GOONDIWINDI REGIONAL COUNCIL

GOONDIWINDI AIRPORT

PLANNING APPRAISAL

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Goondiwindi Regional Council

GOONDIWINDI AIRPORT

PLANNING APPRAISAL

SUBMITTED BY

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The purpose of this form is to ensure that documents are reviewed and approved prior to issue. The form is to be bound into the front of all documents released for the Project."

EXECUTIVE SUMMARY

This Planning Appraisal of the Goondiwindi Airport has been carried out for the Goondiwindi Regional Council in order to provide an assessment of the existing airport and to determine broadly the prospects for air traffic development in the future, along with the requirements necessary to support such development at the airport. The intent of this study is to provide the Regional Council with an understanding of the nature and condition of the asset that it owns at the Goondiwindi Airport, and the prospects for developing the airport facilities and site area to meet the future demands of aviation, as well as the opportunities for using part of the airport lands for additional commercial and industrial activities. It is also intended to enable Regional Council to confirm its strategy towards development of the airport site with the benefit of planning to depict the manner in which the facilities might be expanded in the future and the overall site developed. From this, with the benefit of a decision as to strategy and the scale of facility development to be supported, an Airport Master Plan can be concluded.

A review of the existing airport and its facilities has concluded that the airport is adequately maintained but has only basic facilities to support local air services. It is located on flat terrain with unobstructed approach and take-off areas, and has an ample site area that will permit development of facilities and services to support the expansion of air services in the future. The airport lands, which measure 159.7ha, are largely undeveloped and could support additional aviation and non-aviation development on that portion of the site that will not be required for operational purposes in the future. A very large portion of the airport property on the northwest side of Runway 04/22 is used for agriculture as it is not required, or used, for aviation, while the area in the east and northeast parts of the property that presently accommodates all of the airport facilities does offer a good potential for development to support additional air services and on-site commercial uses. Other airport sites in the region, such as at Inglewood and Texas which are owned by the Regional Council, do not offer the same degree of opportunity as is presently available at the Goondiwindi Airport given their low level of development and more remote locations relative to the regional population centre of Goondiwindi.

If the airport is developed appropriately, the prospects for adding air services are promising. Air taxi services that could be marketed and secured at the airport include feeder connections to Toowoomba, Brisbane and Moree airports to provide access to domestic and international air transport networks for Goondiwindi regional travellers. The availability of air services to the Surat Basin Mineral and Coal Seam operations could enhance the attractiveness of Goondiwindi for fly-in, fly-out (FIFO) workers, while expanding the airport to support corporate aviation could enhance the attractiveness of the town for industry. It would be prudent for Council to consider such prospects when determining the scale and manner in which to expand facilities at the airport. Any increase in air services at the Goondiwindi Airport, and accommodation of a wider range of corporate aircraft, will require

upgrading, expansion and extension of facilities on the airport along with development of an improved passenger terminal facility.

Providing an incentive for a qualified Aircraft Maintenance Organisation to establish itself at the airport, along with the provision of improved parking and hanger facilities, would potentially attract into Goondiwindi Airport a number of regional aircraft operators, who currently fly elsewhere for these services. Making it more attractive for regional aircraft operators to fly in and out of the airport, as well as base themselves at Goondiwindi Airport, would have flow-on benefits to the local community, encouraging greater consumer spending and purchase of supplies in Goondiwindi, thereby reducing to some extent the economic leakage to surrounding regional centres such as Toowoomba and Warwick.

While the existing airport facilities cater adequately to the current low levels of air traffic, any growth of air services will require upgrading and development of the existing airport infrastructure. This includes a need to upgrade and extend the primary runway, upgrade and expand the apron, provide development space for hangers, and improve facilities for passenger processing.

The existing primary runway, Runway 04/22 is in an acceptable condition, as is the grass/clay crosswind runway, Runway 12/30. Runway 04/22 has a length of 1340m, which has been adequate for use by light single and twin engine aircraft used for private flying and for local charter flights. This length of runway is not sufficient, given the high ambient temperatures experienced at Goondiwindi, for use by larger aircraft and for many business jet aircraft. Nor is the runway compliant to the Code 3 standards that would need to be applied to enable the runway to be used by larger aircraft and many business jets that are classed as Code 3 aircraft. Extension to the runway, along with widening of its sealed surface to 30m and strengthening of the existing part of the runway through an asphalt overlay, are requirements to enable the runway to accommodate the larger turboprop aircraft used for commercial feeder air services and a wide range of business jet aircraft. An optimum runway length in the range of 1600m to 1800m would be required, and extension of the runway to a length in this range should be constructed in stages, with the aim being to upgrade the runway compliance category to CASA Code 3 instrument non-precision standards as part of the runway development process. Two stages of runway development could be applied. The first could be to extend the present runway to the maximum extent possible within the present property based on the Code 2 standards to which the runway now complies, while the second could be to complete the runway development by extending it to the north onto lands on the north side of Polo Road, so that the runway can be brought into compliance with Code 3 standards with sufficient runway length to accommodate Code 3 turboprop passenger aircraft and a wide range of business jets and other corporate aircraft. Extensions to the runway constructed in these stages would need to be constructed to a strength suitable for future aircraft use.

The secondary runway, Runway 12/30, is used as a cross-wind runway and for operations by microlight and other very light aircraft, and is adequate for the purpose it serves. Currently this grass/clay runway extends across the primary runway such that some 300m extends onto lands on the west side of the primary runway that are currently used for agriculture. Council have questioned whether the agricultural lands west of Runway 04/22 might be developed for commercial and industrial uses, for which this land is presently zoned. Development of an area of 67ha west of Runway 04/22 would require decommissioning of the western section of Runway 12/30. This would not prevent the remainder of the runway from being used by the same aircraft types that it presently serves.

The aircraft parking apron, located in the north-eastern part of the property, measures 11,200m² and is divided into two basic areas, serving two functions. One is to provide manoeuvring space for charter aircraft picking up or dropping off passengers at the Terminal Building as well as some limited short-term parking for itinerant aircraft in front of the Aero Club. The other is to provide long-term tie-down parking space for aircraft that are based at the airport or park for extended periods. Currently, the area available for long-term parking in the northern part of the apron appears to be at capacity and no additional aircraft can be accommodated. The apron space available in the southern part of the apron for short-term parking and itinerant aircraft manoeuvring is small and quite limited in its capacity. Both parts of the apron have bitumen sealed pavements which are showing signs of potholes and stripping of the bitumen seal. The pavement has a low strength rating, and the northern section of the apron is restricted to aircraft having a maximum gross weight of 5,700kg or less.

Expansion of the aircraft parking apron is required both for the long-term parking of aircraft at tie-down positions, and for the short-term parking / manoeuvring area in front of the Aero Club Building. At the same time, attention is needed to rehabilitate the apron pavement which needs to be repaired and resealed. In the longer-term, as the facilities at the airport are upgraded, expanded and extended, the strength of the apron will need to be increased through application of an asphalt overlay to rehabilitate the pavement surface and to increase its strength to match the aircraft load rating of the critical larger Code C aircraft that the airport could serve in the future.

At the time of the consultant's inspection of the airport, there were three private hangars erected on the periphery of the apron, with two on the west side of the apron and one on the east side. At that time the site for a fourth hangar was being prepared adjacent to an old hangar structure belonging to the Aero Club. The two steel-framed hangars on the west side of the apron are privately-owned by local aircraft owners and relatively newly constructed. There is an apparent shortage of hangar space at the airport, and the two hangars on the west side of the apron suggest that at the time of their construction there were no other suitable locations available on the airport for hangar development. A layout plan developed in 2010 exists for 6 hangars to be constructed north and east of the apron, but this has not been implemented. There is a clear demand for private hangars at the airport and a rather

larger area for hangar development needs to be designated for private and commercial hangars than had been suggested in the past. A larger hangar area could be developed in phases with infrastructure extended progressively as demand dictates.

The function of processing and accommodating passengers awaiting flights at the airport is served by the Aero Club Building which has a small room attached to it on its north side. This space is very small and can be used by only 8 to 10 passengers at any one time. No formal processing facilities, such as check-in desks or baggage handling equipment, are provided in this area. While this is adequate for accommodating small groups of charter passengers, it would not be adequate for larger groups of passengers which might develop if the airport were successful in attracting an air taxi feeder air service. Expansion of the space devoted to passenger processing functions would be necessary if such an air service were secured. An expansion of the space available for passenger processing to 300m² would be sufficient for the passenger loads that might be generated initially by an air taxi service, with further expansion required should passenger numbers increase above 20 passengers on each flight.

This Planning Appraisal has concluded that:

- The airport site is flat with unobstructed runway approaches and ample unused land. This makes it very suitable to be upgraded to a higher category of airport and serve regional turboprop passenger air services and business aircraft related to local business operations and economic development activities;

- The primary runway, which is presently 1340m in length, is adequate for the present scale of aircraft operations but would not offer a sufficient length to attract larger aircraft, or a wide range of business jet aircraft. The primary runway would need to be extended, and its surface widened, to enable it to fulfil the role of attracting and serving an expanded air traffic base;

- The primary runway could be extended within the present property limits to 1630m based on compliance with CASA Code 2 standards, although upgrading to meet Code 3 standards is required if larger aircraft and a wide range of business jets are to be accommodated. Due to the more demanding nature of the Code 3 standards, this would require a further extension to the runway, which would have to occur at the north end of the runway, with a modest extension into the lands immediately north of Polo Road, which would have to be closed or re-routed. Such extension, which would require acquisition of some 12.4ha of additional land, could enable the runway to offer a length of 1860m, or more if necessary. Extension and upgrading of the runway in two stages is suggested, with extension to the maximum possible on the present site representing the first stage, and subsequent extension to the north comprising the second stage.

- The secondary runway, Runway 12/30, is adequate for use by very light aircraft types such as microlight aircraft, and part of this runway should be retained for this purpose;

- The existing aircraft parking apron is inadequate in size and presently unable to accommodate any increase in demand for long-term aircraft parking, and capable of accommodating only limited aircraft manoeuvring and short-term aircraft parking. To meet demand, the apron will need to be expanded as a priority improvement, while the existing bitumen sealed apron pavement will need to be improved through application of an asphalt overlay;

- The Terminal / Aero Club Building, while adequate for use for handling small numbers of passengers using charter flights, is inadequate to support passenger processing in any significant numbers. Expansion of this building, or construction of a new terminal building, will be required if larger passenger aircraft are to be accommodated. A preference for acquisition of this building by the Regional Council, and expansion of the existing structure is suggested, with this expanded building envisaged as continuing to serve the Aero Club and an expanded role for passenger processing in anticipation of securing an air service;

- The airport presently does not provide any fire cover, which is acceptable for the airport in its present role. An airport fire service, along with a greater level of airport staffing, and Meteorological reporting facilities would be required if a regular passenger transport service were to be established at the airport;

- There appears to be a lack of hangar space for those that wish to store their aircraft under cover. A plan for development of 6 hangars had been drawn up for Regional Council in 2010, but not implemented. Consequently, two private hangars were erected on the edge of the apron. Currently, there is no firm plan, or lands officially designated, for development of aircraft hangars for private or commercial use. A formal development plan for private and commercial hangars needs to be confirmed, so that the Region can release hangar lots on which private or commercial entities can construct aircraft hangars on the airport lands. The Region may need to consider preparing some of these lots by filling and levelling, and bringing electrical distribution services to the hangar lot boundaries, so as to attract commercial users to construct hangars on the site. The availability of one or more larger hangars could assist in securing and aircraft maintenance operator to locate on the airport;

- There is an abundance of land on the west side of Runway 04/22 that is surplus to the operational requirements of the airport, and this land could be released for commercial and industrial development, provided that the flight path for Runway 12/30 is safeguarded through a restriction on the height to which buildings or other obstacles might be constructed under the areas affected by the approach and take-off surfaces;

- There is ample unused land east of Runway 04/22, in the northeast of the airport, and south of the Terminal / Aero Club Building, that could be developed for aviation and non-aviation private and commercial uses. Preliminary concepts for such development have been created as part of this Planning Appraisal. Development of some of the unused lands at the airport could generate additional revenue for the Regional Council;

- Part of the lands south of the Terminal / Aero Club Building have, in the past, been used for logistical staging for disaster relief activities during times of flooding, and some of this area could be formally established for this purpose; and

- The lands beneath the flight paths for the two runways, but especially for Runway 04/22, are presently unprotected and at risk from adverse development that could jeopardise the operation of the airport and affect its accessibility under instrument meteorological conditions. For Runway 04/22, specific protection against erection of obstacles that could penetrate the required obstacle limitation surfaces is required to the south of the Leichhardt Highway, and also north of Polo Road on the north side of the airport. Two or three properties north of Polo Road should be acquired to protect the runway operation by preventing erection of structures of obstacles on these lands. Such property acquisition, which is recommended in any case, would also enable the runway to be extended to the north to enable Code 3 standards to be achieved.

This Planning Appraisal is also aimed at establishing the beginnings of an Airport Master Plan. The process of Master Planning does need to be continued, and a Master Plan created once Regional Council has reviewed the prospects and possibilities for development, and determined a general direction in which it would wish to proceed to develop, upgrade and enhance the airport and its facilities. Additional tasks and topics will, however, need to be addressed at the Master Plan level, and a phasing plan created to define the initial works that would need to be implemented by Council under the Master Plan. The costs for such initial phase implementation would also need to be determined for budgeting purposes.

TABLE OF CONTENTS

1.0 INTRODUCTION

This report has been commissioned by the Goondiwindi Regional Council and provides a Planning Appraisal of the Goondiwindi Airport. The intent of this appraisal is to assess the condition of the airport, identify the opportunities and constraints to its development and expansion, and to provide an initial preliminary development plan for the airport site. As such, the Planning Appraisal is to function as a precursor to a formal Airport Master Plan, and provide the Council with an understanding of the manner in which the site could be developed, so that Council may then determine the direction in which to proceed when addressing the future needs of the airport site and its facilities.

2.0 OBJECTIVES OF THE PLANNING APPRAISAL

The objectives of this Planning Appraisal are summarised as follows:

- To provide Regional Council and Airport Management with a scoping document for the Airport Master Plan, so as to define the direction in which master planning should proceed, based on an initial assessment of the airport and an understanding of the potential for its development;

- To carry out an appraisal of the airport site and its aeronautical setting and certification compliance in terms of its possible use by larger aircraft in the future, and identify any potential physical constraints to future airport development and expansion / extension of facilities;

- To identify broadly the air transport market opportunities for the Goondiwindi Airport, as well as the roles of other airport facilities in the area and their possible complementary or competing effect on the Goondiwindi Airport in serving future regional and international air transport activity;

- To identify the essential physical and operational requirements for airport development in the context of a potential enhanced role of the airport due to expanded air transport markets;

- To determine the opportunities for development of the airport site to support, or to lead, an enhanced level of aviation activity, and explore

the options available for developing the airside and landside lands on the airport site;

- To define the programme that could best carry the Airport Master Plan process further in the most cost-effective and efficient manner.

To achieve the above objectives, the following essential tasks have been carried out:

1. Inspection of the Airport site and facilities;
2. Obtain views on the Airport from local stakeholders;
3. Assess the air transport prospects & opportunities for the Airport;
4. Assess the Airport site and its facilities;
5. Assess the aeronautical environment of the Airport;
6. Establish the future development requirements for the Airport;
7. Define the planning parameters to be applied in the future;
8. Identify opportunities and options for site development; and
9. Identify the way forward for Council and the scope of an Airport Master Plan.

3.0 BACKGROUND REPORTS & INFORMATION

In preparing this Planning Appraisal, the consultants have had benefit of several background studies and reports and other information provided by staff of the Goondiwindi Regional Council. These comprise:

- Community Economic Plan 2009-2019, Goondiwindi Regional Council Area;
- Border Regional Transport Framework, Border Air Strategy Report (Ove Arup & Partners) July 2000;
- Goondiwindi Aerodrome Pavement Assessment; and
- Goondiwindi Aerodrome Safety Inspection 2012.

In addition, the Consultants have received various drawings of the airport site from Goondiwindi Regional Council staff.

4.0 GOONDIWINDI AIRPORT – PRESENT ROLE

The Goondiwindi Airport (IATA Code GOO / ICAO Code YDGI) is a registered airport under the Civil Aviation Safety Regulation Part 139 for Aerodromes. The airport site lies approximately 3km north of the town of Goondiwindi on the western side of the Cunningham Highway from which direct access to the airport is gained. Currently the airport provides a limited scale of commercial air charter services and serves an important function for private aviation access to Goondiwindi for residents in the regional hinterland. The airport site in relation to the Town of Goondiwindi and the local highway system is illustrated in **Exhibit 4-1**.

Goondiwindi Airport is currently being used by a local air charter operator providing air charter, air freight and scenic flight services, as well as by local aircraft owners who utilise the apron space and limited number of hangers for permanent aircraft parking.

The largely agricultural based Goondiwindi region contains numerous private airstrips and a considerable number of privately owned aircraft which regularly fly in and out of Goondiwindi Airport to conduct local business, to participate in local Aero Club activities, and to obtain supplies for remote stations. The airport is also used by several microlight aircraft owners to conduct flying training and carry out recreational flying using the secondary grass/clay cross runway.

Aviation fuel (AVGAS) is available at Goondiwindi Airport but there are no aircraft maintenance services available. Regional aircraft operators typically need to fly their aircraft to Moree, Toowoomba, Archerfield or Brisbane for any required maintenance.

There is a small single-room terminal facility with toilet facilities for use by commercial operators, but there are currently no scheduled air taxi or other regular public transport (RPT) services at the airport. Moree Airport, located approximately 125km south of Goondiwindi, is currently used by some Goondiwindi regional travellers seeking domestic air transport connections through QantasLink to Sydney, but this requires a one and a half hour road trip from Goondiwindi along the Newell Highway. Other regional travellers seeking broader domestic and direct international connections will drive to Brisbane Airport, located approximately 350km east of Goondiwindi and which involves a road trip of over four hours.

Goondiwindi Airport is presently underdeveloped and underutilised as an air transportation hub. Development of the airport facilities to allow

expanded opportunities for air service operators, aircraft maintenance operators and enhanced facilities for regional aircraft owners would contribute substantially to the economic development of the region. Expansion of the airport to attract a regular air taxi service would also benefit local businesses and enhance the ability of the Town to attract businesses and professional services.

Goondiwindi REGIONAL COUNCIL

Legend

Airport Site Boundary

Goondiwindi Airport
Planning Appraisal

Exhibit 4-1
Airport Site Location

Scale

0 0.5km 1km 1.5km

5.0 AIR TRAFFIC AT GOONDIWINDI AIRPORT

5.1. Historic

Regular passenger transport services have not previously been provided at Goondiwindi Airport and historic records of flight movements have not been kept.

Air traffic at Goondiwindi has previously been comprised of low volumes of itinerant air charter and private flights by light single and twin engine aircraft. The airport is also used on occasions by small business jets that are capable of operating on its 1340m paved runway.

5.2. Air Transport Prospects

Subject to upgrading of the existing airport facilities, prospects for growth in air services at Goondiwindi Airport relate to:

- Improved air access to domestic and international air transport networks for Goondiwindi regional travellers through the establishment of feeder air taxi services from Goondiwindi Airport to airports such as Moree, Toowoomba and Brisbane;

- Growth in air services in support of the Fly-in/Fly-out shift working by mining industry employees of mines located in the Surat Basins;

- Increased use of Goondiwindi Airport by regional aircraft operators through the establishment of an Aircraft Maintenance service at the airport;

- Increased use of Goondiwindi Airport by local business and professional services through upgrading the runway and apron facilities to better suit operations by larger aircraft and business jets;

- Increased use of Goondiwindi Airport by regional private aircraft owners who would base their aircraft at Goondiwindi Airport through the provision of additional hanger and apron parking space; and

- Increased use of Goondiwindi Airport by regional private aircraft owners flying in and out of Goondiwindi Airport for local business, recreational Aero Club activities and to purchase supplies for remote stations through the provision of additional apron parking spaces.

Enhancement of services in support of these activities is an aim of the Regional Council, as defined in the Council's Community Economic Plan 2009 to 2019. Attraction of additional air services to support local regional travellers, industry and tourism and is a strategic priority of this plan.

The development of the Town of Goondiwindi to support retail, construction, professional and technical services, health care and social services is essential for the sustained growth of the region. Reducing the economic leakage to surrounding regional cities such as Toowoomba, Warwick and Moree is important to the sustainability of the region, and attracting and retaining young people is a priority of the Regional Council. An enhanced air transport connectivity is vital to support these goals and the availability of affordable air taxi connections to centres with broader domestic and international air transport networks is essential.

Goondiwindi offers an excellent residential infrastructure and supports a quality family lifestyle. It is believed that the attraction of Goondiwindi as a residential location for fly-in / fly-out workers in the mining industries would be greatly enhanced if the airport facilities were upgraded to be capable of supporting air services linking to mineral and coal seam gas mining locations in the Surat Basin.

A large number of privately owned aircraft are understood to be based in the Goondiwindi Region and operated from privately-owned airstrips on agricultural properties. For such aircraft owners the use of aircraft has become a necessity and is widespread, to the extent that local travel by air for rural residents is akin to the use of cars several years ago. Enhancement of the airport to provide improved facilities for aircraft parking, hanger space and the provision of an aircraft maintenance service could be expected to greatly increase the use of Goondiwindi Airport by regional private aircraft owners, providing increased revenue to the airport from landing and parking fees and fuel uptake. This also offers the potential of reducing economic leakage to surrounding regions as more local residents within the region would then use Goondiwindi for purchases of commodities and supplies for remote stations, rather than travel to towns where the local airport might offer a greater level of service.

The Goondiwindi Region has a substantial agricultural base with major cereal grain, cotton, sheep and wool and beef cattle production, however connectivity for industry is primarily based on road and limited rail transport. An enhanced runway and airport facilities, catering to larger aircraft and business jets, would allow regional businesses greater opportunity to use air transport services for business management and air freight.

The Goondiwindi Airport is also used by many local private aircraft owners, including sports aviation and microlight aircraft owners, for flying training and recreational flying activities. Enhancement of airport facilities to cater for these users in the form of expanded parking and hanger space has the potential to increase airport revenue.

In the absence of any statistics of past air traffic activity at the airport, and in the absence of any firm commitments for additional air services, it is not possible to be specific about future numbers of aircraft movements that might occur at the airport if certain improvements were made. Nor is it possible at this point to estimate the growth in revenue from the airport that could occur under increased levels of aviation activity. The Regional Council is, to some degree, faced with a 'chicken and egg' situation in that if the airport is not expanded and developed for greater commercial activity, there would almost certainly be no change in its status or attractiveness for local and regional aviation, while upgrading and expanding the airport could well attract aviation activity as well as business to the Town, although this can never be guaranteed. It is understood by the Consultants that the approach of Regional Council is to do all that it can to attract population and business to Goondiwindi, and upgrading of the airport does, for the time being, need to be viewed in that context. The approach taken in this Planning Appraisal, therefore, has been to identify those features and facilities that, if provided, would enhance the airport for serving local and regional aviation users, and through that, enhance the attractiveness of the Town as a regional centre as well. This report describes the potential physical enhancements to the airport that could possibly bear fruit in terms of attracting air traffic, regular passenger transport air services, and aviation support businesses, and provides Regional Council with options for airport development that can be taken further through discussion, and later through preparation of a formal Airport Master Plan based on a specific direction for airport development.

6.0 AIRPORT DEVELOPMENT

6.1. Existing Airport Facilities

6.1.1 Airport Site and Facilities

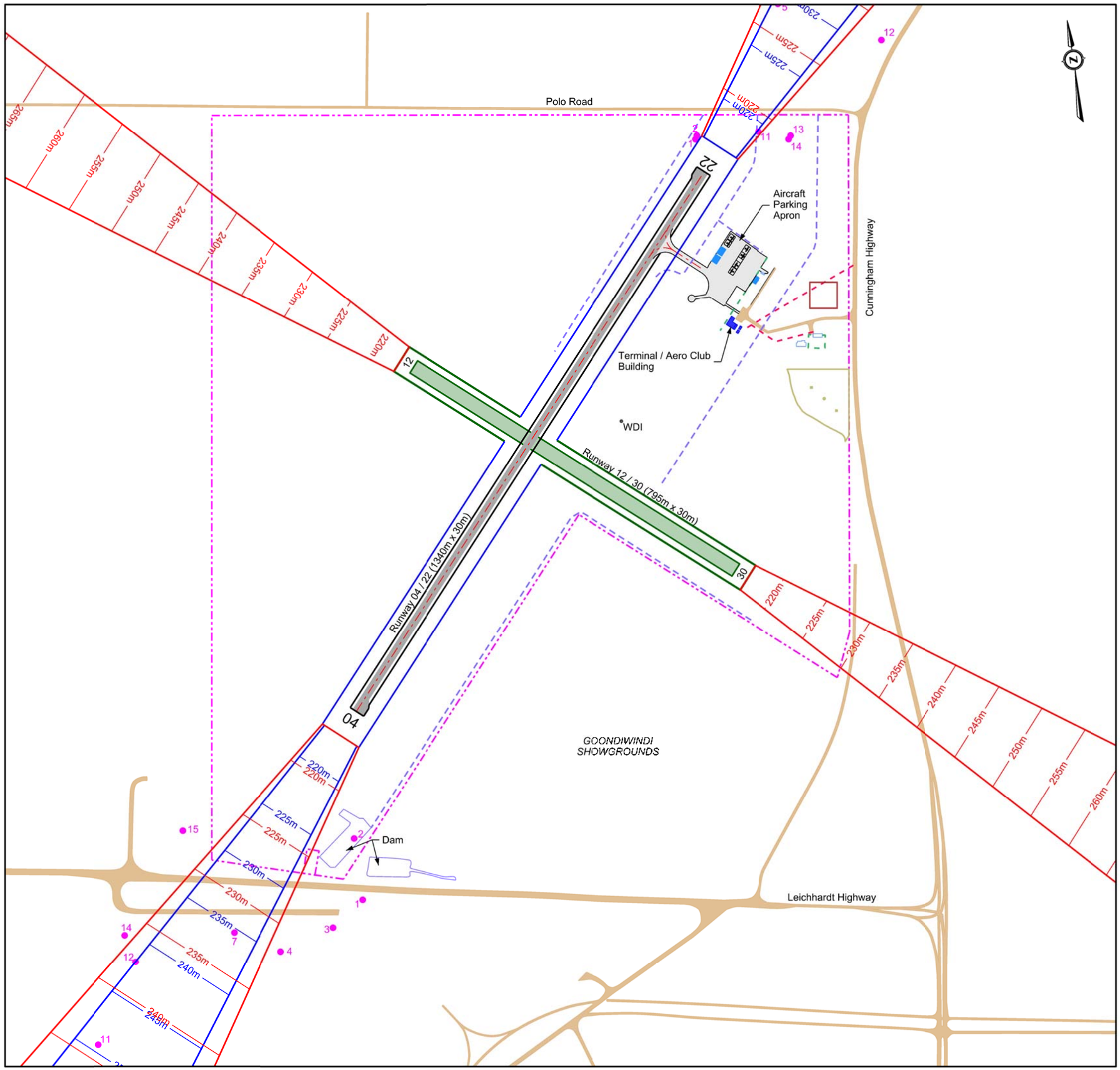
The airport site is located some 3km north of the Town of Goondiwindi and immediately north of the Showgrounds adjacent to the Cunningham Highway, from which the airport is accessed. The site itself is owned by the Regional Council and comprises an area of 159.7ha. Close to half of the existing airport site is used for agriculture and is surplus to airport operational requirements. Regional Council is keen to determine whether these surplus lands could be developed for light industry, for which the airport site is presently zoned.

A small parcel of land close to the Highway and south of the Airport Caretaker's House, is leased out to Air Services Australia and accommodates the airport's Non-Directional Beacon (NDB).

In terms of topography, the airport site is essentially flat having an official aerodrome elevation of 217.32m AMSL which represents the highest point on the airport site in the southeast of the airport. The elevation of the primary runway is 216m AMSL. There are essentially no significant variations in site elevation across the airport lands. Drainage on the site drains surface runoff water towards the northeast and towards the southwest by means of open ditch drains. In the southwest of the airport site the ditch drain empties into a dam close to the property boundary with the Leichhardt Highway (Boundary Road).

Illustrations of the present airport site and its principal facilities are provided in **Exhibit 6-1**, which shows the entire airport property, including the lands used for agriculture, and in **Exhibit 6-2,** which shows the developed area around the apron and terminal building. As depicted in these Exhibits, the airport facilities comprise:

- Primary bitumen paved runway, Runway 04/22, 1340m x 30m;
- Secondary grass/clay runway, Runway 12/30, 795m x 30m;
- Taxiway leading to the terminal and apron facilities;
- Light aircraft apron on which two hangars have been erected;
- Short-term itinerant aircraft parking apron in front of the terminal building;



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

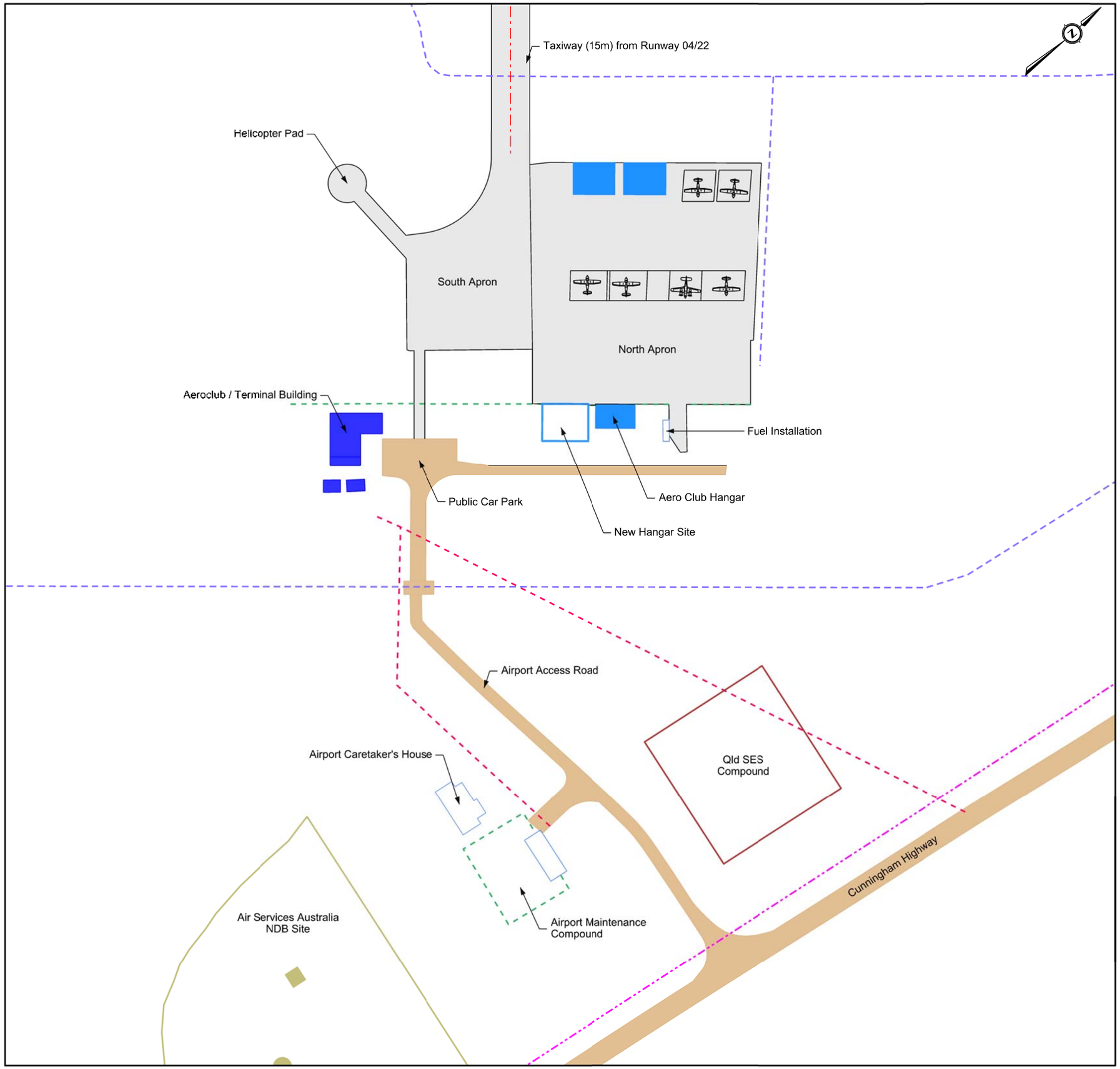
- Approach Surface
- Take-Off Surface
- Airport Property Boundary
- Power Line
- Drain
- Airport Fence
- Obstacles

Goondiwindi Airport Planning Appraisal

Exhibit 6-1
Existing Airport Layout

Scale

0 100m 250m 500m



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

- Private / Aeroclub Hangars
- Aircraft Tie Down Parking Positions
- Airport Property Boundary
- Power Line
- Drain
- Airport Fence

Goondiwindi Airport
Planning Appraisal

Exhibit 6-2
Existing Apron and Terminal Area

Scale

0 25m 50m 100m

- Aircraft refuelling dispenser facility on the east edge of the light aircraft parking apron;
- Aero Club Hangar erected on the east edge of the apron, and a site prepared adjacent to this for a second private hangar;
- Aero Club / Terminal Building;
- Airport Maintenance Facilities;
- Public car parking area;
- Airport Caretaker's House;
- Fuel Storage Compound;
- Air Services Australia NDB site;
- Queensland State Emergency Services Compound; and
- Public Access Road from Cunningham Highway.

6.1.2 Runway 04/22

The airport's primary runway is a compacted gravel bitumen runway 1340m in length and 30m wide, with the central 18m bitumen sealed and the remainder grass covered. The runway is oriented in a northeast-southwest direction with a magnetic designation of Runway 04/22, and centrally divides the airport property. Runway 22 is the favoured runway for use due to prevailing winds.

Runway 04/22 is classed as a Code 2 instrument non-precision runway and is compliant with that classification. The runway is lighted with low intensity runway lighting spaced along the sides of the runway at 90m intervals. The single taxiway leading to the terminal and apron is also equipped with taxiway edge lighting.

The runway is generally in a reasonable condition but carries only a PCN 4 rating as far as pavement strength is concerned. This is quite low and lower than would be required for operations by turboprop passenger aircraft. The present surface shows signs of stripping and several failed sections have required patching.

Runway 04/22 is provided with non-precision instrument approaches using the on-site NDB for approaches to Runway 04, while a GNSS approach is authorised for Runway 22. These instrument approaches are available for Category A, B and C aircraft. Descent to Runway 04 using the NDB approach is available to 586ft (179m) above the runway threshold, while that for Runway 22 using the GNSS procedure enables descent to Runway 22 to 556ft (169m) above the runway threshold. Both instrument

approaches are influenced by local obstacles in the form of communications towers located southwest and northeast of the airport that rise some 51m and 56m above the airport elevation. An NDB approach to Runway 22 has not been published, possibly because a GNSS approach to this runway is already available, while an NDB approach to Runway 04 could be affected by the communications mast northeast of the airport. However, despite the presence of communications masts instrument access into the airport is reported to be good.

At 1340m in length, Runway 04/22 presently has the capability to accommodate all light aircraft operations and some small business jet aircraft, but is limited in its pavement strength. Ample land exists within the airport property at the southwest end of the runway to enable it to be extended in the future by approximately 290m. No extension to the runway can occur to the northeast within the present airport property, and any runway extension to the north would require closure or rerouting of Polo Road, and acquisition of two or three properties on the north side of Polo Road. Upgrading of the strength of the existing runway, and extension of its length to 1600m to 1800m is recommended to permit the operation of turboprop passenger aircraft and medium sized business jets in the future.

Upgrading of the Runway to be compliant with Code 3C instrument non-precision standards is recommended as an objective for the medium to long term. The ability to upgrade the category of the runway would be enhanced if two or three land parcels immediately north of Polo Road, amounting to 12.4ha, were acquired for obstacle protection and runway extension, and Polo Road realigned or closed at its eastern end.

A discussion on the maximum possible extension to the runway is contained in a later section of this report.

6.1.3 Runway 12/30

The airport also has a secondary runway, Runway 12/30, that is presently 795m long and 30m wide. The runway surface is unsealed and comprised of grey clay with short grass cover. Its strength is not rated, but the runway is understood to be unusable in wet weather conditions.

The secondary runway is oriented in a northwest-southeast direction with a magnetic designation of Runway 12/30. This crosses Runway 04/22 at approximately its mid-point. About 300m of Runway 12/30 extends across Runway 04/22 and lies on its west side, with the remaining length of the runway being on the east side of the primary runway. Runway 12/30 is classed as a Code 1 non-instrument runway and is generally in good condition.

Runway 12/30 is used primarily by microlight aircraft conducting training and recreational flying activities. It is reported to provide an alternative runway for light general aviation aircraft when crosswind conditions on Runway 04/22 are experienced.

There has been local debate as to whether Runway 12/30 should be retained at its present length, due to the limited use of the runway, and particularly as the land on the west side of the primary runway presents an opportunity for commercial / industrial development, for which it is presently zoned. This opportunity could be realised if that part of Runway 12/30 on the west side of Runway 04/22 were decommissioned. While such a proposal would reduce the length of Runway 12/30, ample land exists within the airport property at the south east end of the runway to extend its length further towards the highway. Combined with the removal of the section of Runway 12/30 on the west side of Runway 04/22 this would allow a runway length of 652m to be retained, which would still be adequate for microlight and very light general aviation aircraft operations, while releasing 67ha of land in the north western corner for more valuable non-aviation uses.

6.1.4 Taxiway and Apron

Runway 04/22 is connected by a taxiway 75m long and 15m wide to an aircraft parking apron of 11,200m² located in front of the Aero Club Building and Aviation Fuel facility.

The apron, which has a bitumen sealed surface, has two areas for aircraft operations. A northern section of the apron (8350m²) is restricted to aircraft

of less than 5,700kg gross weight and is dedicated to long-term parking of light aircraft and small helicopters, for which there are some 8 open parking positions available in two rows with tie-down cables provided for securing parked aircraft. Two privately-owned open-fronted hangars have been erected along the western edge of the apron in this area, and these each provide covered parking for 2 light aircraft. One additional hangar has been erected off the eastern edge of the apron and another is under construction, and these are estimated to provide parking for two to three light aircraft. The total long-term parking capacity of the apron is therefore estimated to be for some 15 to 16 light aircraft and helicopters. It appears that the present capacity of the apron for aircraft that are tied down, or under cover, is fully committed.

A second part of the apron on the south side of the taxiway (2850m²) is used for parking by visiting itinerant aircraft while loading/unloading passengers and freight in front of the terminal building. In addition, there is space for parking two to three single or twin engine aircraft on a grassed area in front of the terminal building.

From observation it would appear that the present apron offers insufficient space for both short-term and long-term aircraft parking and an expansion of the apron is required.

6.1.3 Terminal Building, Frontage Roads and Car Park

Adjacent to the Apron on the east side is a Terminal/Aero Club Building, Public Car Park and Avgas Fuel Facility.

The Terminal Building, located on the east side of the apron south of the public access road, is a single storey wooden structure owned by the Aero Club. It has a floor area of approximately 260m² and contains a large meeting / general purpose room, toilet and office facilities which are used principally for Aero Club activities. A small room on the north side of the building functions as a passenger terminal and is used to accommodate small numbers of passengers awaiting pick up by charter flights.

While the Aero Club facilities appear to be adequate for purpose, the small room available as a waiting room for charter passengers offers inadequate space for use for more than 6 to 8 passengers at any one time. It is therefore unsuitable for use for passenger processing for the longer term if the airport is successful in attracting an air taxi service using larger aircraft. A new, or expanded, terminal building would therefore be needed if air taxi services were to be attracted to the airport. This could be provided by

constructing a new terminal building or expanding the existing Aero Club Building as a joint public / Aero Club facility.

Landside access to the airport is gained by means of a public access road that leads directly from the Cunningham Highway into the terminal area of the airport. A small public car park is located adjacent to the Aero Club Building. It appears that the car park is able to accommodate 8 to 10 vehicles. This would need to be expanded towards the north in the future as airport traffic increases.

6.1.4 Airport Support Facilities and On-site Private Development

The airport provides a refuelling service for aircraft using the airport and customers include the Royal Flying Doctor Service, Air Rescue Helicopters, air charter operators and others. The fuel dispenser and storage tank is located on the eastern edge of the apron, and is operated on a card system.

Goondiwindi Airport is supported in terms of air navigation by an on-site NDB, owned by Airservices Australia, which is located adjacent to the Cunningham Highway south of the public access road.

The airport does not presently provide an airport fire service (ARFFS), nor does it have an Air Traffic Control service. Radio communications for arriving and departing aircraft are conducted on the Common Traffic Advisory Frequency (CTAF) of 126.7Mhz, which is also used to remotely activate the runway and taxiway lighting.

There is some limited on-site private development in the form of privately-owned hangars used for aircraft storage. Currently, there are three of these, two located on the west side of the apron, and one on the east side. The hangar on the east side of the apron, adjacent to the Fuel dispenser facilities, is owned by the Aero Club, which also owns the Terminal / Aero Club Building.

6.2. Overview Appraisal of the Existing Airport

The present Goondiwindi Airport is an underdeveloped regional airport providing basic facilities for general aviation traffic. Its site is flat and unrestricted for aviation, while it also offers a large amount of undeveloped land suitable for aviation and non-aviation commercial development.

The present primary runway, at 1340m, is suitable for use by light general aviation aircraft, medium size turboprop and small business jet aircraft. The runway needs to be extended to a length in the range of 1600m to 1800m to allow for growth in air transport services and use of the airport by business aircraft. The secondary runway, at 795m, is unpaved but suitable for very light aircraft operations, such as by microlight aircraft. There is no requirement to extend this runway and, indeed, the continued existence of the runway is questioned.

The present aircraft parking apron is at capacity and no more aircraft can be accommodated on a long-term basis. There is only very limited space to accommodate short-term aircraft parking for visiting aircraft.

The Passenger Terminal is a single room extension from the Aero Club Building and is only suitable for processing small numbers of air charter passengers. It has no baggage handling or check in facilities. Presently, this building is owned by the Aero Club, but due to its prime location adjacent to the apron, and the possible need for this building to serve as the airport passenger terminal building in the future, it should be acquired and expanded by the Regional Council. The space devoted to the use of the building as passenger terminal needs to be expanded to allow for growth in air transport services, with a near-term requirement for a building floor space of 300m² for passenger service functions. As part of the building expansion, space can also be provided for the activities of the Aero Club.

The commercial development potential of the airport site is very considerable, with ample land available for commercial development in the north-western part of the site, west of Runway 04/22. Decommissioning of the western section of Runway 12/30 will allow this area to be released for other development purposes. Since any such development would be overflown by aircraft using the remaining eastern section of Runway 12/30, it would be important when planning the development site to ensure that obstacle protection for Runway 12/30 operations is maintained through building height limitations in the affected approach and take-off areas.

Currently, there are 3 privately-owned hangars located on the airport, all of them aligned along the west and east edges of the apron. There are no other hangars at the airport, and there is no formally organised hangar development area. While the presence of hangars on the apron edge is unfortunate, the two located on the western edge of the apron could be relocated fairly readily if space were made available elsewhere on the airport site for these to be erected. It is important that Regional Council does not permit any additional hangars to be erected on the edge of the apron.

The appraisal of the airport has highlighted a number of deficiencies and requirements. These may be summarised as follows:

- The length of the primary runway, while adequate for existing air traffic, would need to be extended to support operations by larger aircraft and by a wider range of business jets;

- The secondary runway is adequate for use by very light aircraft types such as microlight aircraft;

- The existing aircraft parking apron is inadequate in size and presently unable to accommodate any increase in demand for long-term aircraft parking. Consequently, the apron will need to be expanded as a priority improvement, while the existing bitumen sealed apron pavement will need to be improved and strengthened through application of an asphalt overlay;

- The Terminal / Aero Club Building, while adequate for use for handling small numbers of passengers using charter flights, is inadequate to support passenger processing in any significant numbers. Expansion of this building, or construction of a new terminal building, will be required if larger passenger aircraft are to be accommodated;

- The airport presently does not provide any fire cover, which is acceptable for the airport in its present role. An airport fire service, along with a greater level of airport staffing, would be required if an regular passenger transport service were to be established at the airport;

- There appears to be a lack of hangar space for those that wish to store their aircraft under cover. Although a plan was prepared for 6

hangars in 2010, the airport presently does not have a formal land area assigned for development of aircraft hangars for private or commercial use;

- There is an abundance of land on the west side of Runway 04/22 that is surplus to the operational requirements of the airport, and this land could be released for commercial and industrial development, provided that the flight path for Runway 12/30 is safeguarded through a restriction on the height to which buildings or other obstacles might be constructed under the areas affected by the approach and take-off surfaces;

- There is ample unused land east of Runway 04/22, in the northeast of the airport, and south of the Terminal / Aero Club Building, that could be developed for aviation and non-aviation private and commercial uses. Such development could generate revenue for the Regional Council;

- Part of the lands south of the Terminal / Aero Club building has, in the past, been used for logistical staging for disaster relief activities during times of flooding, and some of this area could be formally established for this purpose; and

- The lands beneath the flight paths for the two runways, but especially for Runway 04/22, are presently unprotected and at risk from adverse development that could jeopardise the operation of the airport and affect its accessibility under instrument meteorological conditions. For Runway 04/22 as the primary runway, specific protection is required against erection of obstacles that could penetrate the required obstacle limitation surfaces. This is needed to the south of the Leichhardt Highway, and also north of Polo Road on the north side of the airport. Consideration should be given to acquiring two to three land parcels north of Polo Road to protect the runway operation, but also to enhance the ability of the runway to be extended and upgraded to Code 3 for instrument non-precision operations.

7.0 DEVELOPMENT NEEDS & OPPORTUNITIES

7.1. Overview

Goondiwindi Airport is suitable for development for additional air transport services which can provide feeder connections to a broader domestic and international air transport network for Goondiwindi regional travellers and fly-in / fly-out workers for the mining sector. The airport's primary runway can be extended by about 290m, while unused airport lands can be developed for a mix of aviation activities to enable general aviation services to be provided, including aircraft maintenance services, and provide improved aircraft parking facilities for regional aircraft owners and operators, along with fixed hangars for aircraft storage. The airport lands can also accommodate development of a Disaster Relief Logistics Centre to enhance flood relief support activity, which is an essential role of this airport for the immediate region.

Currently, there is a need to determine the broad direction in which on-site development should take based on an understanding of the potential air transport market for the airport, and from that to define the required level of infrastructure development, phasing and costs associated with expansion of the airport to meet market needs and expanded opportunities. Regional Council has recognised that an Airport Master Plan needs to be developed for the Goondiwindi Airport to consolidate its long term vision for the airport, and to provide Council with a staged programme for facility expansion. Additionally, an Airport Master Plan is required to satisfy Civil Aviation Safety Authority (CASA) regulatory requirements, but will also serve to protect the airport from the potential adverse effects of short-term planning decisions which could otherwise constrain growth in the future. A Master Plan also provides detailed information concerning phasing of development, the type and scale of development that would be appropriate for the business of the airport, and the necessary capital investment programme to bring about expansion of needed facilities. A major benefit from the Master Plan will be the definition of lands around the airport that would need to be reserved to prevent incompatible uses from occurring, or obstacles from being erected that could endanger or restrict aviation operations in the future.

This Planning Appraisal for the Goondiwindi Airport has been envisaged as starting point of the Master Planning process, to establish the essential status and condition of the airport, review the tourism and business prospects for the airport, catalogue its opportunities in the context of serving a wider aviation market, and provide an initial understanding of the

options available for developing the airport lands and facilities to realise the perceived opportunities. For Council, this appraisal is intended to serve as the scoping document for the Master Plan that will 'set the scene', and in due course guide the more detailed master planning work that will need to be carried out.

7.2. Approach

The approach taken in the Planning Appraisal has been to assess the existing airport, determine where critical needs exist, and to propose the basis for future airport expansion including concepts for site and facility development that would meet possible scenarios of possible traffic growth.

For the runway and airside system, the essential approach proposed is to strive to ultimately upgrade the airport in accordance with CASA Code 3C instrument non-precision standards and to extend the runway to support operations by a wider range of business jets and 50-70 passenger turboprop aircraft. Consequently, the planning approach taken in this study has been to apply Code 3C standards for planning of all proposed new airside elements to ensure that any construction allows for the obstacle separation distances required by those standards, and to propose protection of lands outside the airport property within the approach and take-off surfaces to Code 3 standards as well.

For the immediate future, and as a first stage of runway development, it is suggested that the airport maximise its runway capability within the present Code 2 standards through extending the runway to the southwest, until obstacles such as trees in the take-off areas for Runway 04/22 can be removed or trimmed, and lands acquired north of Polo Road. As a second stage of runway development it is suggested that the runway be extended to the north, and full compliance with Code 3 standards achieved while providing a suitable runway length for Code 3 aircraft operations.

For Runway 12/30, the approach taken for planning purposes has been to retain an unpaved runway of sufficient length to enable microlight and similar very light aircraft to continue to operate, with this runway to remain compliant with CASA Code 1A non-instrument standards.

Other support facilities and services such as the aircraft parking apron, passenger terminal / Aero Club building are proposed to be expanded in accordance with requirements related to the future role of the airport. For the terminal building, development and expansion of the existing Aero Club / Passenger Terminal building has been considered based on analysis of

the space requirements necessary to support a basic level of passenger processing for a possible future air service. The extent to which the apron would need to be expanded to accommodate larger turboprop aircraft and provide additional parking and hanger access, along with provision for other itinerant general aviation aircraft, has also been assessed.

As far as commercial development of the airport lands is concerned, the approach taken in this project has been to identify areas that are most suitable for aviation and non-aviation development. A large area to the west of Runway 04/22 has been designated for commercial / industrial development as this is surplus to the operational needs of the airport for the very long term. Other areas proposed for development are in the northeast of the site, and to the south of the public access road and north of Runway 12/30. For these areas, concepts for development of the non-operational areas of the site have been generated, and are put forward as preliminary suggestions as to how the lands might be developed for light aircraft hangarage, aviation commercial development, non-aviation commercial development, and for accommodating a Disaster Relief Logistics Centre.

The concepts created in this project are intended to generate discussion to show how such land uses might be accommodated on the airport site. It is expected that Regional Council might review these ideas to establish which are considered to be appropriate to carry further so that lands on the airport site can be reserved for continuing and expanded aviation activity.

7.3. Development Opportunities

7.3.1 Runway & Taxiway Development

Runway 04/22

The present Code 2 primary Runway 04/22, at 1340m in length, does not offer sufficient length to support a range of corporate jet aircraft, or to accommodate the 50 to 70 passenger turboprop aircraft that are currently used for short-haul passenger services. Extension of the runway would be required to open up the airport to a wider range of aircraft, particularly for the business jet aircraft. Access by corporate aircraft is important to support regional development and to attract business into the community.

Some of the short-haul passenger aircraft, and many of the business jet aircraft that would be desirable to accommodate are classed as Code 3 aircraft as far as the application of CASA standards is concerned. This means that, besides extending the runway, it would be necessary to

upgrade the present Code 2 compliant runway and taxiway to Code 3 standards if it is envisaged that larger aircraft types, or a wider range of business aircraft, were to be able to use the airport. As use of the airport by business, and attraction of turboprop passenger services, would be an important objective for Region Council, the need to upgrade the airport runway to Code 3, along with application of Code 3C obstacle separation standards, has been assumed as an essential planning requirement for the longer term development of the airport.

Analysis has been carried out for aircraft flight performance from the Goondiwindi Airport to various domestic destinations by a range of Code 2 and Code 3 turboprop passenger aircraft, such as ATR-42 and DHC-8-300 aircraft and DHC-8 Q400 (Dash 8) and ATR-72 aircraft types, which represent the typical large turboprop aircraft expected to operate the types of feeder passenger services that might be appropriate for air services into Goondiwindi. Runway length requirements for Goondiwindi Airport, reflecting its high ambient temperature, have been determined for these aircraft types representing two conditions - take-off at maximum gross weight, and take-off for a typical take-off weight representing a flight sector to Brisbane. These runway take-off length requirements are shown in the table below.

Runway Take-Off Requirements for 50-70 Passenger Aircraft

Aircraft Types	CASA Reference Field Length Code	Take-Off Runway Length for Max Weight (m)	Take-Off Runway Length for Reduced Weight (m)
DHC-8-300	2	1538	1192
DHC-8-Q400	3	1794	1512
ATR-42-500	2	1447	1257
ATR-72-500	3	1563	1390

In general, a runway length of at least 1565m would provide sufficient length for operation of all of the typical Code 2 and Code 3 turboprop passenger aircraft. However, review of the runway requirements for a range of corporate jet aircraft suggests that a runway providing operational distances in the range of 1600m to 1800m would be needed for use by a reasonable range of business jet aircraft. The objective of developing a runway length of 1800m at Goondiwindi has therefore been used as a basis for airport planning.

Assessment of the existing primary runway has shown that it could be extended towards the southwest by 290m to a total paved length of 1630m. Further extension of the runway could only realistically occur

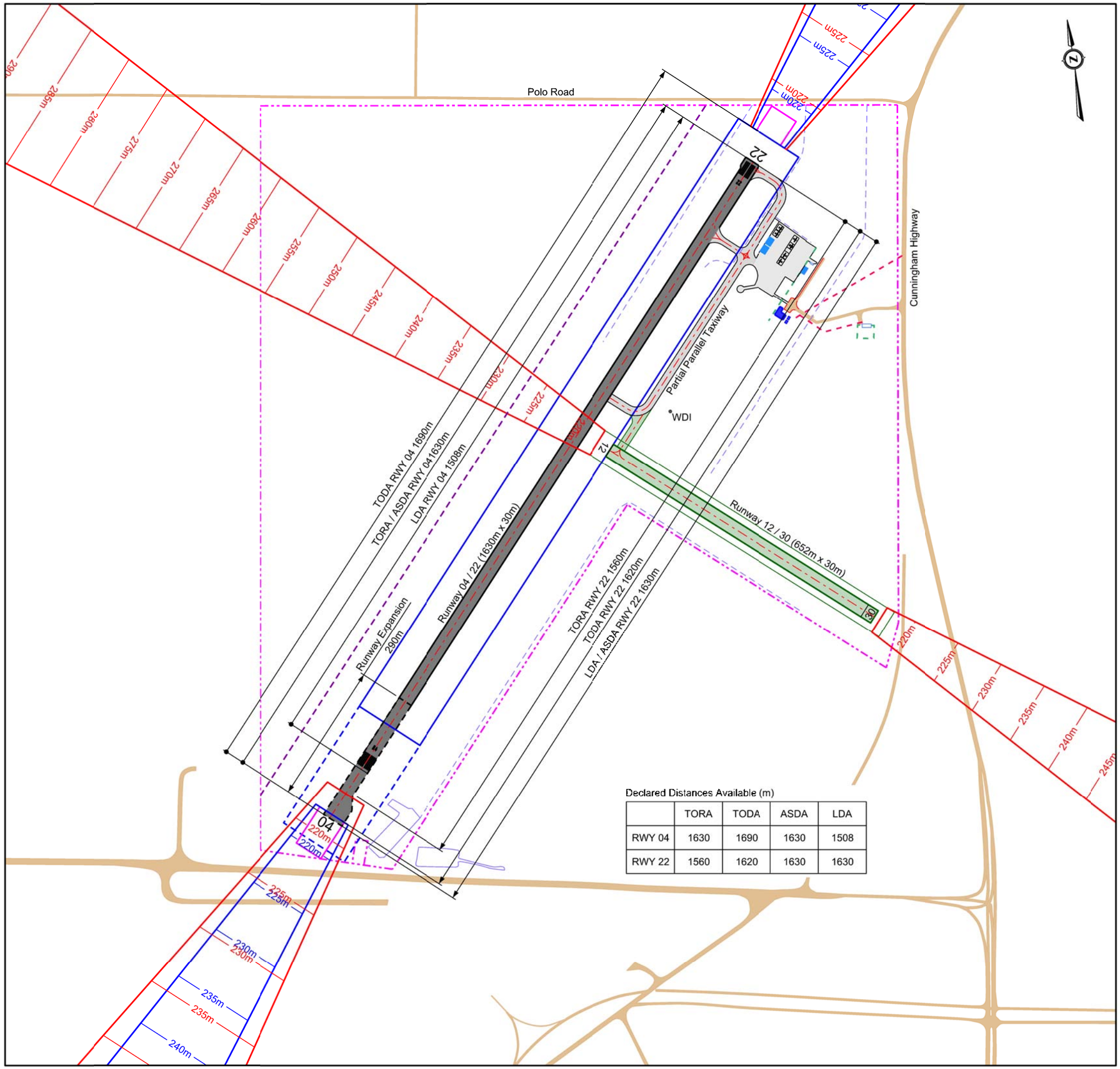
towards the north, and this would require that Polo Road be closed at its eastern end or realigned, and additional property acquired on the north side of the road so that the runway could be extended onto these lands. Such extension of the runway to the north would permit it to be developed to a length of 1800m (or more) to suit a wide range of business aircraft, as well as those turboprop passenger aircraft classed as Code 3.

The main issue for extending the runway at Goondiwindi Airport to accommodate larger aircraft and larger business aircraft, while also complying with Code 3 standards, is that the Code 3 standards require that a 2% take-off surface be established off the ends of the runway. This would penalise the present runway due to the need to provide obstacle clearance over the Leichhardt Highway along the southern boundary of the airport, and displace the take-off surface for Runway 22 further up the runway, thereby reducing the take-off run available from the extended runway. Consequently, application of Code 3 standards, without penalising the operation of the runway by larger aircraft, would require extension of the runway to both the south and to the north in order to provide the desirable take-off distances on an extended runway.

The approach adopted in this planning appraisal has therefore been to consider the extension of the runway in two basic stages. Stage 1 would represent extension of the runway to the south by 290m to its maximum extent of 1630m within the Code 2 instrument non-precision standards for the runway approach and take-off surfaces, with Code 3C obstacle separation standards applied for all new airside development, such as new taxiway construction or apron expansion for commercial aircraft. Stage 2 would represent completion of the transition to a Code 3 instrument non-precision runway with further extension of the runway to the north by 230m to a total length of 1860m into lands to be acquired to enable Stage 2 to be implemented.

The Stage 1 development of Runway 04/22 is illustrated in **Exhibit 7-1,** which shows the original 1340m Code 2 runway with a 290m extension added to the south bringing the total paved length of the runway to 1630m. Also shown is a proposed construction of a partial parallel taxiway linking from the end of Runway 22 to a point close to the intersection of Runway 12/30.

While the Stage 1 development represents the maximum physical length to which the runway could be extended within the existing airport property, the operational distances that would be available from this runway, based on maintaining Code 2 approach and take-off surfaces in the near-term,



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

- Approach Surface
- Take-Off Surface
- Airport Property Boundary
- Power Line
- Drain
- Airport Fence
- Proposed Airport Property Boundary

Goondiwindi Airport Planning Appraisal

Exhibit 7-1
Airside Development Concept for Runway 04/22 at Code 2 Instrument Non-Precision

Scale

0 100m 250m 500m

would for some operations be less than the full runway length, as indicated in the table below.

Maximum Operational Distances for Runway 04/22
(Extended to 1630m under Code 2 Instrument Non-Precision Criteria)

Runway	Take-Off Run Available (m)	Take-Off Distance Available (m)	Accelerate-Stop Distance (m)	Landing Distance Available (m)
04	1630	1690	1630	1508
22	1560	1620	1630	1630

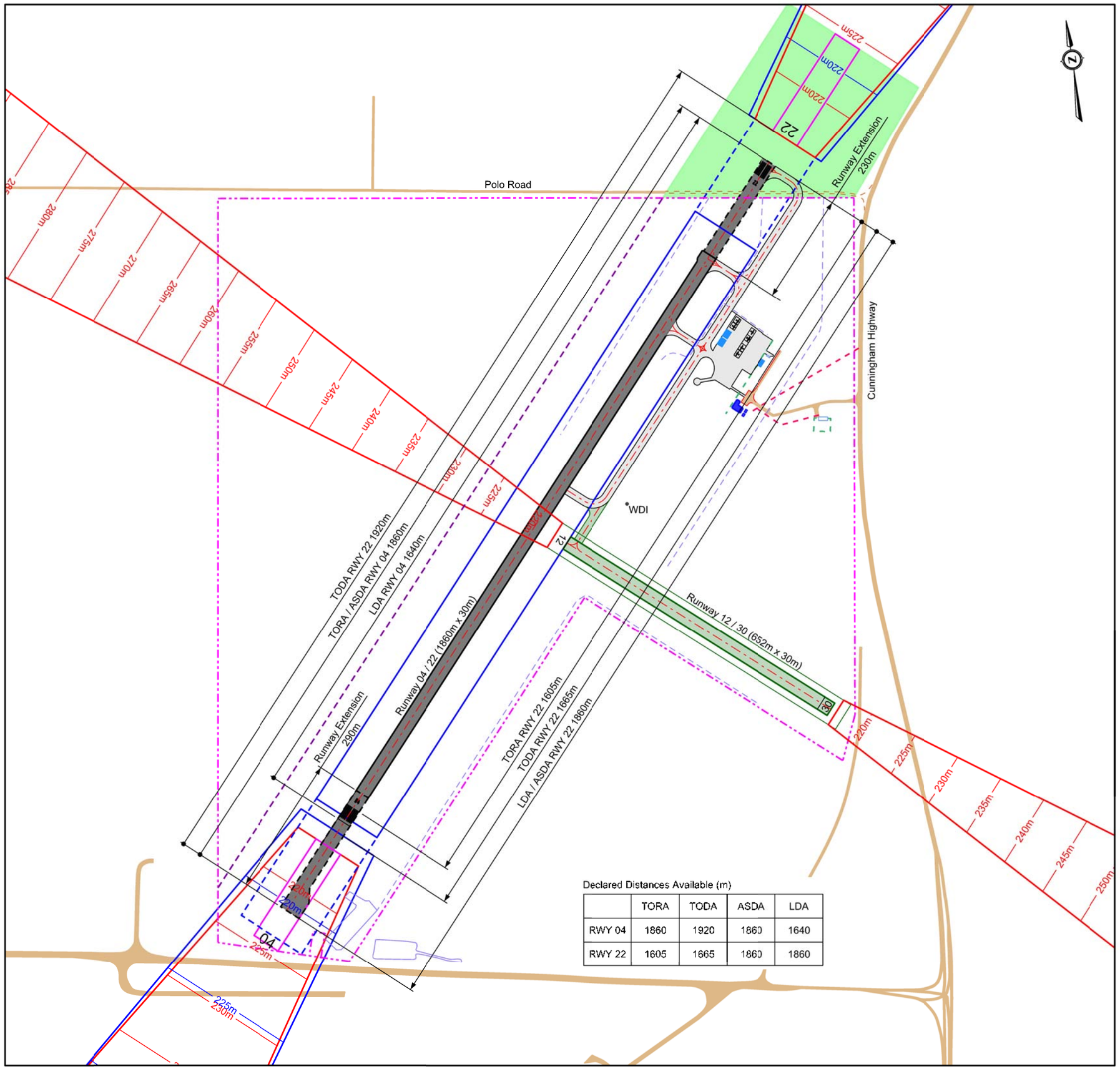
**Note the above operational distances assume that tree growth in the approach and take-off areas of Runway 04/22 is removed or trimmed to eliminate trees as obstacles in these areas.*

Extension of the runway to a paved length of 1630m would enable the runway to accommodate Code 2 passenger aircraft and this could therefore achieve one of the objectives of the development of the airport.

The Stage 2 development of Runway 04/22 is illustrated in **Exhibit 7-2**. This builds upon the initial runway development proposed in Stage 1 and extends the runway further, but towards the north by 230m, to a total paved length of 1860m, compliant with Code 3 instrument non-precision standards. This extension would require that Polo Road be closed, or possibly rerouted to the north, and additional land acquired on the north side of Polo Road, amounting to 12.4ha

Also shown in Exhibit 7-2 is a northward extension of the partial parallel taxiway to link into the northern end of the extended runway, along with establishment of full-length Runway End Safety Areas (RESAs) of 240m at both ends of the extended runway, as required under the Code 3 standards.

The runway operational distances that could be obtained from extension of Runway 04/22 towards the north as shown in Exhibit 7-2 are provided in the table below.



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

- Approach Surface
- Take-Off Surface
- Airport Property Boundary
- Power Line
- Drain
- Airport Fence
- Proposed Airport Property Boundary
- Additional Property Area in Northeast 12.4ha

Goondiwindi Airport Planning Appraisal

Exhibit 7-2
Airside Development Concept
for Runway 04/22 at Code 3
Instrument Non-Precision

Scale

0 100m 250m 500m

Maximum Operational Distances for Runway 04/22
(Extended to 1860m under Code 3 Instrument Non-Precision Criteria)

Runway	Take-Off Run Available (m)	Take-Off Distance Available (m)	Accelerate-Stop Distance (m)	Landing Distance Available (m)
04	1860	1920	1860	1640
22	1605	1665	1860	1860

**Note the above operational distances assume that tree growth in the approach and take-off areas of Runway 04/22 is removed or trimmed to eliminate trees as obstacles in these areas.*

While under the suggested Stage 2 development concept the runway would physically provide a length of 1860m, the operational distances obtained from this are, for some operations, shorter than the full length of the runway. A further improvement in the take-off run available for Runway 22 could readily be obtained by paving a further extension to the north end of the runway into the RESA for take-off purposes only, and this could be achieved without any further acquisition of property beyond the initial 12.4ha land requirement.

Runway 12/30

For Runway 12/30, this planning study has reviewed options and determined that the section of the runway west of Runway 04/22 could be decommissioned while retaining the ability of this runway to serve operations by very light aircraft. This would enable the lands west of Runway 04/22 to be made available for commercial and industrial development, with protection provided for the approach and take-off surfaces for Runway 12/30 over lands on the west side of the primary runway. While this would reduce the length of the present Runway 12/30 from 795m, it is suggested that land southeast of the present end of the runway could be used to extend the runway in that direction and thereby partially compensate for the loss of the western section of the runway.

With application of Code 1A non-instrument standards, Runway 12/30 could be extended towards the southeast, and the western section decommissioned, so that a total runway length of 652m could be available in full compliance with the relevant standards. This does represent a shorter runway than is presently available for Runway 12/30 (795m), but the length that is possible to establish through extension to the southeast is sufficient for continued use by those aircraft types that normally use this runway. Consequently, the 652m runway proposed for Runway 12/30 is believed to be adequate for all foreseen light aviation uses.

Taxiway Development

In addition to assuming the development of both Runway 04/22 and 12/30, the approach taken in this planning study has been to define the extent of other airside infrastructure needed for a fully-developed airport. This has been done in accordance with CASA Code 3C instrument non-precision obstacle clearance criteria, so that land reservation can be made for a possible future taxiway. Accordingly, the airside development concept provides for future obstacle separation requirements, as well as for an ultimate partial parallel taxiway for the primary runway, along with an additional runway exit. The proposed taxiway development for a partial parallel taxiway to Runway 04/22 is shown in Exhibit 7-1 for the Stage 1 development of Runway 04/22, and in Exhibit 7-2 for Stage 2.

7.3.2 Apron Development

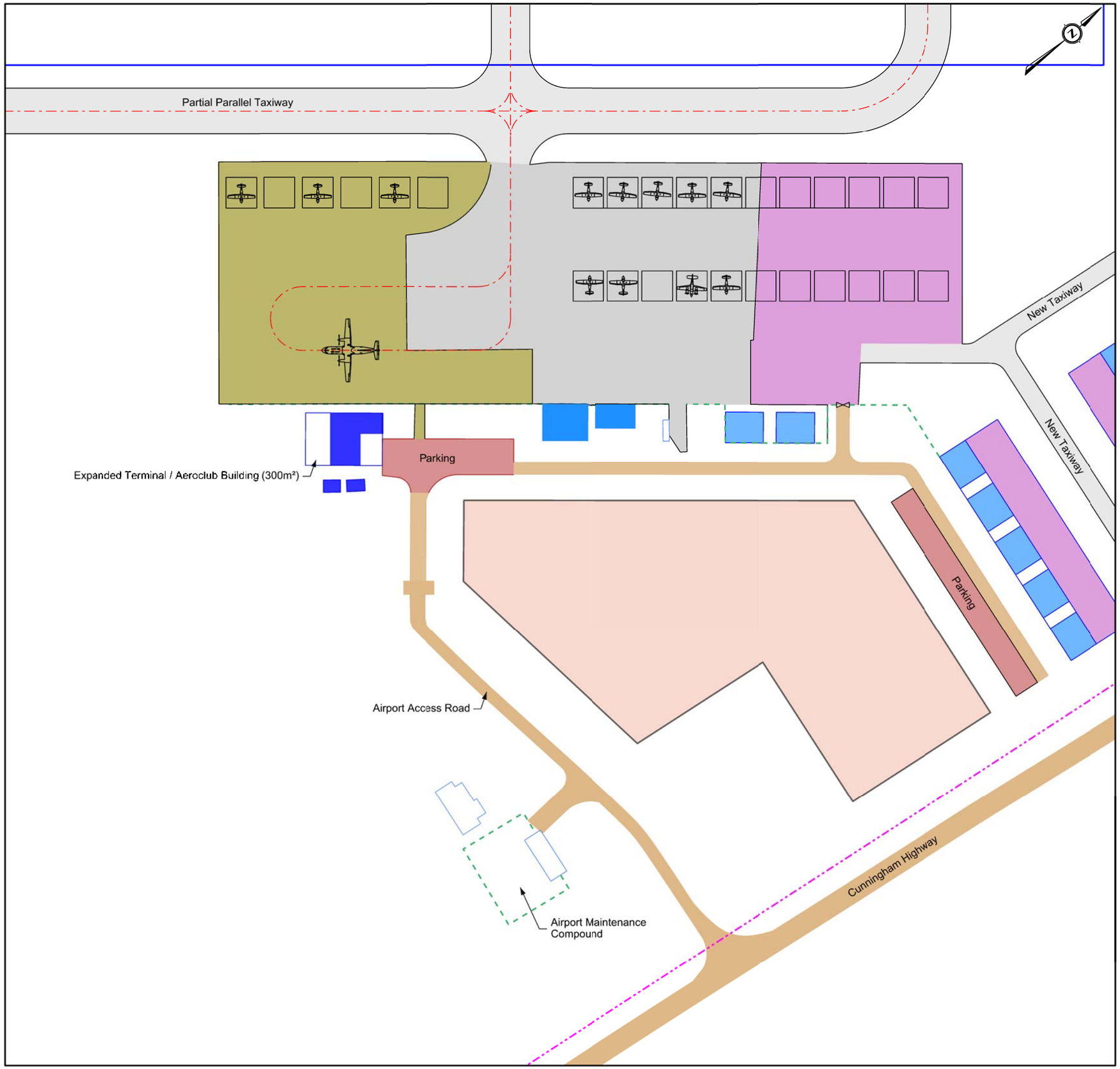
There is currently no spare space on the existing 11,200m² apron to accommodate any additional demand for long-term aircraft parking, and very limited space is available for short-term aircraft parking as well. There is a clear need to expand the apron parking capacity by providing additional tie-down parking spaces on a paved apron, as well as by providing space for erection of additional hangars near to the apron.

It would be acceptable for the existing two rows of aircraft parking positions to be retained, although the two hangars erected on the edge of the apron should be removed and relocated to properly designated and prepared hangar sites in an area adjacent to the apron.

Exhibit 7-3 illustrates the possible manner in which the aircraft parking apron might be expanded to the north and to the south to accommodate additional long-term and short-term aircraft parking respectively. Expansion of the apron to the south to a sufficient extent to permit taxiing manoeuvring of a Code C turboprop aircraft (ATR 42/72 or DHC-8), along with additional apron edge aircraft parking positions, would require that 8,734m² of additional apron be constructed. Expansion of the apron to the north to provide additional tie-down aircraft parking is suggested with this requiring an additional 6,656m² of apron to be constructed.

7.3.2 Passenger Terminal Development

The existing Aero Club Building serves as a small passenger terminal whenever there is a need for a small group of passengers to be accommodated prior to, or after, a flight. The present space in the Aero



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

- Private / Aeroclub Hangars
- Light Aircraft Tie Down Parking Positions
- Airport Property Boundary
- Power Line
- Drain
- Airport Fence
- Existing Apron
- North Apron Expansion (6711.1m²)
- South Apron Expansion (8734.3m²)

Goondiwindi Airport Planning Appraisal

Exhibit 7-3
Apron Development

Scale

0 25m 50m 100m

Club Building is provided as a single room which is an addition to the original Building. The space available at present is inadequate to be used by any significant numbers of passengers, and in the future to enable larger loads of passengers to be accommodated, a larger terminal building will be necessary. This could be provided through an expansion and modification to the Aero Club Building, or by construction of a new terminal building elsewhere near the apron. However, due to its strategic location on the east side of the apron and close proximity to the area of the apron that would be used for parking passenger aircraft, the location of the present Aero Club building is ideal for it to be used for passenger handling purposes in the future.

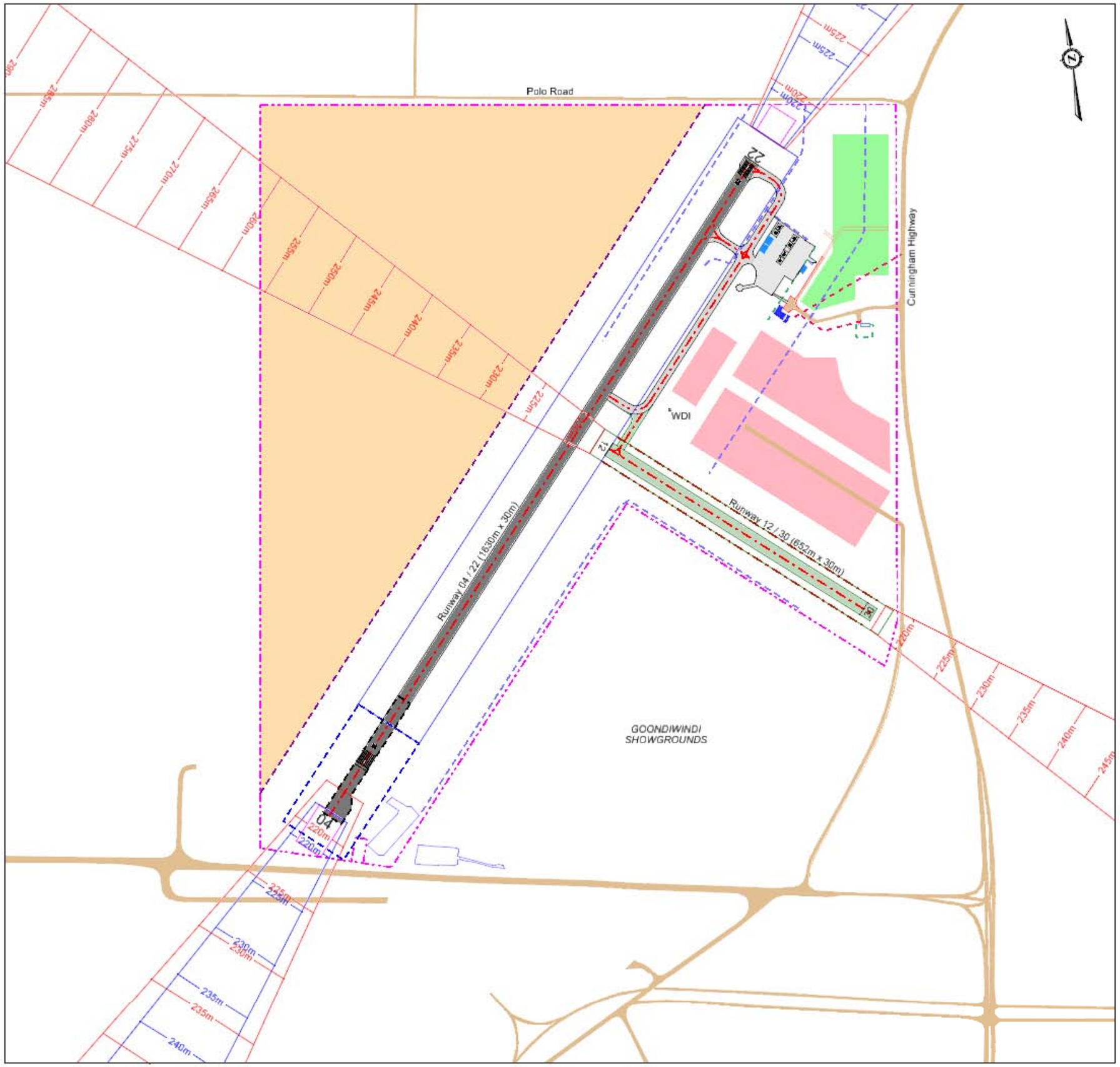
It is suggested, therefore, that the existing Aero Club Building, which is owned by the Aero Club, be acquired by Regional Council and expanded and modified to serve as a passenger terminal facility. In any such development, space should be provided within the expanded building for continued use for Aero Club activities, and for airport management (which may well be undertaken by the Aero Club on behalf of the Regional Council). Expansion of the Aero Club Building will need to allow space for possibly handling up to 20 passengers at any one time. This will mean that the area of the building devoted to passenger processing will need to be expanded to 300m².

7.3.4 Airport Site Development

Review of the airport site in the context of the requirements for additional development of the airport has shown that there are areas of the property that could be developed for various aviation and non-aviation uses. Essentially there are three prime areas for aviation and non-aviation development. These are the:

- Northwest Area of the Airport Property, west of Runway 04/22;
- Northeast Area of the site, north and east of the existing apron and terminal facilities; and
- Eastern Area of the site south of the terminal area and north of Runway 12/30.

These potential development areas are illustrated in **Exhibit 7-4**.



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

- Northwest Development Area (67ha)
- Northeast Development Area (4.02ha)
- East Development Area (11.2ha)
- Approach Surface
- Take-Off Surface
- Airport Property Boundary
- Power Line
- Drain
- Airport Fence
- Proposed Airport Property Boundary

Goondiwindi Airport Planning Appraisal

Exhibit 7-4
Areas Available for Development

Scale

0 100m 250m 500m

Northwest Development Area

The Northwest sector of the present airport property, west of Runway 04/22, is presently used only to accommodate the western section of Runway 12/30 which partially bisects these lands. Aside from the western section of Runway 12/30, the Northwest Development Area is presently used for agriculture and is otherwise surplus to airport operational needs. Runway 12/30 is the lesser-used runway and only accommodates very light aircraft, such as microlight types. In the long term development of the airport, it is suggested that the microlight and very light aircraft activity be retained at the airport, and that Runway 12/30 be retained at a reduced length sufficient for continued use by those aircraft types that principally use this runway. This would allow the western section of Runway 12/30 to be decommissioned while the eastern section would be extended towards the eastern property boundary. This suggestion would result in the runway being reduced in length by 143m, to a total length of 652m.

Modification to Runway 12/30 in this way would enable the lands west of Runway 12/30 to be released for other uses, principally for commercial / industrial development for which these lands are presently zoned. Allowing for full Code 3 protection of Runway 04/22 and a widened runway strip and obstacle-free area, this would enable an area of 67ha to be made available for commercial and industrial development. Although, under this plan, this land could be released for development, any such development would need to be planned so that the flight path for Runway 12/30 is protected from encroachment by buildings or other obstacles that could penetrate the approach surface for Runway 12 or the take-off surface for Runway 30, and thereby jeopardise compliance with CASA standards for this runway, or otherwise affect the safety of operations on the runway. In planning for development of the Northwest sector of the airport property, careful attention would therefore need to be given to the layout and heights of buildings in the area affected by the approach and take-off areas of the runway.

Northeast Development Area

The northeast area of the airport property, north and east of the present terminal and apron, is currently undeveloped. Only a compound used by the Queensland State Emergency Services (SES) exists in this area just north of the public access road and close to the property boundary.

The Northeast Development Area would be suitable for aviation airside development, such as for hangars, as well as for some landside

development uses that could serve either aviation or aviation-related activities. In planning for this area priority has been given to maximising the number of hangar lots that could be designated on the site, with these being available for private or commercial use for Code A aircraft, or a combination of Codes A and B aircraft. Options for development of the site are available such that the area could be entirely developed for several small Code A hangars of the same size as those presently located on the edge of the apron, or else a mixture of small and larger hangar lots could be developed for Codes A and B aircraft, with the larger lots being suitable for accommodating several aircraft in single hangars sized at 30m x 20m, or for use by an aircraft maintenance or other commercial aviation business.

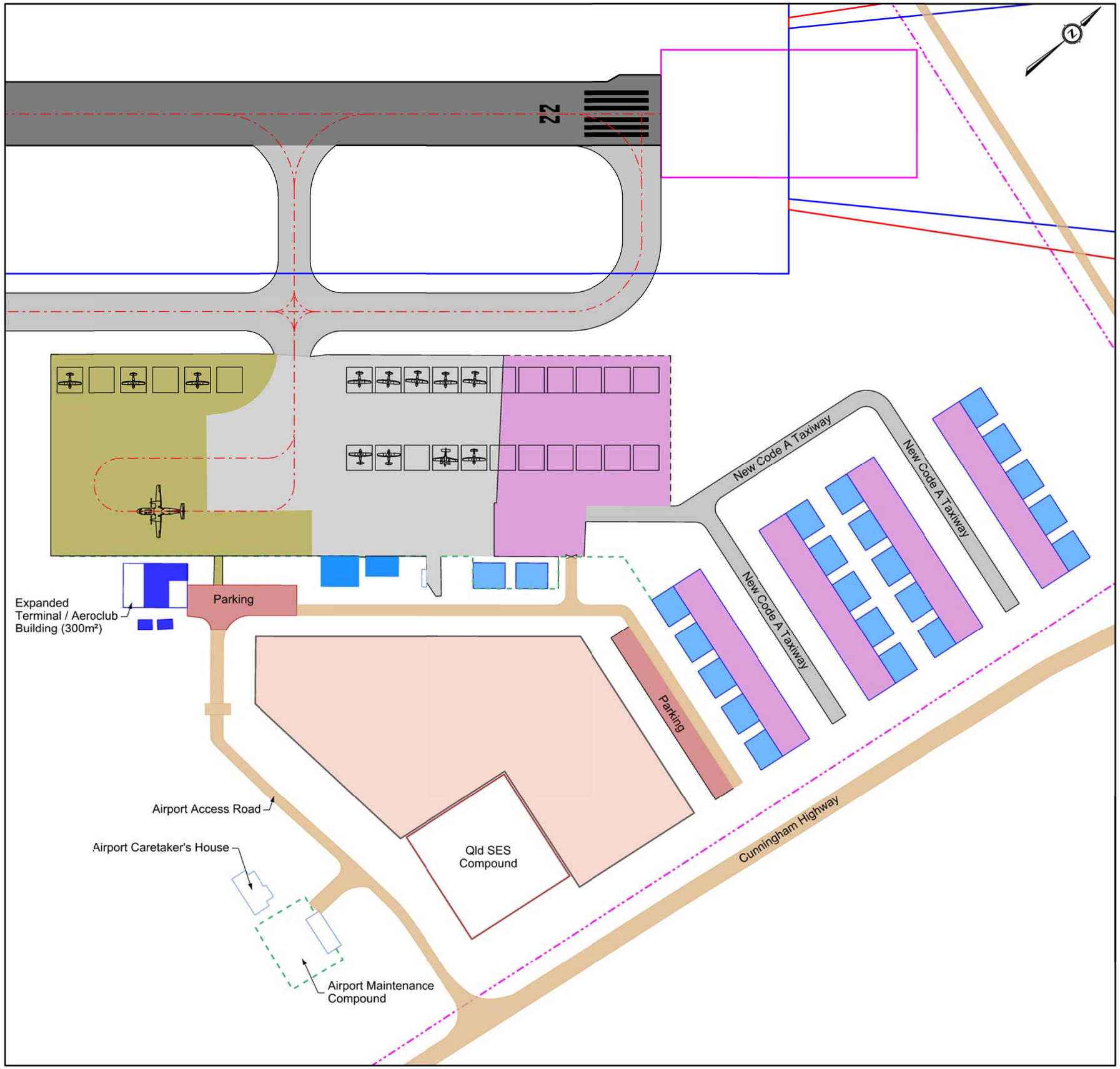
Option 1 (**Exhibit 7-5**) shows the development of the northeast area entirely for small hangars of 16.5m x 12.5m along with taxiways and aprons in an area of 1.75ha. In addition, an area of 1.46ha south of the hangar development is also available for landside aviation or non-aviation development.

Option 2 (**Exhibit 7-6**) shows an alternative arrangement for development of the northeast area in which a mixture of small (16.5m x 12.5m) and larger (30m x 20m) hangars would be accommodated in a development area of 2.15ha. In addition, an area of 1.25ha south of the hangar development is also available for landside aviation or non-aviation development.

East Development Area

A large area, amounting to 11.2 ha, located southeast of the Terminal Area and north of Runway 12/30, is also available for development for aviation and/or non-aviation uses. The approach taken to assessing this area for development has been to assume that part of the area would need to be reserved as a logistical support area for Disaster Relief during periods of flooding in the Region, while a portion of the lands would also be available for aviation or non-aviation commercial development. The broad concept for the East Development Area is shown in **Exhibit 7-7**.

A concept for assignment of land in this area has been generated but not detailed. The area that could be reserved for Disaster Relief Logistical Support could comprise an aircraft apron for fixed wing aircraft amounting to 9,600m², and an area of 5.7ha comprising a helicopter landing zone providing for several helicopter landing pads, and three material set down / storage areas for materials being readied for distribution to flooded



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

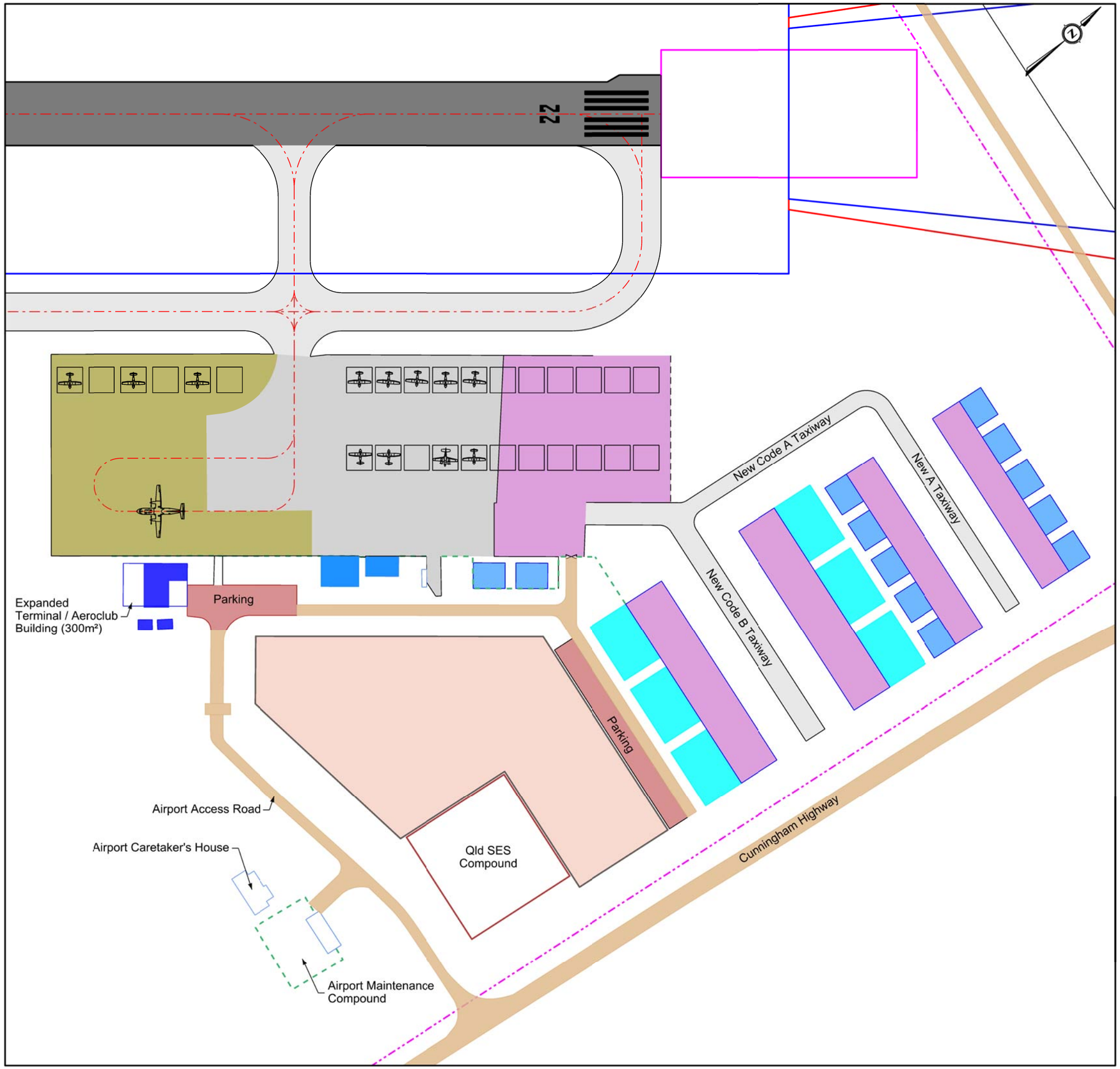
- Private / Aeroclub Hangars
- Light Aircraft Tie Down Parking Positions
- Airport Property Boundary
- Airport Fence
- Existing Apron
- North Apron Expansion (6686.1m²)
- South Apron Expansion (8734.3m²)
- Proposed Small Hangars
- Landside Commercial Development Area (1.46ha)

Goondiwindi Airport Planning Appraisal

Exhibit 7-5
Northeast Development Area
Option 1

Scale

0 25m 50m 100m



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

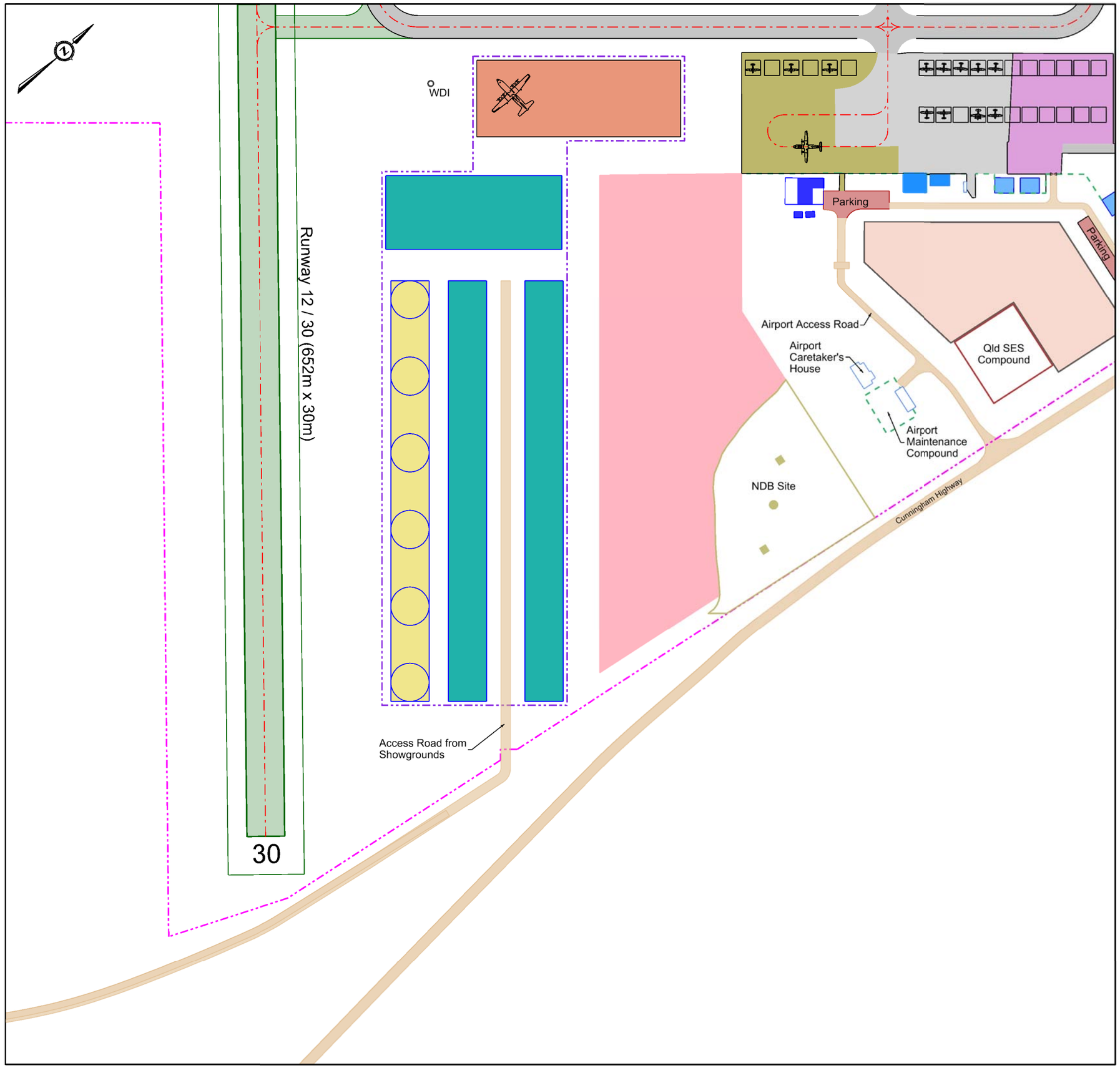
- Private / Aeroclub Hangars
- Light Aircraft Tie Down Parking Positions
- Airport Property Boundary
- Airport Fence
- Existing Apron
- North Apron Expansion (6623.8m²)
- South Apron Expansion (8734.3m²)
- Proposed Small Hangars
- Proposed Large Hangars
- Landside Commercial Development Area (1.31ha)

Goondiwindi Airport Planning Appraisal

Exhibit 7-6
Northeast Development Area
Option 2

Scale

0 25m 50m 100m



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Note:

1. Base Mapping prepared from Aerial Photography and Information provided by Client

Legend

- Airport Property Boundary
- Airport Fence
- Existing Apron
- Disaster Relief Material Set Down Areas
- Disaster Relief Helicopter Landing Area
- Aviation Commercial Development Area (3.86ha)
- Disaster Relief Operation Apron (0.96ha)
- Disaster Relief Logistics Centre (7.34ha)

Goondiwindi Airport Planning Appraisal

Exhibit 7-7
East Development Concept

Scale

0 50m 100m 150m

properties. The total area identified for this function amounts to 6.59ha, including the additional aircraft apron.

The helicopter landing zone has been located adjacent to Runway 12/30 to enable helicopters to approach the logistical support area from Runway 12/30 and turn directly into the landing sites. For take-off, the helicopters would air taxi to Runway 12/30 and depart from that runway. For the helicopter landing zone, as well as for the material set down areas, it is suggested that these be prepared as slightly raised pads by being filled and compacted sufficiently so that under wet conditions they can support the weight of helicopter operations and of vehicles delivering materials to the set down areas. An access road into the Disaster Relief Logistical Support Area is proposed as an extension of the 'Old Cunningham Highway' that leads from the Showgrounds towards the airport boundary fence.

In addition to the area suggested as a Disaster Relief Logistical Support Area, the concept for the East Development Area also includes an area of 3.86ha that has been designated for Aviation Commercial uses. While this has not been detailed at this point, it is suggested that this area could be developed either for airside uses, such as for additional hangars for aircraft storage with an access taxiway leading from the apron, or for landside commercial uses compatible with a location on the airport lands. A specific land development concept for this area would be developed as part of an Airport Master Plan.

8.0 THE WAY FORWARD

This Planning Appraisal has reviewed the existing airport, its site and facilities, and determined where critical capacity and facility needs currently exist. In addition, this study has assessed the capability of the airport to support additional air services and on-site commercial development and created concepts for facilities and land uses necessary for such developments. The Planning Appraisal has gone some way as a preliminary to developing a Master Plan with the express intention of providing Regional Council with the ability to determine the direction in which it wishes the airport to develop, particularly for developing the runway to accommodate future air services and business aircraft, expanding the Passenger Terminal / Aero Club Building, and designating the airport lands for aviation and non-aviation uses.

It will be necessary for the process commenced through this Planning Appraisal to be continued to complete a full Airport Master Plan, since some of the required tasks involved in a Master Plan have not been carried out in this initial work. Regional Council will need to initiate the process of preparation of the Airport Master Plan and this will need to address additional topics and tasks, such as:

- Preparation of an accurate airport base plan in CAD format;
- Review and assessment of the condition and strength of the existing airside pavements and development of the full pavement rehabilitation programme and costs;
- Review of the airport site drainage and implications for facility expansion and addition of new airside pavements;
- Preparation of estimates for air passengers and aircraft movements reflecting various air traffic enhancement and development scenarios;
- Confirmation of the desired scope of air services development at Goondiwindi Airport and determination of the implications arising for the expansion of the passenger terminal building, car parks and frontage roads;
- Review of the adequacy of the airport utility systems and determination of future utility requirements;
- Review of the air navigation, communications and MET reporting facilities, and of airport instrument approach requirements;
- Development of the airport zoning protection mechanism for protection of the airport safeguarding surfaces outside the airport property;

- Study of the recommended phasing of facilities and on-site development;
- Planning for the initial phase of facility development, and costing of all proposed initial works;
- Planning for the initial phase of aviation and non-aviation development and determination of the scale of Council involvement in the provision of hangars, site services and infrastructure;
- Provision of guidance to Council regarding Airport Development Regulation, Control and Approvals for facilities to be developed by other parties and tenants;
- Assessment of airport impacts on the surrounding land uses and residents; and
- Development of the Airport Master Plan Report.