
Start near, go far!
Beyond 2050 Palmerston North Airport Master Plan
PALMERSTON NORTH AIRPORT LIMITED

Directors and team members of Palmerston North Airport Limited (PNAL) acknowledge mana whenua Rangitāne o Manawatū and their customary relationship to this region.

PNAL appreciates their manaakitanga shown towards the Airport and all Airport users. PNAL looks forward to further enriching the partnership with Rangitāne, mana whenua and other local iwi over the coming years.

Contents

Master Plan Overview

Section 1

Governance

- Palmerston North Airport Limited (PNAL) owns and operates Palmerston North Airport and is 100% owned by Palmerston North City Council (PNCC).
- PNAL falls within the definitions of both a Council-Controlled Organisation and a Council- Controlled Trading Organisation pursuant to section 6 of the Local Government Act 2002 as a consequence of the PNCC shareholding.

Overview

- Palmerston North Airport is a Lifeline Utility under the Civil Defence Emergency Management Act 2022 and an asset of regional and national importance managed by PNAL since its acquisition from the Crown in January 1990.

- The Airport is a strategic gateway that enables air travel, connectivity and freight transport. It services over one million residents who live within two hours' drive of the Airport and within the catchment areas of Ruapehu District, Whanganui, Rangitikei, Manawatū, Horowhenua, Wairarapa, Tararua and Southern Hawkes Bay.

- PNAL's purpose of **"Launching our communities into a promising future"** reflects the reason for being and references PNAL's fundamental role of facilitating regional growth in social, economic, and environmental terms. This includes growing long-term shareholder value and serving the communities.

Photography: ManawatuNZ.co.nz

Key Airport Metrics

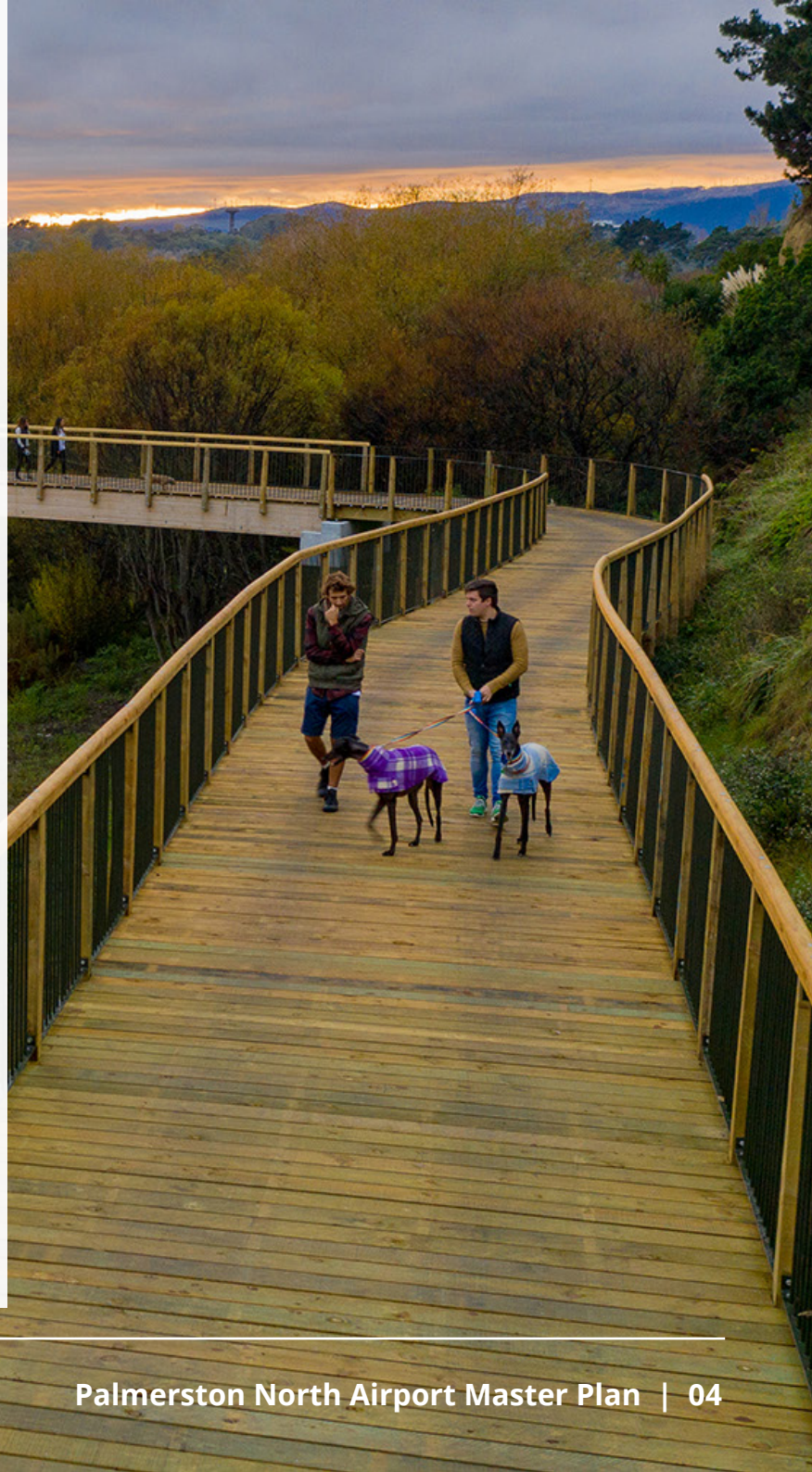
- Located 5 kilometers North-East of the CBD, Palmerston North Airport occupies an area of over 200 hectares.
- The main sealed 1,902m runway is designated 07/25. Sufficient landholdings exist to allow for an extension to a paved length of 2,790m should that ever be required in the future.
- There is also a 605m grass runway parallel to the main runway, used primarily for General Aviation (GA) purposes such as flight training.
- The existing terminal building constructed in 1992 is 4,400m^2 with an estimated maximum capacity of 700,000 annual passenger movements.

Master Plan Objectives

- The 2023 Master Plan provides a framework for protecting existing and future core aeronautical and non-aeronautical activities in a flexible, efficient and safe manner. It considers community aspirations, regional development of the Manawatū, and the Airport's role within Te Utanganui – Central New Zealand Distribution Hub.

- Given its long-term nature and by association the level of uncertainty in making projections, the Master Plan provides for a level of flexibility in land use in terms of scale and locations.

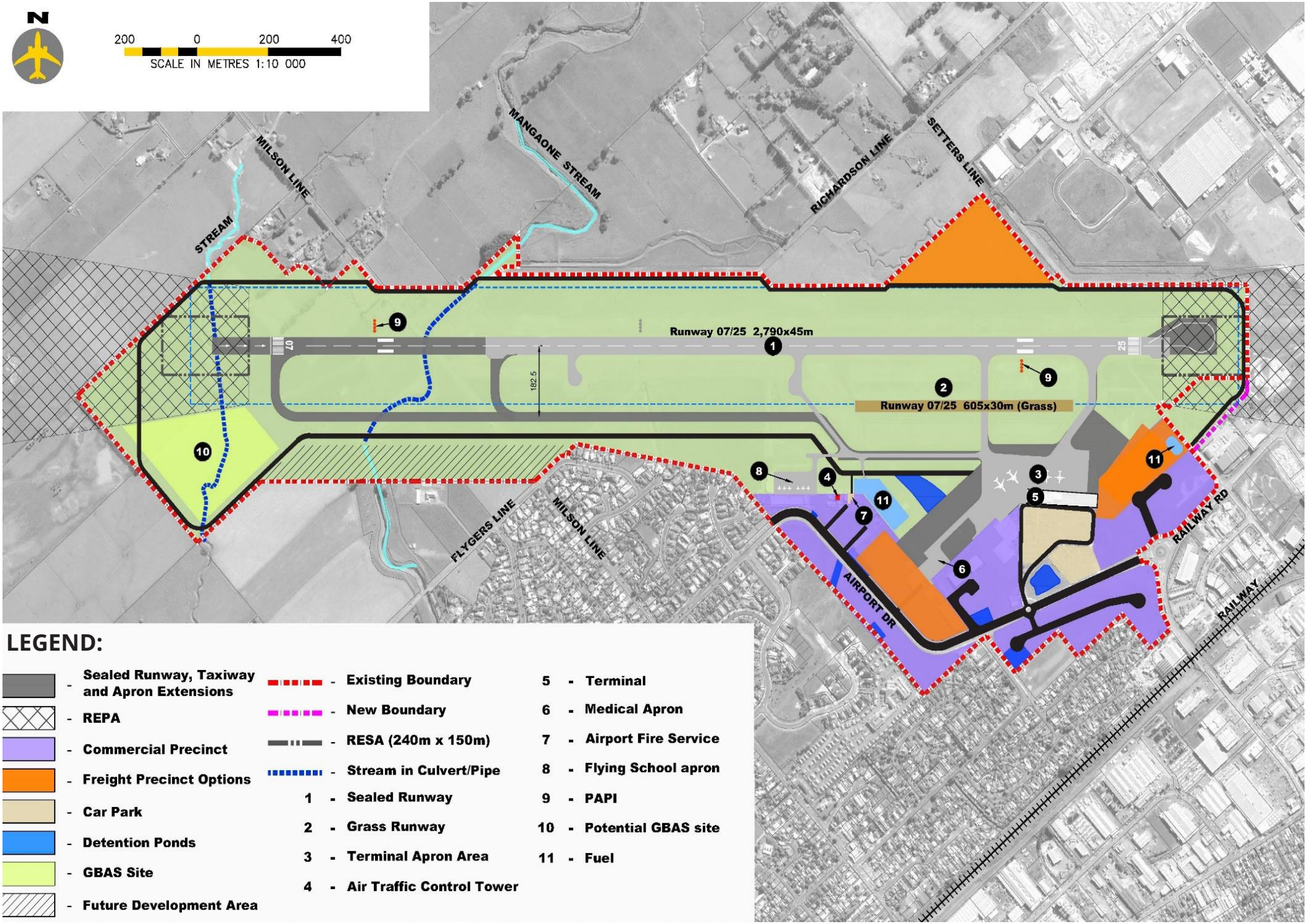
Photography: ManawatuNZ.co.nz



Master Plan Updates

The 2023 Master Plan update builds on the last major update undertaken in 2014 and includes;

- Confirmation on the location of aerodrome boundaries.
- Terminal location and future expansion path.
- Additional locations for airfreight activities including apron areas.
- Additional locations for Commercial activity.
- Confirmation on the provision for a runway extension (should that ever be required).
- Confirmation on the provision for a parallel taxiway servicing the existing and extended runway (should that ever be required).
- Provision of on-site storm water detention areas.
- Provision for a future Ground Based Augmentation System (GBAS) site.
- Provision for expanded fuel storage areas.
- Recognition that solar or other green energy solutions are to be accommodated once feasibility studies have been completed.


N
200 0 200 400
SCALE IN METRES 1:10 000
MILSON LINE
MANGAONE STREAM
RICHARDSON LINE
SETTERS LINE
STREAM
Runway 07/25 2,790x45m
Runway 07/25 605x30m (Grass)
182.5
07
25
FLYGERS LINE
MILSON LINE
AIRPORT DR
RAILWAY RD
RAILWAY
LEGEND:
Sealed Runway, Taxiway and Apron Extensions
REPA
Commercial Precinct
Freight Precinct Options
Car Park
Detention Ponds
GBAS Site
Future Development Area
Existing Boundary
New Boundary
RESA (240m x 150m)
Stream in Culvert/Pipe
1 - Sealed Runway
2 - Grass Runway
3 - Terminal Apron Area
4 - Air Traffic Control Tower
5 - Terminal
6 - Medical Apron
7 - Airport Fire Service
8 - Flying School apron
9 - PAPI
10 - Potential GBAS site
11 - Fuel

Critical Inputs

Section 2

Air Service Growth

- Annual passenger movements are rebounding and are forecast to reach pre-Covid-19 levels of circa 700,000 passenger movements within three years, and one-million passenger movements by 2043, an average annual growth in passenger movements of 3.0%.

- Freight aircraft movements have been modelled under high, medium and low growth scenarios. Key considerations include the extent to which Te Utanganui development occurs, and the demand for Trans Tasman services accommodating time sensitive, high value and / or perishable products. Freight aircraft movement growth projections to 2051 range between 1.8% pa to 4.8% pa.

Airport Safeguarding Framework

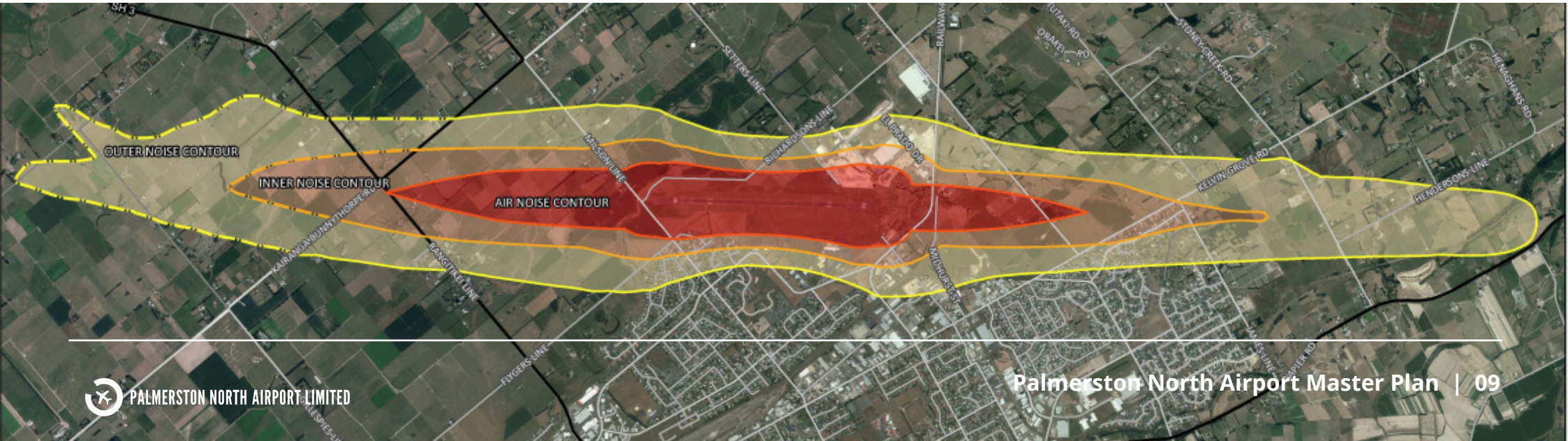
- The Palmerston North City District Plan has an important role in ensuring that the Airport's Master Plan, development objectives, and resources can be effectively and efficiently utilised while ensuring that any adverse effects of the Airport's operations and development can be measured and where necessary mitigated.

- The Master Plan serves to reinforce the importance of planning controls to enable current and future Airport operations, including the Airport's ability to contribute to the economic success of Palmerston North City, the wider region and Te Utanganui.

- Examples of District Plan controls include:
    - Airport Noise Boundaries - protection from the development of noise sensitive activities in proximity to the Airport.
    - Airport Protection Surfaces – controls on physical height of development in proximity to take-off and landing surfaces.
    - Runway End Protection Areas – controls on development in areas in very close proximity to runway ends to protect human life.

Airport Noise Boundaries

- The Palmerston North City District Plan includes an Air Noise Contour set at a noise exposure level of 65 Ldn, an Inner Noise Contour set at 60 Ldn and Outer Control Contour set at the lower 55 Ldn. Land use controls have been established within each noise contour to ensure reverse noise sensitivities are mitigated. These include:
    - Air Noise Contour - establishment of new noise sensitive activities, e.g. dwellings, is prohibited.
    - Inner Noise Contour / Outer Control Contour – sound insulation requirements exist for dwellings.



Airport Protection Surfaces

Airport Protection Surfaces are a set of spatially defined surfaces associated with the operations of an aerodromes runway system. They define the volume of airspace that is to be kept free from obstacles in order to minimise the danger to aircraft. The Palmerston North City District Plan includes Airport Protection Surfaces for Palmerston North Airport.

Runway End Protection Areas

- Statistically there is greater chance of aircraft related accidents in fan shaped areas located at the end of runway strips and referred to as Runway End Protection Areas (REPA). The consequences of an aircraft accident involve potential effects of low probability, with a high potential impact.

- Activities which result in a substantial number of people on land within the REPAs, therefore have the potential to exacerbate loss of life in the event of an aircraft accident. This risk is managed by a rule within the Palmerston North City District Plan controlling the use of land and buildings for the assembly of a substantial number of people.

Terminal Development

- At the time of preparation of the 2023 Airport Master Plan development and extensions plans for the terminal were being finalized. The proposed 5,200m^2 new build facility will ensure operational and seismic resilience , while also futureproofing the terminal to accommodate the projected growth in passenger volumes and enhance the customer experience.

- The development will also cater for the introduction of passenger and hold-bag security screening, this supporting the reintroduction of jet services (on Auckland route) and ensuring that Palmerston North Airport is ready should mandatory security screening be introduced.

- At the completion of this terminal development, the Airport will be at the beginning of a new terminal development cycle. As such, it is reasonable to expect that the next major terminal expansion may not occur in the next 15 to 20 years. Consequently, the 2023 Master Plan considered a single demand scenario for the planning horizon to 2051.

- The 2023 Master Plan terminal reserve is approximately 10,000m^2 and provides protection for direct international services in the case that the market size and longer-term prospects suggest that these services may be possible. Previous planning undertaken by PNAL for the provision of infrastructure requirements for international services has been incorporated into the terminal reserve.

Te Utanganui Central New Zealand Distribution Hub

- Te Utanganui will create an integrated and resilient multi-modal freight transport system of rail, road, air and sea for Central New Zealand that will see economic, social, and environmental benefits for its wider community, reduce emissions through efficient freight movement and provide a key component of the national transport framework.

- Palmerston North Airport's curfew free status and 24/7 operations provides Te Utanganui with a significant competitive advantage.

- Ruapehu Aeropark existence and the support services offered within for freight and logistics businesses enhance and complement Te Utanganui's position.

Sustainability

- PNAL recognises that all areas of its operations consume energy and the Airport is committed to doing all it can to minimise its impact on the environment by reducing its carbon emissions and energy consumption. This can only be achieved through long term planning, with a focus on continual improvement to achieve these aims, and by following a structured program.

- In 2019 PNAL selected the Airport Council International (ACI) Airport Carbon Accreditation (ACA) programme as the basis for progressing carbon reduction initiatives. The program guides participants through six levels of certification towards carbon neutrality. PNAL is actively working towards the achievements of Level 4 which focuses on engagement with other airport stakeholders to reduce scope 3 emissions.

- Beyond PNAL's commitment to carbon reduction, PNAL undertakes a number of other environmental sustainability initiatives including water consumption, waste reduction, and on-site storm water retention.

- PNAL is also investigating the opportunity to introduce green building standards for its new terminal building and the viability of solar or other green energy solutions as the future means for powering the Airport campus.

Photography: ManawatuNZ.co.nz

Future Infrastructure Requirements

- A range of technologies are being developed to decarbonise aviation – hydrogen may play a key role in a number of these technologies. Green hydrogen is seen as one of the most viable zero carbon emission fuel with potential to scale to large aircraft utilising fuel cell, gas turbine and hybrid systems.
- Key considerations include infrastructure requirements, energy source requirements to deliver green hydrogen such as solar, and the production facility capability.
- At the time of updating the 2023 Airport Masterplan, PNAL is engaging with relevant third parties to inform our understanding and planning for future infrastructure requirements at Palmerston North Airport.

Airport Zone and Precincts

The Airport Zone is comprised of two distinct precincts in which all relevant activities associated with a modern aerodrome may occur;

- Core Airport Precinct – land within the Airport Zone encompassing the Palmerston North Airport terminal, airfield, hangars, apron, public parking and other core airside activities.

- Airport Environs Precinct – land on the southern half of Airport Drive and McGregor Street, which has no direct airside access.

Ruapehu Aeropark

- A Commercial Property Master Plan was completed in 2017 which identified options for potential land uses and a planned staged approach to property development within Ruapehu Aeropark, a 30 hectare area spanning the length of Airport Drive.

- In 2022 Stage one of Wairaka Place was constructed, a cul-de-sac located in the South Eastern area of the Airport Environs Precinct. Amenity, convenience retail, food and beverage opportunities exist for businesses seeking high profile exposure on a throughfare which is anticipated to grow in popularity as Airport growth continues and as Te Utanganui – Central New Zealand Distribution Hub expands to the North.

- Within the Western edge of the Airport Environs Precinct, the focus is for the longer-term development opportunities that leverage the Massey School of Aviation, including additional training facilities and a dedicated halls of residence for aviation students.

- The Core Airport Precinct offers freight and logistics businesses larger scale sites and airside access where necessary. Aviation tertiary training and aviation services, including maintenance activities, are also considered for this precinct.

PALMERSTON NORTH AIRPORT LIMITED

info@pnairport.co.nz
06 351 4415

Airport Drive
Palmerston North, New Zealand