety or efficiency of the airport. Encourage a range of viable tourist/visitor activities that would benefit from a location in close proximity to the airport and its terminal area. Promote community safety in building design, having regard to adjacent and nearby uses. Have regard to the portion of the Todd River Flood Plain located in this zone. Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping. Ensure that adequate car parking is provided.	- agriculture - bar - public - bar - small - business sign - car park - car wash - caravan park - club - community centre - dwelling - caretakers* - exhibition centre - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - hotel / motel - leisure and recreation - medical clinic - navigational aids - office - passenger terminal - place of assembly - place of worship - plant nursery - promotion sign - rooming accommodation - service station - shop - shopping centre - short-stay accommodation - utilities and infrastructure - vehicle sales and hire

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 16: Tourist Commercial Zone

Non-aviation related uses

Light Industry Zone



Primary purpose

Provide for low impact industrial and compatible non-industrial developments that will not by the nature of their operations, detrimentally affect adjoining or nearby land.

Intended principal land uses

- showroom and showroom sales
- warehouse
- light industry.

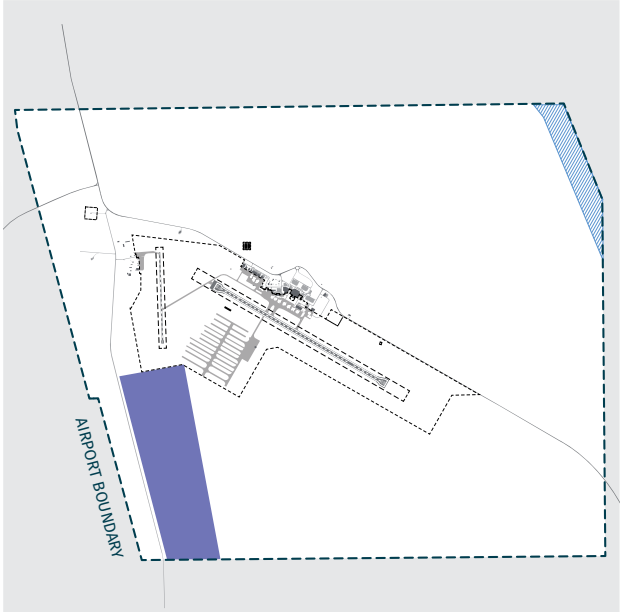
Development should	Potential land uses
Allow for a range of land uses including showroom sales and warehouse but will not by the nature of their operations detrimentally affect the amenity of the adjoining or nearby land developments. Not prejudice the safety or efficiency of the airport. Promote community safety in building design, having regard to adjacent and nearby uses. Be designed in such a way to protect the amenity of the adjacent heritage properties. Ensure that adequate car parking is provided.	- agriculture - animal boarding - aviation activity - aviation support facility - bar - public - business sign - car park - car wash - club - community centre - dwelling - caretakers* - education establishment* - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - general aviation and support facilities - helipad - heliport - hotel / motel - leisure and recreation - industry - light - industry - primary - medical clinic - motor body works - motor repair station - navigational aids - office - passenger terminal - place of worship - plant nursery - promotion sign - recycling depot - rooming accommodation - service station - shop - showroom sales - transport terminal - utilities and infrastructure - vehicle sales and hire - veterinary clinic - warehouse

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 18: Light Industry Zone

Non-aviation related uses

General Industry Zone



Primary purpose

Provide for general industry.

Intended principal land uses

- warehouse
- general industry.

Note: Any future development in the General Industry Zone is to be risk assessed and managed such that groundwater quality is protected.

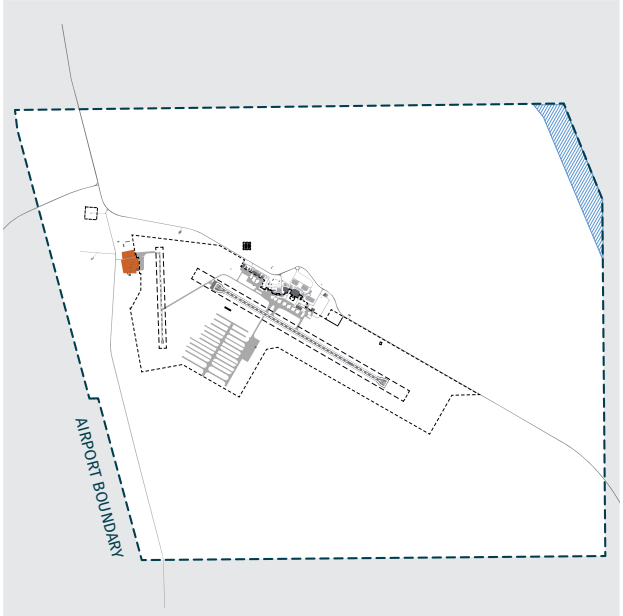
Development should	Potential land uses
Allow for a range of land uses, including showroom sales and warehouse.	- agriculture - animal boarding - aviation activity - aviation support facility - bar - public - business sign - car park - car wash - club - dwelling - caretakers* - education establishment* - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - general aviation and support facilities - helipad - heliport - hotel / motel - industry - general - industry - light - industry - primary - leisure and recreation - medical clinic - motor body works - motor repair station - navigational aids - office - passenger terminal - place of worship - plant nursery - promotion sign - recycling depot - rooming accommodation - service station - shop - showroom sales - transport terminal - utilities and infrastructure - vehicle sales and hire - veterinary clinic - warehouse
Not prejudice the safety or efficiency of the airport.	
Promote community safety in building design, having regard to adjacent and nearby uses.	
Ensure that adequate car parking is provided.	
Have regard to the groundwater system, and be managed such that groundwater quality is protected.	

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 19: General Industry Zone

Non-aviation related uses

Heritage Zone



Primary purpose

Conserve and enhance buildings, places and objects that contribute to the heritage and cultural significance of an area.

Intended principal land uses

- maintenance and enhancement of the Seven-Mile Aerodrome, a registered heritage site.

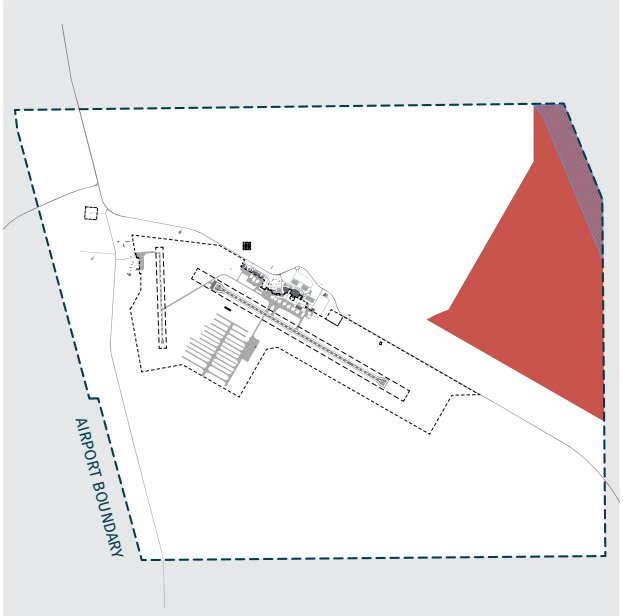
Development should	Potential land uses
Be compatible with the heritage value and character of the area, and in particular the military build-up of the north.	- aviation activity - aviation support facility - business sign - child care centre - club - community centre - dwelling - caretakers* - education establishment* - exhibition centre - food premises - café / take away - food premises - restaurant - fuel depot - general aviation and support facilities - helipad - heliport - leisure and recreation - market - medical clinic - navigational aids - office - passenger terminal - place of worship - promotion sign - rooming accommodation - shop - utilities and infrastructure
Be in accordance with the current Conservation and Management Plan for the 1939 Seven-Mile Site.	
Encourage a range of activities that would benefit from a location in close proximity to the airport and its terminal area.	
Not prejudice the safety or efficiency of the airport.	
Respect the amenity of the adjacent and nearby uses.	
Promote community safety in building design, having regard to adjacent and nearby uses.	
Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping.	
Ensure that adequate car parking is provided.	

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 20: Heritage Zone

Non-aviation related uses

Horticulture Zone



Primary purpose

Provide suitable land for horticulture.

Intended principal land uses

- agriculture
- intensive animal husbandry
- rural industry.

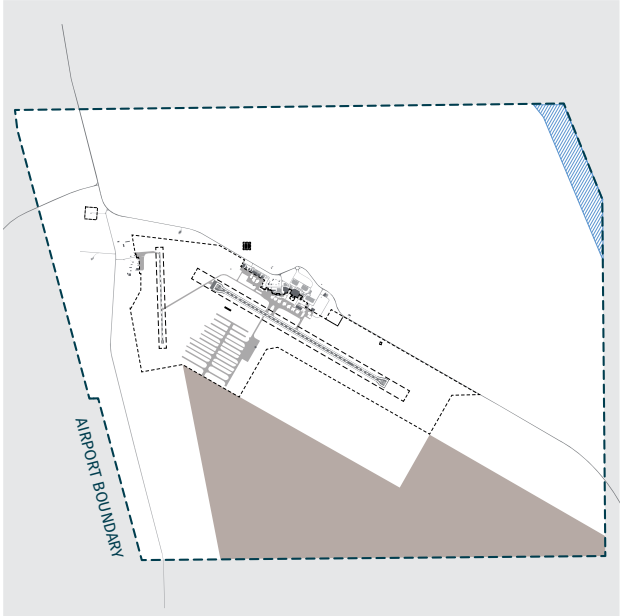
Note: Any future development in this zone should consider access to water availability: refer to the *Alice Springs Water Allocation Plan 2016-2026*.

Development should	Potential land uses
Encourage a range of horticultural activities that would benefit from a location in close proximity to the airport and its terminal area.	- agriculture - animal boarding - business sign - domestic livestock - horticulture - industry - primary - intensive animal husbandry - navigational aids - plant nursery - promotion sign - retail agricultural stall - rooming accommodation - stables - transport terminal - utilities and infrastructure
Not prejudice the safety or efficiency of the airport.	
Respect the amenity of the adjacent and nearby uses.	
Promote community safety in building design, having regard to adjacent and nearby uses.	
Have regard to the portion of the Todd River Flood Plain located in this zone.	
Provide for buffer zones to accommodate existing and future infrastructure.	
Ensure that adequate car parking is provided.	
Have regard for ecological and hydrology value during the design stage.	

Table 21: Horticulture Zone

Non-aviation related uses

Dust Suppression Zone



Primary purpose

Provide excess land as a buffer zone to eliminate dust hazard to aircraft operations.

Intended principal land uses

- Any land use consistent with the objectives of minimising dust hazard within the airport lease area and including aviation activity support facilities, suitable livestock grazing and light and general industry.

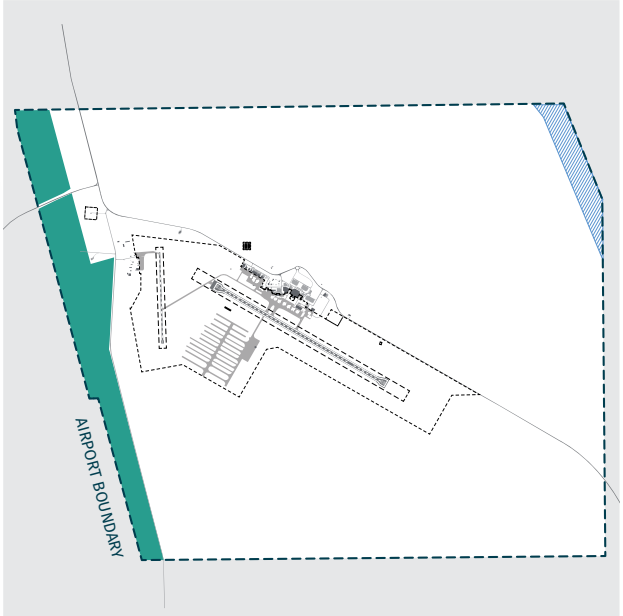
Development should	Potential land uses
Assist in the reduction of dust hazard to aircraft operations.	- agriculture - animal boarding - aviation activity - aviation support facility - bar - public - bar - small - business sign - car park - car wash - club - domestic livestock - education establishment* - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - general aviation and support facilities - helipad - heliport - horticulture - hotel / motel - industry - light - industry - primary - intensive animal husbandry - leisure and recreation - medical clinic - navigational aids - office - place of worship - plant nursery - promotion sign - rooming accommodation - service station - shop - shopping centre - showroom sales - transport terminal - utilities and infrastructure - vehicle sales and hire - veterinary clinic - warehouse
Encourage a range of activities that would benefit from a location in close proximity to the airport and its terminal area.	
Not prejudice the safety or efficiency of the airport.	
Respect the amenity of the adjacent and nearby uses.	
Promote community safety in building design, having regard to adjacent and nearby uses.	
Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping.	
Ensure that adequate car parking is provided.	

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 22: Dust Suppression Zone

Non-aviation related uses

Water Management Zone



Primary purpose

Restrict development within a water catchment area or other area providing surface or ground water for protection of public or private water supplies.

Intended principal land uses

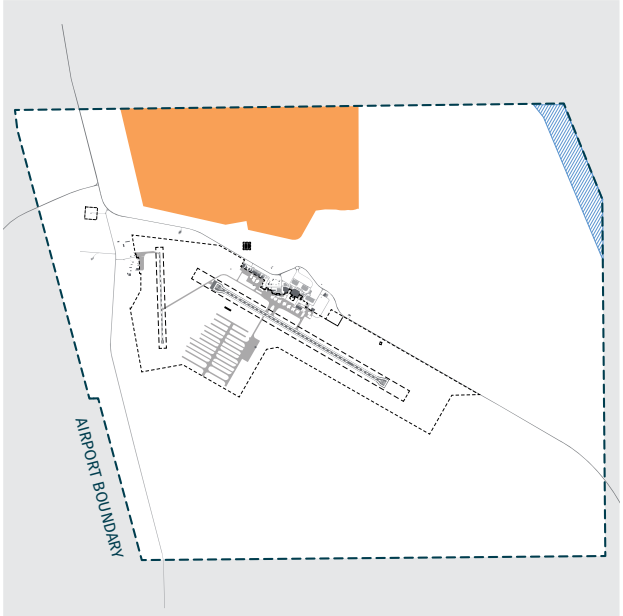
- Any land use consistent with the objectives of maintaining the quality and condition of the water catchment area and including suitable livestock grazing and horticulture.

Development should	Potential land uses
Restrict activities that would have an impact on the catchment area.	- agriculture - business sign - car park - domestic livestock - food premises - café / take away - food premises - restaurant - hotel / motel - navigational aids - place of worship - plant nursery - promotion sign - rooming accommodation - stables - utilities and infrastructure
Be generally in accordance with the principles and guidelines for water management of the authority responsible for managing the public water supply.	
Not prejudice the safety or efficiency of the airport.	
Respect the amenity of the adjacent and nearby uses.	
Have regard for ecological and hydrology value during the design stage.	

Table 23: Water Management Zone

Non-aviation related uses

Future Development Zone



Primary purpose

Provide for future residential and ancillary commercial and community uses.

This zone is an interim zone identifying an area that is intended for future rezoning and development in accordance with a Major Development Plan or similar, prepared having regard to future requirements for land uses within the airport and on adjacent land.

Intended principal land uses

- single dwelling on individual lots
- short-stay accommodation
- affordable housing, including multiple dwellings
- ancillary commercial uses, including local shopping
- ancillary community uses, including childcare and education.

Development should	Potential land uses
Be of a scale and character compatible with uses or development nearby.	- agriculture - bar - public - bar - small - business sign - child care centre - club - community centre - domestic livestock - dwelling - caretakers* - dwelling - community residence* - dwelling - independent* - dwelling - multiple* - dwelling - single* - education establishment* - food premises - café / take away - food premises - fast food outlet - food premises - restaurant - home-based business* - hotel / motel - leisure and recreation - medical clinic - navigational aids - office - place of worship - plant nursery - promotion sign - residential care facility* - retail agricultural stall - service station - shop - shopping centre - short-stay accommodation - utilities and infrastructure - veterinary clinic
Not prejudice the safety or efficiency of the airport.	
Demonstrate the relationship of the proposal to existing and proposed future land uses, identifying potential impacts on facilities and services and the amenity of the locality.	
Encourage a range of residential types and designs, including a focus on the provision of affordable houses.	
Provide for the disposal of effluent on-site so that the effluent does not pollute ground or surface waters, where the lots are unsewered.	
Encourage a range of commercial and community uses to support the residential uses within the airport and the proposed AZRI development on the adjacent land.	
Encourage a range of viable tourist/visitor activities that would benefit from a location in close proximity to the airport and its terminal area.	
Promote community safety in building design, having regard to adjacent and nearby uses.	
Provide for buffer zones to accommodate existing and future infrastructure, pedestrian and cycle links, signs, lighting and landscaping.	
Ensure that adequate car parking is provided.	
Have regard for ecological and hydrology value during the design stage.	

* Denotes a 'sensitive development' as defined by Section 71A of the *Airports Act 1996*.

Table 17: Future Development Zone

Future Development Zone

The Future Development Zone in the Alice Springs Airport Land Use Zone Plan (Figure 12) has residential and ancillary commercial and community uses as its primary purpose.

Background

Approved residential use in 1999 and 2004 master plans
Rural Residential use was approved in the 1999 and 2004 Alice Springs Airport master plans for the same land the Future Development Zone now occupies.

Approval of residential use in 2009 Master Plan
The shortage of land for new housing in the Alice Springs area is well documented.

Existing urban development is concentrated north of Heavitree Gap, where local topography, soil types, native title factors and land servicing costs make new residential land expensive. Heavitree Gap is a narrow opening in the MacDonnell Ranges to the south of the Alice Springs town centre. It forms the southern entrance to Alice Springs, and both the Stuart Highway and national railway line run through it, as does the Todd River. That's why the Northern Territory Government has focussed on south of Heavitree Gap to release new housing land.

After a June 2008 public forum in Alice Springs and subsequent public submissions, the *Alice Springs Planning for the Future Forum – Outcomes Report and Action Plan (March 2009)* was published. It identified that part of the Arid Zone Research Institute (AZRI) site, government land, was suitable for rezoning to provide around 1,400 housing lots. It also identified that a combined AZRI – Alice Springs Airport residential development could provide up to 4,000 housing lots and a long-term residential land bank for Alice Springs.

There was widespread support to develop the AZRI residential area and integrate it with airport urban residential land to form part of the suburb of Kilgariff. The Northern Territory Government, Alice Springs Town Council and Northern Territory Chamber of Commerce all supported the government-owned AZRI site and the airport residential land to be a long-term integrated residential development.

Under Part 5, Division 3 of the *Airports Act*, 'residential' is a sensitive development. In Part 5, Division 4, which covers major development plans, 'residential' is listed as a sensitive development that will only be approved if the minister, under the *Airports Act*, is satisfied that exceptional circumstances exist.

In submitting the draft master plan with residential as a land use to the minister in 2009, Alice Springs Airport needed to demonstrate that:

- exceptional circumstances existed to allow the land use to be approved
- long-term aviation operations at Alice Springs Airport would not be affected.

Exceptional circumstances were demonstrated in 2009 on these grounds:

- the shortage of reasonably priced residential land in Alice Springs and widespread support for including the nominated Alice Springs Airport land into the suburb of Kilgariff
- the Northern Territory Government agreed to integrated planning of the Crown land and Alice Springs Airport land components of Kilgariff.

Anticipated planning features of the Alice Springs Airport component of Kilgariff included:

- a buffer of at least one kilometre between housing and both the airport terminal and main runway to minimise aircraft noise impact on future residents and residential development well outside the 2049 20 ANEF contour
- open space buffers between residential land and the Stuart Highway and existing rural residential development
- water sensitive urban design principles to be incorporated and natural water courses preserved as much as possible
- transport links to include cycle/pedestrian corridors
- planned commercial and community facilities.

It was also demonstrated that long-term aviation operations would not be affected by excision of the Future Development Zone north of Roger Vale Drive. Existing and future aeronautical assets will be located south of Roger Vale Drive. Excision of the Future Development Zone would still leave Alice Springs Airport as the largest airport site in Australia.

Regulatory context and land tenure

As noted above, it was recognised in the Alice Springs Airport 2009 Final Master Plan that 'residential' is a sensitive development under the *Airports Act*. Additionally, residential development in the Northern Territory occurs on a freehold tenure basis. It was also anticipated in the 2009 final master plan that the residential land (Future Development Zone in the 2009 final master plan) would need to be excised from the Alice Springs Airport lease under the *Airports Act* and converted to freehold tenure.

That 2009 final master plan also noted that excision of the Future Development Zone from the lease would occur in accordance with the Commonwealth Property Disposal Policy.

Action on excision of Future Development Zone from airport lease

While preliminary work on excision of the Future Development Zone has started, formal steps on the excision haven't been taken yet. We anticipate excision will occur in the next three years. If the land is excised, the Future Development Zone will be excised from the Alice Springs Airport lease.

Future Development Zone included in Northern Territory Planning Scheme

The suburb of Kilgariff, which includes Crown land and Alice Springs Airport land, was included as an area plan in the NT Planning Scheme in 2012. The Kilgariff Area Plan and associated planning principles are included at the rear of this section. The Crown land is above Colonel Rose Drive, and Alice Springs Airport land is below Colonel Rose Drive.

Kilgariff development to date

The Land Development Corporation, the Northern Territory Government's strategic land developer, has developed Stages 1A and 1B of Kilgariff Estate. This initial development delivered 80 residential lots in the Kilgariff West area of the broader Kilgariff Area Plan. Headworks to cater for further stages were installed.

In mid-2019, the Kilgariff Area Plan was updated and those updates adopted in the NT Planning Scheme. These updates provide more detail on the area of Kilgariff West and less detail on the potential future stages of Kilgariff East and Kilgariff South—the latter being the area located in the airport lease. See Figure 13.

Sensitive developments

Several of the land use zones, including the Future Development Zone, have potential land uses that are considered sensitive developments under the *Airports Act*.

The *Airports Act* defines a sensitive development as the development of, or a redevelopment that increases the capacity of, any of the following:

- a residential dwelling
- a community care facility
- a pre-school
- a primary, secondary, tertiary or other educational institution
- a hospital.

A sensitive development does not include:

- an aviation educational facility
- accommodation for students studying at an aviation educational facility at the airport
- a facility with the primary purpose of providing emergency medical treatment and that does not have in-patient facilities
- a facility with the primary purpose of providing in-house training to staff of an organisation conducting operations at the airport.

Sensitive developments cannot proceed without exceptional circumstances being demonstrated and the major development plan process followed (where the land use was to occur on the airport lease).

Alice Springs Airport's intention is that the Future Development Zone is excised from the airport lease.

Building and development approvals

Building activity at Alice Springs Airport is subject to statutory controls under the *Airports Act* and the Airports (Building Control) Regulations 1996. The federal Department of Infrastructure, Transport, Regional Development and Cities (DITRDC) oversees land use planning and building activity at the airport.

The Airport Building Controller is appointed under Commonwealth law to administer the airport building control regime to ensure activities at Alice Springs Airport meet the appropriate building and engineering standards. All construction and building activities must be notified to the Airport Building Controller.

Alice Springs Airport's (as the airport lessee company) consent is needed before the Airport Building Controller can approve any of these activities. Alice Springs Airport reviews building activity applications to:

- ensure the proposal is consistent with the airport master plan
- ensure the development is consistent with its planning objectives
- assess the proposal's impact on airport infrastructure and the operations.

Alice Springs Airport can also impose appropriate conditions on building activities.

The approval of the 2020 master plan does not automatically confer approval on subsequent major developments. The *Airports Act* requires that certain developments must undergo a major development plan process, which is subject to ministerial approval.

Figure 13: NT Planning Scheme 2020 – Kilgariff Area Plan

Kilgariff Area Plan

Context

The *Alice Springs Regional Land Use Plan 2016* provides a vision for the future development of Alice Springs based on its regional geography and history. The Plan's *Key Residential Objectives* include catering for population growth with infill and greenfield development in a range of dwelling types. The Kilgariff area north of Colonel Rose Drive is identified as 'Urban' and as a major greenfield site providing a significant source of residential land. Also recognised is the need to address the site's conservation values in future planning and development.

This Area Plan outlines how urban development can proceed at the Kilgariff site consistent with the regional objectives and provides guidance for decision making on future changes in land use and development outcomes.

Purpose

The Area Plan will guide the development of the Kilgariff urban area through a land use structure for the whole of Kilgariff and more detailed concept plans, initially for Kilgariff West and later for Kilgariff East and South. Development in accordance with the Area Plan will provide for the physical and social development of a resilient community while protecting the significant cultural and landscape features of the natural environment. This includes protection of the St Mary's Creek landscape which is the primary contributor to the natural character and amenity of the site.

Vision Statement

A community where housing diversity, affordability and good connections to Alice Springs town centre and the broader region are provided within an environment that reflects the unique character of Alice Springs. The natural features of the site are emphasised and Kilgariff strives for high urban efficiency and liveability.

Kilgariff will rely more on renewable energy sources through built form that includes passive solar design, PV generation and solar hot water. There will be less impact on natural resources through efficient use of water and sensitivity to the existing landscape character and arid climate.

Kilgariff will be structured around walkable neighbourhoods that tread carefully on the natural landscape. Community development will be assisted by locating housing, work opportunities, education, recreation, shops and community facilities in close proximity. This will also support public transport, walking and cycling, and help reduce car dependency.

Plan Structure

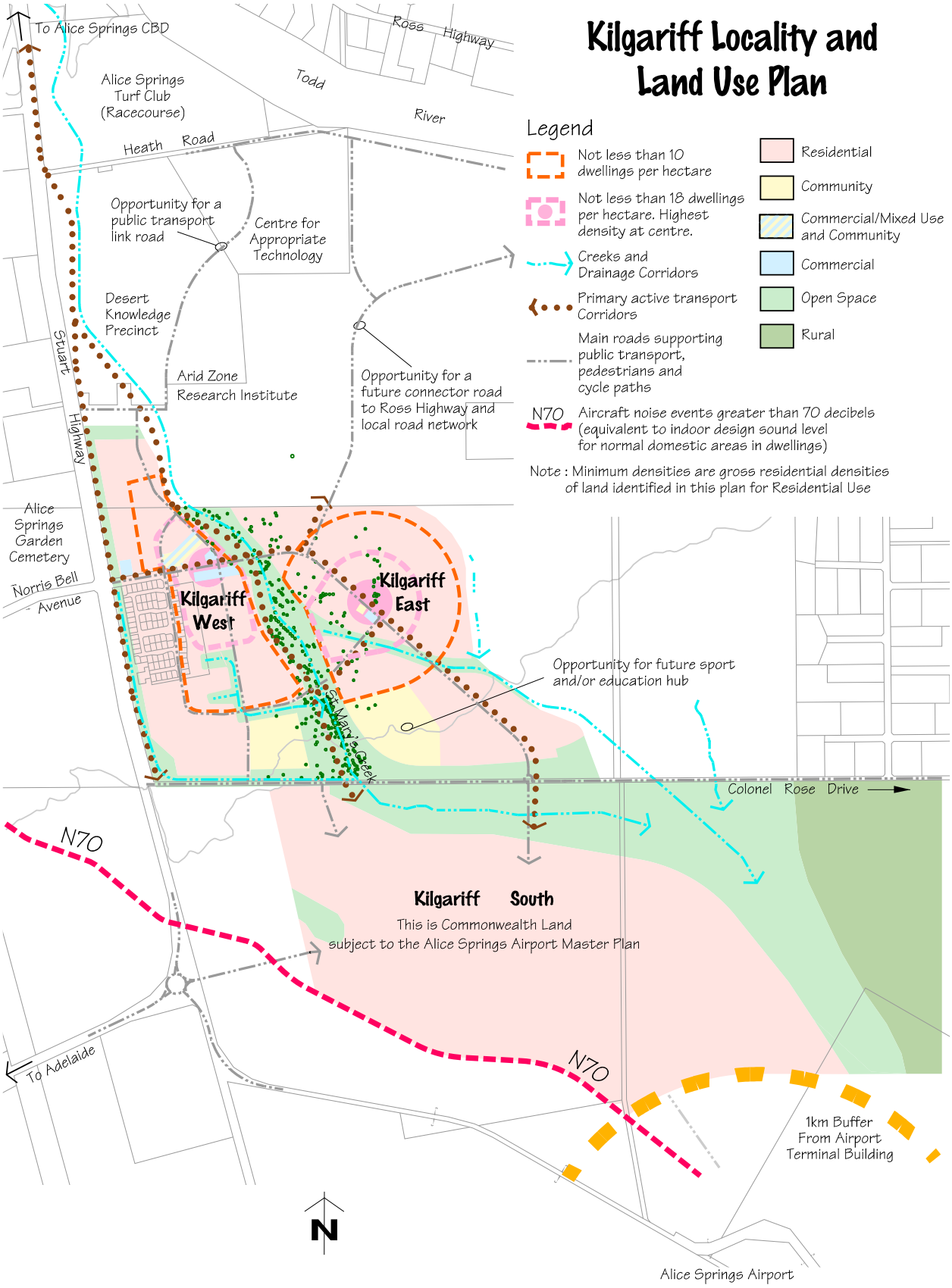
This Area Plan includes a Kilgariff Locality and Land Use Plan, a Kilgariff West Concept Plan, planning principles, objectives and acceptable responses.

The Locality and Land Use Plan illustrates the broad access and land use structure, and primary landscape protection areas across the Kilgariff development area.

A structure for Kilgariff East is suggested but, in due course, this Area Plan will need to include more detailed concept plans for Kilgariff East and then for Kilgariff South, which is Commonwealth land subject to the Alice Springs Airport Master Plan.

The Kilgariff West plan illustrates, in more detail, land use changes proposed for the first suburb consistent with the vision expressed for Kilgariff. This concept plan and associated planning principles establish a number of specific design parameters to ensure that the overall flood protection and drainage of the development will work in an integrated and landscape sensitive manner.

The objectives are actions that will achieve the outcome described by the planning principle. Acceptable responses are standards or measures which will contribute to the objective. Alternate responses that will achieve an equal or higher standard and will not compromise other outcomes may also be considered.


Kilgariff Locality and Land Use Plan
Legend
Not less than 10 dwellings per hectare
Not less than 18 dwellings per hectare. Highest density at centre.
Creeks and Drainage Corridors
Primary active transport Corridors
Main roads supporting public transport, pedestrians and cycle paths
N70 Aircraft noise events greater than 70 decibels (equivalent to indoor design sound level for normal domestic areas in dwellings)
Note : Minimum densities are gross residential densities of land identified in this plan for Residential Use
Residential
Community
Commercial/Mixed Use and Community
Commercial
Open Space
Rural
To Alice Springs CBD
Ross Highway
Alice Springs Turf Club (Racecourse)
Todd River
Heath Road
Opportunity for a public transport link road
Centre for Appropriate Technology
Desert Knowledge Precinct
Stuart Highway
Arid Zone Research Institute
Opportunity for a future connector road to Ross Highway and local road network
Alice Springs Garden Cemetery
Norris Bell Avenue
Kilgariff West
Kilgariff East
St Mary's Creek
Opportunity for future sport and/or education hub
Colonel Rose Drive
N70
Kilgariff South
This is Commonwealth Land subject to the Alice Springs Airport Master Plan
To Adelaide
N70
1km Buffer From Airport Terminal Building
N
Alice Springs Airport

NT Planning Scheme 2020 – Kilgariff Area Plan

PLANNING PRINCIPLES	
1. Minimise detrimental impacts of development on the landscape and natural environment.	
St Mary's Creek and associated native vegetation provide a key contribution to the natural and cultural character of the area. Protection of these values within the confines of a very flat landform, natural stormwater flows and fragile soils will require care. A network of linear open space must be allocated so that drainage options are not constrained and adequate flood protection is achieved.	
Objective	**Acceptable Land Use and Development Response**
1.1 Maintain the arid zone hydrology of St Mary's Creek and associated natural drainage features.	i. Land use and drainage design are integrated with adequate open space buffers and drainage reserves to enable maintenance of pre-development natural flows in the St Mary's Creek riparian corridor. ii. A network of roads, urban drainage and open space that responds to landform, soil capability and the natural drainage system. iii. Natural ground cover is preserved wherever possible and disturbance of land not directly required for development is avoided. iv. Drainage channel erosion is avoided by designing to minimise the magnitude and duration of sediment transporting stormwater flows. v. Sediment movement and erosion during construction is controlled.
1.2 Minimise adverse impacts on natural stormwater drainage flows and water quality.	i. The pre-development hydrological regime is maintained, including the provision of locally suitable detention and infiltration measures. ii. Adequate private open space provided for stormwater infiltration. iii. Australian best practice standards are applied to water quality modelling of stormwater run-off into the natural drainage system.
1.3 Retain the cultural and landscape value of natural features and established vegetation.	i. Natural features and vegetation valued for their cultural, species, habitat, stature or natural amenity are identified and retained. ii. Natural features and vegetation are integrated into open space, widened road reserves and drainage corridors wherever possible. iii. Identified native vegetation is protected during construction. iv. Native vegetation within development sites or public infrastructure areas are only cleared concurrent with development need.

2. Create an active and supported residential environment.	
Kilgariff will be structured around compact neighbourhoods that are safe, efficient, and adaptable. Housing will be diverse and climate responsive. Higher residential densities shall be located in areas of high amenity close to neighbourhood centres and public transport stops. The identified main roads will support public and active transport, and the local road network will be interconnected, rather than a hierarchical, to distribute traffic through the locality. The road network will support pedestrians, cyclists and those dependent on public transport.	
Objective	**Acceptable land use and development response**
2.1 Promote neighbourhoods that are compact, safe and walkable.	i. Neighbourhood centres are located to maximise commercial potential and opportunities for direct access via active transport networks. ii. An interconnected road network supports accessibility and route choice, and provides for safe and convenient walking and cycling. iii. Neighbourhood centres are directly connected by roads designed to support efficient public and active transport. iv. Road reserves are wide enough for drainage, service infrastructure and street trees that will provide shade and visual amenity. v. The pedestrian network provides direct access to public open space. vi. Linear open space and drainage networks are developed with recreation pathways connected to the overall pedestrian network. vii. Lots adjacent to recreation areas and main thoroughfares comply with Community Safety Design Guidelines to support passive surveillance. viii. Development density is consistent with targets shown on concept plans so as to achieve compact walkable neighbourhoods.
2.2 Neighbourhood centres are community focused.	i. Neighbourhood centres accommodate commercial activities with a focus on local community needs and local employment. ii. Community services are provided for in neighbourhood centres. iii. Local parks, useable open spaces and local meeting places are provided in conjunction with residential development.
2.3 Provide housing choice that meets community needs.	i. A mix of lot sizes is provided to support a variety of built forms and housing types, including small lot single dwellings. ii. Medium density housing, including accommodation for aged persons and people requiring assistance, is located close to a neighbourhood centre, public transport, open space and other areas of high amenity.
2.4 Urban development that is protected from flooding.	i. Infrastructure and drainage design provides a minimum of 1% AEP protection from riverine and stormwater flooding. Refer to planning principle 4.6 for stormwater management in Kilgariff West.

NT Planning Scheme 2020 – Kilgariff Area Plan

3. Building a Resilient Community	
Development in Kilgariff shall be responsive to the social needs of the community, including the timely and coordinated delivery of human services and community facilities. Planning and development shall identify and provide opportunities to tell the natural, cultural and heritage stories of the site reinforcing a sense of place and assisting to build a strong community.	
Objective	**Acceptable land use and development response**
3.1 Development of a robust and resilient community.	i. Neighbourhood centres are designed to provide active public space that assists social inclusion and local commercial endeavours. ii. Additional passive urban spaces are located for casual community interaction and to reflect the Kilgariff sense of place. iii. Urban spaces provide public art opportunities that interpret Kilgariff and the surrounding landscape. iv. Community facilities are designed to cater for a variety of uses and be adaptable to changing neighbourhood requirements over time.
3.2 Assist community development through provision of adequate community land.	i. Community purpose sites are provided where shown in this Area Plan or in alternate locations that better maximise opportunities for safe access via public and active transport corridors. ii. Sufficient community purpose land is provided to allow colocation of community and local recreation areas for Kilgariff. iii. Active recreation facilities for all ages are provided on a staged basis consistent with the ongoing assessment of needs.
3.3 Build a strong community through developing a sense of place.	i. Retained natural areas are accessible to residents, enjoy passive surveillance and are managed to promote community use. ii. The character of the local landscape is integrated into developed areas through species selection and land management.

4. Facilitate the orderly future development of Kilgariff East and Kilgariff South	
Future development of the eastern and southern areas of Kilgariff will be in accordance with detailed concept plans and associated planning principles included into this Area Plan.	
Objective	**Acceptable land use and development response**
4.1 Timely preparation of planning concepts and principles for the future development of Kilgariff East and Kilgariff South.	i. A detailed concept plan with planning principles is amended into this Area Plan before any development in Kilgariff East or South. ii. The planning concept and principles respond to the context, purpose and vision of this Area Plan, and are consistent with the land use structure of the Kilgariff Locality and Land Use Plan.

SECTION 7:

Airfield Development Plan

SECTION 7: **Airfield Development Plan**

Introduction

The airfield at Alice Springs 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.

Planning standards

Civil aerodrome planning for Alice Springs Airport adheres to Civil Aviation Safety Regulation 139 (CASR 139) and CASA Manual of Standards Part 139 (MOS 139). MOS 139 is prepared by CASA and is the Australian document that sets out the regulatory requirements for aerodromes.

MOS 139 follows accepted International Civil Aviation Organisation (ICAO) methodology of using a code system known as the Aerodrome Reference Code to specify the standards for aerodrome facilities that are suitable for use by aeroplanes within a range of performances and sizes. The code is based on the characteristics of an aircraft (not the airport) and is composed of two elements:

- a code number indicates the runway type and is related to the length of the runway (see Table 24 below)
- a code letter relates to the aeroplane wing span and outer main gear wheel span. The planning of aprons and taxiways is largely based on this element (see Table 25 below).

Design aircraft

In the master plan, we use the concept of 'design aircraft' to guide the planning and development of our aerodrome facilities, like runways and taxiways. The 'design aircraft' is the main type of aircraft likely to use the airport in the future.

Alice Springs Airport can accept Code E aircraft (e.g. Boeing 777, Airbus A330). That makes it an important 'diversion' airport for most of the traffic flying over the centre of Australia in the case of passenger illness or engineering problems during flight. It is also capable of handling the A380 (Code F aircraft) in limited circumstances.

In the master plan, we use a different 'design aircraft' for each runway:

- Runway 12/30: this is the airport's main runway, and its design aircraft is a Code 4E aircraft. This allows for large long-haul wide body aircraft like B777 and A330 aircraft types that can carry more than 300 people.
- Runway 17/35: the design aircraft for the airport's secondary runway is a Code 1B aircraft. This allows for smaller general aviation aircraft types.

Code Number	1	2	3	4
Aeroplane reference field length	Less than 800m	Not less than 800m	Not less than 1200m	Not less than 1800m

Table 24: Code number

Code Letter	A	B	C	D	E	F
Wingspan	Up to but not including 15m	15m up to but not including 24m	24m up to but not including 36m	36m up to but not including 52m	52m up to but not including 65m	65m up to but not including 80m
Outer main gear wheel span	Up to but not including 4.5m	4.5m up to but not including 6m	6m up to but not including 9m	9m up to but not including 14m	9m up to but not including 14m	14m up to but not including 16m

Table 25: Code letter

Existing airfield configuration

Alice Springs Airport's existing airfield layout is shown in Figure 14.

Runways

Alice Springs Airport has two runways. The dimensions and distances of these runways are given in Table 26 below.

Runways are named using a numbering system between 01 and 36, which reflects the orientation of the runways. The number of the runways relates to the degrees on a compass. For example, a runway numbered 12 points to the south east (120°), and a runway numbered 30 points to the north west (300°).

A runway can be used in both directions and has a different name for each end, with the two numbers always differing by 18 (180°). The entire runway is named with both numbers: e.g. runway 12/30.

The speed and direction of the wind is a main factor in determining which runways are used at any given time. Aircraft typically take-off and land into the wind. Based on the wind direction, air traffic control will decide which runway is to be used.

Main runway (12/30)

The main runway, with an orientation of 12/30, is 2438 metres long and 45 metres wide. It is an 'instrument' runway, with precision instrument approach on runway 12. It has a flexible construction (so it rebounds to its original shape) and is grooved in its entirety (which improves both friction and drainage). This runway can accept Code 4E aircraft.

Almost three-quarters of all aircraft movements at Alice Springs Airport use runway 12. The wind in Alice Springs favours using runway 12, which is why a Category 1 instrument landing system (ILS) is installed on runway 12.

An ILS is a highly accurate radio signal navigation aid consisting of two antennas that transmit signals to receivers in the aircraft cockpit—a glide path tower next to the runway at the northern end and a localiser antenna at the southern end. These antennas give the pilot vertical and horizontal guidance when landing in low visibility. An ILS is not used by departing aircraft. The ILS at Alice Springs Airport increases use of runway 12 because it is used as the primary runway in poor weather conditions or when wind direction is neutral.

Runway 12 is equipped with a 6-stage high intensity approach lighting (HIAL) system–CAT I. This helps pilots using a precision instrument approach (for example, the ILS) to smoothly change from flying the aircraft with instruments to visually.

Runway Direction	Length (M)	Width (M)	Take-off run available (M)	Take-off distance available (M)	Accelerated stop distance available (M)	Landing distance available (M)
12	2438	45	2438	2738	2438	2438
30	2438	45	2438	2738	2438	2438
17	1133	18	1133	1193	1133	1133
35	1133	18	1133	1193	1133	1133

Table 26: Runway data

The main runway has a three-stage medium and three-stage high intensity runway edge and threshold lighting system, which provides visual guidance to pilots for aircraft approaching and departing.

Turning nodes are at both ends of the runway. These are widened parts of the runway that allow the aircraft to turn around so they can take off. The current node configurations allow for B747, B777, A380 and A340 to conduct 180° starboard turns. In conjunction with the recent resurfacing works to the main runway, the existing T-Visual Approach Slope Indicator System (T-VASIS) visual landing guidance system was replaced with a Precision Approach Path Indicator (PAPI) at both ends of the runway.

In late 2019, the entire length of the main runway was resurfaced. The $17 million upgrade was strategically planned, so the runway could remain operational throughout the upgrades. The resurfacing works were done at night in small sections. The resurfacing project was part of a larger Northern Australia Infrastructure Facility (NAIF) loan granted to Northern Territory Airports in 2018.

At the same time as the runway resurfacing, a new pilot-activated lighting system (PAALC) was installed at the airport, alleviating the need for airfield lights to be on all night. Once commissioned, this change will deliver power savings for the airport, which already generates 50 per cent of its energy needs from solar power.

Recent amendments to MOS Part 139 have reduced the runway strip width of Code 4 runways from 300 metres to 280 metres.

The Civil Aviation Safety Authority (CASA) intends to have a transition period until 2022 to allow airports to gradually change to the new standard. At Alice Springs Airport, the main runway strip is 300 metres wide. We intend to reduce the declared runway strip width to 280 metres in accordance with the recent amendments.

Cross runway (17/35)

The crosswind runway has an orientation of 17/35, with a length of 1133 metres and width of 18 metres. This runway is a non-precision approach instrument runway. Runway 17/35 takes less than 10 per cent of the total aircraft traffic and the use is limited due to sequencing of heavy aircraft traffic on the main runway.

Runway 17/35 is used predominantly by general aviation aircraft due to its aircraft size limitations and proximity to the general aviation apron.

Helicopters

There are two helipad locations at Alice Springs Airport: a helicopter final approach and take-off (FATO) area located north of taxiway B1, and on the runway 35 threshold.

Taxiways

Airport runways are supported by a system of ‘taxiways’: routes aircraft can ‘taxi’ along as they move to or from a runway. These taxiways help the aircraft move efficiently between the runways and aircraft parking areas.

Planning for taxiways and aprons is largely based on the code letter of the Aerodrome Reference Code. Each code letter represents aircraft grouped in accordance with their wingspan and outer main gear wheel.

Table 27 opposite details the taxiways at Alice Springs Airport.

Runway grooving being undertaken as part of the runway resurfacing

Taxiway	Description	Width/Aircraft Code	Pavement Classification Number (PCN) / Restrictions
C and D	Connect runway 12/30 with the RPT apron	23m	Simultaneous use of taxiway C and D not available to aircraft above 52m wingspan
E1-2	Connects runway 12/30 to eastern end of RPT apron and the commuter apron	15m	E1 – PCN 45 E2 – PCN 60 Max wingspan 36m
A	Back of RPT apron and continues west to link the GA apron	10.5m	A2 restricted to 16.6m when Bay 9 occupied by Code C and above aircraft
W	Joins Seven-Mile apron to runway 17/35	10.5m	Pavement rating 5700kg / 413kPa (60PSI) seated
B	Converted from the old runway 06/24 and links the RPT and GA apron to runway 17/35	15m	
M	Continues from runway 12 end and joins taxiway B	18m	
L	Connects runway 12/30 with the aircraft storage area	Note: Not used for live taxiing, only used for towing aircraft to the storage area	

Table 27: Taxiway data

Aircraft parking

'Aprons' are areas aircraft park in, and the parking position is known as an aircraft stand (or bay). These apron areas are also used for aircraft servicing activities such as baggage, freight, refuelling and flight catering. A variety of ground support equipment (GSE) operated by third parties is used on the apron to service aircraft between flights, such as baggage carts, mobile stairs, and belt loaders to load baggage onto aircraft.

There are four aprons at Alice Springs Airport that accommodate a full range of aircraft types and operations: the regular public transport (RPT) apron and three general aviation aprons.

RPT apron

The regular public transport (RPT) apron is in front of the airport terminal and is used for scheduled airline traffic. It can accommodate up to nine large aircraft in various combinations. A diversion bay allows for Code F aircraft to park on the apron. All parking bays on the RPT apron are 'common user', which means any airline can use them.

The RPT apron was resurfaced in late 2019 at the same time as the resurfacing of the main runway and was part of the NAIF loan.

General aviation

'General aviation' refers to all parts of the aviation industry that engage in activities other than scheduled commercial airline activity. It includes charter operations, aeromedical operations, agricultural aviation businesses, aviation-based fire-fighting services, and training and aerial work like aerial photography and surveying. It also includes private, business, recreational and sports aviation activity and supporting businesses, such as maintenance providers.

There are three general aviation areas at Alice Springs Airport with a total of around 25,000 square metres of hangar space and 36,500 square metres of aircraft parking space. Some 45 general aviation aircraft are based in these areas. Around 12 businesses operate from these facilities.

General aviation operations in Alice Springs are clustered into three distinct areas:

- an area to the north-west of the passenger terminal – known locally as the general aviation (GA) apron
- an area to the south-east of the passenger terminal – known locally as the commuter apron
- an area to the western edge of the airport boundary – known locally as the Seven-Mile apron.

General aviation (GA) apron

The GA apron has parking for around 30 aircraft, whose wingspan must be less than 16.6 metres (Code A and B aircraft).

The apron is flexible pavement, and the taxiway access limits the size of aircraft using the facilities to 5700 kilograms (e.g. Code A and B aircraft). Other aircraft are parked in hangars and leased areas in front of leased hangar sites. There is also a natural (unsealed) surface aircraft parking area that can accommodate a further 20 aircraft. 'Itinerant' aircraft parking is also here, which is 'casual' parking for an aircraft passing through or that doesn't have a permanent parking space.

Operations from the GA apron include charter flights, aerial work, aircraft maintenance, flight training, private flying, aeromedical services and scenic flights.

Commuter apron

The commuter apron has parking for around five code A and B aircraft. It uses a free-moving arrangement because the configuration of this area restricts where aircraft can be parked without interfering with the movement of others. Other aircraft are parked in hangars and leased areas in front of leased hangar sites.

Charter flights and aircraft maintenance operate from the commuter apron. On-airport catering, located at the rear of this area, accesses the RPT apron via a designated airside road across the commuter apron.

Seven-Mile apron

The Seven-Mile apron has parking for several helicopters and fixed-wing aircraft. This apron is nearing the end of its economic life.

Operations from the Seven-Mile apron can include locally based helicopter activity, aircraft maintenance and private flying.

Aircraft storage facility

The desert climate of Alice Springs and the airport's large land area allows for long-term storage of surplus aircraft, similar to facilities found in the Mojave Desert in North America. The dry, arid and low-humidity environment provides ideal conditions to store and preserve aircraft. This aircraft storage facility is south of the main runway with an area of around 100 hectares. It is operated by Asia Pacific Aircraft Storage (APAS) and provides full aircraft storage and aircraft end-of-life services. Aircraft in this facility are either maintained for re-entry into service or parked with a view to complete disassembly.

APAS received its first aircraft for storage in 2014 and has substantially increased its business since then. Expansion plans has seen the facility triple in size in 2020, as a result of airlines storing their aircraft due to the COVID-19 pandemic.

2040 Airfield Development Plan

The 2040 Airfield Development Plan is shown in Figure 15.

The planning and delivery of any future airfield developments will be undertaken in close consultation with government agencies and airport stakeholders.

Runways

The capacity of the runway system at Alice Springs Airport is approximately 80,300 aircraft movements per year. In 2040, there will be an estimated total of around 25,000 movements, which is well below capacity. The existing runway system is adequate to cater for future projected traffic movements.

It is envisaged that no extension to the main runway (runway 12/30) is required in the planning period. The critical aircraft for runway length at Alice Springs Airport is considered to be the A330 or B787. Under hot conditions, some payload sacrifices (for example, some cargo unloaded and put on another aircraft in hot conditions) would be required, but commercial loads can still be carried. A future runway extension has been allowed for, which means the main runway could be extended to 3100m beyond the planning period.

Lengthening of the cross runway (runway 17/35) is not required, because it takes less than 10 per cent of the total traffic at the airport and is sufficient for the general aviation aircraft that use it.

Runway 30 threshold turning loop

Aircraft departing on runway 30 currently have to taxi approximately 1200 metres from the eastern end of the RPT apron to the runway end to take off. This can result in delays, particularly if more than one aircraft is departing at the same time.

A parallel taxiway that runs the full length of the main runway could solve this problem; however, the current peak demand for activity on the main runway 12/30 is around six movements per hour. A parallel taxiway is usually only required when peak hour demand exceeds 20-jet RPT movements per hour—about three times the current rate. This level of hourly demand will not eventuate in the 20-year planning period.

Instead, during the planning period, a turning loop near the runway 30 threshold (south-eastern end of runway 12/30) would allow two aircraft to taxi to the start of runway 30 and one aircraft to hold on the loop while the other takes off. It would also allow an aircraft to hold on the loop while another aircraft lands.

Taxiways

The master plan proposes a number of taxiway enhancements by 2040 to support the increase in traffic and support new apron areas.

Aircraft parking

It is estimated that by 2040, the RPT apron will need to accommodate a mix of seven aircraft parking positions, as indicated in Table 28 below.

Aircraft	2020	2025	2030	2035	2040
Code C	5	5	5	6	6
Code E	0	0	1	1	1
Total	**5**	**5**	**6**	**7**	**7**

Table 28: RPT apron aircraft parking demand forecast

The RPT apron will continue to effectively use the space and infrastructure available and expand in a linear manner towards the south-east and north-west of the existing apron area. Early engagement with government agencies (such as CASA and Airservices Australia) and airport stakeholders will occur prior to any future apron redevelopment or expansion.

Freight

It is envisaged that a dedicated freight apron is not required during the planning period of the master plan. Freight on passenger aircraft or ad hoc freight services will continue to use the main RPT apron.

General aviation

More general aviation facilities will be developed on a commercial basis. They will cater for all new and existing aircraft operators, including current Seven-Mile operators.

The 2040 airfield development plan allows for Code A and B aircraft to continue to use the general aviation area, and aircraft larger than Code B to use the commuter apron area. However, the commuter apron area will progressively be located further east when the demand for RPT aircraft facilities requires and where commercially viable. Economies of scale, demand for services and demand for facilities will drive that expansion.

Helicopter growth will be accommodated in the general aviation area; however, the desired separation of fixed-wing and rotary aircraft will guide those developments.

The Seven-Mile apron will remain operational while commercially viable.

Aircraft storage facility

The aircraft storage area may be extended in coming years. New stages of aircraft storage facilities, including apron and taxiways, would be constructed in the Aviation Activities and Aviation Reserve Zones. In the longer term, the facilities could expand into the Dust Suppression Zone.

Aviation support facilities

A range of aviation support facilities at Alice Springs Airport support the core aviation business of transporting passengers and freight.

Airservices Australia

Air traffic control

Air traffic control (ATC) services at Alice Springs Airport are provided by Airservices Australia. The control tower was constructed in 1967 and operational in 1968. It is located to the west of the passenger terminal and operates between 0800 and 1800 every day. All regular public transport (RPT) activity occurs in this period as do most military and general aviation movements. Outside these hours, a common traffic advisory frequency (CTAF) operates that is used by pilots to broadcast the position of their aircraft and their flying intentions.

ATC's main role is processing and separating air traffic in both the initial and final stages of flight. ATC also controls the movement of aircraft and vehicles on the runways and taxiways of the airport.

Navigational aids

Airservices Australia also provides and maintains numerous radio navigation aids and systems on or near the airport, including:

- distance-measuring equipment (DME)
- Very High Frequency Omnidirectional Range (VOR)
- non-directional beacon (NDB)
- instrument landing system (ILS) (glide path and localiser).

Aviation rescue fire fighting (ARFF)

Fire and rescue services are provided by Airservices Australia from a facility west of the main RPT apron. The level of service for ARFF at Australian airports ranges from Category 6 to Category 10 services, as determined by CASA and International Civil Aviation Organisation (ICAO) regulations. The category dictates the amount of water and foam that is needed to be carried, the minimum response times, water discharge rates and the number of personnel. The size (length and width) of the largest aircraft serving an airport determines the service category.

At Alice Springs Airport, the ARFF station provides a Category 7 service. A fire training area is located east of the passenger terminal.

Aviation fuel

The safe and continuous supply of fuel is critical to on-time performance of all aircraft operators at the airport. Any disruptions to the supply of fuel will affect aircraft movements and passengers.

There is no fuel pipeline delivery to the airport in Alice Springs. Fuel is supplied to the airport by road train to a shared (Viva Energy and BP) storage facility west of the terminal building. The fuel is dispensed by mobile tankers.

General aviation aircraft are serviced from a fuel bowser in the general aviation area. Access to this facility is restricted to 12.5-metre wingspan aircraft. Airport fuel tankers, carrying up to 16,000 litres, deliver this fuel to other locations on the airport.

The forecast increase in aircraft movements will result in increased fuel consumption over time. This may require more fuel facilities. Adequate land has been reserved in the Aviation Activities Zone for this purpose, with a future site identified east of the commuter apron. The land needed for future expansion has considered additional storage capabilities, increased number of refuelling vehicles and their associated parking and maintenance, and the associated increase in fuel deliveries required for the airport.

Aircraft maintenance

There are three main types of aircraft maintenance activities:

- Line maintenance is generally minor maintenance and routine inspections that occur during transit and turnaround and can be performed at the aircraft parking position.
- Base maintenance requires ground-time in a hangar or at a parking position away from the terminal. Ground time periods can range between 20 and 36 hours.
- Heavy maintenance requires significant ground-time in a hangar. Ground-time periods can range between six and 50 days, depending on the type of heavy maintenance being done.

Currently, airlines conduct line maintenance on the RPT apron. There is general aviation maintenance activity covering line, base, and heavy maintenance throughout the general aviation areas.

General aviation aircraft maintenance capacity will expand in line with general aviation facilities expansion. Line maintenance will continue to be completed on the RPT apron.

Engine run-up bay

An engine run-up bay is an area used for the ground running of an aircraft. This is when an aircraft engine is tested at the airport while the aircraft is stationary on the tarmac.

Most aircraft maintenance at Alice Springs Airport is done by general aviation operators. Alice Springs Airport doesn't have a dedicated engine run-up bay, but the western end of the general aviation apron is often used for this purpose.

During the master plan period, a dedicated engine run-up bay may need to be developed. A potential location has been identified between Taxiway A and Taxiway B.

Ground service equipment (GSE)

Ground service equipment (GSE) is the vehicles and equipment used to service aircraft between flights.

GSE is used for a variety of functions, including starting aircraft, aircraft maintenance, aircraft refuelling, transporting freight to and from the aircraft, loading freight, transporting passengers to and from the aircraft, baggage handling, aircraft waste disposal services and food services. Adequate areas adjacent to the apron to store GSE is necessary for efficient operations.

The existing GSE storage area is north of the RPT apron and is approximately 4400 square metres in area. The area required for GSE storage depends on a number of factors, such as peak demand, aircraft configuration, number of ground-handling agents and types of equipment. The master plan provides for adequate GSE storage adjacent to the RPT apron.

Alice Springs Airport is investigating replacing the existing GSE with an electric GSE fleet. The electric GSE will be powered by renewable energy generated onsite by the airport's solar arrays, further minimising the airport's carbon footprint.

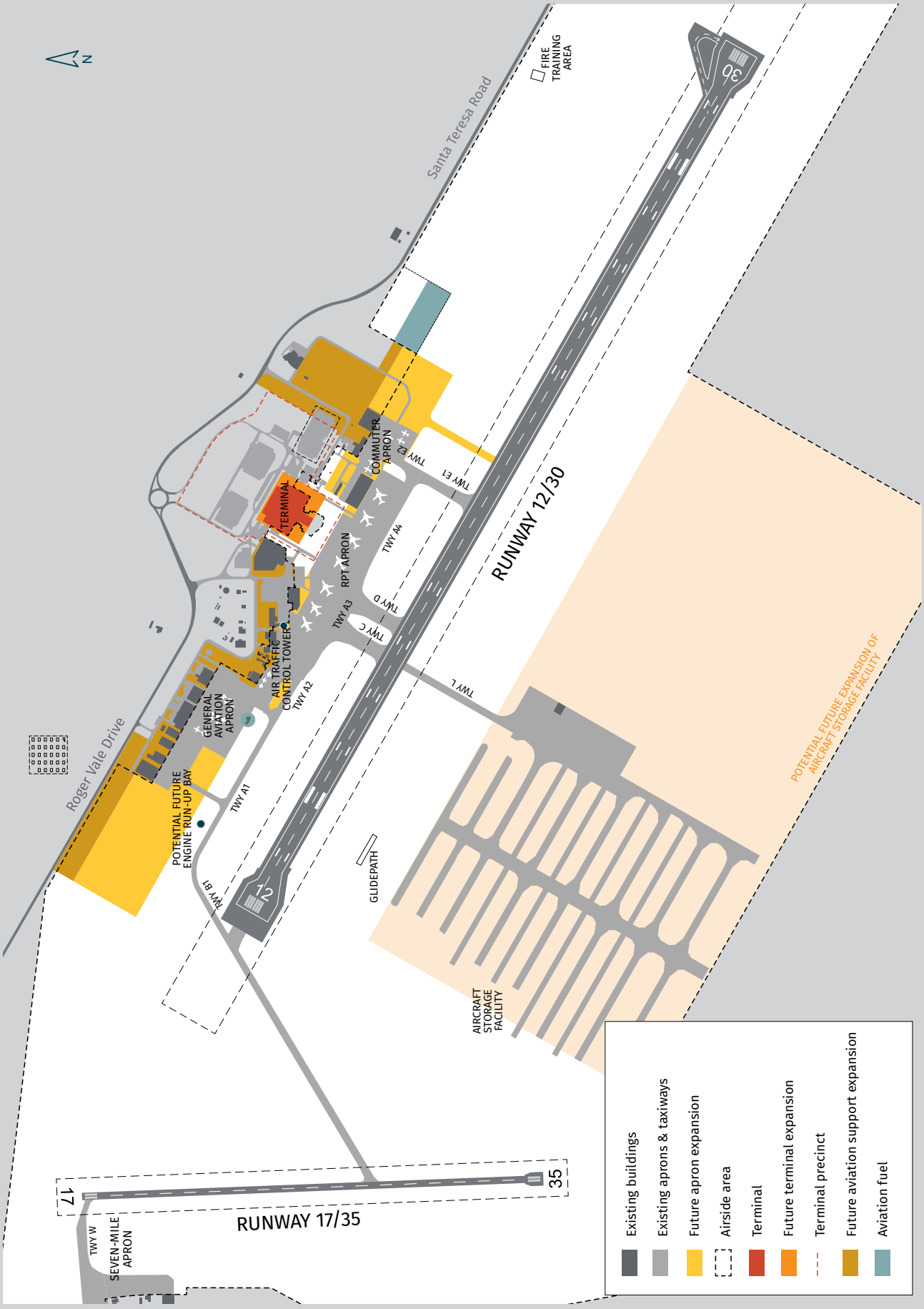
Flight catering

Flight catering for RPT aircraft is prepared onsite at the airport. There is only one on-airport flight catering facility at the airport.

The master plan provides for flight catering to continue to be located onsite at the airport if required.

Figure 14: Alice Springs Airport 2020 Current airfield layout

Figure 15: Alice Springs Airport 2040 Airfield Development Plan



SECTION 8:

Terminal Development Plan

SECTION 8: **Terminal Development Plan**

Introduction

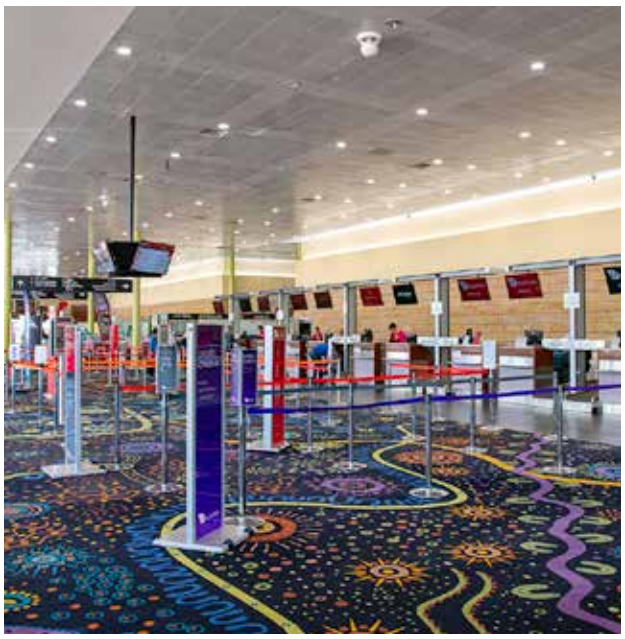
An airport's passenger terminal is the face of the airport business, and connects passengers, airlines and operators. It is the public interface between the airport's 'landside' and 'airside' activities.

The terminal also serves as the transition point for passengers moving between air and ground transport modes. For the terminal to run efficiently and meet the needs of airlines and passengers, planning for things like road access and car parking is essential.

Current terminal facilities

The terminal at Alice Springs Airport is a spacious single-level building of 9100 square metres. Its passenger-processing facilities include check-in and baggage facilities, security screening and a departure lounge. These facilities in the terminal are common use, and two ground handlers operate from the terminal, which are the services an aircraft needs between landing and taking off again. Support facilities in the terminal are airline and airport offices, car rental and airport shuttle desks.

The departure lounge has retail, and food and beverage outlets and two airline lounges. The boarding gates are connected via a covered pedestrian walkway to the RPT apron where aircraft are parked.



Check-in facilities at Alice Springs Airport

Recent terminal improvements

Since the last master plan, the airport terminal has been enhanced with:

- **Retail refurbishment:** the two retail tenancies in the departure lounge were refurbished.
- **New food and beverage offering:** a new café was opened in mid-2017 in the arrivals area near the car rental desk and baggage claim.
- **New airline lounge:** Virgin Australia opened its regional airline lounge in the terminal, accommodating 40 lounge members.
- **Air conditioning and lighting replacement:** the terminal's original air conditioning system was replaced, and new LED lighting installed.
- **New tourism display:** a Central Australia destination display wall was completed in partnership with Tourism NT.
- **Massage chairs:** new massage chairs were installed around the terminal in late 2017.
- **Sense of place:** new artworks are showcased throughout the terminal to welcome passengers.

Planning principles

The International Air Transport Association (IATA) publishes the Airport Development Reference Manual (ADRM), a guideline for planning new airports or extending existing airport infrastructure. The manual covers a 'level of service' framework for airport terminal facilities. IATA recommends an 'optimum' level of service that balances sufficient space and comfort with acceptable processing times, at a reasonable cost.

Trigger for future development

The current terminal in Alice Springs was designed to accommodate more than 1.2 million passengers per year. A trigger point to consider expanding this terminal capacity would be annual passenger numbers nearing this figure.

2040 Terminal Development Plan

Future demand

By 2040, the projected passenger demand for the terminal is approximately 718,000 passengers per year. Annual passenger forecasts do not give a true representation of the impact on terminal capacity, so 'busy hour' passenger forecasts are used to plan development needs.

Future development

We don't envisage the terminal will be expanded during the planning period of the master plan.

Any future terminal growth in Alice Springs will be accommodated by expanding the existing terminal in the Terminal Expansion Zone, as illustrated in Figure 15. The main areas that will drive the expansion of the overall terminal footprint will be baggage reclaim and baggage make-up.

Extending the passenger terminal in the Terminal Expansion Zone if it's required may include:

- expansion of domestic processing areas, including check in and departure lounges
- enhanced baggage claim facilities
- expanded baggage make-up facilities
- expanded retail facilities
- flexible international processing facilities.

The aviation industry is a dynamic business, and airports evolve over time to meet the changing needs of aviation operations and passenger expectations. In recent years, there has been a strong focus in the aviation industry on the customer experience of passengers travelling through the airport.

In line with Alice Springs Airport's development objectives outlined in Section 2, future developments to the terminal will seek to improve operational efficiency, enhance our passengers' customer experience and strengthen the 'sense of place' of the airport.

In future, self-service technology may be introduced in Alice Springs to improve operations and efficiency. This may include upgrading the existing check-in area to include self-service kiosks and installing automatic bag drop units.

The Australian Government has mandated new advanced X-ray technology security screening equipment for checked baggage and passengers to be installed at all security-controlled airports in Australia, including Alice Springs Airport.

Planning and delivering any future terminal developments will be done in close consultation with airport stakeholders.

Customer experience

The experience of customers visiting the airport is paramount to Alice Springs Airport. We are committed to improving the customer experience both in the terminal and in the whole airport precinct.

We are proud of the 'sense of place' the airport gives our visitors. The airport's interior design, its impressive public art collection, and the landscaping of local native plants throughout the terminal precinct create an evocative Central Australian experience.

The vibrant carpet throughout the terminal reflects the colours and textures of the Red Centre. The design was interpreted from the work of Indigenous Central Australian artist, June Smith from Santa Teresa.

In 2018, Alice Springs Airport was the first airport in Australia to introduce an instant feedback platform through the innovative 'HappyOrNot' technology. By simply pressing a button ranging from very happy to very unhappy, our customers can instantly communicate their satisfaction with the terminal facilities (e.g. toilets) and processes (e.g. security screening). The data is then fed to airport management via a web-based collection and reporting system. The real-time alerts allow the team to react to issues immediately, providing additional control and fast reaction time to improve service quality.

Accessibility

Alice Springs Airport has published a Disability Access Facilitation Plan, which is available on our website. The plan covers availability and access of services at Alice Springs Airport for our passengers with a disability.

SECTION 9:

Commercial Development Plan

SECTION 9: **Commercial Development Plan**

Introduction

At 3550 hectares, Alice Springs is Australia's largest airport in area. Only around 800 hectares is used for airport operations—just 25 per cent of the total airport lease area. That leaves some 2000 hectares available for commercial use.

A significant amount of airport land will never be required for aeronautical purposes and land that won't be needed for aeronautical purposes for many years to come. Both categories can be considered for commercial (non-aviation) opportunities and developed for use in the short-, medium- and long term.

In considering commercial development opportunities on airport land, there are six primary considerations:

- contributing to Northern Territory economic growth through developing the property business and by facilitating both the success of our business partners and the objectives of the Northern Territory Government
- enhancing value to our shareholders
- contributing to the broader economic community
- further opportunities for solar power generation in line with Alice Springs's designation as a solar city
- introducing appropriate heritage and commercial uses to the 1939 Seven-Mile Heritage Zone
- underpinning infrastructure for further aeronautical development.

Commercial development vision

Alice Springs Airport promotes contemporary and high-quality building form that is sensitive to the natural environment and the Alice Springs climate. Sustainable building design is encouraged, incorporating sustainable design techniques including energy and water conservation.

Recent commercial developments

Seven-Mile Precinct Business Park

Alice Springs Airport is developing the Seven-Mile Precinct Business Park, located near the western boundary of the airport estate on Maryvale Road. It is positioned in a convenient location close to the Stuart Highway (1km) and Alice Springs town centre (14km). See Figure 16.

Given the current land constraints of Alice Springs, the Seven-Mile Precinct Business Park offers some 280 hectares for potential commercial development.

Figure 16: Seven-Mile Precinct Business Park location

Northern Territory Government industrial land review

In mid-2019, the Northern Territory Government embarked on a review of industrial land in Alice Springs, investigating the current and future demand and supply. The Alice Springs Regional Land Use Plan anticipates ongoing demand for industrial land. It identifies potential future land site at Arumbera and Abattoir Valley and acknowledges the potential for industrial development on land at Alice Springs Airport.

The vast land holding of Alice Springs Airport offers suitable land available now to meet industrial land use demand and that is consistent and appropriate with the airport's land use plan.

Commercial developments in the first eight years of the master plan

A requirement of the *Airports Act* is to outline potential commercial developments in the first eight years of the master plan, including those that relate to commercial, community, office or retail purposes.

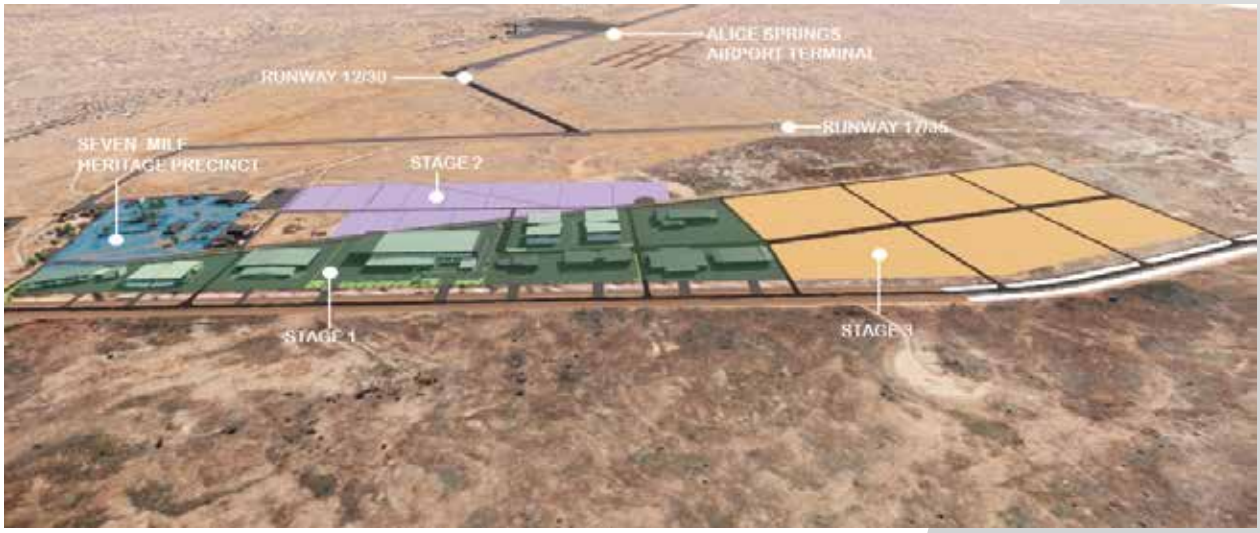
It is difficult to depict the timeline for commercial development opportunities at Alice Springs Airport, even for the first eight years of the master plan. Developments that occur will be in response to demand. Alice Springs, and the Northern Territory in general, is still a developing economy (i.e. not a mature economy like south-eastern Australia), and it is therefore difficult to predict the commercial development that will occur.

It is anticipated that development of stage 1 of the proposed Seven-Mile Precinct Business Park concept will commence during the first eight years of the master plan. See Figure 17.

Other commercial developments that could occur during the first eight years of the master plan include:

- There is potential for a roadhouse and/or fuel distribution facility abutting the Stuart Highway.
- An Australian national aviation museum could be developed in the Seven-Mile Heritage Zone.
- Progressive expansion of the aircraft storage facility is expected.

Figure 17: Seven-Mile Precinct Business Park concept plan



2040 Commercial Development Plan

Of the 3550 hectares in the airport lease area, some 2000 hectares (over 50 per cent) is available for non-aeronautical use.

The northern part of the airport land holding lies on the logical southern growth corridor for future Alice Springs development. The 1000 hectares in the Commercial and Tourist Commercial zones will be developed as commercial opportunities arise (see Figure 12). Possible developments include commercial offices, showrooms, warehousing, large format and speciality retail, hotel and other short-stay accommodation, and cafes.

The staged development of the Seven-Mile Precinct Business Park will grow in line with demand. The planning and delivery of future commercial developments like the Seven-Mile Precinct Business Park will be done in close consultation with airport stakeholders.

Adjacent to the Seven-Mile Precinct Business Park the Service Commercial and Industrial zones on the western boundary of the airport site (abutting the Stuart Highway and Maryvale Road) will be developed to take advantage of the prominent commercial exposure. Road access will be developed in conjunction with the Northern Territory Department of Infrastructure, Planning and Logistics and approved by that department.

Commercial development opportunities exist in the Seven-Mile Heritage Zone. Developments will be compatible with the heritage value and character of the area.

Horticultural potential exists in the eastern land holding of the airport.

As detailed in Section 6, the Future Development Zone needs to be excised from the airport lease.

SECTION 10:

Ground Transport Plan

SECTION 10: **Ground Transport Plan**

Introduction

Ground transport planning is important for the airport to operate efficiently. It relates to the journey of passengers and staff to and from Alice Springs Airport, as well as travel 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 (cycling and walking).

Alice Springs Airport works with the Northern Territory Department of Infrastructure, Planning and Logistics on the road network and public transport system. The department's Transport Infrastructure Planning division is a member of Northern Territory Airports' Planning Coordination Forum.

Car rental at Alice Springs Airport

Existing ground transport system

The existing ground transport system at Alice Springs Airport is at Figure 18.

External road access and internal road network

Alice Springs Airport is 14 kilometres south of the Alice Springs township. Roger Vale Drive (which becomes Santa Teresa Road at the airport roundabout) accesses the airport off the Stuart Highway. The Stuart Highway, Roger Vale Drive and Santa Teresa Road are Northern Territory Government roads.

The internal road network at the airport primarily comprises the following roads:

- Halsey Drive to the passenger terminal
- terminal forecourt road
- Briggs Street to the commuter/general aviation area
- Miller Drive and Davis Drive to the freight and main general aviation area.

The large undeveloped area bounded by Colonel Rose Drive, Stuart Highway and Roger Vale Drive (northern area) is accessed by internal tracks.

The existing external and internal road network was largely developed by the early 1990s (refer to Figure 2).

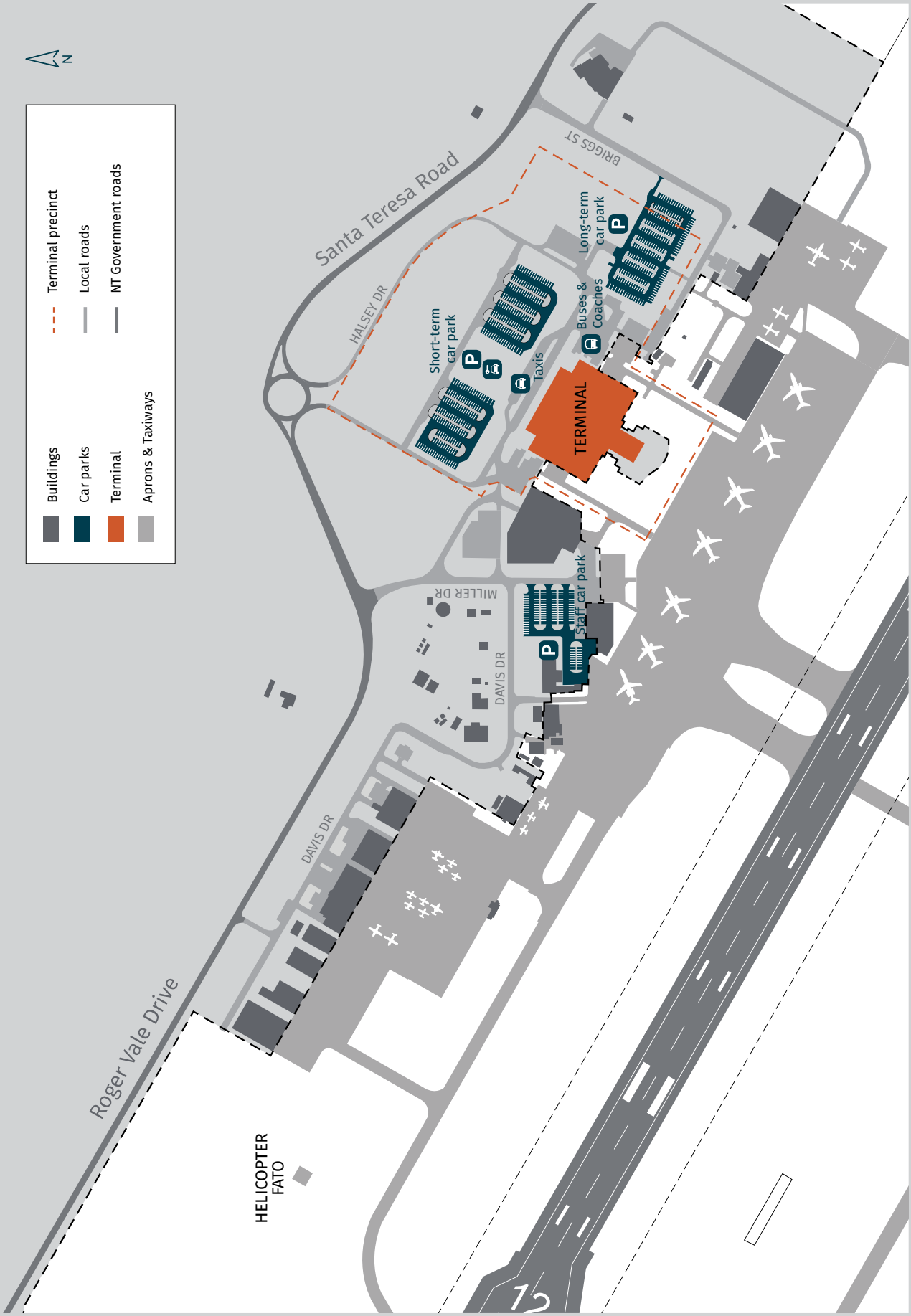
Modes of travel

The majority of airport customers and staff travel to the airport by private vehicle, taxi, private hire car, rideshare, shuttle bus or tourist coach. Taxis and private hire cars rank in the passenger terminal forecourt. A dedicated bus and coach parking area is located to the side of the passenger terminal forecourt.

Taxi overflow parking is adjacent to the taxi rank to provide additional capacity in peak periods, and two new taxi parking pays have been allocated to allow taxi drivers to leave their vehicles unattended for a comfort break.

Alice Springs Airport welcomed ridesharing to the airport in 2018, with Australian-owned company Hi Oscar becoming the first rideshare service to enter the Northern Territory market. At the time of writing, uptake of the ridesharing service has been slow.

Figure 18: Alice Springs Airport 2020 Ground Transport Plan



There are currently no public transport services to Alice Springs Airport. The Northern Territory Government contracts the provision of public buses in Alice Springs to private operator Buslink. The existing Alice Springs public bus network extends as far south as Kilgariff Estate.

Car parking

A number of different car parks are available at Alice Springs Airport, all of which have been constructed at grade (ground level).

- The short-term car park is close to the terminal with 155 public car park spaces and four disabled car parking bays. Co-located in the short-term car park are 108 car rental car parking bays. The short-term car park also offers parking for high and long vehicles, like caravans and trailers.
- The long-term car park is a 200-metre walk from the terminal with 198 car park spaces, including four dedicated disabled parking bays. The long-term car park offers shaded parking bays and secure parking that is fully fenced and locked overnight.
- Other car parks are scattered throughout the airport precinct, including 133 car park spaces for staff.

Alice Springs Airport introduced a new online booking system in 2018 for the airport's short-term and long-term car parks. Number plate recognition technology supports the online booking system, making car parking at the airport convenient and easy for customers.

In the airport's ongoing commitment to environmental management, two solar powered electric vehicle charging stations were installed in the long-term car park in early 2019. The charging stations are powered during daylight hours by solar power generated from the solar array located on the car park shade structures overhead. Generally, electric vehicle charging stations are powered by non-renewable energy, making these stations uniquely sustainable. The chargers are compatible with a wide range of electric cars currently on the Australian market.

Active transport

A small number of airport workers get to the airport by bicycle. A shared path (cyclist and pedestrian use) from Alice Springs town centre runs parallel to the Stuart Highway, as far as the Kilgariff Estate. From Kilgariff Estate, cyclists must ride the rest of the way to the airport on the road.

The Northern Territory Government's Alice Springs Regional Land Use Plan recognises that cycling and walking are popular modes of transportation in Alice Springs, with annual bike counts consistently showing high levels of cycling in Alice Springs compared with other regional centres around Australia. The Northern Territory Government's long-term plan for the Alice Springs shared path network includes the extension of this shared path from Kilgariff Estate to the airport.

Ground transport developments in the first eight years of the master plan

A requirement of the *Airports Act* is to outline potential ground transport developments in the first eight years of the master plan.

There are no planned road system or ground transport service developments that will occur by 2028. The existing road system and ground transport services at Alice Springs Airport are adequate for the foreseeable future.

There may be minor changes to traffic flow design to meet security requirements or airport traffic objectives. The long-term car park may be extended north to accommodate extra car parking bays.

2040 Ground Transport Development Plan

The current passenger traffic at Alice Springs Airport is approximately the same as it was 10 years ago. Incremental annual growth is forecast for both airline passenger and general aviation traffic for the planning period of the master plan. Both the existing external and internal road systems at the airport may need enhancing during the 20-year planning period if current growth forecasts are significantly exceeded.

Minor changes are anticipated in the ground transport arrangements for the planning period to meet changing security demands and any need for increased capacity. This may also include accommodating further uptake of ridesharing as a mode of transport and the possible extension of the public bus service to the airport.

External road access

Access to Roger Vale Drive and Santa Teresa Road from the airport complex may need upgrading during the planning period to cater for developments. Any upgrading of airport access to the external road network will be done in consultation with the Northern Territory Government.

A potential new intersection with Roger Vale Drive to enhance access to the main general aviation area is indicated in Figure 19.

Development of any future access from the northern area of the airport to the external road network would occur in consultation with the Northern Territory Government.

The Northern Territory Government is considering redeveloping the intersection of the Stuart Highway and the Adelaide road. The improvements to the intersection would include a road realignment that gives priority to the Adelaide road and a T-junction formed from Roger Vale Drive to the Stuart Highway. Alice Springs Airport land spans both sides of this intersection. It is understood that airport land abutting both the Stuart Highway and Roger Vale Drive would be needed to widen road reserves.

Off-airport, the Northern Territory Government is undertaking a planning study for the Stuart Highway through Heavitree Gap because traffic modelling indicates that the existing transport infrastructure will need to be upgraded to meet future needs. This is the major arterial road that passes through Alice Springs and also connects Alice Springs Airport to the township.

Internal road network

The approach to development of the internal road network will be to:

- maximise the use of existing road capacity
- progressively enhance the road system capacity in line with demand.

Expansion or upgrading of the internal road network will be dictated by aviation and commercial development growth. In particular, expansion of the general aviation area to the west and development of the northern area would lead to new road construction.

Any development of the northern area will occur in consultation with the Northern Territory Government.

Car parking

Car parking capacity at the airport will be expanded in line with demand.

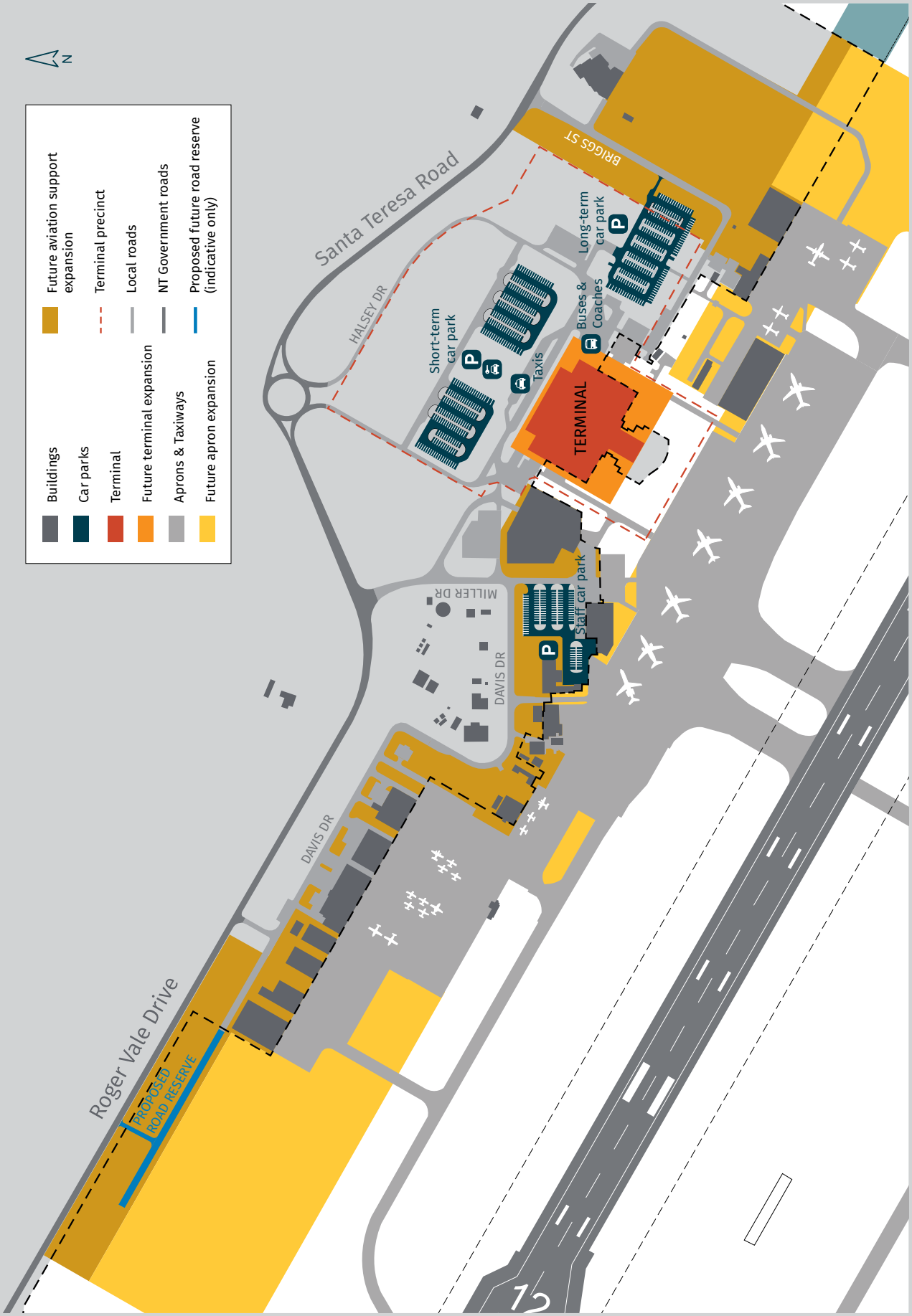
The long-term and short-term car parks have sufficient capacity to meet current demand but may need further expansion during the 20-year planning period of the master plan. At some stage beyond 2028, there may be a need for extra uncovered parking in the long-term car park to cater for high vehicles and long vehicles with trailers because these vehicles currently don't fit under the carports in the long-term car park.

The airport will consider installing more electric vehicle charging stations as demand increases.

Active transport

Alice Springs Airport supports the Northern Territory Government's proposed future extension of the shared path from Kilgariff Estate to the airport. We would welcome its development at the earliest opportunity to benefit cyclists commuting to the airport.

Figure 19: Potential new intersection with Roger Vale Drive



SECTION 11:

Utilities infrastructure

SECTION 11: **Utilities infrastructure**

To ensure Alice Springs Airport operates effectively into the future, appropriate infrastructure and utility services must be able to meet future demands. Alice Springs Airport is responsible for internal electricity, water, sewage and stormwater infrastructure.

Leading the way in solar power

A decade ago, Alice Springs Airport was the first Australian airport to invest in large-scale photovoltaic (PV) solar technology, taking advantage of the central desert climate that provides at least 350 cloudless days a year and 10 hours of sunshine most days. Since then, we have continued to prioritise investing in new solar technology by constructing another two solar facilities. Together, these three solar farms now provide almost 100% of the airport's peak day demand power requirement.

The first solar facility is a 235kW system constructed in 2010. It comprises 28 large arrays, each eight metres wide and seven metres high, located north of the terminal. These arrays move to track the path of the sun throughout the day.

The second solar facility is a 325kW PV system of almost 1000 solar panels on top of 98 shaded car parking bays in the long-term car park. When it was completed in 2014, it was the largest single investment in PV technology by an Australian private sector entity independent of any government subsidy.

The third solar facility was installed in late 2015 with the significant extension of solar panels to the second facility. More than 1000 PV panels were added to the existing shaded parking area of the long-term car park, effectively turning the entire car park into a solar energy station.

These three solar facilities at Alice Springs Airport have a combined output of more than 800kW, the equivalent of powering 90 average Australian households and offsets approximately 1270 tonnes of carbon dioxide a year. The daily output and usage of our solar facilities are displayed on digital screens in the airport terminal.

Alice Springs Airport is considering a future upgrade of the technology used in the first solar facility to become a fixed panel system facing north.

Electricity supply

Existing services

The remaining electrical supply to the airport is provided by Power and Water Corporation.

The major supply is by two 22 kV mains, designed so that one of the two mains can become redundant at any time. An additional 11 kV supply serves the north-west (Seven-Mile) side of the airport. For operational safety, the mains electricity supply is augmented by an onsite standby power generator that operates within CASA standards.

Future extensions and upgrades

It is likely that the current incoming electricity supply will be adequate in the longer term. The present system has capacity for new building developments to be added to the system without triggering any major upgrades. Future developments (depending on use) in the airport area, particularly to the north and west of the terminal, may require an upgrade or separate feed.

Water supply

Existing services

Potable and firefighting town water are supplied by Power and Water Corporation (PWC) to the airport by via underground pipes. The domestic potable water and fire hydrant water mains share the same incoming pipe that then splits into two separate systems at the fire booster pump station. One system supplies the potable water, and the other system supplies the pressure booster pumps that are activated on demand for fire requirements.

Future extensions and upgrades

Decisions about future water supply must be made by PWC. In the interim, holding tanks may be required to ensure adequate holding capacity and pressure at the airport. Alice Springs Airport will continue to monitor the requirement for separation of the water reticulation system from the firefighting system. It is not envisaged to be required in the immediate future unless the airport's or PWC's supply conditions dramatically change.

It is expected that the non-aeronautical development areas, such as the land north and east of the terminal building, may require a dedicated combined fire hydrant and sprinkler-boosted service. The most likely design is for two fire pump stations with two storage tanks and a series of ring mains reticulating throughout the precinct.

Alice Springs Airport is in preliminary discussions with PWC regarding the long term planning of a potential future water mains service corridor to the Rocky Hill borefield, the alignment of which may pass through the airport lease area.

Sewerage

Existing services

Sewerage from the terminal and most buildings in the leased area discharge into a piped sewerage system, which generally uses 100mm PVC piping. This system reticulates into an on-airport sewage treatment facility for the terminal, with septic provision for users outside the terminal.

Future extensions and upgrades

The airport's existing septic tank system is considered adequate for the foreseeable future. In due course, the existing system will be upgraded and its capacity increased to meet loads at higher demand periods. A review will be undertaken to assess consolidating a number of the airport precinct's septic tanks into one large system and with multiple pumping stations.

Extra pumping stations will be required in the non-aeronautical areas to meet demand from the staged development of the precinct. Several new gravity sewer mains will be required to cater for future growth.

Stormwater drainage

Existing services

Most drainage is via underground pipes from the terminal area into unlined drains and then into soakways. This well-established system has the potential for environmental impact involving inappropriate materials run-off and possible scouring. Alice Springs Airport has already established extensive monitoring and implemented a variety of controls to minimise the airport's impact.

Future extensions and upgrades

This system is considered adequate to meet future demand. Alice Springs Airport will investigate the possibility to hold, store and reuse stormwater drainage for irrigation purposes.

Communications

Existing services

As with all other airports, there is a range of communications available to airport tenants. Radio, mobile phone and land line communications are largely the responsibility of other authorities. Alice Springs Airport provides free Wi-Fi to customers in the airport terminal.

Future extensions and upgrades

Alice Springs Airport will investigate providing additional Wi-Fi services to provide redundancy for the terminal and to provide state-of-the-art information technology and communication technology for future occupants of the terminal building. It is anticipated that demand for additional internet capacity can be met.

It is expected that the airport's existing telecommunications infrastructure will be replaced by the NBN in the near future. Alice Springs Airport is monitoring and discussing with NBN the supply of the new communications network to serve the airport and its tenants.

Easements

Part 5.02(3)(b) of the Airport Regulations 1997 requires that any obligations or interests at Alice Springs Airport are addressed. Existing interests are listed below:

- electronic communications easement to Telstra Corporation Limited
- electricity supply easement to Power and Water Corporation
- electronic communications easement to Northern Territory of Australia.

SECTION 12:

Safeguarding the airport

SECTION 12: **Safeguarding the airport**

Introduction

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

Buildings and activities in the vicinity of Alice Springs Airport have the potential to create air safety hazards and to seriously limit the current and future viability of aircraft operations in and out of the airport.

National Airports Safeguarding Framework

The Australian Government recognises that responsibility for land use planning rests primarily with state, territory and local governments but that a national approach can assist in improving planning outcomes on and near airports and under flight paths.

The National Airports Safeguarding Framework (NASF) has been developed by the National Airports Safeguarding Advisory Group to provide guidance on planning requirements for development that affects aviation operations. The group comprises representatives from Commonwealth infrastructure and Defence departments and aviation agencies, state and territory planning and transport departments, and the Australian Local Government Association. The Northern Territory Government Department of Infrastructure, Planning and Logistics is a member of the group.

The framework was first released in 2012 and provides a national regime for land use planning around airports in Australia. The purpose of the framework is to enhance the current and future safety, viability and growth of aviation operations at Australian airports by supporting and enabling:

- the implementation of best practice in relation to land use assessment and decision making in the vicinity of airports
- assurance of community safety and amenity near airports
- better understanding and recognition of aviation safety requirements and aircraft noise impacts in land use and related planning decisions
- the provision of greater certainty and clarity for developers and land owners
- improvements to regulatory certainty and efficiency
- the publication and dissemination of information on best practice in land use and related planning that supports the safe and efficient operation of airports.

NASF guidelines

There are nine guidelines under the framework:

- **Guideline A:** Measures for Managing Impacts of Aircraft Noise
- **Guideline B:** Managing the Risk of Building Generated Windshear and Turbulence at Airports
- **Guideline C:** Managing the Risk of Wildlife Strikes in the Vicinity of Airports
- **Guideline D:** Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation
- **Guideline E:** Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports
- **Guideline F:** Managing the Risk of Intrusions into the Protected Airspace of Airports
- **Guideline G:** Protecting Aviation Facilities – Communications, Navigation and Surveillance (CNS)
- **Guideline H:** Protecting Strategically Important Helicopter Landing Sites
- **Guideline I:** Managing the Risk in Public Safety Areas at the ends of Runways

Alice Springs Airport is committed to continuing considering the NASF guidelines in our airport planning and development.

Aircraft noise

Over the long term, inappropriate development around airports can result in unnecessary constraints on airport operations and negative impacts on community amenity due to the effects of aircraft noise.

Guideline A provides advice on the use of a supplementary suite of noise metrics, including the Australian Noise Exposure Forecast system and frequency-based noise metrics, to inform strategic planning and provide communities with comprehensive and understandable information about aircraft noise.
Source: NASF factsheet

The main noise metric for Alice Springs Airport is the Australian Noise Exposure Forecast (ANEF). The ANEF is a contour map that forecasts expected future aircraft noise levels for land use planning purposes. The ANEF is subject to technical review and endorsement by Airservices Australia.

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.

Being a land use planning tool, the ANEF does not appropriately describe the impact or exposure of aircraft noise to the surrounding community. For this reason, Alice Springs Airport has incorporated the NASF Guideline A recommendation of additional complementary methods of describing aircraft noise, such as N-Contour drawings (see Section 13).

Section 13 of the master plan details the aircraft noise forecasts for Alice Springs Airport.

Building-generated windshear and turbulence

Building-induced windshear and turbulence can be a problem for aviation operations in cases where structures are situated close to airport runways. When a significant obstacle is located in the path of a crosswind to an operational runway, the wind flow will be diverted around and over the building and can cause the crosswind speed to vary along the runway.

Guideline B presents a layered risk approach to the siting and design of buildings near airport runways to assist land use planners and airport operators to reduce the risk of building-generated windshear and turbulence.
Source: NASF factsheet

Windshear poses the greatest risk on approach, landing and take-off when an aircraft's speed is low and the pilot's ability to respond may be limited. It has been identified that the most critical zone for building positioning in relation to building generated windshear is in close proximity to the touch-down zones of the runways.

In considering the risk of building-generated windshear as a result of any future developments on-airport, Alice Springs Airport will refer to NASF Guideline B recommendations.

Wildlife hazard management

Wildlife strikes and/or avoidance can cause major damage to aircraft and/or compromise aircraft safety. Whilst the Civil Aviation Safety Authority has well-established safety requirements for wildlife management plans on-airport, wildlife hazards also occur outside the airport fence.

Guideline C provides advice to help protect against wildlife hazards originating off-airport. Many existing airports are surrounded by areas that are attractive to wildlife, especially birds, but appropriate land use planning decisions and the way in which existing land use is managed in the vicinity of airports can significantly reduce the risk of wildlife hazards. Source: NASF factsheet

Surrounding land use can have the potential to attract problem wildlife species to the airport, increasing the risk of strike incidences. Alice Springs Airport is required to monitor and control the presence of wildlife on or in the vicinity of the airport in accordance with CASA regulations.

The airport maintains a vigilant Wildlife Hazard Management System to remove and reduce potential high-risk bird and animal species. Wildlife hazard management considerations are also taken into account when planning and assessing potential developments at the airport and its surrounds.

Wind turbines

Wind turbines can constitute a risk to low-flying aviation operations such as agricultural pilots. Additionally, temporary and permanent wind monitoring towers can be erected in anticipation of, or in association with, wind farms and can also be hazardous to aviation, particularly given their low visibility.

These structures can also affect the performance of communications, navigation and surveillance equipment operated by Airservices Australia and the Department of Defence. Guideline D provides advice on the location and safety management of these and other similar structures. Source: NASF factsheet

There are currently no large-scale wind turbines in the vicinity of Alice Springs Airport. The Airports (Protection of Airspace) Regulations protect Alice Springs Airport from tall structures like wind turbines being constructed in the vicinity of the airport. When wind turbines over 150 metres above ground level are to be built within 30 kilometres of a certified or registered aerodrome, the proponent should notify the CASA and Airservices Australia.

The Northern Territory Government's Roadmap to Renewables strategy has identified that relatively low average wind speeds are experienced in the NT and as a result are less effective at generating energy and therefore less commercially viable than in other parts of Australia. Wind power is likely to be of marginal value in comparison to other renewable energy technologies, like solar power, which is well suited to the central desert climate of Alice Springs.

Lighting in the vicinity of the airport

Pilots are reliant on the specific patterns of aeronautical ground lights during inclement weather and outside daylight hours. These aeronautical ground lights, such as runway lights and approach lights, play a vital role in enabling pilots to align their aircraft with the runway in use. They also enable the pilot to land the aircraft at the appropriate part of the runway.

It is therefore important that lighting in the vicinity of airports is not configured or is of such a pattern that pilots could either be distracted or mistake such lighting as being ground lighting from the airport. Guideline E provides advice on the risks of lighting distractions and how these can be minimised or avoided. Source: NASF factsheet

CASA has the power under the Civil Aviation Regulations 1988 (CAR 94 – Dangerous Lights) to control ground lights where they have the potential to cause confusion or distraction from glare to pilots in the air. To assist lighting designers and installation contractors in the vicinity of the airport, CASA has established guidelines on the location and permitted intensities of ground lights within a six-kilometre radius of airports. External advertising, sport field floodlighting and street lighting are some of the more likely lighting sources requiring consideration.

NASF Guideline E provides further guidance to assist development proponents and planning authorities

to ensure lighting in the vicinity of airports does not compromise aviation safety. Alice Springs Airport will make documentation available indicating the zones around the airport that have maximum permissible lighting intensities.

Airspace protection

The operational airspace of airports is the volume of airspace above a set of imaginary surfaces, the design of which is determined by criteria established by the International Civil Aviation Organisation. These surfaces are established with the aim of protecting aircraft from obstacles or activities that could be a threat to safety – in particular, high-rise buildings.

Guideline F provides advice for planners and decision makers about working within and around protected airspace, including OLS and PANS-OPS intrusions, and how these can be better integrated into local planning processes. Source: NASF factsheet

Part 12 of the *Airports Act* and the Airport (Protection of Airspace) Regulations declare prescribed airspace and give statutory protection from intrusion into this airspace. For the immediate and long-term operation of Alice Springs Airport, new structures should be designed, or other activities controlled, to ensure they do not intrude into the present or future protected airspace.

There are Australian standards for airport design, including Civil Aviation Safety Regulations (CASR 1998) and Manual of Standards Part 139 – Aerodromes (MOS Part 139). Under these standards, airspace is prescribed for protection in two categories:

- obstacle limitation surfaces (OLS)
- procedures for air navigation services – aircraft operations (PANS-OPS).

NASF Guideline F highlights the importance of these surfaces in protecting the operational efficiency of the airport. In line with these guidelines, Alice Springs Airport has prepared OLS and PANS-OPS charts that define the airport's prescribed airspace. These charts are integral in assessing proposed developments in and around the airport that may intrude on the protected airspace.

Obstacle limitation surfaces

The obstacle limitation surfaces (OLS) are a series of surfaces in the airspace surrounding an airport and referenced to each runway. The OLS for Alice Springs Airport is at Figure 20.

The broad purpose of the OLS is to define the volume of airspace that should ideally be kept free from obstacles in order to minimise the danger to aircraft flying into or out of the airport when the pilot is flying by sight, or during the visual segment of an instrument approach procedure. Infringements of these surfaces may be approved subject to a safety analysis and assessments by stakeholders and subject to any conditions imposed.

Procedures for air navigation services – aircraft operations (PANS-OPS) surfaces

A PANS-OPS surface for an airport is a surface ascertained in accordance with the procedures in *ICAO Procedures for Air Navigation Services – Aircraft Operations* (Doc 8168, PANS-OPS). The PANS-OPS for Alice Springs Airport is at Figure 21.

The PANS-OPS surfaces are generally higher than the OLS, and are intended to safeguard an aircraft from collision with obstacles when the pilot is flying with navigation instruments. The designer of an instrument procedure determines the lateral extent of areas needed for an aircraft to execute a particular manoeuvre. The designer then applies minimum obstacle clearances to structures, terrain or other natural features within that area to determine the limiting altitude at which the manoeuvre can be safely executed. As a result, PANS-OPS surfaces cannot be infringed in any circumstances.

Figure 20: Alice Springs Airport obstacle limitation surfaces (OLS)

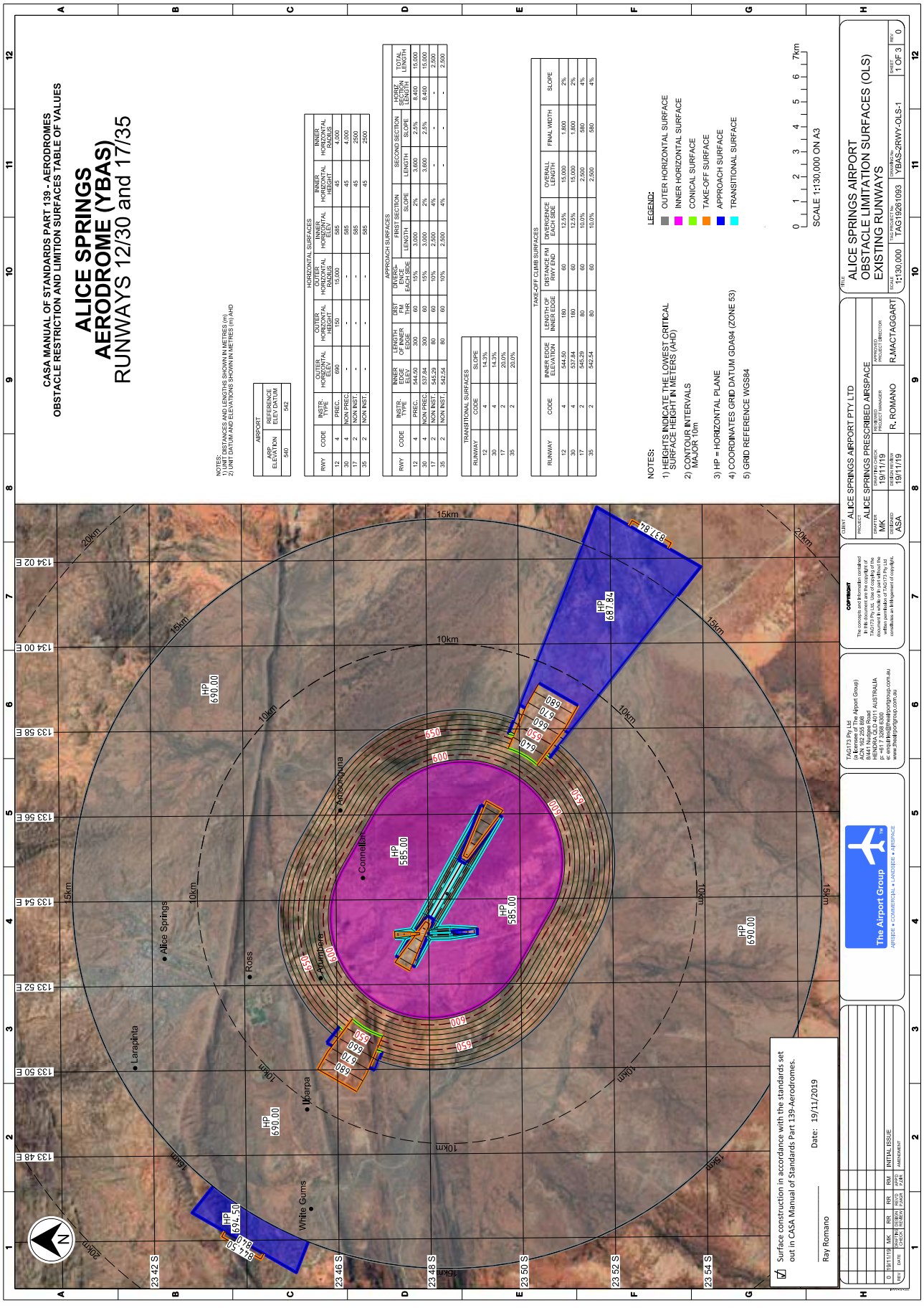
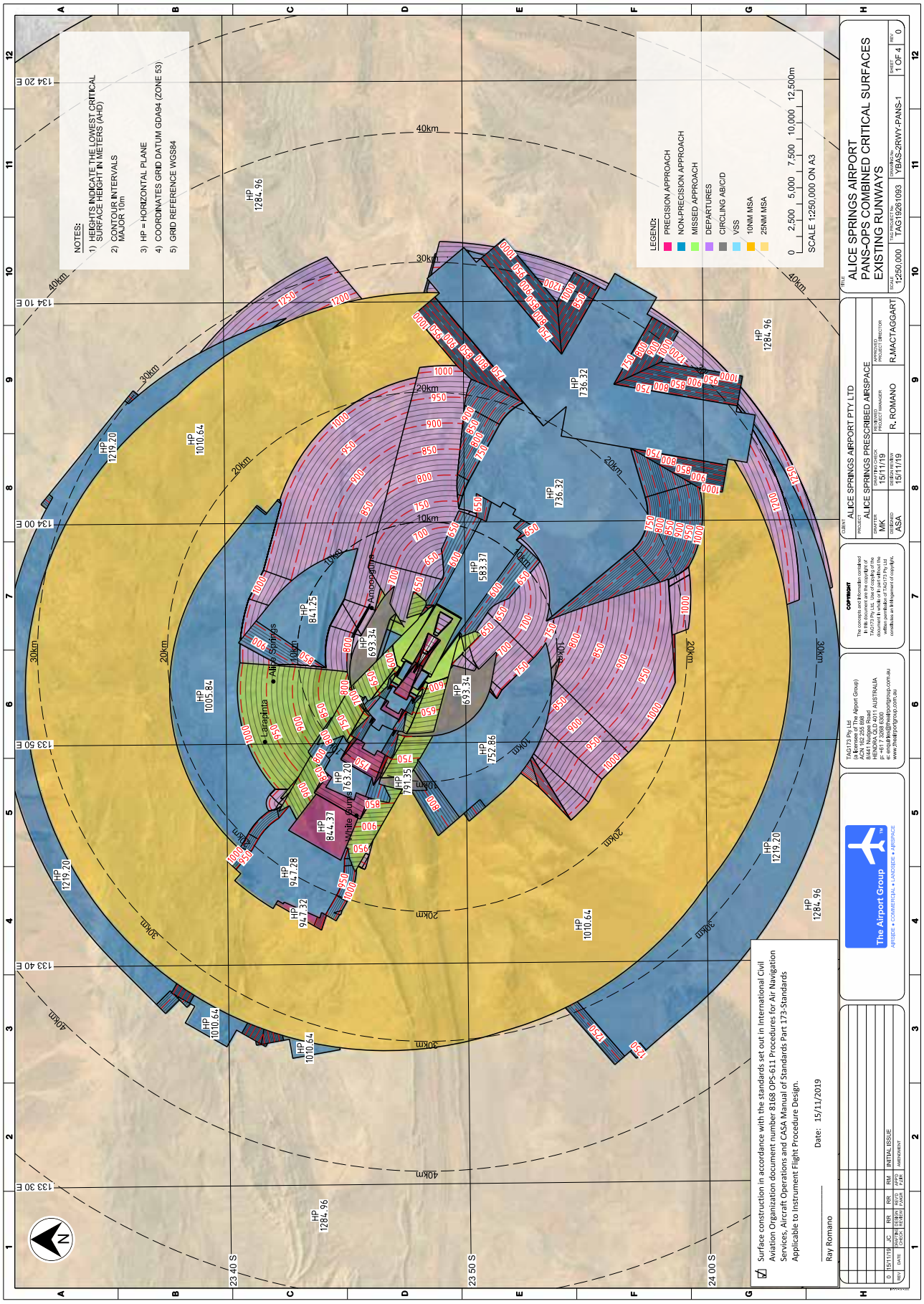


Figure 21: Alice Springs Airport procedures for air navigation services – aircraft operations (PANS-OPS) surfaces



Airspace protection planning control

Any activity (on- or off-airport) that infringes an airport's protected airspace is called a 'controlled activity' and requires approval before it can be carried out. Controlled activities
include:

- permanent structures, such as buildings, intruding into the protected airspace
- temporary structures, such as cranes, intruding into the protected airspace
- any activities causing intrusion into the protected airspace through glare from artificial light or reflected sunlight, air turbulence from stacks or vents, smoke, dust, steam or other gases or particulate matter.

The Airports (Protection of Airspace) Regulations stipulate that controlled activities need specific approval from DITRDC. The Regulations require that proponents of controlled activities must provide Alice Springs Airport with the details of the proposal, which are then assessed against the OLS and PANS-OPS by the airport and government safety agencies before Alice Springs Airport provides all information to DITRDC for consideration. Where it will affect the safety, efficiency or regularity of air transport at the airport, Alice Springs Airport will indicate to DITRDC its opposition to the proposal.

Communication, navigation and surveillance facilities

Communications, navigation and surveillance (CNS) facilities are crucial to the safe and efficient operation of aircraft. They enable pilots to navigate while between airports, conduct instrument approaches and to communicate and confirm their position with air traffic control. While such facilities are generally associated with airports, some are offsite and at significant distances from airports. Inappropriate development in the vicinity of these facilities can compromise their effectiveness.

Guideline G is intended to assist land-use planners in their consideration of these facilities when assessing development proposals and rezoning requests and when developing strategic land use plans. It will also guide their interactions with Airservices Australia and the Department of Defence on when to consult on development proposals and in gaining up-to-date geographical locations for these facilities. Source: NASF factsheet

At Alice Springs Airport, there are a number of radio navigation aids and communication installations that provide precision and other guidance to aircraft, including non-directional beacon (NDB), distance measuring equipment (DME), Very High Frequency omnidirectional range (VOR) and instrument landing system (ILS). These are operated by Airservices Australia. These systems rely on the transmission of radio waves that must be protected from any structures or obstacles that could cause signal refraction or interference. Consequently, areas surrounding these facilities may have development restrictions. NASF Guideline G provides detailed guidance on the requirements for the building restriction areas around these facilities.

Aircraft use airport-based navigational aids for en-route navigation or to make an instrument approach to the airport. Unplanned interruptions to, or degradation of, the ground signal are to be avoided in the interests of safety. Therefore, it is necessary to ensure there will be no interference caused to the operation of navigational aids by the erection of structures or work activities within the vicinity of a navigational aid or its associated cables.

To meet the necessary performance requirements, airspace restrictions are established for each item of equipment and procedures. It may be possible under some circumstances to permit infringements of the protective surfaces without degradation in system performance. Protection of the navigation aids and radar-restricted surfaces is managed cooperatively between Alice Springs Airport and Airservices Australia.

Helicopter landing sites

The protection of strategically important helicopter landing sites (HLS) (such as those associated with hospitals) from the adverse impacts of development has become a critical issue in recent years. There have been times where hospital emergency helipads have been closed due to safety concerns arising from the nearby operation of construction cranes.

Guideline H seeks to provide a consistent national approach for land use planning in the vicinity of these facilities. State and territory governments are responsible for identifying HLS that are considered to be of strategic importance, or those that are to be protected in the interest of public safety. Source: NASF factsheet

Guideline H specifically relates to protecting strategically important helicopter landing sites located off-airport. The NT Government introduced helicopter landing sites into the NT Planning Scheme in 2019. There are currently three strategically important helicopter landing sites designated in the Northern Territory: Alice Springs Hospital, Katherine Hospital and Royal Darwin Hospital.

Public safety areas

Public safety areas (PSAs) are designated areas of land at the end of airport runways within which certain planning restrictions may apply. While air crashes are rare events, the majority occur in the vicinity of airports during take-off and landing. The PSA Guideline was developed to mitigate the risk of on-ground fatalities from an aircraft incident by informing a consistent approach to land use at the end of Australian airport runways. Source: NASF factsheet

Guideline I: Managing the Risk in Public Safety Areas at the Ends of Runways is the most recent guideline to have been introduced into the National Airports Safeguarding Framework, in late 2018.

Public Safety Areas seek to limit land uses at the end of an airport runway that increase the number of people living, working or congregating in the area, as well as the storage of hazardous materials in the area.

Off-airport, the implementation of public safety areas falls within the jurisdiction of the Northern Territory Government. On-airport, public safety areas are considered by Alice Springs Airport in the approval process when assessing a proposed development.

Drones

Drones are an emerging technology that are growing in popularity. It is important that drone users inform themselves on how and where they may operate a drone, whether they need to be licensed, and the dangers of flying drones near airports.

CASA has developed regulations for the use of drones around airports, available on its website. The CASA-verified drone app ‘Open Sky’ provides customised location-based information about where people can and can’t fly drones, in accordance with aviation legislation.

SECTION 13:

Aircraft noise management

SECTION 13: **Aircraft noise management**

Introduction

As the airport operator, Alice Springs Airport has little direct control over noise produced by aircraft operations other than the ground running of civil aircraft engines. Airspace management is controlled by Airservices Australia.

The International Civil Aviation Organisation (ICAO) has developed standards and guidelines that address civil aircraft noise, referred to as Annex 16. Australian Government aircraft noise legislation reflects the standards developed by ICAO and the obligations placed on Australia as a member of ICAO.

Airservices Australia explains in their 'Fundamentals of Sound' fact sheet, that the characteristics of sound from aircraft can vary depending on a range of factors, including the type of engine (e.g. propeller or jet) and the height of the aircraft. Although there are many sources of noise from an aircraft (e.g. engine, airframe, landing flaps and landing gear), for most of the flight, it is the engines that are the dominant source. Jet aircraft noise is generated by a combination of the mixing of high-velocity exhaust gases with ambient air, combustion of fuel and compressor fans. Noise from propeller-driven fixed-wing and helicopter aircraft result from the rotating propeller cutting through the air.

Australian Noise Exposure Forecast (ANEF)

The Australian Noise Exposure Forecast (ANEF) is a set of contours showing future forecasted levels of exposure to aircraft noise for building control purposes.

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* to guide land use planning and development consent decisions by the relevant authority. Building approvals external to the airport are the responsibility of the Northern Territory Government.

On-airport development is under the final approval of the Airport Building Controller under the *Airports Act*. AS2021:2015 does, however, recognises that the 20 ANEF and 25 ANEF zones do not capture all high-noise affected areas around an airport, and the ANEF contours are not necessarily an indicator of the full spread of noise impacts. As such, Alice Springs Airport has incorporated the NASF Guideline A recommendation of additional complementary methods of describing aircraft noise, in particular the frequency-based measure of the N-contour system. The N-Contour system is discussed further in this chapter.

The ANEF is subject to technical review and endorsement by Airservices Australia.

BUILDING TYPE	ACCEPTABLE	CONDITIONAL	UNACCEPTABLE
House, home, unit, flat, caravan park	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Hotel, motel, hostel	Less than 25 ANEF	25 to 30 ANEF	Greater than 30 ANEF
School, university	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Hospital, nursing home	Less than 20 ANEF	20 to 25 ANEF	Greater than 25 ANEF
Public building	Less than 20 ANEF	20 to 30 ANEF	Greater than 30 ANEF
Commercial building	Less than 25 ANEF	25 to 35 ANEF	Greater than 35 ANEF
Light industrial	Less than 30 ANEF	30 to 40 ANEF	Greater than 40 ANEF
Other industrial	Acceptable in all ANEF zones		

Table 29: Building site acceptability based on ANEF zones (Source: Standards Australia)

ANEF in land use planning and development consent

Australian Standard AS2021:2015 provides guidance for new construction in relation to ANEF contours, see Table 29 below. 'Conditional' means that approval may be given if appropriate noise control features can be incorporated in the construction.

Endorsed ANEF

The *Airports Act* requires that a standard 20-year ANEF be provided. That is, a 2040 ANEF for this master plan. Long-range (more than 20 years) or ultimate capacity ANEFs can also be incorporated in a master plan. This master plan presents a 2060 ANEF in order to provide a longer-term view of aircraft noise than the minimum required period.

Methodology

An ANEF is a set of noise contours at some point in the future (in this case 2060). The contours were prepared in accordance with the Airservices Australia document 'Guidelines for the Production of Noise Contours for Australian Airports' and comply with the 'Manner of Endorsement' approved by the former Minister for Infrastructure and Transport in April 2017.

ANEF inputs include aircraft movement forecasts, runway and flight path usage, time of day and fleet mix. The ANEF process ensures forecast traffic is within the aircraft movement capacity of the airport. The ANEF for Alice Springs Airport assumes that there are to be no major changes to the airfield layout, any runway extensions or changes to the current flight patterns within the planning period. The current procedures for aircraft arriving and departing the airport were defined in close consultation with local air traffic control operated by Airservices Australia.

In developing the 2060 ANEF, the following inputs, methodology and assumptions were used:

- All regular public transport (RPT) activity at Alice Springs Airport currently occurs within the period of 8:00am to 6:00pm daily, which mirrors the aerodrome control service provided by Alice Springs air traffic control (ATC). The majority of military and general aviation movements also occur during this time period. It is forecast that this period of activity will be unchanged in 2060.
- There is no expectation of change in the jet fleet mix servicing Alice Springs Airport. The airport will continue to be mainly serviced by narrow-body and regional jets, with no expectation of upgauging to wide-body jets.
- The current origin/destinations are expected to remain unchanged.
- Runway 12 is used for 74% of all aircraft movements due to prevailing wind and the ILS. Runway 30 accommodates 19% of all aircraft movements, with the remainder equally split between runway 17 and runway 35.
- There will be 12 international charter movements per year by 2060, originating from Asian ports.
- The current 324 military movements per year to Alice Springs Airport will be grown to 360 movements in the 2060 ANEF.
- Growth in helicopter operations will grow at approximately the same rate as the overall average annual growth rates of fixed-wing aircraft movements.
- Asia Pacific Aircraft Storage has also been accounted for in the 2060 ANEF, assuming 30 aircraft movements will be operated per year in 2060, comprised of wide-body jets, narrow-body jets and turboprops.

Noise modelling

In 2019, Airservices Australia announced the industry's transition to a new type of aircraft noise modelling, called Aviation Environmental Design Tool (AEDT). This supersedes the Integrated Noise Model (INM) software used to model aircraft noise for previous Alice Springs Airport master plans. Both INM and AEDT are products developed by the United States Federal Aviation Administration (FAA); however, the INM is no longer supported by the FAA.

Airservices Australia outlines the key benefits of the AEDT software as updated aircraft performance data, inclusion of new aircraft types, a more user-friendly interface, emissions and fuel burn modelling capabilities, and ongoing software support.

From 2020, Airservices Australia will only accept ANEFs for technical endorsement that have been produced using AEDT. Therefore, the 2060 long-range ANEF for Alice Springs Airport has been developed using the new AEDT software.

Approval process

Prior to seeking Airservices Australia's endorsement of the ANEF, the airport provided the local planning authorities with a copy of a draft ANEF and the opportunity to comment. In the case of Alice Springs Airport, the relevant authorities are the Northern Territory Department of Infrastructure, Planning and Logistics, Alice Springs Town Council and MacDonnell Regional Council.

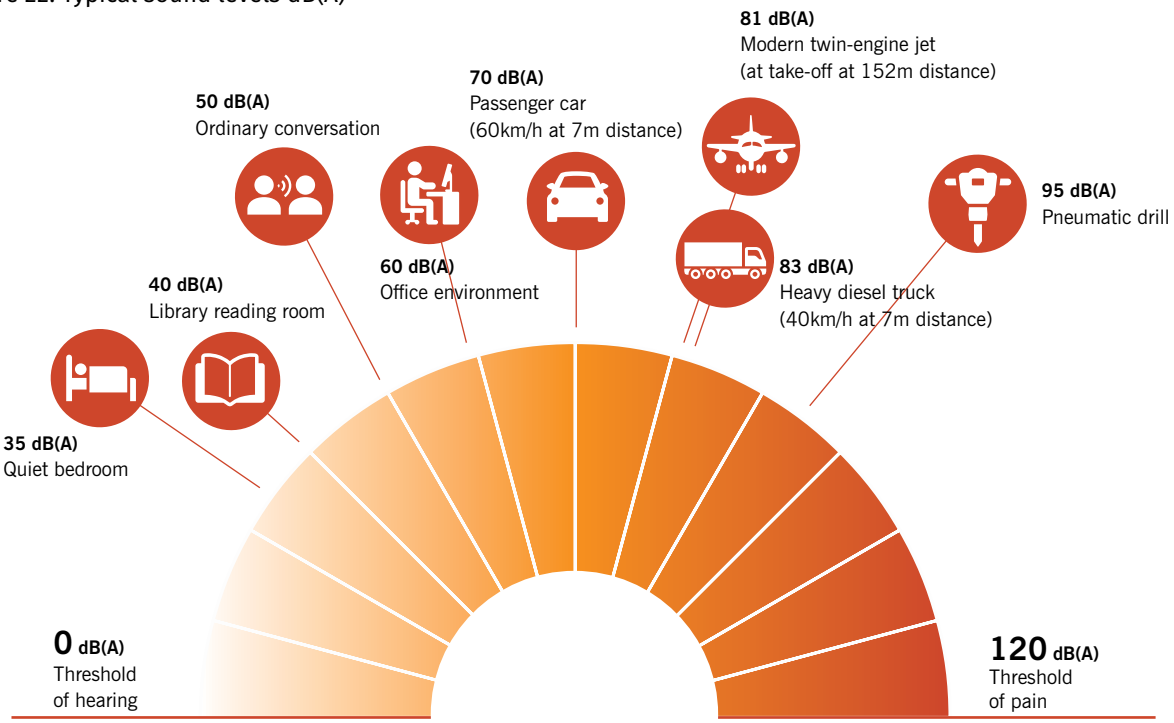
The 2060 ANEF endorsed by Airservices Australia is at Figure 23.

Noise comparisons over time

It is important to note that ANEF noise contours can change over time between master plans as inputs to the modelling process such as aircraft movement forecasts, fleet mix, runways, flight paths and time of day are updated to reflect new information.

The ANEF from the 2015 master plan (the 2055 ANEF) compared to the ANEF from the 2020 master plan (the 2060 ANEF) is at Figure 24. As can be seen, the contours vary slightly with projected aircraft activity. All 2060 contours are located within the airport boundary. Alice Springs Airport aircraft traffic does not pose noise issues

Figure 22: Typical sound levels dB(A)



for the Alice Springs community in the future, including any residential development in the northern part of the airport site, as it lies outside the ANEF 20 contour and the N-contours.

Describing aircraft noise

The N-contour system is a complementary aircraft noise metric that shows the potential number of aircraft noise events above a certain decibel on an average day. It is more explanatory than the ANEF system because it shows noise in a way that a person perceives it—as a number of single aircraft movement events per day above a certain noise level. This information is portrayed as a series of 'number above' contours.

2060 N70 contours

The N70 diagram (Figure 42) shows the number of civil aircraft noise events greater than 70 dB(A) that occur in a typical day. The 70 decibel (N70) measure has been the most commonly used frequency-based aircraft noise measure to date because a 70 decibel outside noise will generally be experienced as a 60 decibel event inside a residence with the windows open. Sixty decibels is the sound level that will disturb a normal conversation or activities, such as watching television.

Flight paths

Airservices Australia is responsible for the management and control of the flight paths used by aircraft approaching and departing from Alice Springs Airport. Flight paths illustrate the broad spread of flight paths that an aircraft may fly when arriving at or departing from an airport. The approved arrival, departure and training flight paths for all runways are contained in figures 25 to 37.

While aircraft follow flight paths, these are not as precise as a train on a railway line or a car on the highway, with aircraft approaching or departing the runway within a flight path 'envelope' (or 'corridor'). The envelopes may vary with aircraft configuration and weather. When presented, this information is referred to as 'swoosh tracks'. The 2060 swoosh tracks are at figures 38 to 41.

Managing noise intrusion

Alice Springs Airport's role

Australian airports have little influence in the amount of aircraft noise generated or land use decisions around the airport and under flight paths. However, Alice Springs Airport will continue to work where it sensibly can to minimise noise impacts on the Alice Springs community.

Aircraft ground running

Ground running of aircraft engines is a significant part of aircraft maintenance. Ground running is when an aircraft engine is tested at the airport while the aircraft is stationary on the tarmac. The majority of aircraft maintenance at Alice Springs Airport is conducted by general aviation operators. Alice Springs Airport has established stringent operating procedures for the ground running of civil aircraft, detailed in the airport's Engine Ground Running Management Plan.

No aircraft noise abatement procedures are currently required but may be required in the future.

Noise monitoring

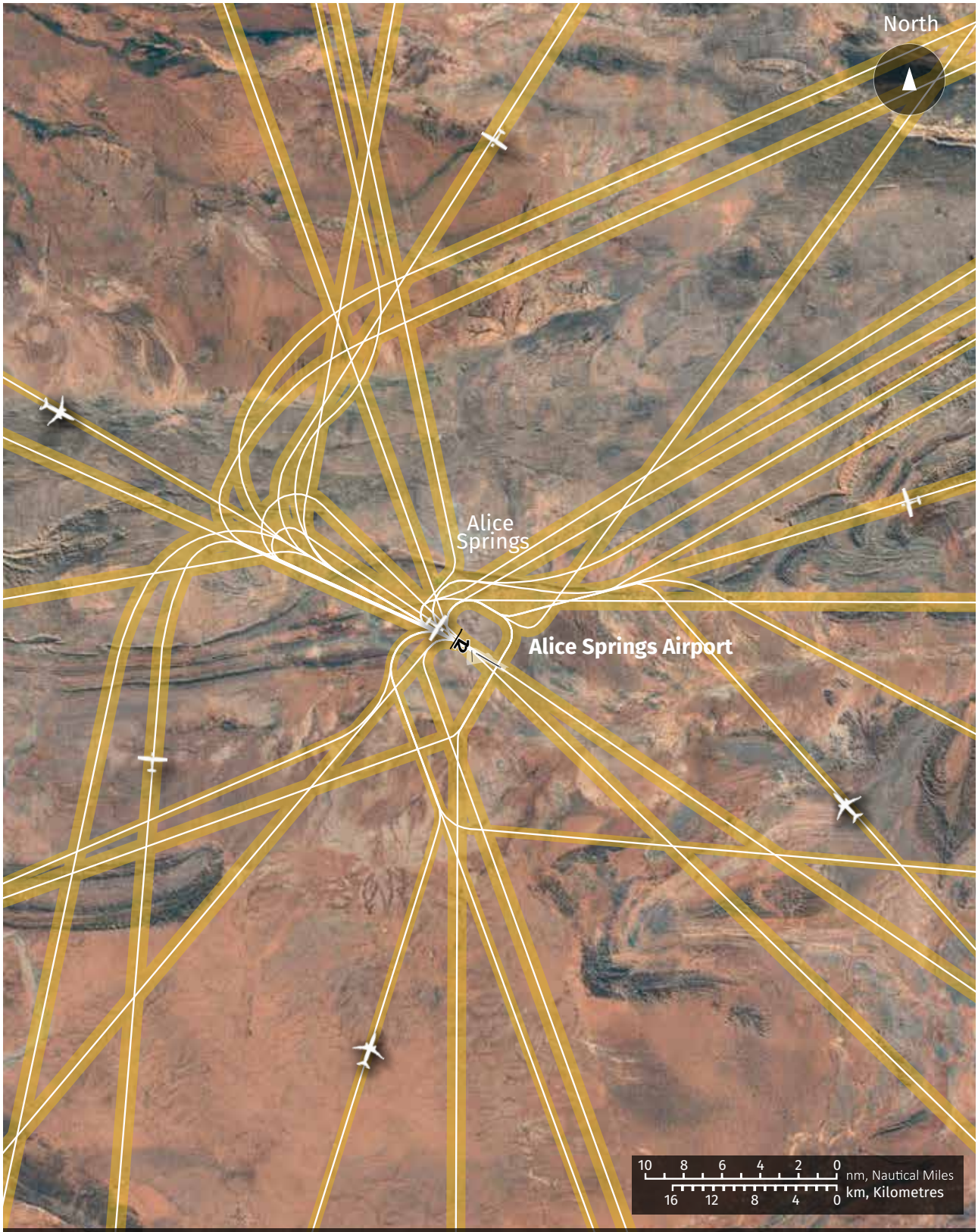
Aircraft noise complaints received by Alice Springs Airport relating to aircraft flying overhead are referred to Airservices Australia, the agency responsible for managing and monitoring the impact of civilian aircraft noise.

Airservices Australia is responsible for managing complaints and enquiries about aircraft noise and operations through its dedicated Noise Complaints and Information Service (NCIS). Airservices Australia has not received any noise complaints relating to Alice Springs Airport during the period of the last master plan.

Figure 23: Alice Springs Airport 2060 endorsed ANEF

Figure 24: Alice Springs Airport 2055 ANEF vs 2060 ANEF

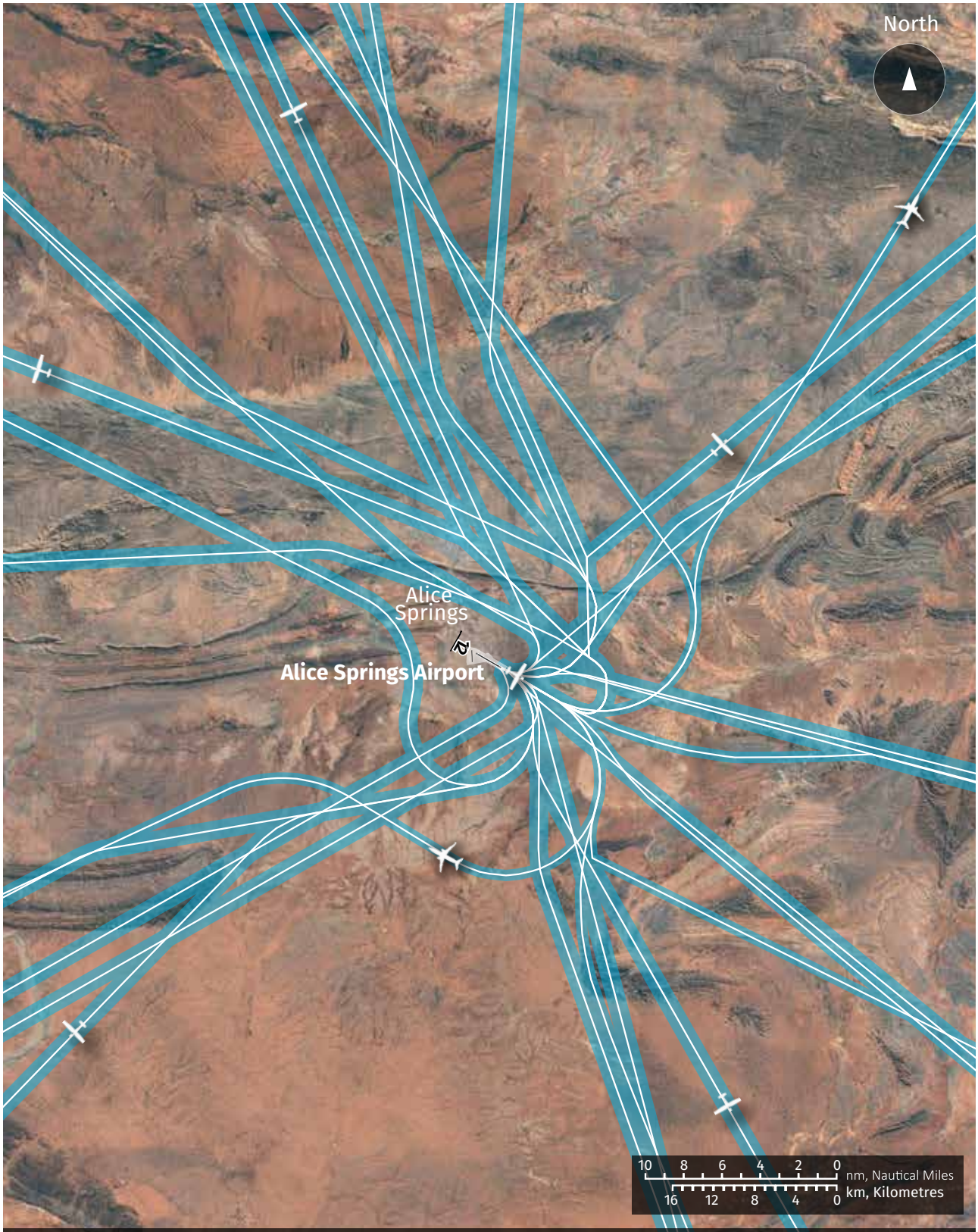
Figure 25: Alice Springs Airport flight paths runway 12 arrivals



Flight Track Notes

- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 26: Alice Springs Airport flight paths runway 12 departures



Flight Track Notes

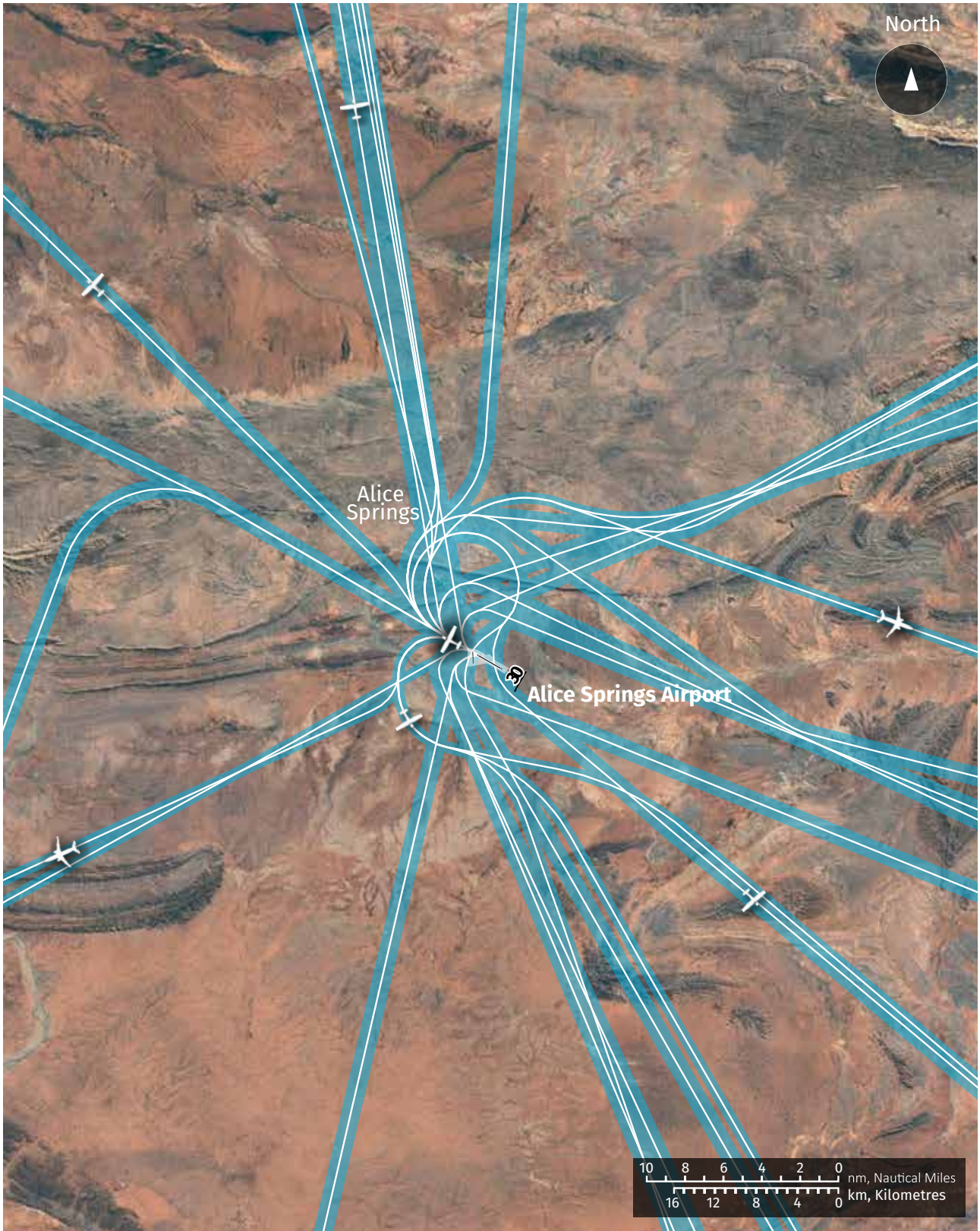
- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 27: Alice Springs Airport flight paths runway 30 arrivals

Flight Track Notes

- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 28: Alice Springs Airport flight paths runway 30 departures



Flight Track Notes

- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 29: Alice Springs Airport flight paths runway 12 training circuits

Flight Track Notes

- General Aviation aircraft will perform a series of take offs and landings on a runway in a circuit pattern. They will ascend to 1000ft AGL (Above Ground Level) after takeoff and maintain that altitude until they need to begin their descent for landing.
- Multiple aircraft may be in the circuit at a time. They will be spaced according to safety standards.
- Only one circuit will operate per runway at a time. Aircraft will turn left OR right based on wind direction.
- Aircraft in the circuit will share the airspace with other operations with Air Traffic Control managing all aircraft.
- Aircraft are not to scale.

Figure 30: Alice Springs Airport flight paths runway 30 training circuits

Flight Track Notes

- General Aviation aircraft will perform a series of take offs and landings on a runway in a circuit pattern. They will ascend to 1000ft AGL (Above Ground Level) after takeoff and maintain that altitude until they need to begin their descent for landing.
- Multiple aircraft may be in the circuit at a time. They will be spaced according to safety standards.
- Only one circuit will operate per runway at a time. Aircraft will turn left OR right based on wind direction.
- Aircraft in the circuit will share the airspace with other operations with Air Traffic Control managing all aircraft.
- Aircraft are not to scale.

Figure 31: Alice Springs Airport flight paths runway 17 arrivals and departures

Flight Track Notes

- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 32: Alice Springs Airport flight paths runway 35 arrivals and departures

Flight Track Notes

- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 33: Alice Springs Airport flight paths runway 17 training circuits

Flight Track Notes

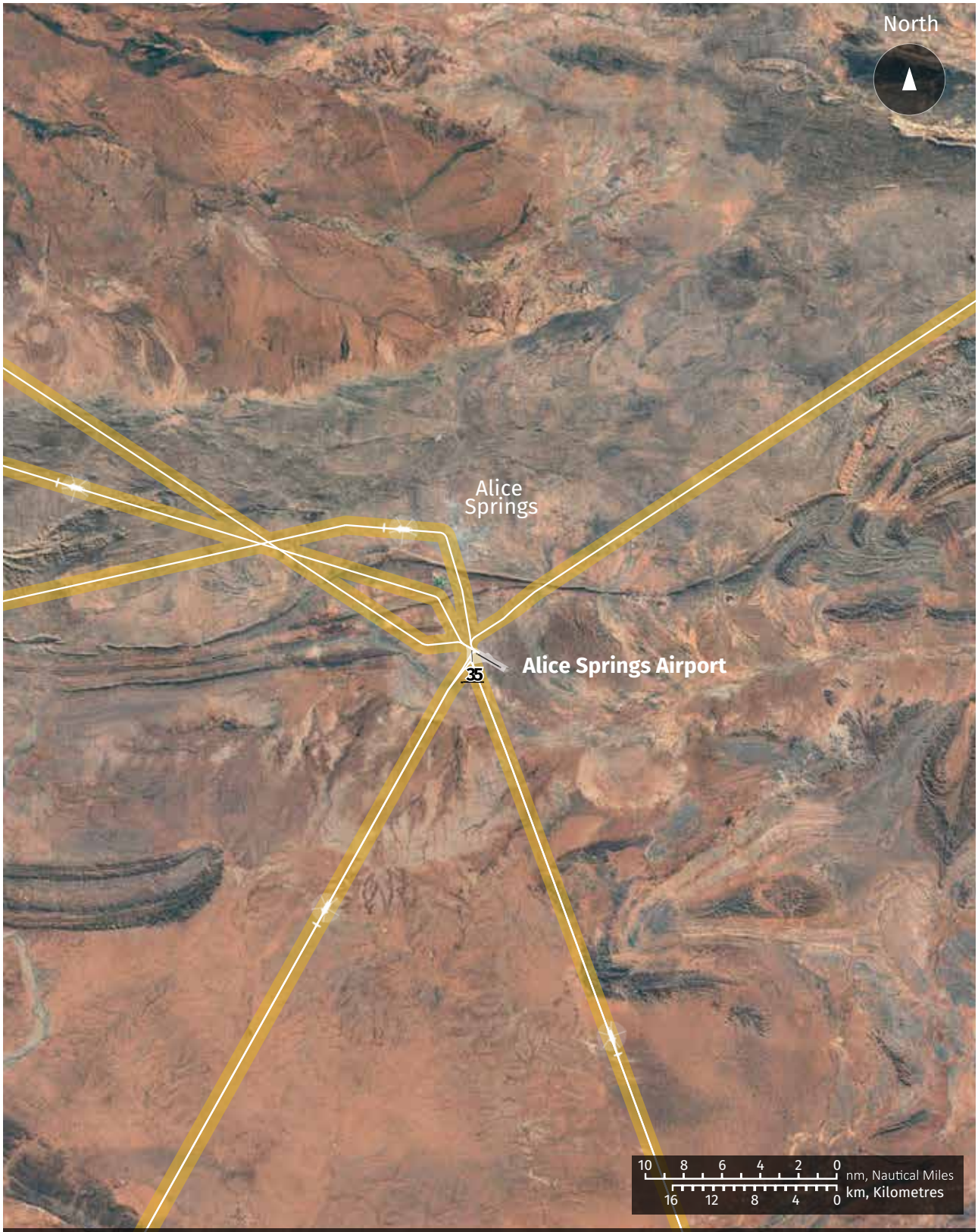
- General Aviation aircraft will perform a series of take offs and landings on a runway in a circuit pattern. They will ascend to 1000ft AGL (Above Ground Level) after takeoff and maintain that altitude until they need to begin their descent for landing.
- Multiple aircraft may be in the circuit at a time. They will be spaced according to safety standards.
- Only one circuit will operate per runway at a time. Aircraft will turn left OR right based on wind direction.
- Aircraft in the circuit will share the airspace with other operations with Air Traffic Control managing all aircraft.
- Aircraft are not to scale.

Figure 34: Alice Springs Airport flight paths runway 35 training circuits

Flight Track Notes

- General Aviation aircraft will perform a series of take offs and landings on a runway in a circuit pattern. They will ascend to 1000ft AGL (Above Ground Level) after takeoff and maintain that altitude until they need to begin their descent for landing.
- Multiple aircraft may be in the circuit at a time. They will be spaced according to safety standards.
- Only one circuit will operate per runway at a time. Aircraft will turn left OR right based on wind direction.
- Aircraft in the circuit will share the airspace with other operations with Air Traffic Control managing all aircraft.
- Aircraft are not to scale.

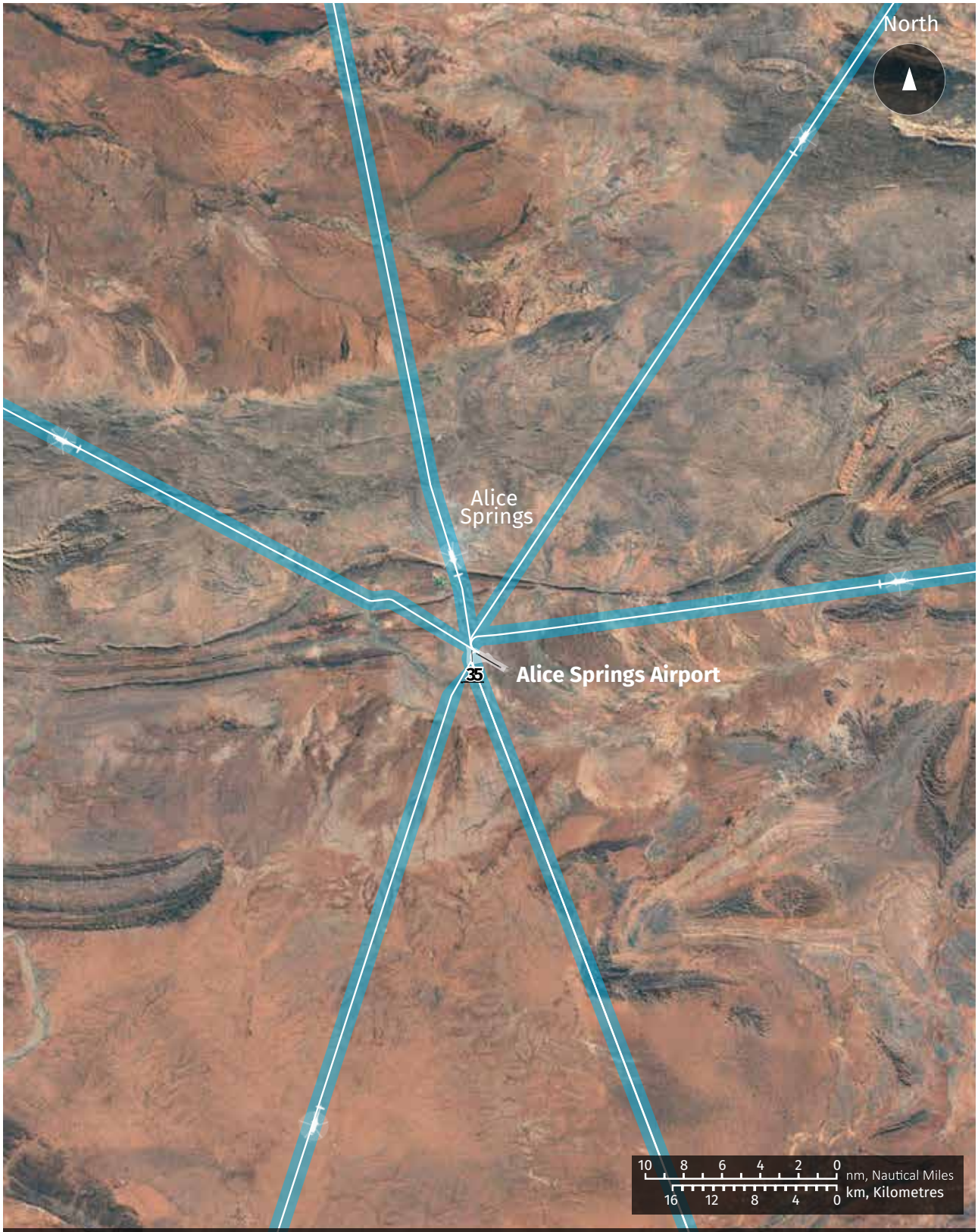
Figure 35: Alice Springs Airport flight paths helicopters arrivals



Flight Track Notes

- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 36: Alice Springs Airport flight paths helicopters departures



Flight Track Notes

- Flight tracks shown represent the published routes with a flight path envelope (or 'corridor') that represents the spread the aircraft will follow. These envelopes are typically up to 0.5nm (Nautical Mile) and may vary due to aircraft configuration and weather conditions.
- Some aircraft operations rely on simple wayfinding equipment and a pilot's line of sight. Their paths can vary from the spread shown in the diagram above.
- Aircraft not to scale.

Figure 37: Alice Springs Airport flight paths helicopter training circuits

Flight Track Notes

- General Aviation aircraft will perform a series of take offs and landings on a runway in a circuit pattern. They will ascend to 1000ft AGL (Above Ground Level) after takeoff and maintain that altitude until they need to begin their descent for landing.
- Multiple aircraft may be in the circuit at a time. They will be spaced according to safety standards.
- Only one circuit will operate per runway at a time. Aircraft will turn left OR right based on wind direction.
- Aircraft in the circuit will share the airspace with other operations with Air Traffic Control managing all aircraft.
- Aircraft are not to scale.

Figure 38: Alice Springs Airport swoosh paths runway 12 arrivals

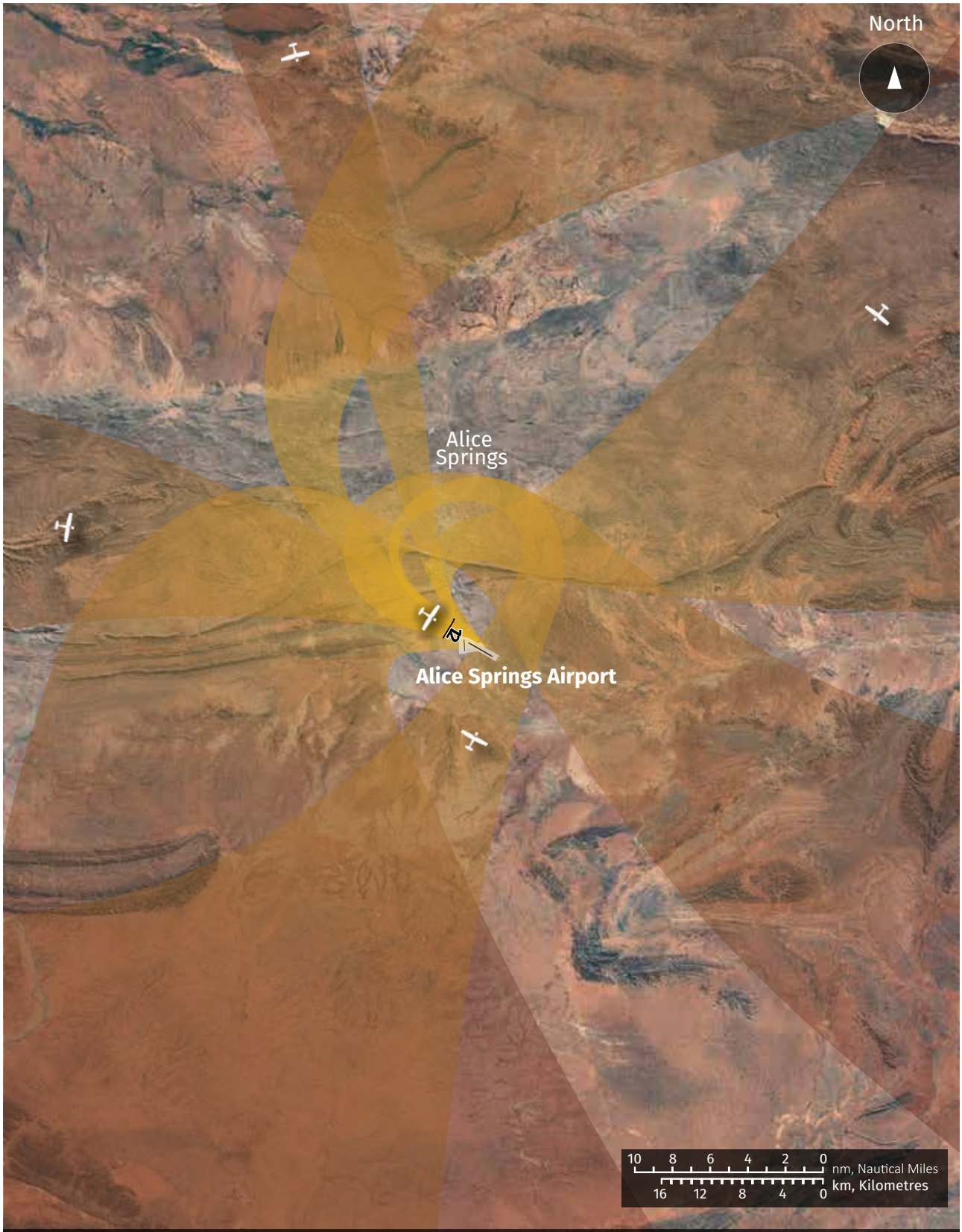


Figure 39: Alice Springs Airport swoosh paths runway 12 departures

Figure 40: Alice Springs Airport swoosh paths runway 30 arrivals

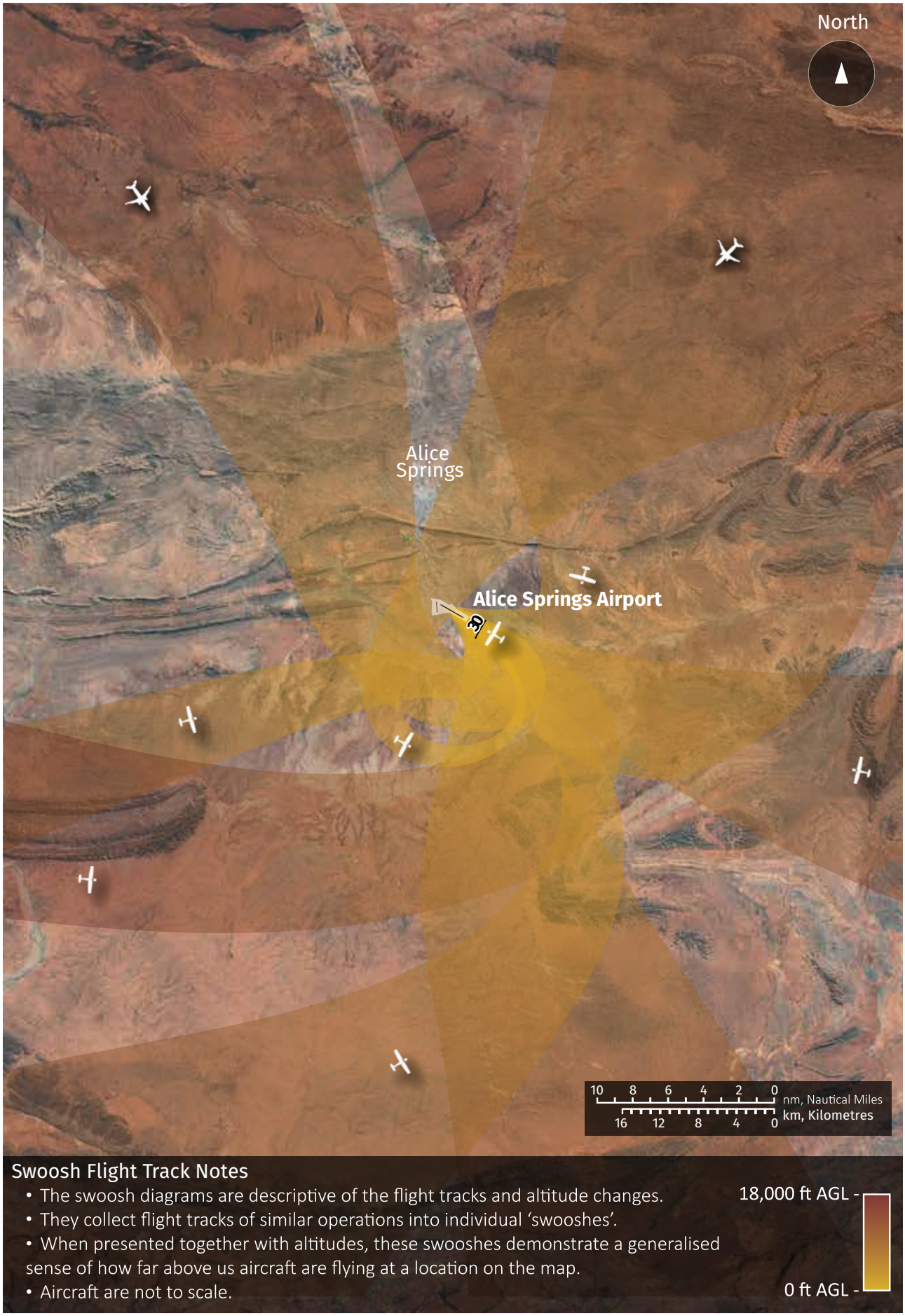


Figure 41: Alice Springs Airport swoosh paths runway 30 departures

Figure 42: Alice Springs Airport 2060 N70

N70 Notes

- The N70 diagram above shows the number of noise events louder than 70 decibels (dB(A)) will occur for a typical day.
- A noise event usually means one aircraft takeoff or one aircraft landing operation.
- An aircraft noise event of 70 dB(A) or above is one that may disturb conversation inside a house with open windows.
- The contours above are based on the flight tracks illustrated in this document. Though they are a good indication of where and how frequently noise events occur, actual contours may vary.

SECTION 14:

Implementation

SECTION 14: **Implementation**

Implementation framework

The Final Alice Springs Airport 2020 Master Plan represents current views of developments expected to be realised at Alice Springs Airport in a staged manner, largely as a result of increased aircraft movements, passenger demand and commercial development.

Planning, by its nature, is a dynamic activity requiring continuous monitoring of changing conditions, standards and practices, and technology. Therefore, implementation of the final 2020 master plan will require flexibility that takes into account fluctuations in economic activity and factors that affect air travel and commercial demand.

The approval of the final 2020 master plan does not automatically confer approval on subsequent major developments. The *Airports Act* requires that certain developments at Alice Springs Airport must undergo a major development plan process that is subject to ministerial approval. Prior to ministerial approval, proposals are subject to further detailed assessment, including community consultation, environmental studies, traffic effects and aviation impact.

All building activities on-airport are subjected to Alice Springs Airport's internal development review process. Building activity at Alice Springs Airport is subject to statutory controls under the *Airports Act* and the Airports (Building Control) Regulations 1996. The Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) has oversight of land use planning and building activity at the airport.

An Airport Building Controller is appointed under Commonwealth law to administer the airport building control regime to ensure activities at Alice Springs Airport meet the appropriate building and engineering standards. All construction and building activities must be notified to the Airport Building Controller.

The consent of Alice Springs Airport (as the airport lessee company) is required before any approval can be given by the Airport Building Controller. Alice Springs Airport will review all applications to ensure the proposal is consistent with the airport master plan, to ensure the development is consistent with its planning objectives, and to assess the impact of the proposal on infrastructure and the operations of the airport. Alice Springs Airport also has the power to impose appropriate conditions on building activities.

An Airport Environment Officer is similarly appointed under Commonwealth law and is responsible for overseeing the airport's compliance with its environmental legislative responsibilities. The Airport Environment Officer oversees adherence to the approved Airport Environment Strategy and administers the Airports (Environmental Protection) Regulations 1997.

Review process

The *Airports Act* provides for a final master plan to remain in force for eight years. The *Airports Act* includes additional provisions for minor amendments to a master plan and for the minister to direct another master plan to be prepared.


Gates 6 - 9
NEWSTRAVELS7
NEWSTRAVELS7

SECTION 15:

Consistency with the *Airports Act*

SECTION 15: **Consistency with the *Airports Act***

Legislation	Final details in section of the master plan
AIRPORTS ACT 1996	
70 Final master plans	
(1) For each airport, there is to be a final master plan.	Section 2
(2) The purposes of a final master plan for an airport are:	
(a) to establish the strategic direction for efficient and economic development at the airport over the planning period of the plan; and	Section 2, 6, 7, 8, 9, 10, 11
(b) to provide for the development of additional uses of the airport site; and	Section 6, 7, 9, 10, 11
(c) to indicate to the public the intended uses of the airport site; and	Section 6, 7, 8, 9, 10, 11
(d) to reduce potential conflicts between uses of the airport site, and to ensure that uses of the airport site are compatible with the areas surrounding the airport; and	Section 6, 12, 13
(e) to ensure that all operations at the airport are undertaken in accordance with relevant environmental legislation and standards; and	Appendix 1
(f) to establish a framework for assessing compliance at the airport with relevant environmental legislation and standards; and	Appendix 1
(g) to promote the continual improvement of environmental management at the airport.	Appendix 1
71 Contents of draft or final master plan	
(2) In the case of an airport other than joint-user airport, a draft or final master plan must specify:	
(a) the airport-lessee company's development objectives for the airport; and	Section 2
(b) the airport-lessee company's assessment of the future needs of civil aviation users of the airport, and other users of the airport, for services and facilities relating to the airport; and	Section 5, 6, 7, 8, 9, 10, 11
(c) the airport-lessee company's intentions for land use and related development of the airport site, where the uses and developments embrace airside, landside, surface access and land planning/zoning aspects; and	Section 6, 7, 8, 9, 10, 11
(d) an Australian Noise Exposure Forecast (in accordance with Regulations, if any, made for the purpose of this paragraph) for the areas surrounding the airport; and	Section 12, 13
(da) flight paths (in accordance with Regulations, if any, made for the purpose of this paragraph) at the airport; and	Section 13
(e) the airport-lessee company's plans, developed following consultations with the airlines that use the airport and local government bodies in the vicinity of the airport, for managing aircraft noise intrusion in areas forecast to be subject to exposure above the significant ANEF levels; and	Section 13
(f) the airport-lessee company's assessment of environmental issues that might reasonably be expected to be associated with the implementation of the plan; and	Appendix 1
(g) the airport-lessee company's plans for dealing with the environmental issues mentioned in paragraph (f) (including plans for ameliorating or preventing environmental impacts); and	Appendix 1
(ga) in relation to the initial period (see subsection (3A)) of the master plan – a plan for a ground transport system on the landside of the airport that details:	

Legislation	Final details in section of the master plan
(i) a road network plan; and	Section 10
(ii) the facilities for moving people (employees, passengers and other airport users) and freight at the airport; and	Section 10
(iii) the linkages between those facilities, the road network and public transport system at the airport and the road network and public transport system outside the airport; and	Section 10
(iv) the arrangements for working with the state or local authorities or other bodies responsible for the road network and the public transport system; and	Section 10
(v) the capacity of the ground transport system at the airport to support operations and other activities at the airport; and	Section 10
(vi) the likely effect on the proposed developments in the master plan on the ground transport system and traffic flows at, and surrounding, the airport; and	Section 10
(gb) in relation to the initial period (see subsection (3A)) of the master plan – detailed information on the proposed developments in the master plan that are to be used for:	
(i) commercial, community, office or retail purposes; or	Section 9
(ii) for any other purpose that is not related to airport services; and	Section 6, 9, 10
(gc) in relation to the initial period (see subsection (3A)) of the master plan – the likely effect of the proposed developments in the master plan on:	
(i) employment levels at the airport; and	Section 4
(ii) the local and regional economy and community, including an analysis of how the proposed developments fit within the planning schemes for commercial and retail development in the area that is adjacent to the airport; and	Section 4, 6, 9
(h) in relation to the initial period (see subsection (3A)) of the master plan – an environment strategy that details:	
(i) the airport-lessee company's objectives for the environmental management of the airport; and	Appendix 1
(ii) the areas (if any) within the airport site which the airport-lessee company, in consultation with state and federal conservation bodies, identifies as environmentally significant; and	Appendix 1 – Section 3
(iii) the sources of environmental impact associated with airport operations; and	Appendix 1
(iv) the studies, reviews and monitoring to be carried out by the airport-lessee company in connection with the environmental impact associated with airport operations; and	Appendix 1 – Section 3, 4
(v) the timeframes for completion of those studies and reviews and for reporting on that monitoring; and	Appendix 1 – Section 3, 4
(vi) the specific measures to be carried out by the airport-lessee company for the purposes of preventing, controlling or reducing the environmental impact associated with airport operations; and	Appendix 1 – Section 3, 4
(vii) the timeframes for completion of those specific measures; and	Appendix 1 – Section 3, 4
(viii) details of the consultations undertaken in preparing the strategy (including the outcome of the consultations); and	Section 2

Legislation	Final details in section of the master plan
(ix) any other matters that are prescribed in the Regulations; and	Appendix 1
(j) such other matters (if any) as are specified in the Regulations.	See below
Matters provided by Regulations	
(6) In specifying a particular objective or proposal covered by paragraph (2)(a), (c), (ga), (gb) or (gc) or (3)(a), (c), (ga), (gb) or (gc), a draft or final master plan must address:	
(a) the extent (if any) of consistency with planning schemes in force under a law of the state in which the airport is located; and	Section 6, Appendix 2 (Definition of Land Uses)
(b) if the draft or final master plan is not consistent with those planning schemes – the justification for the inconsistencies.	Section 6, Appendix 2 (Definition of Land Uses)
(7) Subsection (6) does not, by implication, limit subsection (5).	
Company to have regard to Australian Standard	
(8) In developing plans referred to in paragraph (2)(e) and (3)(e), an airport-lessee company must have regard to Australian Standard AS2021–2000 ("Acoustics–Aircraft noise intrusion–Building siting and construction") as in force or existing at that time.	Section 13
(9) Subsection (8) does not, by implication, limit the matters to which regard may be had.	
(10) In this section: *airport service* means a service provided at an airport, if the service is necessary for the purposes of operating or maintaining civil aviation services at the airport, and includes the use of facilities at the airport for those purposes.	
71A Draft or final master plan must identify proposed sensitive developments	
(1) A draft or final master plan must identify any proposed sensitive development in the plan.	Section 6
AIRPORTS REGULATIONS 1997 – REG 5.02	
5.02 Contents of draft or final master plan – general	
(1) For paragraphs 71(2)(j) and (3)(j) of the Act, the following matters are specified:	
(a) any changes to the OLS or PANS-OPS surfaces for the airport concerned that is likely to result if development proceeds in accordance with the master plan;	Section 12
(b) for an area of an airport where a change of use of a kind described in subregulation 6.07(2) of the *Airports (Environment Protection) Regulations 1997* is proposed:	No such changes of use proposed.
(i) the contents of the report of any examination of the area carried out under regulation 6.09 of those Regulations; and	As above
(ii) the airport-lessee company's plans for dealing with any soil pollution referred to in the report.	As above
(2) For section 71 of the Act, an airport master plan must, in relation to the landside part of the airport, where possible, describe proposals for land use and related planning, zoning or development in an amount of detail equivalent to that required by, and using terminology (including definitions) consistent with that applying in, land use planning, zoning and development legislation in force in the state or territory in which the airport is located.	Section 6, Appendix 2 (Definition of Land Uses)
(3) For subsection 71(5) of the Act, a draft or final master plan must:	

Legislation	Final details in section of the master plan
(a) address any obligation that has passed to the relevant airport-lessee company under subsection 22(2) of the Act or subsection 26(2) of the Transitional Act; and	Section 11
(b) address any interest to which the relevant airport lease is subject under subsection 22(3) of the Act, or subsection 26(3) of the Transitional Act.	Section 11
(4) In subregulation (1): OLS and PANS-OPS surface have the same meanings as in the Airports (Protection of Airspace) Regulations.	
5.02A Contents of draft or final master plan – matters to be specified in environment strategy	
(1) For subparagraphs 71(2)(h)(ix) and (3)(h)(ix) of the Act, the matters in this regulation must be specified in an environment strategy.	Appendix 1
(2) The environment strategy must specify any areas within the airport site to which the strategy applies that the airport-lessee company for the airport has identified as being a site of indigenous significance, following consultation with:	
(a) any relevant indigenous communities and organisations; and	Appendix 1 – Section 4.4
(b) any relevant Commonwealth or state body.	Appendix 1 – Section 4.4
(3) The environment strategy must specify the airport-lessee company's strategy for environmental management of areas of the airport site that are, or could be, used for a purpose that is not connected with airport operations.	Appendix 1
(4) The environment strategy must specify:	
(a) the training necessary for appropriate environment management by persons, or classes of persons, employed on the airport site by the airport-lessee company or by other major employers; and	Appendix 1 – Section 3
(b) the training programs, of which the airport-lessee company is aware, that it considers would meet the training needs of a person mentioned in paragraph (a).	Appendix 1 – Section 3
5.02B Contents of draft or final master plan – things to be addressed in environment strategy	
(1) For subsection 71(5) of the Act, a draft or final master plan must address the things in this regulation.	Master Plan including Appendix 1
(2) In specifying its objectives for the airport under subparagraph 71(2)(h)(i) or (3)(h)(i) of the Act, an airport-lessee company must address its policies and targets for:	
(a) continuous improvement in the environmental consequences of activities at the airport; and	Appendix 1
(b) progressive reduction in extant pollution at the airport; and	Appendix 1 – Section 4.1, 4.2, 4.3, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10. 4.11
(c) development and adoption of a comprehensive environmental management system for the airport that maintains consistency with relevant Australian and international standards; and	Appendix 1 – Section 2 and 3
(d) identification, and conservation, by the airport-lessee company and other operators of undertakings at the airport, of objects and matters at the airport that have natural, indigenous or heritage value; and	Appendix 1 – Section 4.2, 4.3, 4.4
(e) involvement of the local community and airport users in development of any future strategy; and	Section 2
(f) dissemination of the strategy to sub-lessees, licensees, other airport users and the local community.	Section 2 Appendix 1 – Section 3 and 4

Legislation	Final details in section of the master plan
(3) In specifying under subparagraph 71(2)(h)(ii) or (3)(h)(ii) of the Act, the areas within the airport site it identifies as environmentally significant, an airport-lessee company must address:	
(a) any relevant recommendation of the Australian Heritage Council; and	Noted
(b) any relevant recommendation of the Department of Environment regarding biota, habitat, heritage or similar matters; and	Noted
(c) any relevant recommendation of a body established in the state in which the airport is located, having responsibilities in relation to conservation of biota, habitat, heritage or similar matters.	Noted – Appendix Section 4.4
(4) In specifying the sources of environmental impact under subparagraph 71(2)(h)(iii) or (3)(h)(iii) of the Act, an airport-lessee company must address:	
(a) the quality of air at the airport site, and in so much of the regional airshed as is reasonably likely to be affected by airport activities; and	Appendix 1 – Section 4.6
(b) water quality, including potentially affected groundwater, estuarine waters and marine waters; and	Appendix 1 – Section 4.1
(c) soil quality, including that of land known to be already contaminated; and	Appendix 1 – Section 4.2
(d) release, into the air, of substances that deplete stratospheric ozone; and	Appendix 1 – Section 4.6
(e) generation and handling of hazardous waste and any other kind or waste; and	Appendix 1 – Section 4.8
(f) usage of natural resources (whether renewable or non-renewable); and	Appendix 1 – Section 4.1, 4.5, 4.9, 4.10
(g) usage of energy the production of which generates emissions of gases known as 'greenhouse gases'; and	Appendix 1 – Section 4.5 and 4.6
(h) generation of noise.	Appendix 1 – Section 4.7
(5) In specifying under subparagraph 71(2)(h)(iv) or (3)(h)(iv) of the Act the studies, reviews and monitoring that it plans to carry out, an airport-lessee company must address:	
(a) the matters mentioned in subregulation 5.02A(2) and subregulations 5.02B(3) and (4); and	Appendix 1 – Section 3
(b) the scope, identified by the airport-lessee company, for conservation of objects and matters at the airport that have natural, indigenous or heritage value; and	Appendix 1 – Section 3, 4.2, 4.3, 4.4
(c) the approaches and measures identified by the airport-lessee company as its preferred conservation approaches and measures; and	Appendix 1 – Section 3, 4.2, 4.3, 4.4
(d) the professional qualifications that must be held by a person carrying out the monitoring; and	Appendix 1 – Section 3
(e) the proposed systems of testing, measuring and sampling to be carried out for possible, or suspected, pollution or excessive noise; and	Appendix 1 – Section 3, 4.1, 4.2, 4.3, 4.6, 4.7
(f) the proposed frequency of routine reporting of monitoring results to the airport environment officer (if any) for the airport, or to the Secretary.	Appendix 1 – Section 3
(6) In specifying under subparagraph 71(2)(h)(vi) or (3)(h)(vi) of the Act, the measures that it plans to carry out for the purposes of preventing, controlling or reducing environmental impact, an airport-lessee company must address:	

Legislation	Final details in section of the master plan
(a) the matters mentioned in subregulations (2) to (4); and	Master Plan including Appendix 1 (esp. Sections 3 and 4 of Appendix)
(b) the means by which it proposes to achieve the cooperation of other operators of undertakings at the airport in carrying out those plans.	Appendix 1 – Section 3 and 4
(7) An airport-lessee company, in specifying the company's strategy for environmental management under subregulation 5.02A(3), must address the matters in subregulations (2) to (6).	Appendix 1
(8) In this regulation: *Department of Environment* means the department administered by the minister responsible for administering the Environment Protection and *Biodiversity Conservation Act 1999*.	

Note 1
Subregulation 6.07 (2) – Airport (Environment Protection) Regulations 1997
A change of use to which paragraph (1) 9(d) applies is a change that necessitates greater environmental protection measures because the use will result in the land being used in a way, or for a purpose, that will, or is reasonable likely to, cause greater harm:
(a) to an aspect of the environment; or
(b) to the health, safety or, in any respect, the welfare or, human beings.

Appendix 1:

Airport Environment Strategy

Contents

AES SECTION 1:

Introduction

AES SECTION 1: **Introduction**

- The Airport Environment Strategy is an eight-year strategic plan for the environmental management of Alice Springs Airport.
- This Airport Environment Strategy is relevant to all aviation and non-aviation activities on-airport undertaken by staff, tenants and contractors.
- Alice Springs Airport is committed to continual improvement and will continue to build on the environmental initiatives and improvements over the previous Airport Environment Strategy periods.

1.1 Background

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

The *Airports Act* and its Regulations set out the requirements for the airport's management and operation. Under the Act, Alice Springs 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 five years; however, recent amendments to the *Airports Act* have extended this to every eight years.

This Airport Environment Strategy is an eight-year plan that provides the strategic framework for Alice Springs Airport's commitment to environmental management. It includes actions to be implemented over the next eight years to ensure continuous improvement in all aspects of environmental management across the airport site.

The Airport Environment Strategy is relevant to all operations on airport, including both aviation- and non-aviation-related activities carried out by Alice Springs Airport staff, tenants, contractors and local community organisations.

Some of Alice Springs Airport's major environmental achievements since the 2015 Airport Environment Strategy are detailed in Table 1.

Table 1: Major environment achievements since 2015 Airport Environment Strategy

Achievement	Achieved
• Solar photovoltaic array stage 3 completed and brought online	2015
• Developed informative user guidelines for environmental management and spill response at the airport	2015
• Introduced AeroAscent airside tracker field automated reporting tool for improved record keeping of wildlife hazard management	2017
• staged innovative weed management trials using cattle to manage buffel grass	2018
• upgraded terminal air conditioning and management systems, reducing energy usage by 25 per cent	2018
• partnered with Territory Natural Resource Management (TNRM) and presented its inaugural sustainable business award at the TNRM Awards NT	2018
• engaged with Yirara College Clontarf students	2019
• Alice Springs Airport incorporated in NT Airports' first sustainability report	2019

Alice Springs Airport's commitment to environmental management and sustainability looks to not only comply with relevant regulatory requirements but to build on these and move towards best practice in developing future environmental initiatives. We work closely with Australian, NT and local government agencies and participate in working groups and inter-agency committees. We also work closely with local communities and interest groups.

The Airport Environment Strategy (the strategy) ensures relevant legislation, Regulations and environmental standards are incorporated into all operations on-airport.

The strategy has been developed as part of the Alice Springs Airport 2020 Master Plan in consultation with government agencies, airport tenants, the Alice Springs community and other stakeholders.

1.2 Location and Climate

Alice Springs Airport is located 14 kilometres south-east of the town of Alice Springs in the Northern Territory. The airport covers a total site of 3550 hectares, which makes it the largest Australian airport in terms of area. See Figure 2: Airport lease area and location.

A Bureau of Meteorology weather station is located at Alice Springs Airport (Station 015590). The region's arid to semi-arid climate results in hot, dry summers and cool, dry winters with a low average variable annual rainfall and high evaporation rates. These climatic conditions pose a range of unique environmental management challenges across the airport, such as drought, water security, erosion, dust and high fire danger.

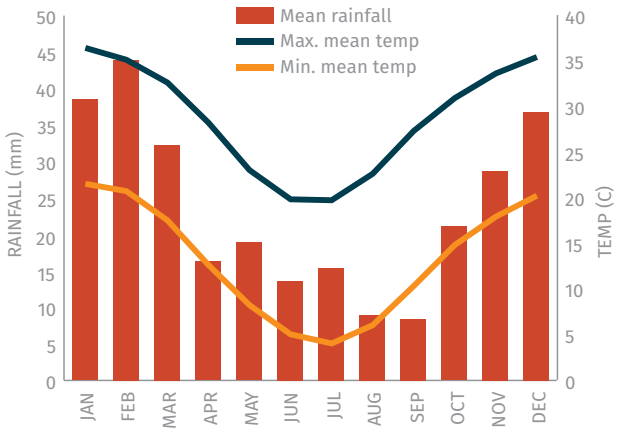


Figure 1: Average temperatures and rainfall at Alice Springs Airport

1.3 Operations

The airfield at Alice Springs Airport consists of runways, taxiways and aircraft parking areas. There are two runways: the main runway (12/30) and a crosswind runway (17/35). The taxiway system allows aircraft to move efficiently between the runways and aircraft parking areas. The regular public transport (RPT) apron accommodates large aircraft in various combinations.

Other infrastructure at Alice Springs Airport:

- a 9100m^2 terminal building
- air traffic control tower
- aircraft maintenance hangars
- air freight facilities
- refuelling and other aeronautical service-related facilities
- three solar power facilities with a combined output of more than 800kW.

Business activities within the airport lease boundary:

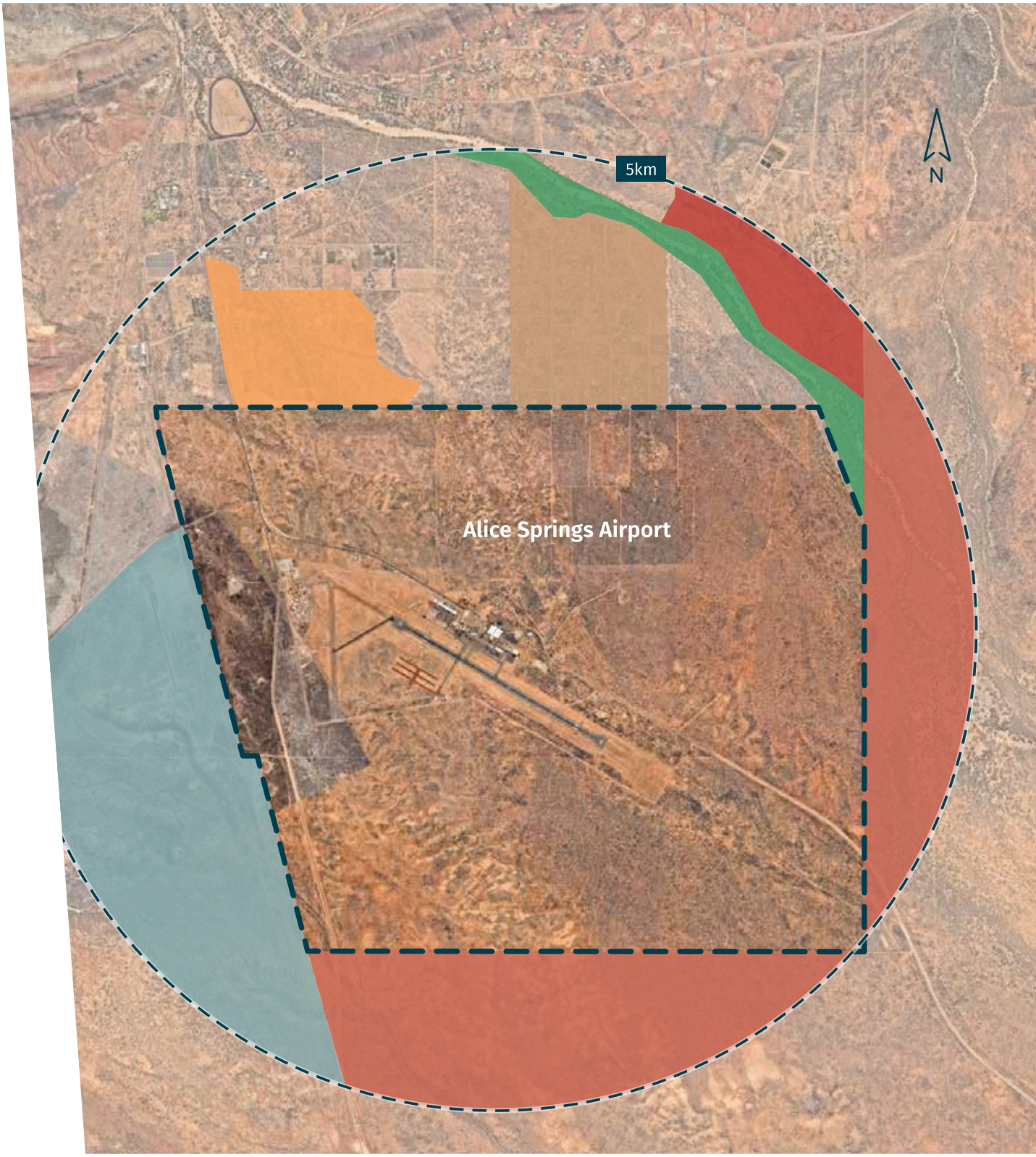
- domestic passenger flight operations
- air charter, flight training and recreational flight operations
- rental car facilities
- retail and commercial operations
- car parking
- surveillance services
- CSIRO weather station
- flight catering facilities
- tourist operations
- wildlife rehabilitation facilities
- demolition and building activities
- aircraft storage and retirement
- recycling plant operations.

1.4 Surrounding land use

Alice Springs Airport is bounded by (refer Figure 2):

- the Arid Zone Research Institute (AZRI) site, new Kilgariff development and rural residential development to the north
- the Todd River to the north-east
- the Amoonguna Aboriginal community north-east of the Todd River
- the Undoolya cattle station to the east, south-east and south
- Northern Territory Government land, including the Stuart Highway, Finke Desert Race track, the old Ghan Railway, a drag strip and the Roe Creek borefield to the west.

Figure 2: Alice Springs Airport surrounding land use plan



AES SECTION 2:

Airport legislation framework

AES SECTION 2: **Airport legislation framework**

- The *Airports Act* and subsidiary Regulations specify the content of an airport environment strategy.
- Consultation with government, business and community is a prominent part of the Alice Springs Airport Environment Strategy development process.
- The strategy, as part of the airport master plan, must be submitted to the federal Minister for Infrastructure and Transport for approval.
- The final (approved) master plan, including the Airport Environment Strategy, is valid for eight years.

2.1 Airport legislation and regulation

The Commonwealth's *Airports Act* and subsidiary Regulations provide a regulatory framework for the operation and development of federal airports in Australia leased to non-governmental enterprises.

The Act establishes the system airport operators and other users must abide by. Part 5 directs the airport lessee company to develop an airport environment strategy as part of the airport's master plan.

The Airports (Environment Protection) Regulations 1997 outline standards and requirements for managing environmental impacts and their monitoring, reporting and remedial action.

Another important part of the airport regulatory framework is the *Environment Protection and Biodiversity Conservation Act 1999*. It covers the management and protection of Australian and internationally significant species of flora, fauna, ecological communities and heritage places.

When federal legislation does not address an environmental issue or standard, Northern Territory (NT) legislation is applicable. NT legislation applies to issues such as pests and pathogens, hazardous substances and dangerous goods, water quality and native vegetation. Pollution or noise generated by aircraft during flight, landing, taking off or taxiing is regulated under the Air Navigation (Aircraft Engine Emissions) Regulations 1998 and the Air Navigation (Aircraft Noise) Regulations 1984. This is not the responsibility of Alice Springs Airport as the airport lessee company.

The Airport Environment Strategy covers all environmental matters arising from the operation and development of the Alice Springs Airport site. Each of the strategy's sections respond to a specific requirement or environmental aspect, as stated in the legislation. Section 14 covers compliance with the relevant Regulations.

The federal Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) manages the Australian Government's interests in privatised airports under the *Airports Act*. DITRDC appoints the Airport Environment Officer and the Airport Building Controller to administer elements of the *Airports Act* and relevant Regulations at the airport.

The Airport Environment Officer oversees how the airport adheres to the approved Airport Environment Strategy and administers the Regulations. The Airport Building Controller administers the Airports (Building Control) Regulations 1996.

Under the Regulations, Alice Springs Airport also submits an annual environment report to DITRDC that covers:

- the results of any monitoring undertaken
- any environmental incidents and, if deemed necessary, subsequent investigations and remediation plans
- Alice Springs Airport's progress in achieving the objectives and targets of the Airport Environment Strategy.

AES SECTION 3:

Environmental management framework

AES SECTION 3: **Environmental management framework**

- Alice Springs Airport has established objectives to guide environmental management at the airport.
- Alice Springs Airport is guided by a corporate framework that emphasises continual improvement in all airport management policies and programs.
- Alice Springs Airport is committed to the continuous improvement of a comprehensive environmental management system and maintains an environmental site register.

3.1 Environmental management objectives

Alice Springs Airport has established objectives to guide environmental management at the airport:

- Maintain and continually improve a compliant and fit-for-purpose environmental management system that is aligned to the international standard ISO 14001:2015 (see Figure 3 for framework).
- Maintain systems that identify and monitor any changes to legal and other requirements that apply to Alice Springs Airport in relation to the environment.
- Identify environmental aspects and assess risks, ensuring all environmental risks are managed to a level of as low as reasonably practicable (ALARP).
- Define clear accountabilities and conduct training for staff and contractors (new and existing) to achieve the objectives of the Environmental Management System.
- Implement environmental assurance audit programs of the Environmental Management System to ensure it continues to be compliant and effective to meet objectives.
- Operate an airport business that achieves corporate sustainability where it delivers long term financial, social and environmental value to its stakeholders.

3.2 Alice Springs Airport environment and sustainability policies

Alice Springs Airport's parent company is Airport Development Group (ADG), which owns 100 per cent of Northern Territory Airports Pty Ltd (NTAPL). NTAPL owns all of Darwin International Airport Pty Ltd and Alice Springs Airport Pty Ltd, which hold the leases over Darwin International Airport and Alice Springs Airport respectively. ADG also owns 100 per cent of Tennant Creek Airport Pty Ltd.

Airport Development Group's Sustainability Policy and NTAPL's Environment Policy are the policies that cover how we consider the potential environmental impacts of all aspects of Alice Springs Airport's activities and operations.

The NTAPL Environment Policy (see Figure 4) is the foundation of Alice Springs Airport's Environmental Management System and Airport Environment Strategy and guides the implementation of both. The Environment Policy undergoes thorough internal consultation, is implemented across all areas of the organisation, and all employees must understand and follow it.

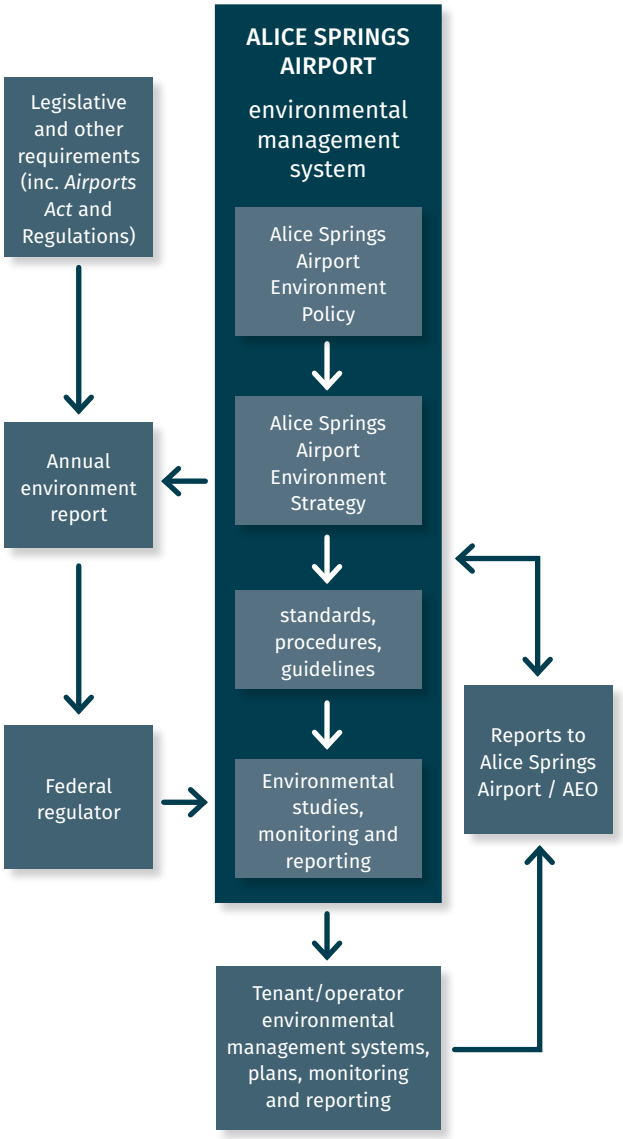


Figure 3: Structural framework and relationships between Alice Springs Airport's Environmental Management System regulatory reporting

Figure 4: NTAPL Environment Policy

Environment Policy

Scope
This policy applies to all employees and operations of Northern Territory Airports (NTA).

Purpose
Northern Territory Airports Pty Ltd (NTAPL) recognises the importance of maintaining and enhancing the quality of the environment for the benefit of all Australians, present and future. We seek to incorporate sustainability principles in all that we do.

Principles
We are committed to the highest standards in our environmental management and will strive for continual improvement in our environmental performance.

Objectives
In order to meet our commitments, we will:

- minimise impacts on the environment including soil, air, water and biodiversity.
- operate Management Systems supporting best practice environmental management.
- seek to reduce the consumption of natural resources and the generation of waste.
- develop and review measurable objectives, and targets that promote continual improvement of our environment performance.
- report our environmental performance to stakeholders.
- ensure compliance with all legislative obligations.
- ensure environment roles and responsibilities are documented, clearly communicated, understood and accepted by all staff.
- work in consultation with our business partners, regulators and our local communities.
- ensure personnel and contractors have the necessary information, skills and supervision to meet regulatory and corporate requirements.
- empower our people with quality training and resources, ensuring they are environment leaders within our business.
- lead and encourage stakeholders to improve the environment, resources and communities in the regions in which we operate.
- make this Policy publicly available and ensure that all staff and other people working for, or on behalf of the Northern Territory Airports are aware of this Policy.

We are all responsible for working towards achieving a sustainable environment. By embedding a comprehensive and responsible culture throughout our business, we will meet our environmental goals.

To ensure the fulfilment of these commitments, we will develop, implement and maintain management systems consistent with the Australian and International Standards (AS/NZS ISO 14001:2015 and AS/NZS ISO 9001:2015). We will review this policy statement regularly.

3.3 Environmental Management System

In line with the Regulations, Alice Springs Airport has implemented a comprehensive environmental management system that is consistent with Australian and International standards, ISO 14001:2015.

The Environmental Management System's main components are:

- the NTAPL Environment Policy
- Planning – environmental aspect and risk identification and assessment, development of standards, procedures and guidelines
- Implementation and operation – environmental responsibilities, training and awareness, communication, document and operational control, and emergency preparedness and response
- Checking – monitoring, assessment and auditing
- Management review – a health check of the system itself and areas to improve.

NTAPL uses the international standards approach to continual improvement through the 'Plan – Do – Check – Act' cycle. This allows us to review our procedures and programs and identify areas for improvement.

Figure 5: 'Plan – Do – Check – Act' cycle

The Environmental Management System covers all environmental aspects the airport can control and considers all relevant legislation, codes of practice and standards.

3.3.1 Environmental management training

Alice Springs Airport conducts an environmental management training program to ensure operators and tenants know their environmental responsibilities at the airport. Educating people about environmental awareness is vital to achieving our environmental management objectives.

The training covers:

- the sustainability and environmental policies, environmental objectives, the Airport Environment Strategy and Environmental Management System and how they relate to stakeholder roles and accountabilities
- the environmental aspects and potential risks associated with each person's role and work area and the controls in place to manage these risks to as low as reasonably practicable (ALARP)
- the environmental, social and economic benefits of improved sustainability performance
- the potential consequences of not following environmental procedures.

The delivery of environment management training program includes:

- staff and contractor inductions
- information handbook for airport operators
- tenant audits and environmental assurance reports
- stakeholder awareness and training events on environmental issues
- safety bulletins
- newsletter and website.

An eight-year action plan for environmental management at Alice Springs Airport is outlined in Table 2.

Table 2: Eight-year action plan for environmental management

	Management action	Timeframe
1	Maintain and improve Alice Springs Airport's Environmental Management System	Ongoing
2	Review Alice Springs Airport's Environmental Management System standards, procedures and guides	Short term
3	Conduct environmental management training with staff and contractors	Ongoing
4	Audit Environmental Management System and implement required changes	Ongoing
5	Externally audit Alice Springs Airport's Environmental Management System and develop an implementation plan for the audit's recommendations	Medium term

3.3.2 Environmental aspects and risks

Alice Springs Airport implemented a risk management framework to identify and evaluate the main environmental risks with our airport operations.

In assessing environmental risks, Alice Springs Airport regularly reviews its activities, products and services (see Section 4). From these reviews, potential environmental impacts are determined and initiatives put in place to minimise impacts and improve environmental performance. These initiatives also become part of the eight-year action plan for each environmental aspect, as outlined throughout this strategy.

Key performance indicators for each environmental aspect assess the action plan's progress. Timeframes for the action plan initiatives are identified as:

- ongoing actions
- short-term actions – up to two years
- medium-term actions – three to five years
- long-term actions – six to eight years.

We will report on these management actions in annual reporting to the Department of Infrastructure, Transport, Regional Development and Communications.

3.3.3 Environmental Site Register

In line with the Regulations, Alice Springs Airport developed and maintains an environmental site register. This register records the environmental condition of the airport, environmental site assessment details, remedial plans, monitoring undertaken and general environmental management at the airport. Alice Springs Airport also has a Contaminated Sites Register. As part of our ongoing strategy for continual improvement and a consistent approach to environmental management, we plan to consolidate the Contaminated Sites Register into the Environmental Site Register, creating one source for this important information.

3.3.4 Environmentally significant areas

We manage sites of significance in line with recommendations from relevant agencies, traditional owners and heritage organisations. All sites of significance at the airport are recorded on the Environmental Site Register.

Comprehensive flora and fauna surveys by local ecologists have identified there are no environmentally significant areas protected under legislation in the Alice Springs Airport lease area. These surveys identified one threatened species, six near-threatened species and four migratory species on airport land (see Section 4.3 – Biodiversity and Conservation Management).

After previous extensive consultation with indigenous traditional owners, the Arrernte people, and the NT Government, one sacred site was identified on airport land (see Figure 6).

There is one heritage site at the airport, which is known as the Seven-Mile Aerodrome (see Figure 6). This is a complex of buildings, the first of which was constructed in 1940. The aerodrome was used for military and civilian operations throughout the 1940s and is still used by the airport and its tenants. The aerodrome is one of the most well-preserved airfields from the World War II period in Australia and has significant heritage value (see Section 4.4 – Cultural heritage management).

Figure 6: Alice Springs Airport cultural and heritage significant sites

3.3.5 Environmental monitoring and reporting

Under the Regulations, Alice Springs Airport must monitor flora and fauna and the quality of air, water, soil and noise to ensure airport operations do not lead to pollution or disturbances on local fauna and habitat.

Our monitoring and measurement processes also give us information to guide the environmental management of airport activities These processes inform:

- environmental objectives and targets
- operations and activities that can have significant environmental impact
- compliance with applicable environmental legislation and Regulations
- environmental management measures required by airport operators and tenants.

Data is collected and analysed by qualified staff or contractors and forms part of our Environmental Site Register. We review the monitoring locations, frequencies, procedures and parameters each year and change them as local conditions require. (see Table 3). Any changes are made in consultation with the Airport Environment Officer.

Table 3: Environmental monitoring program

Aspect	Parameters monitored	Frequency
Water management (potable water)	Analytes against the Australian Drinking Water Guidelines (2018) and Schedule 2 of the Regulations	Twice per year
Water management (surface water)	Heavy metals and analytes against Schedule 2 of the Regulations	Twice per year
Soil management (contaminated sites)	Soil requirements outlined in the Regulations	As required
Soil management and biodiversity and conservation management (soil stability assessment)	Vegetation cover levels, erosion and cattle grazing assessment. Monitoring of tenant owned camels	Annual, plus four-month assessment from when cattle put in new paddock
Biodiversity and conservation management (weed management)	Using a selection or combination of treatments such as slashing, mulching, herbicide application, fire, cattle grazing	Annual monitoring and management reporting
Biodiversity and conservation management (fire management)	Fuel load assessments across the lease area	Annual
Biodiversity and conservation management (flora and fauna)	In line with established guidelines for biodiversity assessment in the NT	Every 8 years, Airport Environment Strategy aligned
Biodiversity and conservation management (wildlife hazard management)	Identification of strike risk species to determine if disturbance/removal actions are required	Daily on the airfield. Off-airport assessments
Biodiversity and conservation management (mosquitoes)	Requirements under NT health legislation and in accordance with mosquito vector management	As required
Energy management, air quality, greenhouse gas emissions and climate change	Energy consumed and greenhouse gas emissions in line with National Greenhouse and Energy Reporting (NGER) guidelines	Annual
Ground-based noise management	Audit and report on ground running activities and noise measurements	As required
Hazardous substances and dangerous goods	Use, type stored and storage facilities	Annually for Alice Springs Airport operations
Hazardous substances and dangerous goods (underground storage tanks)	Storage levels, potential product loss and structural integrity assessments of storage tanks.	Daily level trend assessment, weekly level checking, monthly inspection for tank residue, 5 to 10 yearly integrity tests on fuel tanks.
Hazardous substances and dangerous goods (asbestos)	'Asbestos Code of Practice and Guidance Notes', Worksafe Australia or NT legislation	In line with NT Worksafe advice and at least every five years
Waste management and resource recovery	Reporting on total waste generated	Monthly
Energy management	Energy and water consumed	Monthly
Environmental management	Compliance with Environmental Management System, operational environment management plans or construction environment management plans in place in the airport lease boundary	Weekly
Tenant and contractor management	Environment assurance audit program to monitor compliance	Annual program risk-based approach

Central Bearded Dragon (*Pogona vitticeps*)

AES SECTION 4:

Environmental aspects

The environmental management aspects addressed in this Airport Environment Strategy are:

AES SECTION 4.1: **Water management**

Objectives

- Minimise impact on water quality from Alice Springs Airport operations.
- Maintain airport water quality within acceptable limits as defined by legislated standards.
- Continue to monitor and manage identified and suspected contaminated sites in accordance with regulatory requirements.
- Manage stormwater runoff from Alice Springs Airport to minimise the risk to the airport's neighbouring ecosystems.
- Minimise water consumption and incorporate water efficiency measures.

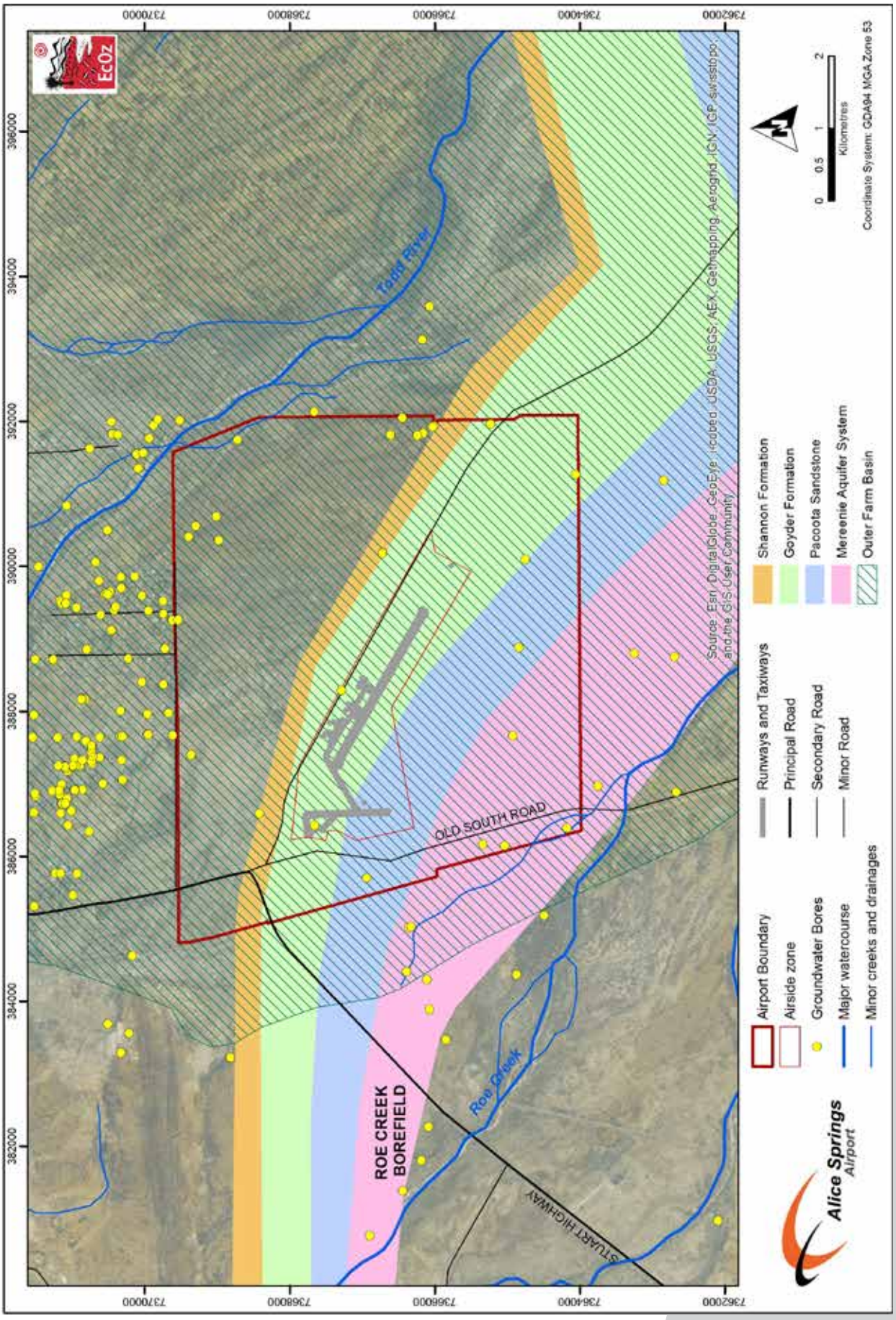
4.1.1 Background

There is groundwater beneath Alice Springs Airport in a number of separate but linked aquifer systems. One is an alluvial aquifer at around 12 metres to 60 metres in depth, known as the 'outer farm basin'. The others are deeper aquifers in the underlying porous rock of the Amadeus Basin at a depth greater than 125 metres (as outlined in the Alice Springs Water Allocation Plan 2016–2026). The airport site is zoned for aquifer protection under the Alice Springs Water Allocation Plan 2016–2026. The specified water usage for each management zone is described in Table 4 below and in Figure 7.

Broad Policy Zone	Management Zones	Beneficial Uses	Depth* (m)	Airport (%)
Surface Water	Lower Catchment	Environmental, Cultural, Rural, Stock and Domestic	0 m	100%
Groundwater (Alluvial)	Outer Farm Basin	Environmental, Cultural, Agricultural, Industrial, Rural, Stock and Domestic	12 – 60 m	100%
Groundwater (Amadeus Basin)	Roe Creek – Goyder & Shannon Formations (low yielding aquifers)	Public Water Supply, Rural, Stock and Domestic	<125 m	35%
	Roe Creek – Pacoota Sandstone (high to moderate yielding aquifer)		<125 m	15%
	Roe Creek – Mereenie Aquifer System (high yielding aquifer)		125 m	15%

Table 4: Water management zones relevant to Alice Springs Airport (adapted from Alice Springs Water Allocation Plan 2016–2026)

Figure 7: Alice Springs Airport Water Plan



The Alice Springs area is entirely dependent on groundwater for its water supply. Town water is supplied by the Power and Water Corporation and drawn from Roe Creek borefield, around eight kilometres from the airport.

The Roe Creek borefield is connected to the Mereenie aquifer system, which occurs under the south-western corner of the airport (with an approximate depth of 125 metres). It is projected that this bore can supply water to Alice Springs for another 50 to 100 years, after which another supply will need to be sourced. The NT Government has also earmarked a future water source (Rocky Hill) around 20 kilometres south east of the terminal, which is linked to aquifers beneath Alice Springs Airport. Figure 7 shows the location of the aquifers, NT Government bores and Roe Creek borefield in relation to Alice Springs Airport.

Alice Springs Airport is situated in the Lower Roe Creek and Lower Todd River catchments. There are no permanent, naturally occurring waterbodies within the airport boundary, and surface water drainage after rain mostly infiltrates or evaporates on-site. There are two ephemeral waterbodies (only flowing immediately after rainfall events) situated close to the airport boundary: the Todd River and Roe Creek (see Figure 7). Both the Lower Todd River and the Lower Roe Creek are not linked to surface drainage channels that may be affected by aviation-related use.

Surface drainage from the terminal building, car parks, roads and runway areas flow in an eastward direction into earthen or paved drains. The water from the airport lease area generally infiltrates or evaporates on-site before reaching downstream channels.

4.1.2 Potential sources of environmental impact

Potential sources of impact to water quality at Alice Springs Airport include:

- re-fuelling facilities and fuel storage tanks
- waste oil and chemical storage areas in and around workshops, aircraft hangars and maintenance areas
- fuel, chemical or sewerage spills
- aircraft and vehicle wash-down areas
- waste, litter and sediment
- legacy contaminated sites
- on-site septic treatment facilities
- design, monitoring and maintenance of mains water infrastructure
- indoor and outdoor water usage activities.

4.1.3 Environmental management and monitoring

A number of current management practices are in place at the airport to ensure significant and/or long-term surface or groundwater contamination does not occur. These practices include:

- 'Report All Spills' policy and spill response training
- spill response procedure
- maintaining the Environmental Sites Register
- pollution control devices to intercept and treat stormwater runoff
- using designated wash-down bays
- comprehensive water quality monitoring programs
- tenant environmental audits
- interceptors to treat trade waste before it enters the airport's on-site septic facility
- monitoring of fuel storage tanks.

Water quality monitoring program

Alice Springs Airport undertakes six-monthly monitoring of stormwater drains in places where airport operations present a potential risk to the environment. Sediment is collected rather than water because the drains do not consistently contain adequate volumes of water required for analysis. Levels of nutrients and contaminants found in the sediment samples are compared against Schedule 3 of the Airports (Environment Protection) Regulations 1997. In the unlikely event that a monitoring result breaches the Regulations limits, the site is reviewed to determine the appropriate response measure.

The detection of per- and poly-fluorinated alkyl substances (PFAS) residue in surface water, groundwater and soil is an issue at airports around Australia. PFAS are a group of synthetic chemicals used in a variety of industrial and commercial products. They have been historically used as an active ingredient in fire-fighting foam at aerodromes around Australia. Airservices Australia provides the aviation rescue fire fighting (ARFF) services at Alice Springs Airport. In 2010, Airservices changed over to a PFAS-free fire-fighting foam. The residual PFAS substances from use of the previous foam have been listed as a contaminant issue in recent years as they have been found to persist in the environment. The low annual rainfall, absence of waterways and deep groundwater at the Alice Springs Airport site means that PFAS contamination movement in the environment is relatively low compared with other airports.

Alice Springs Airport continues to communicate with Airservices Australia in relation to PFAS contamination, and an inter-government agency group led by the Northern Territory Environment Protection Authority (NT EPA) has been established to provide a coordinated approach to PFAS investigations in the Northern Territory. Alice Springs Airport will continue to monitor this situation and work closely with the key stakeholders who have been doing extensive testing and monitoring in quantifying and managing contamination in accordance with current legislation and the PFAS National Environmental Management Plan.

4.1.4 Key achievements and eight-year action plan

Table 5: Water management key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport	• continued surface water and potable water monitoring program • updated Contaminated Sites Register • installed water-efficient drip irrigation.
Tenants	• updated and implemented environmental assurance audits for airport tenants • ongoing audits of pollution control devices • fuel receptacles installed around airside aprons for the collection of tested waste fuel • PFAS Preliminary Site Investigation and PFAS Management Plan provided to Airport by Airservices Australia.
Community	• strong stakeholder engagement in PFAS contamination on airport.

Table 6: Water management eight-year action plan

	Management action	Timeframe
1	Review water recycling and reuse opportunities	Ongoing
2	Stormwater drain monitoring program	Ongoing
3	Review and where necessary expand stormwater interceptor and review pollution control infrastructure	Ongoing, as required
4	Potable water monitoring program to ensure potable water meets drinking water guidelines	Ongoing
5	Undertake water consumption efficiency improvements	Ongoing
6	Review environmental monitoring strategy to align with recently updated contamination sites register	Short term
7	Facilitate PFAS remediation with Airservices Australia in line with current legislation and the PFAS National Environmental Management Plan	Ongoing
8	Review septic facility, evapotranspiration beds	Short term

Key performance indicators:
- water conservation initiatives undertaken
- environmental monitoring events undertaken
- annual water consumption figures
- tenant environmental audits undertaken
- remediation of PFAS areas in line with current legislation and the PFAS National Environmental Management Plan.

Timeframe:
- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 4.2: **Soil management**

Objectives

- Employ soil management practices that facilitate safe airport operations and minimise impacts to the environment, neighbouring land and the atmosphere.
- Ensure contaminated sites are monitored and remediated as required.
- Maintain airport soil quality within acceptable limits as defined by legislated standards.

4.2.1 Background

Soil management at Alice Springs Airport is targeted towards preventing/minimising soil erosion, sedimentation, contamination and airborne dust. Management activities are ongoing but may vary based on significant rainfall events. Rainfall at Alice Springs Airport can increase the risk of runoff erosion and sedimentation, while prolonged dry periods can generate wind erosion issues.

The airport is situated on the Todd River floodplain. Broad soil types at the airport consist of red sandy clay, clayey sands or sandy clay loam. Land forms present at the airport include flood-outs, broad alluvial plains, creeks, drainage depressions, claypans and an isolated low sandy rise.

In the 1960s, the NT Government conducted revegetation trials in the current airport boundary (and surrounds) in attempt to stabilise soils and reduce dust hazard at the airport and Alice Springs township. These trials were conducted in response to extreme dust issues at the time, due to an extended drought period. Buffel grass (*Cenchrus ciliaris*) was a key species used in these trials and was successful in rapidly reducing dust hazard in the local area and has continued to do so (however, buffel grass also has negative impacts on biodiversity values, discussed in Section 4.3 – Biodiversity and Conservation Management).

Today, Alice Springs Airport falls within a gazetted land portion for dust suppression under the *Soil Conservation and Land Utilisation Act (NT)*. As such, 1036 hectares of the airport site is zoned as a dust suppression buffer. Historically under the airport master plan, that area has been designated as one that cannot be used for any purpose that may affect soil stability. The remainder of undeveloped land, approximately 1990 hectares, is zoned for various uses, including residential, commercial, tourist and horticultural developments (see Figure 3 of master plan).

4.2.2 Potential sources of environmental impact

Potential sources of impact to land at Alice Springs Airport include:

- poor implementation of sediment and erosion controls
- fire (natural and prescribed regimes) creating bare soil more susceptible to erosion
- contamination through accidental spills or leaks, use of unapproved fill, septic tank leaks and legacy issues
- incorrect storage and disposal of waste materials
- land clearing activities for development, weed control or landscaping
- cattle overgrazing.

4.2.3 Environmental management and monitoring

Soil erosion

Alice Springs Airport has implemented a range of measures to manage soil erosion, including:

- natural regeneration of native vegetation is encouraged in undeveloped areas of the airport site
- implemented erosion and sediment control measures for projects, building construction and land clearing activities
- implemented erosion and sediment control plans for major or high-risk projects, required to form part of a construction environment management plan
- monitoring of erosion in stormwater drains to inform required remedial works
- fenced airport boundary to manage cattle and exclude recreational vehicles
- in flood-prone areas, fire breaks are slashed and not graded to prevent erosion
- implemented a long-term soil stability monitoring program.

Contaminated land

All known details of potentially contaminated sites (such as historic landfills and areas where fuels or chemicals have been used or spilled/leaked as the result of an environmental incident) are recorded in the Alice Springs Airport Contaminated Sites Register.

All sites recorded in this register have been assessed as remediated, contained or listed for ongoing monitoring. Any new contaminated sites previously unrecognised

or arising from new environment incidents or newly discovered contamination will be recorded in the register along with the management, containment measures and investigation undertaken to prevent environmental impacts. This will include a review of the current Contaminated Sites Register and relevant actions, which will then be transitioned to the Environmental Site Register. These actions, along with any new additions to this register, will be monitored and reviewed periodically to record progress and reporting in the Annual Environment Report.

Role-specific training for Alice Springs Airport operators and tenants has been implemented to help minimise and manage contamination. This includes environmental management training and specific environmental incident spill response training.

4.2.4 Key achievements and eight-year action plan

Table 7: Soil management key achievements, 2015 – 2020

Area of work	Key achievements
Minimising risk	• decommissioned underground petroleum distribution systems.
Contaminated sites	• maintained an Asbestos Management Plan and Register • reviewed and upgraded the Contaminated Sites Register.
Maintenance and projects	• ensured appropriate sediment and erosion control measures were implemented during maintenance and building works • airside roads received bitumen millings to mitigate dust and erosion.
Environmental monitoring	• Undertook environmental studies and regular site inspections of cattle and camel activity • ongoing soil erosion monitoring • strategic review of soil erosion program and established vegetation cover monitoring program • Undertook legacy stockpile monitoring program.
Tenants	• Undertook tenant inspection audits to review spills management practices • Installed fuel receptacles around airside aprons to collect tested waste fuel
Environmental Management System	• Formalising stockpile management area and operational environmental management • Utilised TrackerAIRSIDE system to record and report on onsite spills.

Table 8: Soil management eight-year action plan

	Management action	Timeframe
1	Implement erosion and sediment control measures when undertaking construction activities within airport lease boundary	Ongoing
2	Investigate potentially contaminated sites and remediation measures with key stakeholders	Ongoing
3	Consolidate the current Contaminated Site Register into an overarching Environmental Site Register and continue to review and update to ensure best management practices in alignment with industry standards	Medium term
4	Maintain environmental assurance audit program	Ongoing
5	Facilitate PFAS remediation with Airservices Australia in line with current legislation and the PFAS National Environmental Management Plan	Ongoing
6	Monitor, consolidate and manage historic soil stockpiles	Short term
7	Update spills management procedures and resources	Short term

Key performance indicators:

- formalised environmental site register
- environmental monitoring events undertaken
- tenant environmental audits undertaken
- remediation of PFAS areas in line with current legislation and the PFAS National Environmental Management Plan
- TrackerAIRSIDE system used
- new spill management resources created
- consolidated stockpiles and stockpile record keeping.

Timeframe:

- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 4.3: **Biodiversity and conservation management**

Objectives

- Maintain and protect listed environmental values onsite in accordance with relevant legislation.
- Undertake best practice land management activities to support flora and fauna at Alice Springs Airport.
- Continue regular biodiversity monitoring to enhance sustainability of all fauna and flora located within the Alice Springs Airport lease boundary.
- Continue to implement the Wildlife Hazard Management Plan to minimise the potential hazard to aircraft safety.

4.3.1 Background

The Alice Springs Airport site encompasses many near intact native vegetation communities that have relatively good habitat condition. The majority of vegetation communities are low open woodland. Historical vegetation clearance, fire, weed infestations and heavy grazing practices have affected the integrity of some of these communities.

There are eight vegetation types at Alice Springs Airport (refer Figure 8), all common to the Alice Springs region. Generally, vegetation comprises acacia and hakea low open woodlands or open shrublands over a tussock grass understory mostly dominated by buffel grass (*Cenchrus ciliaris*), an introduced species released in the 1970s for the purpose of dust suppression. Large trees are generally sparse, including species such as ironwood (*Acacia estrophiolata*), mulga (*Acacia aneura*) and corkwood (*Hakea divaricata*). Coolabah (*Eucalyptus coolabah*), an important vegetation type due to its local refuge quality, occur in relic drainage depressions that are positioned diagonally across the property as indicated by vegetation type 23a. Low trees and shrubs across the property include witchetty bush (*Acacia kempeana*), Murray's wattle (*Acacia murrayana*), long-leaved emu bush (*Eremophila longifolia*), whitewood (*Atalaya hemiglauca*) and dead finish (*Acacia tetragonophylla*).

Alice Springs Airport undertakes a variety of biological surveys at the airport site. The Alice Springs Airport Flora and Fauna registers indicate a variation in diversity and abundance of flora and fauna species between surveys, significant rainfall events and periods of drought play a dominant factor in this variation over time. To date, 95 native flora species and 134 native fauna species have been identified within airport grounds. These wildlife surveys have identified one threatened species and six near-threatened species listed under the *Territory Parks and Wildlife Conservation Act*; however, these species have not been identified as threatened species under the *Environment Protection and Biodiversity Conservation Act*. Table 9 shows the significant species that have a reasonable likelihood of occurring on Alice Springs Airport land.

Table 9: Significant species that have reasonable likelihood of occurring on Alice Springs Airport land

Class	Common name	Scientific name	Status (TPWC)
Bird	Australian Bustard *#	*Ardeotis australis*	NT
Bird	Grey Falcon *	*Falco hypoleucos*	VU
Bird	Red-tailed Black-Cockatoo *#	*Calyptorhynchus banksii samueli*	NT
Bird	Redthroat #	*Pyrrholaemus brunneus*	NT
Mammal	Kultarr *	*Antechinomys laniger*	NT
Plant	Climbing Saltbush *	*Einadia nutans subsp. nutans*	NT
Reptile	King Brown Snake #	*Pseudechis australis*	NT

Kultarr (*Antechinomys laniger*)

Twenty-nine introduced flora species are known to occur within the Alice Springs Airport site, of which five (athel pine, Mexican poppy, devils rope cactus, prickly pear and rubber bush) are declared weeds under the *Weed Management Act*. Buffel grass is not a declared weed in the Northern Territory; its establishment across the site has led to improved soil stabilisation (i.e. reduced dust hazard for airport operations). However, buffel grass can also increase fire intensity and degrade biodiversity values. Buffel grass is currently managed under the airport's weed, cattle and bushfire monitoring and management plans to achieve a balance of managing erosion and bushfire risk.

Six introduced fauna species (house mouse, feral cat, rabbit, camel, cattle and wild dog) are present within Alice Springs Airport. Of these, camel and cattle are purposely kept on airport land as part of agistment and for buffel grass fuel load reduction.

4.3.2 Potential sources of environmental impact

Airport activities that may have an impact on flora and fauna include:

- clearing of vegetation for development and to comply with obstacle limitation surface restrictions and air traffic control line of sight
- fire, including wildfire and prescribed burns
- fuel or chemical spills
- weed control activities (including patch burning and herbicide use)
- aircraft noise and accidents.

Flora and fauna that may pose an environmental, health or safety risk include:

- birds and other animal strikes
- pest animals, including feral cats, rabbits and mosquitoes
- invasive weeds.

4.3.3 Environmental management and monitoring

Vegetation management

Vegetation management measures for development proposals or land clearing activities implemented at Alice Springs Airport include:

- complying with relevant legislation in all land clearing/development proposals and adhering to the *Land Clearing – leased Federal Airports Guidelines for Airport Lessee Companies*
- requirement of construction environment management plans for major development proposals
- implementing Alice Springs Airport's Landscaping Management Plan, which requires preferential use of native species for revegetation and landscaping works.
- The coolabah and large ironwood trees that occur within the airport have been identified by local ecologists to have biodiversity values worthy of protection. This vegetation type is not protected under legislation; however, it is known to provide a variety of habitat refuges for a range of native flora and fauna. A tree health monitoring program, now incorporated into fuel load and vegetation monitoring, is undertaken on an annual basis to inform management strategies to support the protection of these trees.

Fire management

Alice Springs Airport implements and periodically updates its Bushfire Management Plan to inform management practices to manage bushfire risk. Bushfire management strategies at Alice Springs Airport include:

- controlling public access
- fuel hazard monitoring
- fire break maintenance
- controlled burns to reduce fuel load
- staff and tenant training and awareness
- short-term strategic cattle grazing for managing buffel grass.

Every year, we monitor fuel load across the airport site to inform fire management activities and priorities. This assessment is also used to update the airport's Bushfire Management Plan.

Pest plant, animal and pathogen management

We implement a range of measures to control pest animals at Alice Springs Airport:

- Feral cats: monitor activity under general observation and flora, fauna studies and control as required.
- Rabbits: map active and inactive warrens, fumigate active warrens, use ethically approved rabbit control including baiting and monitor populations to assess the efficacy of control measures.
- Mosquitoes: potential breeding sites are mapped, removed if possible and monitored when necessary in accordance with climatic conditions. Stormwater drains are maintained to minimise ponding, and vegetation known to harbour mosquitoes is not used for landscaping. The NT Department of Health provides assistance with trapping and monitoring where necessary.
- We implement weed management and monitoring programs across the site in conjunction with our other environmental programs such as fire management and regeneration works.

Wildlife hazard management plan

The risk of wildlife strike with aircraft at the airport is managed through implementation of the Wildlife Hazard Management Plan. The main objective of the Wildlife Hazard Management Plan is to reduce bird and animal strike incidences using both active and passive management to discourage the presence of birds and animals from airside areas.

Alice Springs Airport recognises that wildlife hazard management requires a systematic approach rather than focussing individually on wildlife species. Wildlife presence is influenced by available habitat, predators, water, food sources, inter/intra-species behaviour and human interaction.

Our ongoing wildlife management activities at the airport are:

- record bird observations and strike incidents in the AeroAscent TrackerAIRSIDE system
- train Airport Operations Officers in bird and habitat identification and dispersal activities
- undertake dispersal activities such as pyrotechnic bird fright, sirens, gunshot
- habitat modification, including maintaining optimal grass height adjacent to runways
- ongoing reporting and stakeholder meetings to review the implementation of the program
- program auditing.

Monitoring programs

A variety of monitoring programs are undertaken to assess the condition of biodiversity and its threats at the airport. These are listed in Table 10.

Table 10: Biodiversity and conservation monitoring programs at Alice Springs Airport

Monitoring Program	Frequency
Weed Monitoring Program	Annual
Vegetation Monitoring	Annual
Fuel Load Monitoring	Annual
Cattle Monitoring	As required
Bird Monitoring (external consultant)	As required
Wildlife Patrols (routine) and wildlife counts	Daily - ongoing
Flora and Fauna Monitoring (consultant)	Five yearly
Rabbit and Feral Cat Monitoring and Control Program	As required

4.3.4 Key achievements and eight-year action plan

Table 11: Biodiversity and conservation management key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environmental management	• introduced short-term cattle grazing for weed and fire management • pruning, risk assessment and NT Government permit for athel pines within heritage zone • continued weed management in accordance with the fire and weed management planning • continued to manage firebreaks.
Alice Springs Airport environmental monitoring	• conducted the five-yearly flora and fauna survey • continued fuel load monitoring • continued vegetation monitoring • continued weed monitoring • reconfigured monitoring activities to monitor soil stability and vegetation cover through online mapping resource.
Community	• engaged with Yirara College students in flora and fauna surveys.

Table 12: Biodiversity and conservation management eight-year action plan

	Management action	Timeframe
1	Undertake partnerships with external groups and organisations for conservation activities	Ongoing
2	Implement Weed Management Plan and Fire Hazard Management Plan to reduce fire risk and manage weed infestations over time	Ongoing
3	Investigate ways Alice Springs Airport's five-yearly flora and fauna survey can be used in biodiversity and conservation management planning	Medium term
4	Review and update Wildlife Hazard Management Plan	Ongoing, major review medium term
5	Review and update airport landscape management documentation and associated guidelines	Short term
6	Undertake flora and fauna survey assessment	Long term

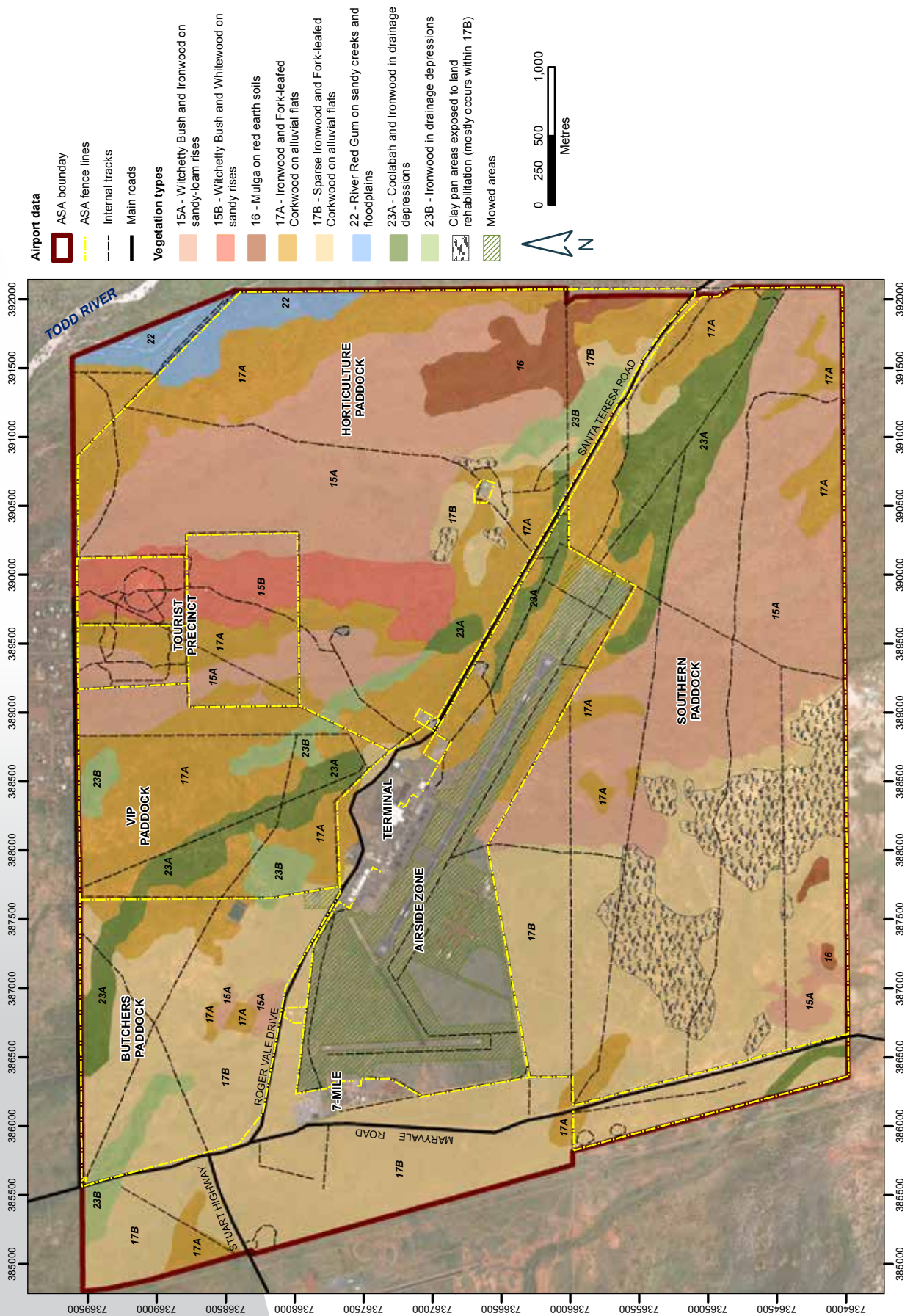
Key performance indicators:

- wildlife strike data
- species diversity
- abundance and type of declared weed species and weeds of national significance
- conservation events with external stakeholders

Timeframe:

- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

Figure 8: Map of vegetation communities at Alice Springs Airport



AES SECTION 4.4: Cultural heritage management

Objectives

- To identify, understand, preserve and manage sites of indigenous and non-indigenous heritage value in accordance with legislative requirements and in consultation with key stakeholders.

4.4.1 Background

Alice Springs Airport has been advised by the Aboriginal Areas Protection Authority that there is one 'recorded' Aboriginal sacred site on the airport site that appears on the register under the *Aboriginal Sacred Sites Act 1989*. This site is connected to the traditional owners (the Arrernte people) and is protected from any disturbances within the airport's control. There are no other sacred sites known to occur within the airport's property.

The Seven-Mile Aerodrome is a registered heritage site (European heritage) and consists of a complex of buildings constructed from 1940. These buildings formed the original airport complex and were built to service military and civilian operations. In 1965, a new terminal and fire station were opened to handle the increase in airline traffic. These were replaced by the current buildings in 1991 to accommodate the increased tourist traffic to the Northern Territory, but the buildings are still intact. There are no other known European heritage sites on airport land.

4.4.2 Potential sources of environmental impact

Potential impact to sacred sites, heritage sites and artefacts may occur as a result of:

- failure to identify sites
- accidental or malicious disturbance of sites
- disturbance of sites during development or landscaping or fire activities
- environmental impacts including fire, termites, wind, flooding and climate change.

4.4.3 Environmental management and monitoring

The Seven-Mile Aerodrome is recognised as one of Australia's most intact airfields from the WWII period. A management plan has been developed for the site to protect its cultural heritage values.

The recorded sacred site has management provision identified under the Aboriginal Areas Protection Authority Certificate, which has previously been issued to Alice Springs Airport. The site is listed on the Alice Springs Airport Environmental Site Register.

Works on future development will be stopped immediately if culturally significant artefacts are found and the relevant authority informed. If a new indigenous or heritage site is identified on airport land, the Environmental Site Register will be updated.

4.4.4 Key achievements and eight-year action plan

Table 13: Cultural heritage management key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environment management and monitoring	• ensured all contractors and tenants understood their heritage obligations under the 'site rules' in construction environment management plans • pruned athel pines adjacent the heritage buildings of the Seven-Mile Aerodrome.
Community	• worked with Yirara College / Clontarf Foundation students in on-site flora and fauna monitoring activities • educated the community through interpretative signage • promoted cultural events.

Table 14: Cultural heritage and management eight-year action plan

	Management action	Timeframe
1	Ensure all contractors manage their heritage obligations via inclusion in construction environment management plans submitted to Alice Springs Airport	Ongoing
2	Undertake environment assurance audit program, including raising awareness of heritage values	Ongoing
3	Engage with indigenous people in the local community in cultural-transfer events, upskilling and management activities at the airport	Ongoing

Key performance indicators:

- engagement events with indigenous groups
- number of environmental assurance audits undertaken with tenants

AES SECTION 4.5: **Energy management**

Objectives

- Ensure effective monitoring and measurement of Alice Springs Airport energy usage.
- Increase energy efficiency across areas of operational control and across airport partner organisations.

4.5.1 Background

Alice Springs Airport requires energy to operate and provide the services it needs to for an airport of its size. Three main sources of electricity are used at Alice Springs Airport: grid-connected power (supplied by natural gas-fired power plants), on-site emergency power (provided via diesel generators) and electricity generated on-site (supplied by solar photovoltaic arrays). Besides running diesel generators, the airport's vehicle fleet also requires a significant supply of diesel.

Alice Springs Airport manages an embedded electrical network, which provides electricity to all airport users and tenants. Tenants are metered both within the terminal and across the airport lease area. Tenants are excluded from Alice Springs Airport's energy consumption figures because they are outside the airport's operational control.

Over the past decade, our significant investment in solar energy has significantly reduced grid energy demand (from the gas-fired power plants) and resulted in reduced carbon emissions. In 2010, Alice Springs Airport was the first Australian airport to have a large-scale (over 100kW) photovoltaic system providing a direct source of renewable energy to its internal grid. In the decade since, we have further invested with solar panels on the carpark roof, increasing the total system capacity to over 800kW. This system provides almost 100 per cent of airport's peak daytime power demand, the equivalent of powering over 100 average sized NT households each year.

4.5.2 Potential sources of environmental impact

The environmental impact of energy consumption at Alice Springs Airport may not be immediately evident. However, all organisations have a role to play in reducing greenhouse emissions from non-renewable energy sources to collectively mitigate the impacts of climate change. Climate change poses significant environmental and operational consequences, locally and globally.
The main energy uses at Alice Springs Airport are:

- general airport operations, including all activities within airside and landside buildings within the airport lease area
- vehicle and ground-based aircraft activities, including operation of plant and equipment
- lighting, including runway lighting, area lighting, street lighting and internal building lighting
- air-conditioning, power use and conveyor belts in the terminal building and other buildings occupied by Alice Springs Airport staff, tenants and contractors
- construction projects and related works.

4.5.3 Environmental management and monitoring

Monitoring our energy usage and implementing energy efficiency measures are necessary to manage the potential sources of environmental impact.

Monitoring energy usage

For over a decade, Alice Springs Airport has undertaken annual voluntary National Energy and Greenhouse Reporting (NGER) monitoring, which is administered federally by the Department of Environment and Energy. Data generated in this report has given us insight into areas of energy usage and shown improvement in reduced consumption on non-renewable energy sources over time.

Energy efficiency

The focus areas for energy efficiency and reducing emissions across Alice Springs Airport's operations include:

- continued investment in renewable energy generation
- energy efficiency projects
- electrification of operational plant and equipment (from fossil fuel) using generated renewable energy
- implementation of sustainable building design principles that maximise energy efficiency.

4.5.4 Key achievements and eight-year action plan

Table 15: Energy management key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environmental monitoring	• Voluntary annual National Greenhouse and Energy Reporting scheme monitoring • Monitoring performance and output of solar panels to maximise solar energy output.
Energy efficiency initiatives	• Upgraded terminal air conditioning and lighting, reducing energy usage by 25 per cent • Upgraded airside lighting • installed electric car charging stations using renewable energy.

Table 16: Energy management eight-year action plan

	Management action	Timeframe
1	National Greenhouse and Energy Reporting scheme monitoring	Ongoing
2	Develop and implement energy efficiency projects	Ongoing
3	Update sustainability policy and procurement procedure	Short term
4	Encourage and facilitate energy efficiency of tenant operations through the environmental assurance audit program	Ongoing
5	Investigate further solar photovoltaic array development opportunities	Ongoing

Key performance indicators:

- energy efficiency initiatives implemented both inside and outside Alice Springs Airport's operational control
- NGERS reporting and data
- tenant environmental assurance audit assessments
- solar generation capacity

Timeframe:

- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

Solar powered vehicle recharge station at Alice Springs Airport

AES SECTION 4.6: **Air quality, greenhouse gas emissions and climate change**

Objectives

- Compliance with air quality standards as defined by Commonwealth and Northern Territory Regulations.
- Monitor and identify opportunities to minimise air emissions from Alice Springs Airport.
- Reduce greenhouse gas emissions in accordance with NT Airports' emissions reduction target.
- Prepare for, and adapt to, climate change.

4.6.1 Background

Alice Springs Airport's significant investment in solar energy over the past decade has reduced grid energy demand (from the gas-fired power plants) and resulted in reduced carbon emissions. As a result of the solar energy generated by the airport's three solar facilities, Alice Springs Airport offsets approximately 1270 tonnes of carbon dioxide a year.

There are a number of emerging climate change risks and impacts that the Alice Springs region will be subjected to as a result of climate change. Climate change has the potential to affect the flora and fauna at Alice Springs Airport as well as airport operations.

The airport experiences few issues with air quality or air pollution. Complaints relating to air pollution from airport operations are rare and are typically associated with one-off events such as bushfires, prescribed burns or aviation rescue fire fighting (ARFF) training exercises. Dust is also an air quality consideration that is managed within the environment strategy aspect of soil management.

One of Alice Springs Airport's three solar facilities

4.6.2 Potential sources of environmental impact

Air pollution may be from stationary or other ground-based sources, including:

- exhaust emissions generated by auxiliary and ground power units
- boilers, turbines, electrical generators and incinerators
- fuel burning equipment
- evaporation of volatile organic compounds (VOCs) from large storage tanks
- oil- or gas-fired plant equipment
- construction activities
- ground-based operations generating dust or smoke (including dark smoke emissions from hot fire training)
- ground-based aircraft movements
- refuelling, de-fuelling and evaporation of VOCs from spillage
- painting and paint stripping operations
- cleaning operations using solvents
- potential use of ozone depleting substances.

Greenhouse gases that contribute to climate change are mostly generated from grid energy usage from gas-fired power plants and diesel consumption from fleet vehicles and generators. Other contributing factors include staff air travel, off-site landfill waste contributing to greenhouse gas emissions, refrigerant gases and CO2 fire extinguishers.

Impacts related to climate change in the region may not be immediately evident; however, if not managed, there could be significant environmental and operational consequences in the medium to longer term on both a local and global scale.

Climate change impacts at Alice Springs Airport could include:

- a predicted decline in annual rainfall resulting in greater dust levels
- increasing temperatures decreasing aircraft performance, causing heat damage to airport surfaces and increasing the airport's cooling requirements
- changes in wind patterns affecting flight paths and en-route turbulence
- extreme weather events like storms, droughts, flooding and lightning strikes causing disruptions to operations, ground transport access and supply of utilities.

4.6.3 Environmental management and monitoring

Reducing carbon emissions and planning for, and adapting to, climate change are necessary measures in managing potential sources of environmental impact.

Climate change management

Alice Springs Airport is focussing on both mitigation and adaption measures to build resilience against the impacts of climate change.

Alice Springs Airport is included in the NT Airports Emissions Reduction Target to reduce emissions from fuel usage, electricity and other minor sources to zero by 2030. This target has been developed using a science-based framework (incorporating mid-range decarbonisation forecasts for the Northern Territory). NT Airports' emissions target is within the Australian emissions target under the Paris Agreement and United Nations Framework Convention on Climate Change. The primary objective of this agreement is to keep global temperature increases to well below 2°C and pursue efforts to keep within the 1.5°C range.

To account for forecast increases in temperature, drought frequency and stresses on mains water supply, Alice Springs Airport has included water efficiency and recycling elements in the water management aspect for this strategy, along with the planting of drought tolerant native tree species to support a comfortable outdoor temperature for airport users.

Ongoing monitoring of vegetation cover, flora and fauna will assess potential climate change impacts and may trigger the need for responsive management strategies. Maintaining fuel load and ongoing reviews of bushfire plans will be an increasingly important aspect in managing the potential future increase of fire risk associated with climate change.

Air quality management

Air quality monitoring is conducted by qualified consultants periodically and when required.

Dark smoke emissions are a result of fire training undertaken by Airservices Australia for aviation rescue fire fighting. The impact is managed by limiting fire training exercises outside of the hours of major aircraft activity and informing the Airport Environment Officer and Alice Springs Airport Environment Manager before fires are lit, through the prescribed burn notification process.

Air quality issues from dust generation are managed through control measures implemented as a part of construction environmental management plans for development projects.

4.6.4 Key achievements and eight-year action plan

Table 17: Air quality, greenhouse gas emissions and climate change key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environmental monitoring	• voluntary annual National Greenhouse and Energy Reporting scheme monitoring • developed an emissions reduction target • developed a science-based tool to keep emission reductions in alignment with the United Nations Framework Convention on Climate Change • monitored performance and output of solar panels to maximise solar energy output.
Alice Springs Airport environmental management	• managed airport land to mitigate the risk of bushfires on-airport • sealed airside roads with recycled bitumen millings to reduce dust • formalised a stockpile area to reduce dust • continued to undertake air quality monitoring and reporting as required.

Table 18: Air quality, greenhouse gas emissions and climate change eight-year action plan

	Management action	Timeframe
1	National Greenhouse and Energy Reporting Scheme (or similar) and monitor progress against the emissions reduction strategy	Ongoing
2	Update sustainability policy and procurement policy	Short term
3	Provide opportunities to reduce the emissions of partner organisations and supply chain outside of the airport's direct operational control (known as Scope 3 emissions)	Ongoing
4	Develop a climate change management plan	Medium term
5	Investigate further solar photovoltaic array development opportunities	Ongoing
6	Investigate engagement with the Airports Carbon Accreditation Scheme	Short term
7	Implement concepts and technologies that will promote energy efficiency	Ongoing
8	Participate in community environmental awareness programs such as 'National Ride to Work Day'	Ongoing
9	Incorporate energy efficiency and sustainable design features into new projects and retro fit current infrastructure	Ongoing

Key performance indicators:

- annual emissions against emissions reduction target
- tenant environmental assurance audit assessments
- community environmental awareness programs
- creation of climate change management plan

Timeframe:

- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 4.7: **Ground-based noise management**

Objectives

- To ensure management and mitigation measures are implemented so that noise and vibration levels from ground-based activities at Alice Springs Airport are reduced as much as practicable and/or are compliant with legislative and regulatory requirements.

4.7.1 Background

Airports are typically high-noise environments due to ground-based and aeronautical activities. Since Alice Springs Airport took over the lease of the airport site in 1998, there have been few noise complaints. This is largely due to the significant amount of undeveloped buffer zone surrounding the airport and flight paths that generally avoid the urban centre of Alice Springs. An Australian Noise Exposure Forecast (ANEF) study that took into consideration current and future noise levels predicted that noise is most unlikely to become a significant issue within the medium-term future of Alice Springs Airport.

The ANEF is a set of contours showing future forecasted levels of exposure to noise for building control purposes. It is used in accordance with Australian Standard AS2021:2015 to guide land use planning and development consent decisions by the relevant authority.

ANEF inputs include aircraft movement forecasts, runway and flight path usage, time of day and fleet mix. The 2060 ANEF assumes that there is to be no major changes to the airfield layout, any runway extensions or changes to the current flight patterns in the planning period of the master plan. The current procedures for aircraft arriving and departing the airport were defined in close consultation with air traffic control.

The Airports (Environment Protection) Regulations 1997 address noise generated from ground-based activities. The *Airservices Act 1995* addresses noise generated by aircraft in flight, landing, taking off or taxiing. The Airport Environment Strategy does not address these stages of operation.

4.7.2 Potential sources of environmental impact

Ground-based aviation noise sources include:

- aircraft ground running
- aircraft maintenance and testing
- aircraft auxiliary power units
- aircraft refuelling and operation activities
- pavement maintenance.

Ground based non-aviation noise sources include:

- tenant activities
- road traffic
- construction and demolition activities.

4.7.3 Environmental management and monitoring

Alice Springs Airport will investigate noise complaints relating to ground-based operations by responding to the complainant. Responses will include explaining the event (once identified) and seeking opportunities for where improvements can be made. For non-ground-based noise complaints, Alice Springs Airport will refer complainants to Airservices Australia. All noise complaints received relating to ground-based operations are reported to the Airport Environment Officer as soon as practicable after the complaint is made and are included in the airport's Annual Environment Report.

In the event of major changes to airport operations or unprecedented increases in air traffic volume, noise monitoring will be undertaken to ensure noise levels remain at non-nuisance levels. Alice Springs Airport also evaluates the potential for noise generated by airport operators to affect new developments, particularly residential developments. In the absence of noise complaints, we continue to conduct qualitative noise monitoring on an ongoing basis.

The Alice Springs Airport Engine Ground Running Management Plan is used as a guide for the positioning of aircraft to reduce the impact of aircraft noise on the surrounding areas. Construction environmental management plans address potential noise pollution issues associated with construction activities and are a control measure for noise exposure during development on-airport.

4.7.4 Key achievements and eight-year action plan

Table 19: Ground-based noise management achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environmental monitoring	• continued noise monitoring program • liaised with Airservices Australia through meetings on noise complaints and reporting • timely investigation and response reporting on any complaints as required.

Table 20: Ground-based noise management eight-year action plan

	Management action	Timeframe
1	Investigate and respond to any complaints received	Ongoing
2	Review the Alice Springs Airport Engine Ground Running Management Plan in relation to its operational effectiveness	Annual
3	Make link to Webtrak (Airservices Australia online aircraft monitoring tool) available on Alice Springs Airport website	Short term
4	Review contractor construction environmental management plans to ensure potential ground-based noise impacts are assessed	Ongoing

Key performance indicators:
- noise complaints from stakeholders
- noise complaints from Airservices Australia

Timeframe:
- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 4.8: Hazardous substances and dangerous goods management

Objectives

- All hazardous substances and dangerous goods are stored, handled, used and disposed of in a manner that minimises environmental risk.

4.8.1 Background

As part of Alice Springs Airport operations, a number of hazardous substances and dangerous goods (HSDG) are required to be stored and handled on site. The most significant use of HSDG on the Alice Springs Airport lease area is aviation fuel.

Other types of HSDGs and chemicals with the potential to contaminate water, soil and air are stored as a part of the airport and tenant operations include:

- fuels, oils, coolant and lubricants
- pesticides and herbicides
- batteries and battery electrolytes
- paint and paint-stripping products
- cleaning chemicals, including acids and solvents
- waste water
- fire fighting foam and other chemicals
- fertilisers
- asbestos.

4.8.2 Potential sources of environmental impact

The potential sources of environmental impacts relating to HSDG occur when there are uncontrolled releases to the environment. Spills, if not prevented or managed properly, do have the potential to cause impacts to the environment. These impacts can be in the form of contamination of soil, water or air. The impacts may also adversely affect flora, fauna and human health.

Potential sources include:

- improper storage of HSDG
- improper use of HSDG
- operational spills
- emergency incidents.

4.8.3 Environmental management and monitoring

Environmental management measures are currently in place that focus on the use, storage and disposal of HSDG at Alice Springs Airport. These include the management of sites or areas on Alice Springs Airport land that may be affected by HSDG through past environmental incidents or historical uses.

When the use, storage, or disposal of HSDG is undertaken, a number of controls must be in place that are relevant to the type of HSDG:

- appropriate storage containers/tanks and bunding and refuelling/refilling areas
- fit-for-purpose waste water treatment facilities where required
- spill kits
- appropriate waste management by licensed waste management providers.

All tenants are required to maintain a register of safety data sheets for all chemicals used on-site. The Alice Springs Airport environment assurance audit program includes this as part of tenant audits to ensure compliance with relevant standards and requirements. An asbestos register is maintained for Alice Springs Airport buildings that have been found to contain asbestos. Inspections are conducted at these buildings in accordance with the National Code of Practice.

Any incidents involving the spill or leakage of HSDG are required to be reported in accordance with Alice Springs Airport's Environmental Incident Response Procedures. All fuel storage tanks and hydrant systems are regularly inspected for leaks to ensure compliance with relevant legislation and standards.

4.8.4 Key achievements and eight-year action plan

Table 21: Hazardous substances and dangerous goods key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environment management	• ensured Alice Springs Airport operators, tenants and contractors were appropriately inducted and trained • continued to ensure contractors submit construction environment management plans (CEMPs) and CEMP inspections were done • updated spills procedures and provided spills training to airside operators • AeroAscent TrackerAIRSIDE system used for instant spills recording and reporting • installed fuel receptacles around airside aprons to collect tested waste fuel • undertook tenant audits on hazardous goods storage, pollution control devices, spill response capabilities and procedures.

Table 22: Hazardous substances and dangerous goods eight-year action plan

	Management Action	Timeframe
1	Environment assurance audit program, including HSDG	Ongoing
2	Request and review construction environment management plans and undertake site inspections where required	Ongoing
3	Review Alice Springs Airport HSDG register	Short term
4	Maintain the Asbestos Register for the airport	Ongoing
5	Provide spills training and resources to airside operators	Ongoing

Key performance indicators:

- tenant audits undertaken
- construction environment management plans for projects with potential environmental risk
- construction environment management plan inspections for projects with potential environmental risk
- HSDG reviewed

Timeframe:

- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 4.9: Waste management and resource recovery

Objectives

- Minimise waste generation across all airport operations.
- Maximise recycling and reuse of waste across all airport operations.
- Ensure wastes are properly stored, transported and disposed.

4.9.1 Background

Alice Springs Airport accounts for all terminal waste generated by passengers, tenants and airside operators, as well as non-terminal waste from our maintenance sheds and airport management centre.

Waste types generated at Alice Springs Airport can be defined as solid, liquid, recyclable, hazardous or regulated waste:

- Solid waste includes office waste, food and packaging, green waste, and construction and demolition waste.
- Liquid waste includes sewage effluent, industrial waste water and contaminated runoff water.
- Recyclable materials include paper, glass, plastic and electronic waste.
- Regulated waste includes oil, batteries, tyres and metal.
- Hazardous waste, which is also regulated, includes quarantine waste, sanitary waste, asbestos, chemical storage containers, used chemicals, waste sludge and contaminated waste water.

Waste at Alice Springs Airport is handled by local waste contractors, and general wastes are disposed of at the Alice Springs Town Council waste disposal site. As Alice Springs is geographically isolated from major centres, to date there has been limited scope for recycling mixed waste recyclable materials.

Wastewater at the airport includes sewage and water that has passed through pre-treatment systems from airport activities including paint stripping, fire training exercises, and aircraft and vehicle wash down.

The airport has an onsite sewer system that is independent from the town's wastewater treatment system.

4.9.2 Potential sources of environmental impact

Environmental impacts attributable to waste at Alice Springs Airport include:

- incorrect disposal of solid waste by airport operators, contractors, tenants and users
- inappropriate storage of waste oils, chemicals, and other hazardous waste materials
- waste water runoff from airport operations such as paint stripping, fire training exercises, and aircraft and vehicle wash down
- spills of HSDGs
- illegal dumping of waste on airport land
- inadequate pre-treatment of waste discharges to sewer.

4.9.3 Environmental management and monitoring

Waste management at Alice Springs Airport is handled through a number of separate processes and services. Recycling is implemented at the airport in accordance with the capabilities of local recycling facilities. Waste audits are undertaken periodically to assess bin and waste collection requirements and to investigate and implement continued improvement in recycling.

Historically, the illegal dumping of waste on the airport site has been an issue. Fencing we erected on airport boundaries has reduced this occurrence. The airport boundary fences are inspected regularly to identify illegal dumping or breaches in the fencing.

The airport sewer system comprises a number of standalone septic systems as well as a larger system with a set of evapotranspiration beds on the airport site. These are sufficiently sized to meet current and projected demand in the medium term. The system is monitored annually to ensure capacity is sufficient and to ensure there is minimal risk of pollution of natural waterbodies by waste water.

4.9.4 Key achievements and eight-year action plan

Table 23: Waste management and resource recovery key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environment management	• coordinated container deposit recycling in the terminal • reviewed waste management in the environmental assurance audit process • ongoing monitoring, clean up and investigation of illegal dumping • construction environmental management plans included sections stipulating reduction and recycle waste where practicable on project sites • recycled runway millings for lining airside roads • Reviewed soil stockpile management

Table 24: Waste management and resource recovery eight-year action plan

	Management action	Timeframe
1	Review waste management strategy	Short term
2	Environment assurance audit program to maintain licensed hazardous waste removal	Ongoing
3	Take part in community activities such as Clean Up Australia Day	Annual
4	Remediate illegal dumping sites and implement control measures as required	Ongoing
5	Monitor the Alice Springs Airport septic facility	Annually
6	Monitor discharges into the Alice Springs Airport septic facility and evapotranspiration beds	Short term

Key performance indicators:
- total waste
- percentage of waste recycled

Timeframe:
- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 4.10: **Sustainable development**

Objectives

- Adopt environmental considerations into the development of new and existing facilities and services to minimise impact on the natural environment.

4.10.1 Background

Development and facilities upgrade and expansion is necessary for Alice Springs Airport to be able to respond to the increasing requirements of travellers, the aviation industry and the Alice Springs region. The airport understands the importance of achieving a balance between development and maintaining and enhancing environment values. To be able to respond to future growth while effectively managing environmental impacts, the inclusion of the environmental considerations in design, construction and operations is crucial. Environmental aspects that are most greatly affected by sustainable development are energy, greenhouse gas emissions, water, waste and contractor management.

4.10.2 Potential sources of environmental impact

Development activities have the potential to affect each of the environmental aspects addressed throughout this Airport Environment Strategy.

4.10.3 Environmental management and monitoring

New projects and upgrades

Sustainable building design principles support our emissions reduction strategy. The emphasis of the sustainable design principles applied to new buildings includes:

- undertaking rooftop solar feasibility studies and installing rooftop solar panels, where roof design permits, across the maximum roof area available
- adopting passive design features, including building orientation to mitigate climate impacts
- undertaking embedded energy analysis of construction materials and products.

Assessing the environmental performance of developments, asset procurement and request for tender sustainability guidance documents also support sustainable development.

Monitoring and reporting

Alice Springs Airport's annual sustainability reporting incorporates energy use, emissions, water use and waste generation. The emissions reduction target will be a driver for energy and emissions reductions for airport developments along with future resource use targets for energy and waste.

Construction management

Alice Springs Airport requires that contractors performing major works, or works that are determined to have high environmental risk, prepare a construction environment management plan. This plan must be reviewed and approved before any works commence.

Potential developments will be assessed against data entered into the Environmental Site Register to determine potential impacts on sensitive areas and the requirement for further assessment.

4.10.4 Key achievements and eight-year action plan

Table 25: Sustainable development key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environment management and monitoring	• ensured Alice Springs Airport operators, tenants and contractors were appropriately inducted and trained • ensured all relevant environmental plans and strategies were available to airport operators, tenants and contractors • ensured new developments incorporated environmental design features, wherever feasible • installed energy-efficient lighting and air conditioning in the terminal • monitored resource use through sustainability reporting

Table 26: Sustainable development eight-year action plan

	Management action	Timeframe
1	Ensure all contractors submit construction environment management plans and provide assurance against these	Ongoing
2	Implement the Environment Assurance Audit Program	Ongoing
3	Ensure plans, strategies and information, including legislative provision, are available to Alice Springs Airport operators, tenants and contractors	Ongoing
4	Apply a building sustainability performance framework to new developments	Medium term
5	Review procurement procedure for projects and assets	Short term
6	Incorporate resource use in sustainability reporting	Ongoing
7	Incorporate future resource use targets in sustainability report	Short term

Key performance indicators:

- tenant audits undertaken
- development of procurement procedure
- established resource usage targets

Timeframe:

- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 4.11: **Tenant and contractor management**

Objectives

- To work in partnership with Alice Springs Airport tenants and contractors to ensure best environmental practice continues to be implemented in all airport operations.

4.11.1 Background

The Alice Springs Airport lease area contains a diverse range of businesses and operators. This includes businesses that are aviation related and non-aviation organisations that choose to base themselves in the airport lease area. Lease terms and conditions incorporate environmental clauses to ensure all parties understand their obligations while operating on airport land.

Alice Springs Airport employs a wide range of contractors who undertake a variety of services at the airport, such as construction and engineering works, maintenance works and landscape management. These contractors must complete an environmental induction before working in the airport lease boundary. Alice Springs Airport works with these contractors to ensure necessary management plans are in place and undertakes contractor inspections where required.

4.11.2 Potential sources of environmental impact

Sources of environmental impact are generally related to the activities or services that a tenant or contractor is undertaking within the airport lease area. Standard activities are assessed under Alice Springs Airport's environmental risk assessment standard and managed to as low as reasonably practicable (ALARP) by ensuring all relevant risk controls are effectively implemented.

4.11.3 Environmental management and monitoring

Alice Springs Airport and all operators at the airport are legally required to take all practicable steps to meet the requirements outlined in the Airport Environment Strategy. This includes any airport-based business, tenants or contractors. Environmental management is ultimately the responsibility of all staff, tenants and contractors at the airport.

Tenants

Tenants and operators/contractors are assessed in relation to the level of environmental risk that can be attributed to the activities they undertake. Tenants/operators may be asked to develop and implement an operational environment management plan or equivalent (i.e. certified Environmental Management System) to address the specific activities their businesses conduct and the potential environmental impacts.

Alice Springs Airport implements an environment tenant assurance audit program that incorporates levels of surveillance depending on a tenant's/operator's/contractor's level of risk and historical operations (see tables 27 and 28). This ensures compliance with relevant Regulations and the airport's Environmental Management System.

Coupled with the environmental assurance audit program, Alice Springs Airport will occasionally contact tenants and provide environmental management awareness training to tenants and contractors where necessary to further communicate understanding of accountabilities and obligations under the relevant legislation and Airport Environment Strategy.

Table 27: Tenant environmental risk categories

Category	Description
Class A	**High-risk tenants** – activities such as, but not limited to, aircraft maintenance hangars, fuel storage and refuelling, significant hazardous substances and dangerous goods storage. All such activities have the potential to cause significant environmental damage.
Class B	**Medium-risk tenants** – activities such as ground service equipment maintenance, aircraft repair and maintenance workshops and large warehousing facilities. All such activities have the potential to cause moderate environmental damage.
Class C	**Low-risk tenants** – activities such as commercial retail, office/ administrative and childcare facilities. These operations pose a low risk to the environment.

Table 28: Tenant auditing and reporting requirements

Type of auditing	Class A	Class B	Class C
External audit*	Annual	N/A	N/A
Alice Springs Airport-conducted assurance	Annual	Annual	Alice Springs Airport to manage
Tenant annual report	Annual	Annual	Annual

* For Class A tenants, Alice Springs Airport may accept internal audits as an external audit on a case-by-case basis. This will be assessed on a tenant's track record, internal environmental systems and procedures, and suitably qualified personnel undertaking the audit.

Contractors

Contractors must complete environmental inductions before starting work at Alice Springs Airport. All contractors will be made aware of any significant environmental risks in their area of work and relevant to the activities they are undertaking through the construction environment management plan. All construction environment management plans for projects must be implemented by contractors and be made available for viewing at the project site. These plans are inspected at project sites that are deemed to have higher potential risk to the environment.

4.11.4 Key achievements and eight-year action plan

Table 29: Tenant and contractor management key achievements, 2015 – 2020

Area of work	Key achievements
Alice Springs Airport environment management and monitoring	• ensured Alice Springs Airport operators, tenants and contractors were appropriately inducted • maintained and updated all relevant plans and strategies to ensure adherence to best practice by operators, tenants and contractors • continued to ensure contractors submit CEMPs and CEMP inspections were done • regularly updated and disseminated environmental management and sustainability information through 'Touchdown' email newsletter • updated spills procedures and provided spills training to airside operators • used AeroAscent TrackerAIRSIDE system to record and report on spills • installed fuel receptacles around airside aprons to collect tested waste fuel • continued to provide environmental information on the Alice Springs Airport website.

Table 30: Tenant and contractor management eight-year action plan

	Management action	Timeframe
1	Implement the Environment Assurance Audit Program	Ongoing
2	Ensure all contractors submit CEMPs and undertake CEMP inspections where required	Ongoing
3	Update Contractor Induction Program	Short term
4	Tenants provide operational environmental management plans as required	Ongoing
5	Update environment information on Alice Springs Airport website	Ongoing

Key performance indicators:

- environmental assurance audit assessments undertaken
- updated tenant induction program

Timeframe:

- Short term: up to 2 years
- Medium term: 3–5 years
- Long term: 6–8 years

AES SECTION 5:

Figures and tables

AES SECTION 5: **Figures and tables**

Figures

Tables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Appendix 2:

Supporting information

APPENDIX 2: **Supporting information**

Acronyms

ANEF	Australian Noise Exposure Forecast
ARFF	Aviation rescue and fire fighting
ATC	Air traffic control
AZRI	Arid Zone Research Institute
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations
CAT	Category
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CTAF	Common traffic advisory frequency
DITRDC	Department of Infrastructure, Transport, Regional Development and Communications
DME	Distance-measuring equipment
FAC	Federal Airports Corporation
FATO	Final approach and take off
FTE	Full-time equivalent
GA	General aviation
GRP	Gross regional product
GSE	Ground service equipment
HIAL	High intensity approach lighting
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
ILS	Instrument landing system
MOS	Manual of Standards
N70	Noise events louder than 70dB(A)
NASA	National Aeronautical and Space Administration
NDB	Non-directional beacon
NT	Northern Territory
NTAPL	Northern Territory Airports Pty Ltd
OLS	Obstacle limitation surfaces
PANS-OPS	Procedures for air navigation services – aircraft operations
PAALC	Pilot activated airport lighting control
PAPI	Precision approach path indicator
PCN	Pavement classification number
PV	Photovoltaic
PWC	Power and Water Corporation
RPT	Regular public transport
TWY	Taxiway
T-VASIS	T-Visual Approach Slope Indicator System
VHF	Very high frequency
VOR	Very High Frequency Omnidirectional Range

Definitions of land uses

Note:

- Black denotes those zones and land uses identical to those in the NT Planning Scheme 2020
- Red denotes those zones and land uses that have been amended from those in the NT Planning Scheme 2020 to appropriately reflect on-site aviation and non-aviation land uses and activities
- Orange denotes independent definitions for aviation zones and land uses
- Some land uses have been renamed in the NT Planning Scheme 2020. For clarity, the previous land use name is included in italics below the new land use name, where relevant.

agriculture	means, as a commercial enterprise: (a) the growing of crops, pasture, timber trees and the like, but does not include a **plant nursery** or **horticulture**; and (b) the keeping and breeding of livestock; (c) but does not include **animal boarding, intensive animal husbandry** or **stables.**
animal boarding	means premises used as a commercial enterprise for the accommodation of domestic animals, but does not include **intensive animal husbandry** or **stables**.
aviation activity	means any activity for the arrival, departure, movement or operation of aircraft and includes aircraft aprons, helipads, heliports, runways, taxiways, areas set aside for the parking and or storage of aircraft either short or long term, and the like.
aviation support facility	means any aircraft maintenance facility, engine-run area, ground support equipment, transport depot and associated ground base activities necessary for the orderly and efficient operation of aviation activity.
business sign	means a device using words, letters or images exhibited for the purpose of advertising, announcement or display restricted to the name of the business carried on and the nature of the services or goods available, on the land on which the sign is erected, and includes, where a number of persons are carrying on different businesses on that land, a sign identifying the place.
bar - public	means premises primarily used to sell alcoholic beverages to the public for consumption on the premises, where the maximum capacity is more than 100 persons at any one time. The use may include ***ancillary*** sale of food for consumption on the premises and entertainment activities, but does not include a **bar-small, club, hotel/motel, nightclub entertainment facility,** or **restaurant**.
bar - small	means premises primarily used to sell alcoholic beverages to the public for consumption on the premises, where the maximum capacity does not exceed 100 persons at any one time. The use may include ***ancillary*** sale of food for consumption on the premises and entertainment activities, but does not include a **bar-public, club, hotel/motel, nightclub entertainment facility** or **restaurant**.
car wash	means a premises primarily used for the commercial cleaning of motor vehicles by mechanical or manual processes.
caravan park	means land used for the parking of caravans or the erection or placement and use of tents or cabins for the purpose of providing accommodation. The use may include, where ancillary, a manager's residence and **office, bar-small, food premises-café / take away, shop**, amenity buildings, restaurant and the provision of recreation facilities for the use of occupants of the **caravan park** and their visitors.
car park	means the parking of motor vehicles, including buses and trucks, otherwise than as an ***ancillary use*** of land, and does not include **vehicle sales and hire**.
child care centre	means premises used for the minding, education and care of children but does not include an **education establishment** or family day care as a **home based business**.

club	means premises used by persons associated for social, political, sporting, athletic or other similar purposes for social interaction or entertainment. The use may include the sale of alcoholic beverages and food to members and their guests.
community centre	means a building or part of a building used for providing artistic, social or cultural facilities and community support services to the public and may include the ancillary preparation and provision of food and drink.
domestic livestock	means the keeping, exercising or training, other than as a commercial enterprise, of any of the following: (a) horses or other equine animals; (b) ox, buffalo or other bovine animals; (c) camels; (d) pigs.
dwelling - caretakers *previously 'caretaker's residence'*	means a ***dwelling*** that is ***ancillary*** to the non-residential use of the land on which it is erected and that is occupied by the bona fide the caretaker of the land.
dwelling - community residence *previously 'group home'*	means a **dwelling**: (a) used to accommodate persons who are not necessarily related and who live together as a single household, with or without paid supervision or care; and (b) that is managed so that day to day activity is of a residential character; and where the management of the household is assisted by a community, religious or charitable organisation or an educational, departmental or institutional establishment but does not include a **residential care facility.**
dwelling - independent *previously 'independent unit'*	means an ***ancillary dwelling*** constructed on the same ***site*** as a **dwelling -single.**
dwelling - multiple *previously 'multiple dwellings'*	means a ***dwelling*** or ***serviced apartment*** that is wholly or partially vertically over or under another ***dwelling*** on a site and includes any ***dwellings*** above the ground floor in a mixed use development, and includes a ***dwelling*** on a unit title with common property.
dwelling - single *previously 'single dwelling'*	means a building containing one ***dwelling*** only.
education establishment	means premises used for the purposes of providing education including an academy, college, lecture hall, vocational training college or university, but does not include a **place of worship or community centre**. The use can include where ***ancillary, café*** / **take away, office, rooming accommodation** or **shop** that directly service the needs of students and staff.
exhibition centre	means premises used for the display, or display and sale, of materials of an artistic, cultural or historical nature including a museum. The use can also include where ***ancillary café*** / **take away** and **office**.
food premises - café / take away	means small-scale premises (other than a **bar-small**) used for the preparation and sale of food and drinks that may be either taken away or consumed at seating on the premises.
food premises - fast food outlet	means premises used for the preparation and sale of food and drinks primarily packaged to be taken away for consumption off premises that incorporate a drive-through service, and may include the provision of seating for the consumption of food on the premises.
food premises – restaurant *previously 'restaurant'*	means premises (other than a **bar-public**, **bar-small**, **shop**, or part of a **hotel/motel**), used for the preparation, sale and service of food and drinks for consumption primarily on the premises where seating is provided, and may include the ***ancillary*** provision of take-away food.
fuel depot	means a depot for the storage or sale of solid, liquid or gaseous fuel, but does not include a **service station**.

general aviation and support facilities	means any aviation and aviation-related use of the land. General aviation commonly refers to that part of the aviation industry that engages in activity other than scheduled commercial airline activity. This may include charter operations, aeromedical operations, agricultural aviation businesses, aviation-based firefighting services, training and aerial work such as aerial photography and surveying. It also includes private, business, recreational and sports aviation activity and supporting businesses such as maintenance providers.
helipad	means a place not open to the public, used for take-off and landing of helicopters.
heliport	means a place not open to the public, used for the take-off and landing of helicopters whether or not it includes: (a) a terminal building; (b) facilities for parking, storage or repair of helicopters.
home-based business *previously 'home based contracting', 'home based occupation', 'home based visitor accommodation', 'medical consulting rooms'*	means use of a ***dwelling*** or the ***site*** of a ***dwelling*** by a person who resides in the ***dwelling*** for a business activity which is subordinate to the primary residential use including: (a) family day care for no more than 7 children; (b) storage of materials and vehicles; (c) carrying out of an occupation or profession; and (d) provision of temporary accommodation on a commercial basis within the ***dwelling***.
horticulture	means the commercial cultivation of fruit, vegetables, and flowers, including the wholesale growing of plants.
hotel/motel *previously separate definitions for 'hotel' and 'motel'*	means premises primarily used for the short term accommodation of travellers. The use can include where ***ancillary***, meeting and function rooms, **restaurants**, a **bar-small**, and recreation facilities but does not include a **bar-public**, **club**, or **nightclub entertainment venue**.
industry - general *previously 'general industry'*	means an **industry** in which the process carried on, the machinery used and goods and commodities carried to and from the premises on which the ***industry*** is sited has potential for significant impacts on the surrounding ***amenity*** due to off-site emissions including aerosol, fume, dust, smoke, waste products, odours, noise, generation of heavy vehicle traffic flows in the locality and the potential for night-time and/or outdoor activities. The use can include when ***ancillary*** **office** and **shop**.
industry - light *previously 'light industry'*	means an **industry** in which the process carried on, the machinery used and the goods and commodities carried to and from the premises on which the ***industry*** is sited are not of such a kind as are likely to adversely affect the ***amenity*** of the surrounding locality by reason of the emission of noise, vibration, smell, fumes, smoke, vapour, steam, soot, ash, dust, waste water, waste products, grit, oil or otherwise. The use may include where ***ancillary*** **food premises-café / take away, office** and **shop**.
industry - primary *previously 'rural industry'*	means an **industry** that involves the storage, treatment, processing or packing of primary products transported to the ***site*** where the process carried on and the goods and commodities carried to and from the premises on which the **industry** is sited are not of such a kind as are likely to adversely affect the ***amenity*** of the surrounding locality.
intensive animal husbandry	means: (a) the breeding, keeping and feeding of animals, including poultry and pigs, in sheds, stalls, ponds, compounds or stockyards; or (b) aquaculture; as a commercial enterprise.
leisure and recreation	means the provision indoors or outdoors of recreation, leisure or sporting activities and includes cinemas, theatres, sporting facilities, gymnasiums and the like as a commercial enterprise but does not include a club or community centre. The use can include where ***ancillary*** a **bar-small, café / take away, restaurant** and **shop.**
market	means premises or land managed and used for the sale of goods, food and drink to the public on a regular basis, where the items are primarily sold from a number of vehicles, trailers or temporary structures such as stalls, booths or trestle tables. The use may include entertainment provided for the enjoyment of customers.

medical clinic	means a building or place used by one or more medical practitioners, physiotherapists, dentists or persons ordinarily associated with health care, or their employees, but does not include a **hospital**.
motor body works	means premises for repairing the body work of motor vehicles and includes body building, panel beating or spray painting of motor vehicles.
motor repair station	means premises used for carrying out repairs to motor vehicles but does not include a **motor body works** or a **transport terminal**.
navigational aids	means any aircraft surveillance equipment, control towers, radars, visual and non-visual navigation aids and the like.
nightclub entertainment venue	means a premises used to provide entertainment, dancing and music. The use generally includes the sale of alcoholic beverages and food for consumption on the premises.
office	means a building or part of a building used for the conduct of administrative, secretarial or management services or the practice of a profession, where no goods or materials are made, repaired, sold or hired but does not include a **home based business**.
passenger terminal	means premises used as a railway or bus station, shipping passenger terminal, airline passenger terminal, hoverport or heliport.
place of assembly	means the use of premises for the gathering of people to attend functions whether or not for commercial purposes including convention facilities, or auditoriums. The use can include ***ancillary*** **bar-small, café / take away, office** and **shop**.
place of worship	means premises used as a church, chapel, mosque, temple, synagogue or place of religious instruction or worship or for the purpose of religious training. The use can include where ***ancillary*** an **office** and **shop**.
plant nursery	means premises principally used for the growing and sale to the public of plants, whether or not seeds, equipment, landscape materials or other associated products are displayed or sold, but does not include the use of land for **agriculture**, **horticulture** or **industry-primary**.
promotion sign	means a device using words, letters or images exhibited for the purpose of advertising, announcement or display that contains information relating to: (a) goods, services or products not provided, produced or sold; (b) events or activities that are not carried out on the land or in the building on which the sign is constructed or erected.
recycling depot	means premises used for the collection, storage or sale of scrap metals, waste paper, rags, bottles or other scrap material or goods, or used for dismantling, storage or salvaging of machinery whether or not parts of them are for sale.
residential care facility *previously 'supporting accommodation'*	means the use of premises for supervised accommodation where the use integrates: (a) rehabilitation; and/or (b) medical; and/or (c) other support facilities for residents who cannot live independently and/or require regular nursing or personal care.
retail agricultural stall	means a building used for the display and retail sale of agricultural, market garden or horticultural produce grown on the land on which the building is erected.
rooming accommodation previously 'hostel'	means premises such as hostels, guest houses, student and worker accommodation used for the accommodation of unrelated persons that may include: (d) the provision of food or other services and facilities, and/or, (e) on-site management or staff and associated accommodation, and where each guest/resident: (f) goods, services or products not provided, produced or sold; (g) does not have a right to occupy the whole of the premises in which the rooms are situated; and (h) may have separate facilities for private use or share communal facilities or communal space with other residents The use can include where ***ancillary***, **bar-small, food premises-café / take away, office** and **shop**.

service station	means premises used for the sale by retail of fuels, oils and other products for use in connection with the operation of motor vehicles, whether or not it includes convenience shopping, but does not include a **fuel depot, motor repair station or motor body works**, or **shopping centre**. The use can include, where ***ancillary***, a **café / take away** and **shop**.
shop	means premises used for the display and sale by retail or for hire of goods or to provide services but does not include a **café / take away, fast food outlet, restaurant, retail agricultural stall, service station, shopping centre, showroom sales** or **vehicle sales and hire**.
shopping centre	means an integrated complex of three or more individual tenancies that is comprised primarily of **shops**.
short-stay accommodation	means hotel and/or motel style accommodation that has been specifically designed for short-stay business or tourist accommodation and that is not subject to a residential lease.
showroom sales	means premises used for the sale or hire of bulky goods that require a large area for handling, display or storage including: (a) furniture, floor coverings, furnishings, household appliances or camping gear; or (b) materials, tools, equipment or machinery for use in industry, commerce, the trades, primary production, medical purposes or party hire.
stables	means premises used for the keeping, exercising or training of horses or other animals of burden as a commercial enterprise.
transport terminal	means premises used for the: (a) loading, discharge or storage of goods in the course of the transport of those goods by air, road, rail or ship; (b) garaging and basic maintenance of fleet vehicles; (c) servicing, repair and garaging of buses.
utilities and infrastructure	means a road, traffic lights, stormwater drains, disposal of sewage and waste water, facilities for the reticulation of services, telecommunications facilities, electricity substations and electricity transmission facilities, including sustainable generation systems, and the like.
vehicle sales and hire	means premises used wholly or principally for the display for sale by retail or for rental of motor vehicles, caravans, trailers, farm machinery or boats. The use may include ***ancillary*** repair or servicing activities and sale or fitting of accessories.
veterinary clinic	means premises used for the medical treatment of animals, whether or not the animals are boarded there as part of the treatment.
warehouse	means premises used for the bulk storage of goods, or the display and sale of goods by wholesale.

General definitions

amenity	in relation to a locality or building, means any quality, condition or factor that makes or contributes to making the locality or building harmonious, pleasant or enjoyable.
ancillary	means associated with, but auxiliary and subordinate to the primary land use.
dwelling	means a building, or part of a building, designed, constructed or adapted as a self-contained residence.
industry	means the use of land for processes involving manufacturing, assembling, packaging, altering, repairing, renovating, finishing, cleaning, treating of waste materials, testing or analysis or dismantling of an article, goods, or material including the storage or transportation associated with any such activity.
serviced apartments	means a building (or part of a building) providing self-contained accommodation to tourists or visitors on a commercial bases and that is regularly serviced or cleaned.
site	means an area of land, whether consisting of one lot or more, that is a subject of an application to the consent authority

Glossary and aviation terminology

Aircraft noise terms

Australian Noise Exposure Forecast (ANEF)
A set of contours showing future forecasted levels of exposure to noise. The ANEF is the only type of noise map intended to be used to assist land-use planning decisions. ANEF maps are subject to technical review and endorsement by Airservices Australia.

Flight path
These maps provide an indication of where aircraft fly and how many overflights there are over a particular period.

N70 Chart
N70 Chart provides a guide to aircraft noise that is more explanatory than an ANEF. N70 refers to the number of noise events louder than 70 dB(A) over a particular period. The
level of 70 dB(A) has been chosen because it is equivalent to the single event level of 60dB(A) specified in the Australian Standards AS2021 as the indoor design sound level for normal domestic areas in dwellings.

Airfield terms

Aerodrome/airport
A defined area of land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Aircraft operator
A person, organisation or enterprise engaged in, or offering to engage in, aircraft operation.

Airport operator
Any owner, licensee, authority or corporation, or any other body that has legal responsibility for a particular aerodrome (e.g. Alice Springs Airport Pty Ltd).

Airside
The movement area of an airport, adjacent terrain and buildings or portions thereof, to which access is controlled.

Apron
A defined area for aircraft parking. An apron area enables passengers to board or disembark from an aircraft, the loading of freight onto or unloading freight from an aircraft, the refuelling, parking or carrying out of maintenance on aircraft in between flights.

General aviation
Commonly refers to that part of the aviation industry that engages in activity other than scheduled commercial airline activity. This may include charter operations, aero medical operations, agricultural aviation businesses, aviation-based fire-fighting services, training and aerial work such as aerial photography and surveying. It also includes private, business, recreational and sports aviation activity and supporting businesses such as maintenance providers.

Gate
Physical location where passengers depart/arrive at the terminal to access aircraft either directly from contact stands or by walking from remote stands.

Landside
Those parts of an aerodrome not considered airside, that is, areas normally accessible to the general public.

Manoeuvring areas
Those parts of an aerodrome used for the take-off, landing and taxiing of aircraft, excluding aprons.

Movement areas
Those parts of an aerodrome used for the take-off, landing, taxiing and parking of aircraft (i.e. the manoeuvring area plus the aprons).

Runways
Defined area provided for the landing and take-off of aircraft. Alice Springs Airport has two runways, which are identified by international convention by a two-part designator derived from the direction in which the aircraft is flying:

- runway 12/30 is the main east-west runway
- runway 17/35 is the secondary north-south runway.

Runway strips
Defined area surrounding a runway, provided to reduce the risk of damage to aircraft running off runways and also to provide obstacle-free airspace for aircraft flying over the area during take-off and landing operations.

Stand/bay
Physical location where an aircraft parks, also referred to as an aircraft parking position.

Taxiways
Defined paths providing safe and efficient surface movement of aircraft between the runway and aprons.

Thresholds
The points on the runway for which the landing distance available to an aircraft is measured. A threshold is determined with reference to obstacle-free approach gradient required for the particular category of runway. Where there is no obstacle infringement, the threshold and runway end normally coincide. Where obstacles infringe the approach surface, it is necessary to displace the threshold to achieve the required obstacle-free gradient.

Master Plan figures and tables

Figures

Tables

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Alice Springs Airport is committed to sustainability and to integrating these principles into our operations. Recycled materials have been used in the printing of this document.

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