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COBDEN AERODROME MASTER PLAN

Prepared for: Corangamite Shire

DOCUMENT CONTROL

Document Title: Cobden Aerodrome Master Plan

Activity ID: YCDE02-01

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Reviewed by: K Tonkin

Released by: K Tonkin

Revision History

Version	*Description*	*Transmitted*	*Reviewed by*	*Date*
0.1	First Draft	02 July 2021	CSC	14 July 2021
0.2	Final Draft	06 August 2021	CSC	06 October 2021
1.0	Final	07 October 2021		
1.1	Updated planning references	25 November 2022	CSC	01 December 2022
1.2	Final edits	13 December 2022		

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1. INTRODUCTION

1.1. Background

Corangamite Shire is located in the middle of the Western District of Victoria. The Shire has a distinct north-south orientation, with the town of Skipton and the Glenelg Highway forming a northern boundary, and Port Campbell and the Victorian coastline forming the southern boundary.

Cobden is a rural township centrally located within the shire. It is located 12 km from the Princes Highway in Camperdown, 50 km west of Colac and 200 km south-west of Melbourne. The Cobden Aerodrome (YCDE) supports the operation of commercial rotary and fixed wing aircraft including aeromedical, emergency rescue, bushfire fighting, aerial agriculture, flight training and charter operators such as Air Ambulance Victoria, Rohan Flying Services, Border Air, Sharp Aviation and various flight training operators from Melbourne and regional areas.

It is the only council-owned aerodrome within the Shire and provides an avenue for multi-use aviation services. The aerodrome supports the greater community by providing connectivity, access to emergency rescue and bush firefighting services and supporting economic growth in a diverse and vibrant Shire.

1.2. Site description

Cobden Aerodrome is located in South Central ward of the Corangamite Shire, west of the town with the same name. The aerodrome has a Code 1 runway with a length of 900 m and a of width 18 m. The runway is located between two roads Hallyburtons Road on the northern side and the Cobden-Terang Road (C156) on the southern side. The aerodrome shares its western boundary with farmland. On the eastern side the airport borders land occupied by the South West Kart Club and South West District Restoration Group.

Figure 1 YCDE – Cobden Aerodrome Overview

1.3. Purpose

Council is implementing opportunities to protect the Cobden Aerodrome asset through appropriate planning controls including potential future certification with the Civil Aviation Safety Authority (CASA). As part of the preparation for the future certification of Cobden Aerodrome, council has requested the development of an aerodrome master plan. In the first phase of the project, the Obstacle Limitation Surfaces (OLS) applicable to a Code 1 aerodrome were developed following an obstacle survey. This master plan should be read in conjunction with the OLS Study.

The purpose of the master plan is to establish a framework for the future planning and development of Cobden Aerodrome to ensure the Corangamite Shire achieves its strategic objectives to certify and protect the aerodrome. The master plan is intended to establish the basis for more detailed studies of design, infrastructure planning, and land use planning required.

1.4. Scope of work

The scope of work is to provide Council with a master plan for Cobden Aerodrome. This master plan will help to certify and protect the aerodrome for incompatible developments in the wider area.

Part of the scope of work for this report is to provide a reverse brief regarding the existing conditions of Cobden Aerodrome. This reverse brief will help to define the role that Cobden Aerodrome plays in the community and the role it could have in the future. This is achieved by the following:

- This report will provide an extensive brief on the existing planning scheme in place by both state and council, as well as reviewing previous planning and development documents for Cobden Aerodrome. This is complemented by a summary of the active rules and regulations applicable to aerodrome planning and development.
- A full review of the existing facilities and lease arrangements will be provided and analysed.
- Aviation Projects has conducted a stakeholder engagement study as part of this project, which helps to inform the decision making in the master planning stage of the project. This stakeholder engagement study will be combined with a benchmarking study which focusses on other regional airports within Victoria. This benchmarking study produced a gap analysis. Together with a SWOT analysis this study helped to define the strategic vision and preferred development option for Cobden Aerodrome.
- Based on the strategic vision planning parameters are defined which influence the master planning exercise.

1.5. Methodology

The master planning study was conducted generally in accordance with the Australian Airports Association Airport Practice Note 4 – *Regional Airport Master Planning Guideline* and modified according to the scope of work.

The following key activities were conducted during the course of the study:

- Inception meeting and site orientation
- Obstacle Limitation Study
- Background study
- Review of planning and regulatory context
- Stakeholder consultation study
- Benchmarking study
- SWOT analysis
- Defining a strategic vision
- Multiple workshops with Committee of Management
- Preparation of draft master plan including drawings and phasing.

2. PLANNING CONTEXT

2.1. Background

The Cobden Airstrip was officially opened on 14 March 1988 by Air Commodore R.R. Tayles A.F.C. Six years prior a public appeal was launched to raise funds for the airstrip to be built on land at the Cobden Racecourse. The Heytesbury Shire (a predecessor of the Corangamite Shire) fully supported the project and purchased the land from the Cobden Turf Club for $10,000.

The construction of the airstrip was delayed due to the 1983 Ash Wednesday fires, which brought devastation to the area and absorbed the resources of the Heytesbury Shire. The project was completed in 1984 thanks to efforts from the shire, local contractors service clubs and many volunteers.

After construction was completed, it was found the airstrip had been constructed in good faith but was not wide enough to meet Department of Aviation standards, thanks to donations by the public the funds were collected to undertake the works to meet the requirements of the department.

In 2018-2019 the aerodrome was under threat by the proposed Naroghid Windfarm. The proposed project, which would see 150 m tall wind turbines in the vicinity of the aerodrome threaded the operational future of the facility. The proposed windfarm was subject to extensive legal scrutiny and ultimately rejected.

The original runway was an unsealed gravel runway. In 2011 the turnpads and the first 100 m of runway on either side of the runway were sealed, making landings safer. This was followed in 2014 by an upgrade to the entire runway which saw the runway being sealed over the full length. These works were funded by the Victoria State Government (through a grant) Cobden Aerodrome Committee and the Corangamite Shire.

The original runway lighting system was installed in 1988. In 2014 during the runway upgrade works the lighting system was upgraded to full LED lighting as well a new Pilot Activated Lighting (PAL) system. This system is however not inspected by CASA. Fuel facilities (Avgas) are provided on site and are managed by Rohan Flying Services.

A fly neighbourly agreement is in place at Cobden, which prevents pilots from flying circuits over the town. This reduces the noise experienced by residents.

2.2. Situation

Based on the information found in the En Route Supplement Australia (ERSA) which is part of Airservices Australia's (AsA) Aeronautical Information Package (AIP), the runway characteristics at Cobden Aerodrome are as follows: length: 900 m, width 18 m (Figure 2). It is proposed to certify Cobden Aerodrome as a Code 1 non-instrument day-only aerodrome.

COBDEN **ELEV 460**

FULL NOTAM SERVICE NOT AVBL

VIC UTC +10 YCDE
381936S 1430324E VAR 11 DEG E UNCR
AD OPR Corangamite Shire Council, PO Box 84, Camperdown, VIC, 3260. PH 03 5593 7100.

REMARKS
Prior permission required for ACFT OPS at AD. CTC 0403 498 005 or 0438 537 350.

HANDLING SERVICES AND FACILITIES
AD site condition INFO: MOB 0403 498 005 or 0438 537 350. AVGAS AVBL by prior arrangement. C/O Rohan Flying Services. MOB 0457 776 095, 0438 537 350, 0403 498 005. AH call-out fee may apply. Cash or Cheque accepted.

PASSENGER FACILITIES
TX (0419 764 981), WC.

PHYSICAL CHARACTERISTICS
RWY direction 18/36, length 900M, SFC - Bitumen (WID 15M, natural SFC to 18M) additional bitumen turning nodes at each end.

OTHER LIGHTING
PAL 122.2 Not inspected by CASA.

ATS COMMUNICATIONS FACILITIES
FIA MELBOURNE CENTRE 126.8 Circuit area

FLIGHT PROCEDURES
Right hand CCTS RWY 18.

CTAF 126.7

ADDITIONAL INFORMATION
1. CAUTION: Beware of hill and rising terrain at north of AD.
2. CAUTION: Beware of tall Feed Mill south east of RWY 18.
3. Soft edges outside 15M WID bitumen strip.

CHARTS RELATED TO THE AERODROME
WAC 3469.

Figure 2 ERSA FAC

2.3. Regional characteristics

2.3.1. Population

The population of the Corangamite Shire is 15,929 people on the 30 June 2020, according to the latest estimates. Of these a total of 1,827 are estimated to live in Cobden itself. The population of Cobden has been relatively stagnant over the last eight years. The data presented in Figure 3 was made available by the Australian Bureau of Statistics. It suggests a slight decrease in population for the Corangamite Shire as a whole. It should be noted that the ABS has not released numbers for 2021. Due to the Covid-19 pandemic, people have moved away from the major cities and into regional Australia. Council has seen evidence of this over the last year and therefore expects a rise in population.

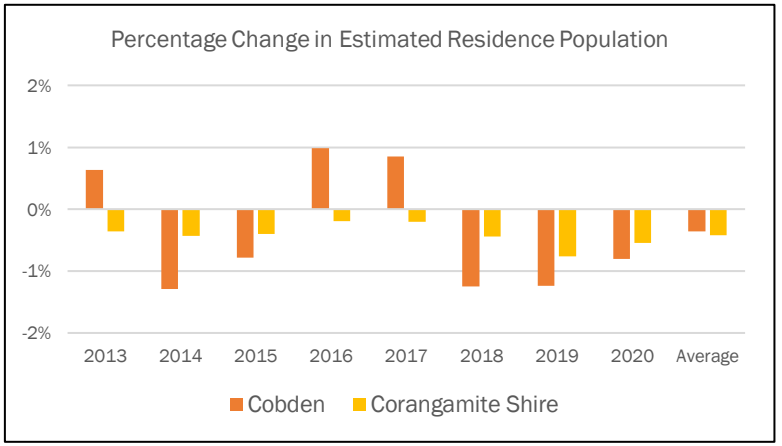

Figure 3 Estimated Residence Population

2.3.2. Economy

Corangamite Shire's Gross Regional Product is estimated at $1.02 billion, which represents 0.21% of the state's GSP (Gross State Product). The dominant industry in which people are employed within the shire is Agriculture, Forestry and Fishing accounting for approximately 1 in every 3 jobs within the shire.

Around Cobden there are major dairy farms as well as milk processing plants such as Fonterra.

2.3.3. Regional Aviation

No Regular Public Transport (RPT) services are provided from Cobden Aerodrome. The aircraft movements come mostly from the local aeroclub, and flight training visiting the aerodrome. Other uses are outlined in the following paragraphs.

Figure 4 shows an overview of other aerodromes in the vicinity of Cobden. The location data shown in this figure is extracted from National Map a service provided by the Australian Government which sources the aerodrome data from the national airfield directory as well as the Enroute Supplement Australia.

Figure 4 Regional aerodromes

2.4. Current operations

The aerodrome's current users are the Cobden Aero Club, which has approximately 32 member pilots all using the aerodrome for recreational purposes. The aerodrome is also used by emergency services such as the Royal Flying Doctor Services, Air Ambulance Victoria and by fire bombers operated on behalf of DELWP during bush fire season.

The airport is also used by commercial operators. Based on information shared by the Cobden Aerodrome Committee of Management (COM) the following commercial activities take place at the aerodrome:

- Sharp Airlines would regularly fly in tourists into Cobden on behalf of Air Adventures Australia. Avia Aviation has flown in both tourists and business clients from their base at Moorabbin Airport in Melbourne.
- Agricultural spraying operations have been undertaken by Rohan Air, with an average of three visits a week. They operate a loading pad with trucks to quickly fill up their planes to continue operating.
- Fonterra and Murray Goulburn, two big businesses in the local area, would fly in directors, business and maintenance personnel into Cobden to attend business.
- Helicopter Power Line maintenance providers also use Cobden Aerodrome for refuelling and night time parking.
- Flight Schools (Cobden Aeroclub - Flight Training).

2.5. Strategic intent

The Corangamite Shire Council intends to ensure that Cobden Aerodrome is protected from future potential developments which may affect the operations at the aerodrome. The strategy for future proofing the aerodrome is:

1. strengthen the policy in the local planning scheme
2. get certified as a Code 1 airport in accordance with CASA requirements
3. protect the obstacle limitation surfaces required for night operations.

Council aims to position Cobden Aerodrome appropriately to deliver positive social and economic benefits to the Shire. This will be achieved by operating the airport in compliance with relevant aviation legislative requirements, in line with community expectations regarding level of service and potentially a user pays methodology.

2.6. Previous planning studies

During the last 10 years at least three studies have been conducted regarding the future of Cobden Aerodrome.

2.6.1. Cobden Aerodrome Development Plan (2011)

In 2011 the Cobden Aerodrome Development Plan was written. Following the study a number of key recommendations were made:

i. The runway should progressively be developed over the next 15 years from non-compliant and unregistered to a certified Code 2 non instrument approach. Initial compliance for aircraft less than 2,000 kg can be achieved, the boundary fence should be replaced with a more compliant fence.

ii. The Clubhouse should be renovated and converted into a common user terminal and clubrooms.

iii. The fence in front of the clubhouse should be relocated to the clubhouse boundary to maximise apron usage.

iv. Area to the north of the clubhouse should be reserved for aircraft parking.

v. The area to the east of the clubhouse should only be used for aviation if a clearway is established between existing hangars, preventing parking of aircraft or vehicles which may obstruct passage of aircraft through this area.

vi. The area along Hallyburtons Road should be developed for hangars.

vii. The agricultural operations should be placed at the western section of the development along Hallyburtons Road.

viii. An Obstacle Limitations Plan should be placed in the planning scheme to protect the aerodrome from inappropriate development that may affect the operation of the aerodrome.

ix. Before land in the aerodrome's environs is developed a noise exposure study be conducted to ensure compatible land use. This study should be included into the planning scheme.

x. Aerodrome Reporting / Works Safety Officers be trained to ensure accurate information is given to the flying community.

2.6.2. Cobden Aerodrome Passenger Terminal and Command Centre (2016)

In 2016 the COM engaged a local architecture firm to produce plans for the Cobden Aerodrome Passenger Terminal and Command Centre. Multiple plans were developed. Some were based on a reconfiguration and extension of the existing facility, while another option involved a completely new, purpose-built facility.

The main purpose of these plans was to provide sufficient space in the building to accommodate passenger/tourist operations along side the Aero Club. Importantly the designs also included a pilot and command centre, which could be used during bushfire season.

2.6.3. Cobden Aerodrome Feasibility Analysis (2020)

In 2020 a feasibility analysis was conducted for Cobden Aerodrome. In this study development constraints for the site and the aerodrome were explored, as well as aerodrome safeguarding and the required works to achieve a certified Code 1 status.

3. BACKGROUND INFORMATION

3.1. Victoria Planning Provisions

The Department of Environment Land, Water and Planning of the Victorian Government released the Victoria Planning Provisions document on 31 July 2018 (the document is updated regularly, and the most recent version 22 November 2022 is used for this exercise). The purpose of this planning scheme is to provide a clear and consistent framework within which decisions about the use and development of land can be made. In addition to this, it helps to express state, regional, local and community expectations for areas and land uses. It also helps to provide for the implementation of State, regional and local policies affecting land use and development.

Chapter 18 of the Victoria Planning Provision addresses Transport, subsection 18.02-7S (introduced by VC218 on 18 May 2022) is dedicated to Airports and airfields.

18.02-7S Airports and airfields

Objective

To strengthen the role of Victoria's airports and airfields within the state's economic and transport infrastructure, guide their siting and expansion, and safeguard their ongoing, safe and efficient operation.

Strategies

Protect airports and airfields from incompatible land use and development.

Prevent land use or development that poses risks to the safety or efficiency of an airport or airfield, including any of the following risks:

- *Building-generated windshear and turbulence.*
- *Increased risk of wildlife strike.*
- *Pilot distraction from lighting.*
- *Intrusion into protected airspace.*
- *Interference with communication, navigation and surveillance facilities.*
- *Increased risk to public safety at the end of runways.*

Minimise the detrimental effects of aircraft noise when planning for areas around airports and airfields.

Limit the intensification of noise-sensitive land uses, and avoid zoning or overlay changes that allow noise-sensitive land use and development, where ultimate capacity or long-range noise modelling indicates an area is within a 20 Australian Noise Exposure Forecast (ANEF) contour or higher.

Avoid zoning or overlay changes that allow noise-sensitive land uses outside the Urban Growth Boundary, and encourage measures to reduce the impact of aircraft noise in planning for areas within the Urban Growth Boundary, where ultimate capacity or long-range noise modelling indicates an area is within 'number above' contours (N Contours) representing:

- *20 or more daily events greater than 70 dB(A).*
- *50 or more daily events of greater than 65 dB(A).*
- *100 or more daily events greater than 60 dB(A).*
- *6 events or more between the hours of 11pm to 6am greater than 60 dB(A).*

Ensure land use and development at airports and airfields contributes to the aviation needs of the state and the efficient and functional operation of the airport or airfield.

Ensure land use and development at airports complements the role of the airport including as listed below:

- *Melbourne Airport – major domestic and international airport with no curfew, 24-hour access, freight capability and an adjoining employment precinct.*

- *Avalon Airport – domestic and international airport with no curfew, 24-hour access, freight capability and an adjoining employment precinct.*
- *Essendon Fields Airport – a general aviation airport that is an important regional and state aviation asset with specialised functions, including executive charter, emergency aviation services, freight, logistics and an adjoining employment precinct.*
- *Moorabbin Airport – a general aviation airport that is an important regional and state aviation asset supporting the state's aviation industry and access to regional Victoria.*
- *Point Cook Airfield – an operating airport complementary to Moorabbin Airport.*

Plan for areas around airports and airfields so that land use or development does not prejudice future airport or airfield operations or expansions in accordance with an approved strategy or master plan for that airport or airfield.

Preserve long-term options for a new general aviation airport south-east of metropolitan Melbourne by ensuring urban land use and development does not infringe on possible sites, buffer zones or flight paths.

Avoid the location of new airports and airfields in areas that have greater long-term value to the community for other purposes.

Ensure that in the planning of airports and airfields, land use decisions are integrated, appropriate land use buffers are in place and provision is made for associated businesses that service airports.

Plan the location of airports and airfields, nearby existing and potential development, and the land-based transport system required to serve them, as an integrated operation.

Plan the visual amenity and impact of any land use or development on the approaches to an airport or airfield to be consistent with the status of the airport or airfield.

Chapter 45.02 addresses the Airport Environs Overlay, which relates to limiting aircraft noise around airports.

45.02 – Airport Environs Overlay

Purpose

To implement the Municipal Planning Strategy and the Planning Policy Framework.

To identify areas which are or will be subject to high levels of aircraft noise, including areas where the use of land for uses sensitive to aircraft noise will need to be restricted.

To ensure that land use and development are compatible with the operation of airports in accordance with the appropriate airport strategy or master plan and with safe air navigation for aircraft approaching and departing the airfield.

To assist in shielding people from the impact of aircraft noise by requiring appropriate noise attenuation measures in new dwellings and other noise sensitive buildings.

To limit the number of people residing in the area or likely to be subject to significant levels of aircraft noise.

45.02-5 – Decision Guideline

Before deciding on an application, the responsible authority must consider, as appropriate:

- *The Municipal Planning Strategy and the Planning Policy Framework.*
- *Whether the proposal will result in an increase in the number of dwellings and people affected by aircraft noise.*
- *Whether the proposal is compatible with the present and future operation of the airport in accordance with the appropriate airport strategy or master plan.*

- *Whether the design of the building incorporates appropriate noise attenuation measures.*
- *The views of the airport owner.*

3.2. Corangamite Planning Scheme

On the website of the Victorian Governments Department of Environment Land, Water and Planning the Corangamite Planning Scheme has been provided. The document is regularly updated, and the most recent version 22 November 2022 has been referenced.

The purpose of this planning scheme is to communicate the vision and strategic direction for the municipality by providing a clear and consistent framework within which decisions about the use and development of land can be made. In addition to this, it helps to express state, regional, local and community expectations for areas and land uses. It also helps to provide for the implementation of State, regional and local policies affecting land use and development.

Section 02.03 of the planning scheme sets out the strategic directions of council. Particularly section 02.03-8 relating to transport is relevant:

02.03 – Transport

Aviation and airfield management

The aviation industry supports the tourism and agricultural industries within the Shire. In the context of these industries, aviation provides significant economic growth opportunities.

A number of operators provide scenic flights to the Twelve Apostles and other attractions from various helipad locations throughout the Shire (predominantly Princetown and surrounds).

The Cobden airfield is graded with an all-weather asphalt surface which allows for commercial fixed wing aircraft, including the Air Ambulance, to land and take off locally.

Council seeks to:

- *Protect the ongoing operations and future expansion opportunities of the aviation industry by preventing noise-sensitive uses from establishing close to airfields and helipads.*
- *Manage the amenity impacts of aircraft operations on surrounding land and the environment.*

The Corangamite Planning Scheme incorporates the planning for airports and airfields as found in the Victoria Planning Provision in subsection 18.02-7S.

The Planning Scheme has a section dedicated to airports and airfield within the shire in Clause 18.02-7L.

18.02-7L – Planning for airports and airfields

Strategies

Avoid noise-sensitive land uses from establishing close to the Cobden airfield.

Support extensions to airfields, helipads or other aviation operations where there will be minimal impact on surrounding land uses, the landscape and the environment.

3.3. Victorian Aerodrome Landing Fees Act 2003

The parliament of Victoria implemented the Aerodrome Landing Fees Act in 2003. The latest revision is effective as of 14 June 2012. Article 6 and 7 of the Aerodrome Landing Fees Act are presented below as they set out what aerodrome operators may fix fee for and who is liable for paying the fees charged by the aerodrome operator.

6 Aerodrome operator may fix a fee

(1) An aerodrome operator may fix a fee in relation to that aerodrome for any or all of the following—

(a) arrival of an aircraft;

(b) departure of an aircraft;

(c) parking an aircraft;

(d) a training flight approach;

(e) the carrying out of an activity, or the provision of a service, directly related to the arrival, departure, parking or training flight approach of an aircraft;

(f) late payment of a fee fixed under this section, other than this late payment fee.

(2) If an aerodrome operator fixes a fee under this section, a notice setting out the fee must be published in the Government Gazette and in—

(a) a daily newspaper circulating generally in the State; or

(b) a periodical publication prescribed by the regulations.

(3) A fee fixed under this section—

(a) may be replaced by a different fee fixed in accordance with this section;

(b) comes into force on the day specified in the notice of the fee published under this section and not earlier than the day after the day on which the notice is last published under subsection (2).

(4) In fixing fees under this section, an aerodrome operator—

(a) is entitled to ensure that the amount of money collected in fees under this section is sufficient to cover the cost to the aerodrome operator of providing the service or carrying out the activity;

(b) may allow for the reduction, waiver or refund, in whole or in part, of any fee in specified circumstances.

(5) Nothing in this Act compels an aerodrome operator to fix a fee under this section

7 Liability for payment of fees

(1) Subject to subsection (2), if a fee fixed under section 6 is incurred in respect of an aircraft, the holder of the certificate of registration of the aircraft is liable for payment of the fee to the aerodrome operator.

(2) The holder of the certificate of registration may, by agreement in writing, assign to another person the liability or future liability for the payment of a fee fixed under section 6.

(3) Unless the agreement otherwise specifies, a person to whom liability is assigned under subsection (2) is to notify each relevant aerodrome operator of the details of the agreement.

Figure 5 Landing fees honour box

4. REGULATORY CONTEXT

4.1. Civil Aviation Safety Authority

The Civil Aviation Safety Authority (CASA) regulates aviation activities in Australia. Applicable requirements include the Civil Aviation Safety Regulations 1998 (CASR) and associated Manual of Standards (MOS) and other guidance material.

4.1.1. CASR 139

According to CASR Part 139—Aerodromes, regulation 139.015, The standards for aerodromes are those set out in the Manual of Standards (which in this case is Manual of Standards Part 139—Aerodromes (MOS 139)).

4.1.2. MOS 139

Manual of Standards Part 139—Aerodromes (MOS 139) sets out the standards and operating procedures for certified aerodromes used in air transport operations. The current MOS 139 came into effect on 13 August 2020.

4.2. The National Airports Safeguarding Framework

The Commonwealth Government has an interest in better planning and integrated development on and around airports and to lessen the adverse effects of aviation activity on the environment and communities. While not a planning authority, it provides guidance on broader issues such as noise around airports that can be used by statutory authorities to achieve the stated objectives. The National Airports Safeguarding Advisory Group (NASAG) has produced the National Airport Safeguarding Framework to advance this agenda. The Framework should also be taken into consideration when designing development on and in the vicinity of the airport.

4.2.1. Operational airspace

Obstacle limitation surfaces

An airport's obstacle limitation surfaces (OLS) define the operational airspace that should be kept free of obstacles for aircraft operations being conducted under the visual flight rules. Both current and future (ultimate) OLS should be considered in the design of developments on and within the vicinity of the airport.

Manual of Standards Part 139 Chapter 7 provides relevant parameters for the design of the OLS.

PANS-OPS surfaces

PANS-OPS surfaces define the operational airspace a pilot is required to use when flying an aircraft under the instrument flight rules—that is, when relying on instruments for navigation. Development should seek to avoid any permanent encroachments into current and future PANS-OPS airspace.

Detailed information about the PANS-OPS surfaces is provided by Airservices Australia in documentation held by the Airport Manager.

Note that Cobden Aerodrome does not have PANS-OPS surfaces and it is not intended to introduce them within the scope of this master plan.

Further information can be found in NASF Guideline F: Managing the Risk of Intrusions into the Protected Airspace of Airports.

4.2.2. Lighting restriction zone

Manual of Standards Part 139 - Aerodromes establishes a restriction to lighting within the vicinity of an airport which, by reason of its intensity, configuration or colour, might endanger the safety of an aircraft. The vicinity of the airport can be taken to be within a 6km radius of the airport.

Further information can be found in NASF Guideline E: Managing the Risk of Distractions to Pilots from Lighting in the Vicinity of Airports.

4.2.3. Wildlife hazard buffer zone

All wildlife on or around an airport should be regarded as a potential hazard to aircraft safety. Most wildlife strikes occur on and in the vicinity of airports, where aircraft fly at lower elevations. Flying vertebrates (e.g. birds or bats) mainly use airspace within 300 metres of the ground so are likely to conflict with aircraft when they are at their most vulnerable, i.e. immediately after take-off and during landing approaches or other low flying manoeuvres. Development should seek to avoid creating wildlife attracting land uses both on and within the vicinity of the airport.

Further information can be found in NASF Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports.

4.2.4. Building restricted areas for aviation facilities

The Building Restricted Area (BRA) is defined as a volume where buildings and other objects have the potential to cause unacceptable interference to the signal-in-space transmitted by the radio navigation facility. All radio navigation facilities have a BRA defined which may extend to a significant distance from the facility. The purpose of the Building Restricted Area is not intended to prohibit development but rather to trigger an assessment of a proposed building or development for its impact on the radio navigation facility. The BRA is primarily intended to be used by aerodrome operators and local planning authorities but is also required to be used by the systems engineer when selecting a new site for a radio navigation facility. All development applications near a radio navigation facility shall be assessed to determine if the facility BRA is infringed. If there is no infringement the assessment process may be terminated, and the application approved.

Further information can be found in NASF Guideline G: Protecting Aviation Facilities — Communications, Navigation and Surveillance (CNS).

4.2.5. Public safety areas

NASAG has drafted a new Guideline I *Managing the risk in public safety areas at the ends of runways*, to mitigate the risk to people on the ground near airports by informing a consistent approach to land use at the end of Australian airport runways. Public safety areas (PSAs) seek to limit land uses that would increase the number of people in the area or result in the storage of hazardous materials in the zone.

The Guideline is intended to assist land-use planners at all levels to better consider public safety when assessing development proposals and rezoning requests and when developing strategic land use plans.

The premise of the public safety area (PSA) is to characterise the area within which a specified statistical level of risk to human life may be exceeded.

The Guideline notes that there is no single agreed tolerable level of risk defined in Australia or internationally, and provides several options for the implementation of a PSA at the end of an airport runway, including the Queensland model, US DoD model and the UK public safety zone (NATS) model.

The Guideline goes on to suggest “The reasons for adopting a particular approach should be clearly justified and articulated to explain why a particular model is best suited to an airport’s circumstances.”

The first option referenced in the Guideline is the UK Public Safety Zone Aviation Model. This model is based on a relatively sophisticated methodology, developed by the Research and Development Directorate of NATS (formerly National Air Traffic Services Limited), that determines the individual risk profile of an airport according to:

- the statistical expectation that an aircraft crash occurs in the vicinity of the airport;
- the probability, given a crash has occurred, that it affects a particular location;
- the size of the area likely to be affected as a result of a crash; and

- the probability of fatality for people on the ground within that area.

The UK (NATS) Public Safety Zone Model is applied using a constrained cost-benefit analysis to determine specific land use restrictions.

According to the UK Government's Policy Paper *Control of development in airport public safety zones*, Updated 8 October 2021, standard dimension Public Safety Zones are established at airports that have more than 18,000 commercial air transport movements per year. The standardised shape of the PSZ (illustrated at Figure 6) that replaces the risk-based model profile has been defined using the latest data on accidents shown to be located outside the aerodrome boundary.

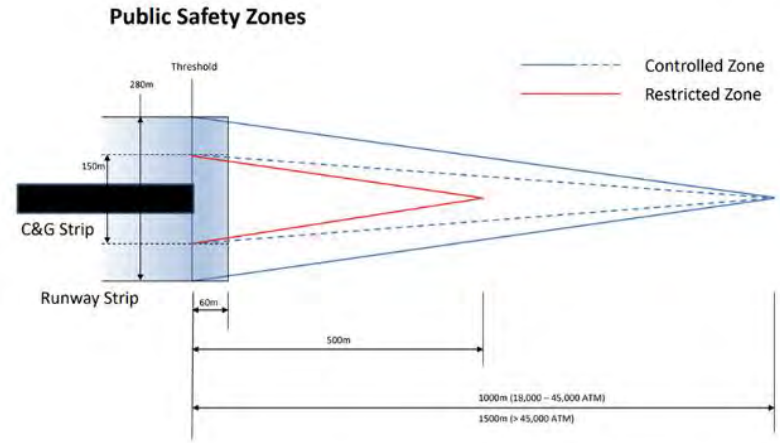

Figure 6 UK Public Safety Zone model

Since Cobden Aerodrome does not have and is not expected to have greater than 18,000 commercial air transport movements per year, the UK Public Safety Zone model would not be applied to runway 18/36 if it was subject to the UK Policy paper – *Control of development in airport public safety zones*.

The Queensland PSA model is based on an isosceles trapezoid 1000 m long, 350 m wide closest to the runway end, tapering to a width of 250 m furthest from the runway.

Queensland's State Planning Policy – state interest guidance material *Strategic airports and aviation facilities*, July 2017, Appendix 7, notes as follows:

1. The PSA dimensions indicate an area where the risk per year, resulting from an aircraft crash, to a representative individual (individual risk) is 1 in 10,000 (10^4). As general guidance, it would be inappropriate for a use, subject to assessment against the SPP, to be exposed to a higher individual risk than 1 in 10,000 (10^4).

2. The PSA dimensions also partially enclose an area of individual risk of 1 in 100,000 (10^5).

The guidance material also sets out the circumstances in which a PSA would be required for a strategic airport. These circumstances are copied as follows:

A PSA is required at each end of a strategic airport's main runway if:

- *the airport is listed as a 'Commonwealth place' under the Commonwealth Places (Application of Laws) Act 1970*
- *the airport is a joint-user airport under the control of the Department of Defence (DoD) where an arrangement under section 20 of the Commonwealth Civil Aviation Act 1988 is in force*
- *the airport is a defence airfield subject to the Defence Act 1903 administered by DoD*
- *the runway meets the following criteria:*

  i. accommodates regular public transport jet aircraft services, or

  ii. greater than 10,000 aircraft movements occur per year (excluding light aircraft movements).

PSAs are also required for other runways (i.e. secondary or cross-runways) of strategic airports where the runway meets the aircraft movements' threshold listed above (i.e. criteria i or ii above). Appendix 9 identifies the strategic airport runways where PSAs are required.

There are no jet aircraft currently conducting or forecast to conduct regular public transport services at Cobden Aerodrome.

Since Cobden Aerodrome does not have and is not expected to have greater than 10,000 aircraft movements per year (excluding light aircraft movements) or regular public transport jet aircraft services, the PSA would not be applied to runway 18/36 if it was a strategic airport under the Queensland State Planning Policy.

The US Department of Defense (DoD) framework provides for Accident Potential Zones according to two runway types. The type applicable to Cobden Aerodrome (Class A Runway – less than 2438.4 m long) would have a clear zone that is 305 m wide (152.5 m either side of centreline) and 915 m long. It is understood that no airports in Australia use this type of public safety area.

Neither the Queensland nor UK PSA models would be applied to Cobden Aerodrome if it was subject to their jurisdiction, as there are insufficient numbers of nominated aircraft movements to trigger the requirement. This is reflective of the lower level of risk associated with the scope of aircraft operations conducted at the aerodrome.

Since the level of risk characterised by current and forecast scope of aircraft operations at Cobden Aerodrome is lower than that embodied in the various public safety areas models discussed in Guideline I, this concept has not been incorporated in the future planning of the aerodrome.

Further information can be found in NASF Guideline I *Managing the Risk in Public Safety Areas at the Ends of Runways*.

4.2.6. Aircraft noise

Aircraft noise can affect the allocation of appropriate uses on and external to the airport site.

Australian Noise Exposure Forecast (ANEF) contours provide a scientific measure of the aircraft noise exposure levels around airports taking into account the frequency, intensity, time and duration of aircraft operations. Standard methodology for evaluating the noise climate around airports is defined in AS 2021-2015 Acoustics – Aircraft Noise Intrusion – Building Sitting and Construction, which recognises the ANEF contour charts as the primary method for long-term noise impact assessment.

Australian Noise Exposure Concept (ANEC) is a map, based on a hypothetical set of conditions of runways, aircraft types and so on, that may be produced during consideration of options for aerodrome development.

Further information can be found in NASF Guideline A: Measures for Managing Impacts of Aircraft Noise.

4.2.7. Building generated windshear and turbulence

Building generated windshear / turbulence becomes safety critical when a significant obstacle, such as a building, is located in the path of a crosswind to an operational runway. The wind flow will be diverted around and over the buildings causing the crosswind speed to vary along the runway.

Guideline B sets out an assessment methodology to follow in assessing this risk.

Further information can be found in NASF Guideline B: *Managing the Risk of Building Generated Windshear and Turbulence at Airports*.

4.2.8. Naroghid Wind Farm

On 3 June 2019 VCAT ruled against a proposal by Alinta Energy for the Naroghid Wind Farm, near Cobden Aerodrome, due to safety concerns and its potential to harm the habitat of the critically endangered southern Bent-Winged Bat. Developer Alinta Energy had planned for a 12 turbine wind farm on farmland

north-west of Cobden, but pilots feared a collision with the 180-metre high turbines, some proposed to be just 2.5 km from the aerodrome ‘s northern end, amid concerns the aerodrome faced closure if the development went ahead. The tribunal found the development's impact on the airfield and nearby roosting sites for the southern Bent-Wing Bat outweighed the project's "favourable" clean energy qualities. In a statement to VCAT, CASA confirmed that turbulence is possible for a distance of 16 times the rotor of a turbine and created an unacceptable risk to the safety of aircraft operations at Cobden Aerodrome.

4.2.9. Airport Master Plan

Airports are essential and public infrastructure assets which can generate significant social and economic benefits for communities. They need to be properly planned and protected over the long term to safeguard future plans and opportunities at and around the airport to realise these benefits and importantly ensure safe operations. Lack of and/or poor airport planning can result in a range of issues such as restrictions on the full use and operational restrictions, amenity, and safety impacts.

Airport master plans provide the strategic direction for future efficient and economic development of the airport and ensure that future development plans are properly documented for public view. The master plan is based on airport projects and activities over a longer period, usually 20 years with a particular focus on a 5-year horizon. It is a planning tool forming the basis from which future projects may proceed into detailed implementation.

The master plan indicates to the public the intended uses of the airport site, reduces any potential conflicts, and ensures that they are compatible with the areas surrounding the airport.

The key objectives of a master plan are maintaining the ability for aircraft to operate safely and unrestricted as possible; facilitating the ability for the airport to grow and expand in response to demand; promoting the role of the airport and its significance as a community asset; providing for the airport to attract and increase aviation and non-aviation revenue streams; safeguarding the airport’s long term plans; ensuring compliance with relevant regulations and managing environmental and heritage constraints

Master plans also address and minimise potential encroachment and impacts of incompatible activities and development in the airport vicinity such as aircraft noise, intrusions into protected operational airspace, lighting distractions, wildlife strikes, building generated windshear and turbulence from nearby development, public safety and impacts on navigational aids. The master plan also links on airport to off airport such as access, ground transport arrangements such as car rentals, taxis, buses, local accommodation and local areas to visit.

5. COBDEN AERODROME

5.1. Aeronautical infrastructure

Cobden Aerodrome is equipped with the aeronautical infrastructure described in this section.

5.1.1. Runway and taxiways

Cobden Aerodrome (YCDE) is categorised as an aircraft landing area (ALA) and is neither registered nor certified under the current regulatory framework. It has a single sealed runway 900 m long with additional sealed turning nodes at each end, orientated 18/36. The runway surface is sealed to 15 m wide with a natural surface to 18 m wide. There are gravel taxiways and taxi lanes provided towards the apron.

Figure 7 Runway 36 looking north

5.1.2. Aircraft parking areas

A gravel apron with dimensions of approximately 40 m by 20 m is located in front of the aeroclub building. No aircraft tie-down area is provided for overnight parking.

A concrete helicopter transfer pad, which is intended for use by emergency services, is provided to the north of the Aero Club. To accommodate the associated helicopter operations, the site needs to be re-fenced and a boundary realignment to be finalised.

Figure 8 Helicopter transfer pad

5.1.3. Fuel facilities

Avgas is available by prior arrangement from private operator Rohan Flying Services.

Figure 9 Fuel (Avgas) facility

5.1.4. Hangar and maintenance facilities

There are currently six hangars at Cobden Aerodrome, five of which are used for recreational purposes and the other one for commercial purposes.

Figure 10 Hangars

5.1.5. Aerodrome lighting and navigational aids

Runway 18/36 has a pilot-activated lighting system which is currently not approved by CASA for operational use.

The wind direction indicator located to the south of the apron has been equipped with lights.

Figure 11 Wind direction indicator and hangars

Figure 12 Runway edge and end lighting

5.1.6. Passenger facilities

Passenger facilities at Cobden Aerodrome are provided inside the building of the Aero Club. The Aero Club building is dated and in need of an upgrade, but it does include required amenities such as toilets. Access to the Cobden Aero Club is subject to prior arrangement.

Figure 13 Cobden aero club

5.1.7. Commercial activities / facilities

Cobden Aerodrome is owned and operated by the Corangamite Shire Council. Prior permission is required for aircraft operations at the aerodrome. Currently the only commercial operator with a lease at Cobden Aerodrome is Rohan Flying Services, which is an aerial agricultural spraying operator. Besides this the aerodrome is used for medical flights and for aerial firefighting.

Figure 14 Rohan Flying Services

5.2. Asset management

In 2013/2014 the runway was reconstructed and widened as an all-weather asphalt surface with LED lighting. The capital works were funded by a Victorian State Government grant, Cobden Aerodrome Committee, and the Corangamite Shire Council.

The aerodrome's major aeronautical facilities – the sealed runway and PAL LED lighting – were completed in 2014.

A condition assessment conducted on 13 July 2021 by the supplier of the aeronautical ground lighting equipment revealed several issues that will require rectification before the system can be commissioned for operational use.

The movement areas outside of the runway including runup bay, aprons and taxiways are in poor condition and would benefit from repair.

The runway surface appears relatively sound, but the taxiway and apron should be upgraded to a similar standard (refer to Figure 15). Ideally these movement areas would have a sealed surface.

Figure 15 Cobden Apron

5.3. Aerodrome tenancy agreements

Corangamite Shire Council as the operator of Cobden Aerodrome currently has 12 lease agreements in place on the aerodrome site. There are currently seven hangars on site which are included in the leases. Other leases include the site for refuelling as well as a formal agreement with CFA to store a container with equipment for firebombing operations at the airport. A summary of all agreements between Council and lessees is provided in Table 1.

The average lease for a Recreational Aircraft Hangar used for the storage of aircraft is approximately $609.56 including GST per annum. The price for a Commercial Hangar Lease is $1,504.73 plus GST per annum. It should be noted that commercial operators are also subject to landing fees and charges.

5.4. Role of Cobden aerodrome

Cobden Aerodrome plays an important role in the community, it provides essential services during medical emergencies and bush fire season. The community support for the asset is strong, with fundraisers raising over $90,000.00. Any development at the aerodrome which utilises these funds must therefore provide the community with significant benefits. It is therefore essential to understand the expectations of what the facility can offer the local community and to deliver on it.

Table 1 Cobden Aerodrome Tenancy Agreements (25 June 2021)

No:	Type of Agreement	Lessee:	Premises:	Use:	Rent:	Comments	Lease Expiry:
1	Lease on monthly overholding	Private (jointly with 2)	Cobden Airstrip Recreational Hangar Lease	Recreational Aircraft Hangar - Storage	20/21 $614.30 p.a. (only pay half as half share with **2**)	50% Share	Monthly Lease
2	Lease on monthly overholding	Private (jointly with 1)	Cobden Airstrip Recreational Hangar Lease	Recreational Aircraft Hangar - Storage	20/21 $614.30 p.a. (only pay half as half share with **1**)	50% Share	Monthly Lease
3	Lease	Private	Cobden Airstrip Recreational Hangar Lease	Recreational Aircraft Hangar - Storage	$613.50 (incl GST) p.a.		31/07/2022
4	Lease	ACTS Australia	Cobden Airstrip Recreational Hangar Lease	Recreational Aircraft Hangar - Storage	$600.90 plus CPI p.a.	No further option terms remaining.	30/06/2022
5	Lease	Private	Cobden Airstrip Recreational Hangar Lease - 108 square metres	Recreational Aircraft Hangar - Storage	$608.70 plus CPI p.a.	No further option terms remaining.	30/06/2025
6	Licence	Private	Cobden Airstrip Recreational Hangar License H3	Recreational Aircraft Hangar - Storage	$610.41 (incl GST) p.a.	5 years with a 5 year option	6/12/2025
7	Lease	Cobden Aero Club Inc.,	Cobden Racecourse Land	Aero Club - Clubrooms	$114.40 p.a.	5 years with a 5 year option	6/12/2025

No:	Type of Agreement	Lessee:	Premises:	Use:	Rent:	Comments	Lease Expiry:
8	Sublease from Cobden Aero Club Inc	Sub-lease to Rohan Flying Services (Aeroclub receive funds). The area is part of the Aero Club lease and Aero Club organise the sub-lease	Cobden Racecourse Land	AvTur Storage and Dispensing Equipment and supplying occasional AvGas to third parties	$220.00 paid to COM p.a.	5 years with a 5 year option	6/12/2025
9	Licence	CFA	Cobden Airstrip	Use of land to house a Shipping container for fire bombing equipment (beside Rohan Flying Services Hangar)	$1.00 p.a.	5 Years with the option of a further 5 years.	1/03/2026
10	Lease	Rohan Flying Services	Cobden Airstrip Commercial Hangar Lease - 240 square metres	Development of Hangar and business operation	$1,518.27 plus GST p.a.		31/01/2024
11	Lease	Rohan Flying Services	Cobden Airstrip Commercial Hangar Lease - 240 square metres	Landing fees only	$267.00 p.a.	No Terms	
12	No Agreement	Border Air Services	Cobden Airstrip	Landing fees only	$280.00 p.a.	No Terms	

6. STAKEHOLDER ENGAGEMENT

6.1. Consultation activities

The Cobden Aerodrome Master Plan has been developed in consultation with Council and stakeholders. The following stakeholder activities have taken place during this project:

- Inception meeting with Council representatives - 04 May 2021
- Inception meeting with Cobden Aerodrome Community Asset Committee - 04 May 2021
- Survey sent out to external stakeholders - 25 May 2021
- Phone interviews with selected external stakeholders - 17 June 2021
- Meeting with Cobden Aerodrome Community Asset Committee to present the Preliminary Report - 02 June 2021
- Meeting with Council officers and Cobden Aerodrome Community Asset Committee to present the First Draft Master Plan – 14 July 2021
- Presentation of the Final Draft Master Plan to Councillors – 24 August 2021
- Public exhibition of the Final Draft Master Plan – 2 weeks to 05 October 2021
- Cobden Aerodrome Community Asset Committee endorsed adoption of the Master Plan – 06 October 2021.

6.2. Selected stakeholders

The stakeholder engagement study actively involves people and organisations who may have an interest or could be affected by decisions regarding Cobden Aerodrome. Allowing these stakeholders to give input and influence the decision making is an integral part of the master planning process.

The stakeholder engagement process demonstrates the fact that Council as the operator of the aerodrome is pursuing opportunities to serve the community and local industries through Cobden Aerodrome. As well as looking for community support for development of the aerodrome.

It should be noted that different stakeholders have different interest and therefore the communication and information provided regarding the project needs to be thorough and accurate. The consultation process should be designed to manage the different stakes and build productive relationships and provide a common ground to work together.

Furthermore, expectations should be managed, and success differs between stakeholders and different outcomes.

Table 2 details persons and organisations who have been invited to contribute to Cobden Aerodrome Master Plan as part of the stakeholder engagement.

Table 2 Stakeholders at Cobden Aerodrome

Name	*Stakeholder Organisation*
Neil Podger	Rotary club
Mark Towner	Rotary club
Russell Smith	South West Restoration Group
Ian Wilson	South West Restoration Group
Heather Walsh	Cobden Dairy Theme Park
Sharron Howard	SW Model Engineers
Haydn Howard	SW Model Engineers
Ron Greagan	Progressing Cobden
Russell White	SW Kart Club
Kelvin White	Progressing Cobden

Name	*Stakeholder Organisation*
Rohan Keert	Cobden Technical School
Peter Rohan	Rowair
Rob Robilliard	Aerocare
Brett Hislop	Border Air Services
Andrew Chivell	Webber & Chivell
Lisa Dickinson	Reid Stockfeeds
Nick Hayes	Fonterra
Liz Price	Great Ocean Road Regional Tourism
David Pope	12 Apostles Tourism and Business Group
Mark Roberts	Cobden Business Network
Kelvin White	Progressing Cobden
Dan Guilaumier	Air Ambulance
Bindi Gove	Cooper Energy
Josh McKenzie	Lochard Energy
Linda French	Beach Energy
	Country Fire Authority Region 6
	Coprice Stockfeeds
	RMIT Flight Training
	RVAC Flight Training
	CAE Melbourne Flight Training

6.3. Questions

A short online survey, provided via SurveyMonkey was sent out to the external stakeholder. SurveyMonkey ensures that all responses to the survey remain anonymous. The survey asked the following questions:

1. What do you like about Cobden Aerodrome?
2. How would you rate the current facilities at Cobden Aerodrome?
    a. Excellent (excellent level of service, comfort)
    b. High (high level of service, comfort)
    c. Good (good level of service, comfort)
    d. Adequate (adequate level of service, comfort)
    e. Inadequate (inadequate level of service, comfort)
    f. Unacceptable (unacceptable level of service, comfort)
3. If you do not currently use Cobden Aeodrome or your expectations of Cobden Aerodrome are not being met, what improvements do you think are needed?
4. What services or facilities would you like to see at Cobden Aerodrome in the future?
    a. A standalone passenger facility with waiting area and public toilets
    b. Covered waiting area
    c. Public toilets
    d. Local area information
    e. Conference or meeting facilities
    f. Other

5. What commercial development opportunities would you like to see at Cobden Aerodrome?
6. What do you see as the long-term strategic vision for Cobden Aerodrome?
7. What social and economic benefits do you associate with Cobden Aerodrome?
8. If there is another aerodrome with facilities similar to those you would like to see at Cobden Aerodrome, please provide us with the aerodrome name and the facilities.
9. If you have any other comments or input, please provide that here.

6.4. Emerging themes

6.4.1. Protection of the aerodrome

Both representatives of Council and the COM expressed the necessity of protecting the aerodrome against incompatible use in the area which may adversely impact on the operation of Cobden Aerodrome.

Protection of the aerodrome can be achieved through a planning scheme amendment providing reference to the Master Plan and the aerodrome's OLS, and certification with CASA as a Code 1 runway/airport. Part of this process is establishing an OLS associated with the runway, which will protect the aerodrome against incompatible developments.

Another reason why both representatives of Council and the COM expressed a desire to legally protect the aerodrome, is that a protected aerodrome would allow and enable growth of the operation at Cobden Aerodrome.

6.4.2. Emergency services

Survey respondents praised Cobden Aerodrome's ability to facilitate all weather landing facilities for helicopters from Air Ambulance and how it provides access to aerial firefighting services. Survey respondents also highlighted the importance to emergency services as part of the long-term strategic vision for the aerodrome.

Cobden Aerodrome is in a central location within the shire and provides an accessible location for a quick emergency response for emergency services. Respondents acknowledge the benefit the facility has for the wider community. One key stakeholder would like to see the facility being developed as a hub for emergency services in the region.

6.4.3. Governance and funding

Council expressed their concerns regarding the governance structure of the aerodrome. It highlighted that the current management structure is fit for purpose but raised concern if this would still be the case in 20 years.

It noted that the aerodrome is an active community asset, which provides value to council. However, the aerodrome is currently not being used to its full potential and nor does it bring in any significant revenue.

Questions were raised regarding the funding options for the aerodrome. One option that is considered by council is the introduction of landing / annual fees for the use of the aerodrome.

The COM raised concerns about the introduction of landing fees but did not have any objections at the moment. COM highlighted that there should be a balance between having landing fees and not discouraging use of the aerodrome. In addition, it was mentioned that the landing fees needed to be appropriate for the service that was provided. Value for money was a real concern for the COM.

It was also mentioned that fees should be attractive for potential commercial operators, and avoid any hidden fees associated with the use of the aerodrome.

6.4.4. Quality of the assets

When asked the question how they would rate the service provided by the current facilities at Cobden Aerodrome, 37.5% of responding external

stakeholders said the facilities were inadequate. Another 37.5% said that the facilities were adequate, and 25% of respondents rated the service of facilities as either good or high.

When asked what improvements were required to meet expectations of stakeholders, the following answers were given:

- Better facilities to match the runway
- The available parking area in winter is limited
- Tarred road on entrance to the aerodrome
- Passenger terminal/waiting area with appropriate facilities
- Tourism facilities
- General upgrades

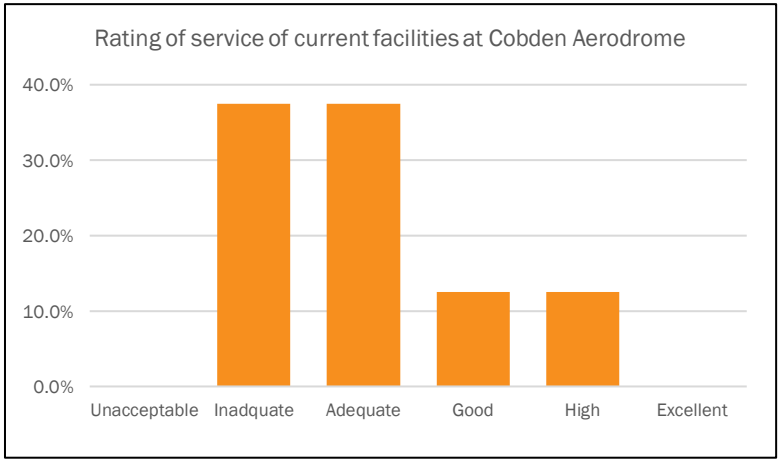

Figure 16 Rating of service of current facilities at Cobden Aerodrome

6.4.5. Tourism industry

Representatives of Council, the COM and the key stakeholders all expressed a desire to develop Cobden Aerodrome as a tourism facility. Many respondents hint to fly-in fly-out tourism operators that will provide tours in the local area.

A common theme that resonated through the responses to the survey and out of conversations with Council and COM is that Cobden Aerodrome needs to be fit for purpose. To really capture the demand for tourism, the facilities that it provides need to meet a higher standard. Among the respondents to the survey, the majority wanted to see a development which supported tourism, with exactly half of respondents supporting a standalone terminal in the future.

Representatives of Council expressed their interest in using the facility for tourism purposes. They expressed concerns that multiple aerodromes in the area are also trying to capture this market. Specific examples are Peterborough which is located directly on the Great Ocean Road and Warrnambool Airport which is located at the end of the Great Ocean Road and centra, to the Shipwreck Coast region. The advantage Cobden has over these two aerodromes is the fact that it is located in a central location between the Twelve Apostles Trail and Great Ocean Road and the volcanic lakes and plains region and can serve tourism to the wider region instead of relying solely on tourism to and from the Twelve Apostles / Great Ocean Road.

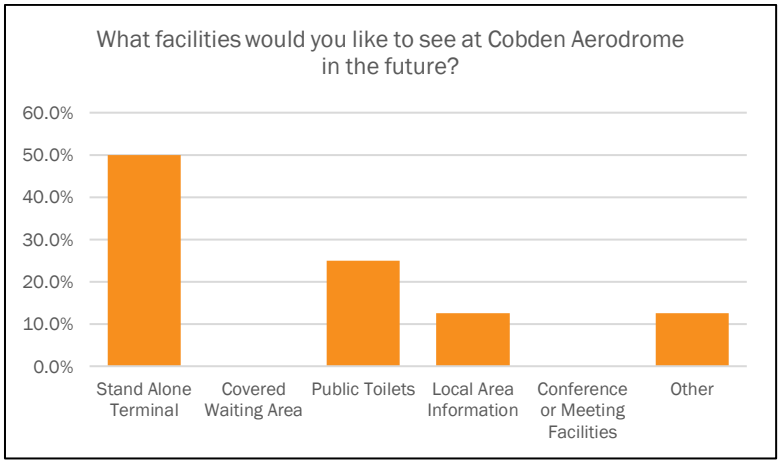

Figure 17 Rating of new facilities at Cobden Aerodrome

6.4.6. Aerial agricultural operations

The second major industry that is supported by respondents of the survey, is aerial agriculture operations. Respondents are vocal about the role that the aerodrome plays for the agricultural sector. The aerodrome is quoted as being an integral part of the agriculture needs within the region.

Stakeholders mentioned they would like to see a water supply for aircraft loading area at the north end of the runway, where the agricultural operations take place.

6.4.7. Other industries

Other industries that were mentioned as having a potential interest in the aerodrome were the local industries such as Fonterra and CopRice Stockfeeds. But also, companies active in the energy sector. These companies were contacted as part of the stakeholder engagement, but either did not respond or were unfamiliar with the aerodrome.

6.4.8. East/west runway

Members of the COM expressed their support for a potential east-west orientated runway at the northern part of the airport site.

Members expressed their concern regarding restrictions to circuit operations at the aerodrome.

Council representatives also highlighted the unofficial east-west runway, on the northern end of the airport. They did note that this is where previous commercial leases have been located.

6.4.9. Economic / community benefit

Through conversations with Council and COM it is apparent that the role Cobden Aerodrome plays in the local community is significant. The community has donated significant amounts of money during fund raisers for the aerodrome and strongly believe in the potential and benefits of the facility.

During the stakeholder engagement the views regarding social and economic benefits associated with Cobden Aerodrome were shared. As previously mentioned, the majority of the comments were regarding the support to agriculture operations and the potential for tourism (once the facilities are up to scratch). It was mentioned that the economic benefits need to be published and promoted to create and capture the interest.

Besides these economic benefits the better access to health care and the role the facility plays in aerial firefighting were highlighted. For social benefits one respondent noted the fact the facility brings people together and reduces the distance between Cobden and other parts of Victoria and Australia.

6.4.10. Long term strategic vision

Part of the stakeholder engagement study was to define a long-term strategic vison for Cobden Aerodrome. When asked during the survey the respondents indicated the following:

Cobden Aerodrome should be a facility that can serve the wider area (shire). It has the potential to develop itself as a facility that can provide services to tourism operators and aerial agriculture operators whilst still fulfill an important role as an emergency hub and be available to the local community for recreational purposes.

Cobden Aerodrome is located ideally between the Princess Highway and the Great Ocean Road and should be able to serve a wide area.

7. BENCHMARKING STUDY

7.1. Benchmarking background

The purpose of the benchmarking study is to conduct a formal and structured process to establish the practices that lead to an excellent performing aerodrome. This is done by gathering and exchanging information regarding practices, facilities and landing fees. Importantly the gathered information will be assessed on relevance and the potential adaptation and implementation of the practices, facilities and landing fees at Cobden Aerodrome.

Benchmarking is based on performance indicators, and it is important to select these indicators carefully, taking into consideration the following factors:

- Quantitative and qualitative measures of performance
- Are the indicators relevant to the selected topic for benchmarking?
- Do the selected indicators give sufficient precision to provide a meaningful comparison?
- Can the measures of performance be reproduced, to enable a meaningful comparison and evaluate Cobden's performance?

It is important to measure the current performance of the selected practices, facilities, and landing fees at Cobden Aerodrome as a base line for the benchmarking study. A comprehensive picture of Cobden Aerodrome needs to exist before it can be measured against the performance of other aerodromes.

Once a comprehensive picture is painted of Cobden Aerodrome, benchmarking partners (aerodromes) can be selected. Up to three relevant aerodromes have been selected that Cobden can be benchmarked against. Data from the selected aerodromes may be collected either via publicly available data, correspondence with the aerodrome or a site visit.

After the information of other aerodromes was obtained, the benchmarked aerodromes were compared to the data of the evaluation of Cobden Aerodrome. Three important questions should be answered after this:

- Are the other aerodromes performing better?
- How much better are they?
- Why are they better?

Answering these questions will act as a gap analysis, in which the magnitude and cause of the gap can be determined. Instead of just identifying the gaps. This chapter will provide a comprehensive description of what contributing factors are causing the gaps.

7.2. Benchmarking performance indicators

As part of this benchmarking study the following performance indicators have been selected. First, the benchmarking partners are airports and aerodromes that are owned and operated by local government. The governance structure of the aerodromes is similar to the way Cobden Aerodrome is managed.

In addition to the governance model the following has been assessed:

- Runways and taxiways
- Aircraft parking areas
- Fuel facilities
- Hangar and maintenance facilities
- Aerodrome lighting and Navigational aids
- Passenger facilities
- Commercial activities/facilities.

7.3. Benchmarking partners

Three benchmarking partners have been identified. To provide a range of coverage an uncertified aircraft landing area has been selected, to compare it to the current status of Cobden Aerodrome. A certified Code 1 Airport has been selected, to provide comparison for the future status of Cobden. Lastly, a certified Code 3 Airport is included in the benchmarking study to provide context for a larger facility.

7.3.1. YOLA - Colac Airfield

Colac Airfield is an uncertified aircraft landing area (ALA), owned and operated by the Colac Otway Shire Council. The ALA is located approximately 54.5 km west of Cobden Aerodrome. The reason the aerodrome is incorporated in this benchmarking study is that it has a similar status and governance structure to Cobden Aerodrome. The Colac Otway Shire also operates another ALA near Apollo Bay.

7.3.2. YBNS - Bairnsdale Airport

Bairnsdale Airport is a certified Code 1 airport, owned and operated by the East Gippsland Shire Council. The airport is located approximately 235 km east of Melbourne and approximately 400 km east from Cobden.

Bairnsdale is incorporated in this benchmarking study as it meets the requirements in terms of ownership status and as it is a Code 1 certified aerodrome. In addition, it was awarded the 'National Small Regional Aerodrome of the Year 2018' by the Australian Airports Association.

7.3.3. YWBL – Warrnambool Airport

Warrnambool Airport (YWBL) is a Code 3 certified airport located approximately 53.5 km west of Cobden Aerodrome. The airport is owned and operated by the Warrnambool City Council, although the airport is located within the boundaries of the Shire of Moyne LGA.

7.4. Benchmarking

7.4.1. Runways and taxiways

YOLA – Colac Airfield

Colac Airfield has two runways. The main runway is runway 09/27 which is a paved runway with a length of approximately 885 m and a width of 12 m. The second runway has designation 18/36 and is a grass runway with a length of 630 m and a width of approximately 10 m. The main runway has two paved turning pads provided at either side of the runway, allowing sufficient space for aircraft to turn before taking off. Figure 18 shows an overview of Colac Airfield (source: ASA – AIP effective 17 June 2021). The taxiways at Colac Airfield are made of unsealed gravel. In round one of the Australian Government's Regional Airports Program Colac Otway Shire Council was awarded $112,500.00 for the construction of sealed taxiways at Colac Airstrip.

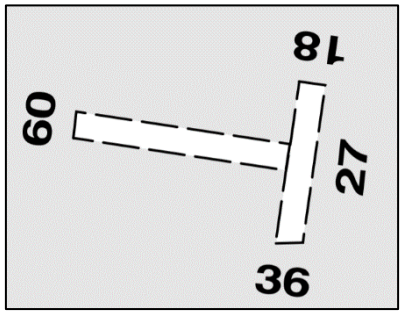

Figure 18: Colac Airfield (YOLA) – ERSA FAC (17 June 2021)

YBNS - Bairnsdale Airport

Bairnsdale Airport has 2 Code 1B non-precision runways, designated 04/22 and 13/31. Runway 04/22 is 1,101m long and 18m wide. Runway 13/31 is 850m long and 18m wide. Both runways are sealed. Access to the runway is provided via Alpha and Bravo taxiways serving the main sealed apron and general aviation areas, respectively. Figure 19 shows the Bairnsdale Airport Aerodrome Chart (source: ASA – AIP effective 17 June 2021).

The manoeuvring pavement has a Pavement Classification Number (PCN) of 11 and can withstand a maximum tyre pressure of 81psi. If aircraft exceed the PCN, the operator must contact the Aerodromes Coordinator to apply for a Pavement Concession.

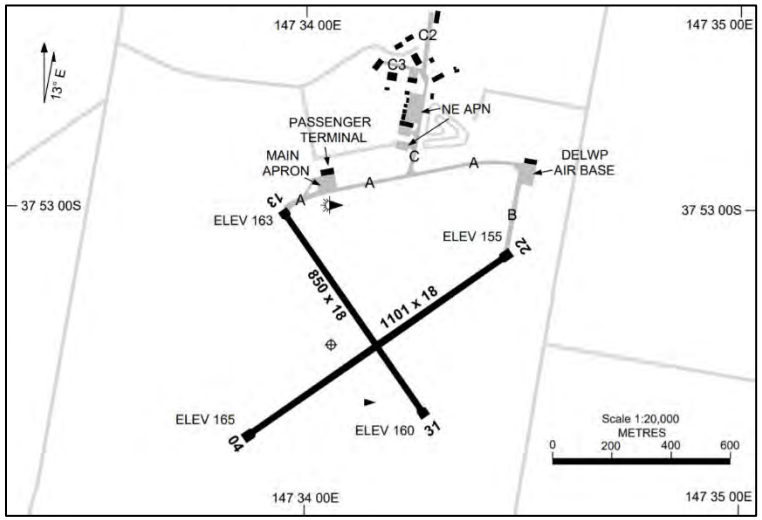

Figure 19: Bairnsdale Airport (YBNS) – Aerodrome Chart (17 June 2021)

YWBL – Warrnambool Airport

Warrnambool Airport has two runways, the main runway 13/31 has a length of 1,372 m and a width of 30 m. This runway is constructed of asphalt/bitumen runway. The second runway (04/22) is made of gravel and has a length of 1,069 m and a width of 23 m. Figure 20 shows the Warrnambool Airport Aerodrome Chart (source: ASA – AIP effective 17 June 2021). Taxiways Bravo and Charlie provide access to runway 13/31 from the main apron area. Runway 04/22 is accessed via runway 13/31 and does not have dedicated taxiway entry and exit points. Taxiway Alpha provides access to the hangar development area in the southern part of the airport.

Council applied for funding to spray seal the gravel runway 04/22 and provide markings as per the Manual of Standards (effective August 2020). The Council's Warrnambool 2040 plan sets the objective for the airport to meet the needs for local businesses, industries, tourism, and local residents. The objective is to have completed the runway upgrade program by 2026.

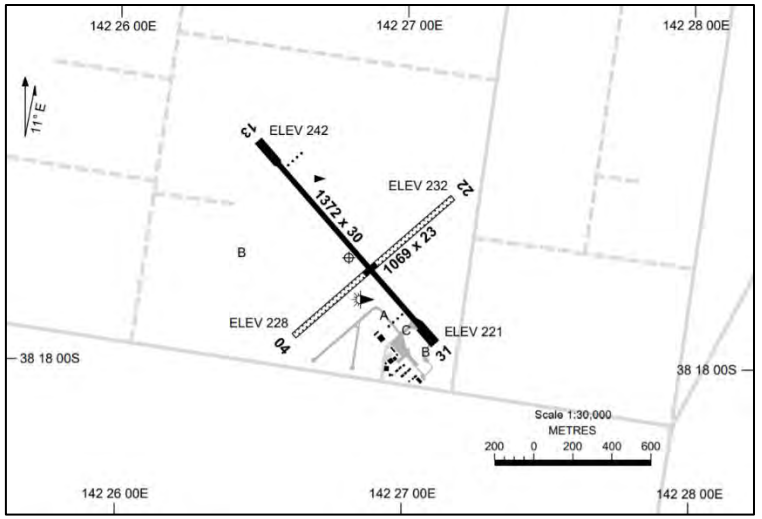

Figure 20: Warrnambool Airport (YWBL) – Aerodrome Chart (17 June 2021)

7.4.2. Aircraft parking areas

YOLA – Colac Airfield

An aircraft parking apron has been provided at Colac Airfield at the eastern end of runway 09/27. The apron is located in front of the Colac Aero Club building. The apron has approximately the following dimensions a depth of 30 m and a width of 85 m.

YBNS - Bairnsdale Airport

The main apron area at Bairnsdale Airport is located on the main East West Taxiway (Alpha) adjacent to the Runway 13 end and is approximately 60 m long and 45 m wide. This is the primary apron located in front of the airport terminal. Pilots are encouraged to start parking at the north-east corner edge of the apron allowing the apron to be free for other users and Air Ambulance patient transfers.

The main apron is dedicated to short-term parking only (not exceeding 8 hours). A secondary apron dedicated to long-term parking is located on the first exit to the west off the NS Taxiway exiting the EW Taxiway (Charlie). This apron should be used for parking exceeding 8 hours. This apron has two sets of in-ground tie down points available. Aircraft operators must supply their own tie down rope or chains.

Aircraft operators wanting to park aircraft for more than 24 hours should contact the Airport Reporting Officer to arrange for overnight parking payment and code to the locked security gate.

YWBL – Warrnambool Airport

Warrnambool Airport has two apron areas suitable for aircraft parking. The main apron is in front of the terminal building and provides direct access to the fuel facilities. The second apron is separated from the main apron by a taxilane and is located to the south-east of the main apron. No information regarding parking position and aircraft tie-down areas is provided.

7.4.3. Fuel facilities

YOLA – Colac Airfield

Avgas is provided at the airfield, and is available 24/7, the facility is operated by Colac Aero Club.

YBNS - Bairnsdale Airport

Fuel bowsers are located next to the terminal building directly off the EW Taxiway. The refuelling facilities provide 24/7 self-service Avgas and Jet A1 fuel with credit card payment options and is monitored by 24-hour CCTV.

The fuel facility is operated by Aero Refuellers.

YWBL – Warrnambool Airport

Fuel facilities at Warrnambool are provided by Air BP, offering both Avgas as well as Jet A1 fuel. Fuel facilities are operating 24/7 with self-service facilities, the facility work with credit card payments, although paying cash is available as long as this is arranged in advance.

7.4.4. Hangar and Maintenance Facilities

YOLA – Colac Airfield

From data obtained through the lease register from the Colac Otway Shire Council, it is understood that there are currently 18 hangars provided at Colac Airfield. The average lease for a hangar is $ 797.00 per annum including GST.

YBNS - Bairnsdale Airport

The airport accommodates approximately 13 hangars, of which 4 are WW II hangars that have undergone some modifications to make them usable for the storage of aircraft.

The other nine hangars have been built by tenants on land leased from the council. These hangars have sealed access to apron and taxilane and have direct access to the landside.

YWBL – Warrnambool Airport

In 2016 the Warrnambool Regional Airport Aviation Park opened. This upgrade to the airport encourages new aviation-related industries to locate on-site. The project provided taxiways, hangar access roads, drainage and up to 21 additional hangar sites at the airport. Prior to this project 16 hangars were provided on site. It is believed as of June 2020 three lots of the 21 available lots have been occupied.

7.4.5. Aerodrome lighting and navigational aids

YOLA – Colac Airfield

Apart from a wind direction indicator it is believed that no other aerodrome lighting or navigational aids are provided at Colac Airstrip.

YBNS - Bairnsdale Airport

Bairnsdale is equipped with the following:

- Low intensity runway lighting (RWY 04/22) – PAL System
- Apron and taxiway edge lighting
- RNAV-Z (GNSS) procedure Runway 22
- Automatic Weather Information System
- Illuminated Wind Direction Indicator
- Secondary Wind Direction Indicator

YWBL – Warrnambool Airport

Warrnambool Airport is equipped with the following:

- Low intensity runway lighting (RWY 13/31) – PAL System
- Precision Approach Path Indicator (PAPI) (RWY 13/31)
- RNAV-Z (GNSS) procedure Runway 13 and 31
- Terminal Aerodrome Forecasts (TAFs)
- Meteorological Aerodrome Report (METAR)
- Automatic Weather Information System
- Illuminated Wind Direction Indicator

7.4.6. Passenger facilities

YOLA – Colac Airfield

Following information made available via the facilities page in the ERSA it is understood that Colac Airfield provides a passenger lounge and toilet facilities to visiting aircraft.

YBNS - Bairnsdale Airport

A 250 m^2 terminal building is provided at Bairnsdale Airport, for public use and amenities. The terminal also houses the offices of the aerodrome management. The terminal provides a vending machine with cool drinks, snacks and coffee and tea.

Several aviation activities are operated out of the terminal building. This includes the transfer of patients by Air Ambulance Victoria as well as the charter and scenic flights operated by Bairnsdale Air Charter.

The East Gippsland Aero Club is also located at the aerodrome. The Aero Club does not operate out of the terminal building, instead they use Hangar 2 as their main operating base.

YWBL – Warrnambool Airport

The terminal building at Warrnambool Airport is available for use by general aviation. Public toilets and a public pay phone are located within the Terminal Building.

7.4.7. Commercial activities / facilities

YOLA – Colac Airfield

Colac Aero Club provides commercial flight training services. Besides this it is reported that aero-medical, firefighting and fire-spotting aircraft use the facility. No other commercial businesses could be identified using publicly available data sources.

YBNS - Bairnsdale Airport

As shown in Figure 19 DEWLP has its own dedicated air base facility in the north-western corner of the airport. The airport is a key base for the department, the dedicated facility allows DELWP to park aircraft overnight at Bairnsdale Airport.

The airport is also frequently used by Air Ambulance Victoria as well as the RFDS. Both fixed and rotary wing aircraft are used to transfer passengers from the airport.

Bairnsdale Air Charter is located at the airport and provides charter, scenic and airwork flights (including survey, surveillance, and aerial photography), they also provide flight training.

Riviera Aeronautics is a local registered and approved Recreation Aviation Australia flying school based at the airport.

The airport can also accommodate aircraft support services such as fleet maintenance.

YWBL – Warrnambool Airport

Avalon Air Services is a flying school located at Warrnambool Airport; they also provide aerial photography services.

Air Apply is another company based at Warrnambool Airport, providing application of agricultural product by aircraft. The company operates the Air Tractor 502B.

The airport is also home to Air Ambulance Victoria, Helicopter Emergency Medical Services (HEMS 4) is based at the Warrnambool Airport.

The Warrnambool Aero Club is located to the south-east of the passenger terminal and fuel storage facility. It is understood that the Aero Club is working on a redevelopment of the facility. The club is currently finalising plans, which are to be submitted to Council for consideration.

Council received an expression of interest from an operator in June 2020 to start an RPT service between Warrnambool Airport and Essendon, 3 times a week. Flights would operate on Monday, Wednesday and Friday morning and afternoon. The services would operate as a shuttle from Portland and potentially could move to dedicated Warrnambool services if demand exists. The aircraft that was proposed for this service is Piper Chieftain PA 31, twin engine, operated by 2 Pilots, and seating for up to 8 passengers. No additional information has been found since the mention of this service in the Warrnambool Regional Airport Reference Group Meeting Minutes dated 1 June 2020.

7.6. Aeronautical charges

Aeronautical charges have been benchmarked on a state-wide scale. To increase coverage the charges for airports in border communities such as Albury/Wodonga and Mount Gambier have also been included. Only publicly available data has been used for this analysis.

7.6.1. Aeronautical fees benchmark (general aviation)

The aeronautical fees charged by 16 airports to private operators (general aviation) have been analysed. The charges are presented in Table 3. It should be noted that some airports charge a flat rate per landing, while others charges per tonne of the maximum take-off weight (MTOW) of the aircraft or based on the number of engines on the aircraft. All prices are including GST unless otherwise specified. Only publicly published fees have been included in this analysis.

Council Officers of the Warrnambool City Council tabled a draft landing/usage fee structure for General Aviation at the most recent Warrnambool Regional Airport Reference Group Meeting (15 March 2021), the proposed charges are unknown at this stage. The feedback provided by the reference group suggested that any fees generated should be used to reduce the operating deficit of the airport.

It should be noted that historically there were not many aerodromes in Victoria that charged aeronautical fees for movements made by private operated aircraft. This has changed in recent years as more aerodrome operators have started charging for landings and conducting circuits. The charges levied by the operators are predominantly used to cover the expenditure of the aerodrome.

Based on the benchmarking study presented in Table 3 most of the aerodrome's charge based on the Maximum Take-Off Weight (MTOW) of the aircraft. This is usually done per tonne (1,000 kg) and is rounded up to the nearest tonne. Occasionally a fixed minimum fee applies, other airports charge based on the number of engines on an aircraft, or the number of seats.

The most common landing fee charged to privately operated aircraft is approximately $10.00 / tonne. This seems to be an acceptable fee for most visiting aircraft operators. Many airports do also offer a different cost structure for locally based operators. An example of this is an annual landing fee that is charged to operators based at the airport. A specific example is Albury Airport which charges an annual fee of $190.00 / tonne for private aircraft.

7.6.2. Aeronautical fees benchmark (commercial)

The same 16 airports as above have been analysed regarding aeronautical fees to commercial and RPT operators. Some airports such as West Sale and Yarram have not published any difference in fees for commercial operators. These airports are therefore not included in

Table 4. If published, the passenger fees charges by airports have been included. All prices presented in the table below are including GST unless otherwise specified. Only publicly published fees have been included in this analysis.

Historically it has been more common to charge commercial operators fees when operating to and from an aerodrome. This can also be seen in

Table 4, for most of the airports the charges for commercial and RPT aircraft movements are higher than those for private operated movements.

Besides landing fees, airports do also charge flight schools for using their facilities whilst only doing circuit training (such as instrument approach procedures). This is shown in the benchmarking table for Bendigo, Tooradin and Avalon Airports.

Other airports that want to attract commercial movements may decide to waive fees for commercial operators, this is the case for Albury. The airport does not charge landing fees for RPT and commercial movements that use the terminal building.

The aeronautical charges for commercial movements ultimately depends on the strategy of the airport operator and the type of operator. In case of Albury Airport, which is owned and operated by the local council, waiving the landing charges for Commercial and RPT movements is offset by the benefit of scheduled passenger service to Sydney and Melbourne. For airports such as Tooradin which is privately owned, charging for landings and training circuits is a way to cover the expenses of operating the airport.

7.6.3. Parking Fees Benchmark

The fees charged by airports for the parking of aircraft have been analysed, a difference is made between apron parking and hangar parking (where applicable). In Table 5 the publicly available parking charges are summarised. It should be noted that some of the parking charges are for aircraft based at an airport, others are for visiting aircraft. This also has implications on the way the airports publish their charges, some airports chose to charge per day / month or year while others charge based on aircraft weight. Not all airports differentiate between private and commercial operators in terms of parking fees.

A daily flat parking fee for privately operated (GA) aircraft of approximately $10.00 appears to be charged if airport operators do decide to charge for this service. Occasionally operators decide to include the first day charge in the landing fees. Parking charged for commercial aircraft are often charged based on the weight of the aircraft, charging either per tonne or over a certain weight.

7.6.4. Hangar lease fees benchmark

Based on the publicly available data used in this benchmarking study it can be concluded that the rental fees for hangar space at Cobden Aerodrome are at a similar level to other airports in Victoria.

It should be noted that the sample size of three airports for which data is available regarding hangarage is very limited and no meaningful conclusion can be made. In addition, it should be noted that in Cobden the lease fees are for the land on which the hangar is located. The costs for the construction and maintenance of the hangar itself are for the lessee. Information for this breakdown structure is not available for the benchmark partners, but the working assumption is that both Colac and Benalla have similar arrangements as are in place at Cobden Aerodrome.

For the land lease of a 108 m^2 hangar in Cobden the fee is $ 631.21 including GST per annum. This equates to an average fee of $ 5.84 per m^2 per year. This is comparable to Benalla Airport which charges $ 5.60 per m^2 per year for an airside hangar. For a 108 m^2 this would equate to $ 604.80 per annum.

Colac Airstrip charges approximately $797.00 per year per annum for a hangar lease. No information for the size of hangars or land is provided. Based on information obtained from the Colac Aero Club charges start at $4.30 per m^2.

Bacchus Marsh has leases available for entire hangars, the smallest of which can accommodate aircraft with a wingspan up to 14 m, would cost as much as $5,200 per year. It is unclear if there is a difference between commercial and private leases at these aerodromes.

Table 3: Aeronautical charges in Victoria and border communities (general aviation)

Airport	*Status*	*Aeronautical Charge*	*Note:*
YCDE – Cobden	Uncertified Airport	Free	
YMNG – Mangalore	Certified Airport Code 2 Runway	$ 10.00 / tonne	Day: $ 50.00 / tonne Annual $ 275.00 / tonne
YBDG – Bendigo	Certified Airport Code 3 Runway	$ 10.00 / tonne (excl GST)	Operators can apply for an annual fee Annual usage fee does apply
YTQY – Torquay	Uncertified Airport	Ultralight: $10 Single (up to 4 seats): $ 15.00 Single/Twin (up to 6 seats): $ 30.00 Twin (8 or more seats): $ 50.00	
YWSL – West Sale	Certified Airport Code 3 Runway	Under 1,550 kg free - $4.20 / tonne (Starting at $ 6.51)	Charged per movement (touch and go is free)
YYRM – Yarram	Certified Airport Code 1 Runway	Under 1,550 kg free - $2.00 / tonne (Starting at $ 3.10)	Charged per movement (touch and go is free)
YSWH – Swan Hill	Certified Airport Code 3 Runway	Free	Aircraft requiring an Aerodrome Pavement Concession: $9.50 / tonne
YTDN – Tooradin	Uncertified Airport	Single Engine $ 10.00 Multi Engine $ 20.00	Charged per landing / touch and go Landing fee will be waived if Avgas is purchased
YOLA – Colac	Uncertified Airport	$ 10.00 / engine	
YSHT – Shepparton	Certified Airport Code 1 Runway	$ 11.20 / tonne	Annual Access Fee: $ 193.80
YMAY – Albury	Certified Airport Code 3 Runway	$ 14.66 / tonne	Annual landing charge – Private Aircraft: $ 190.00 / tonne
YMAV – Melbourne Avalon	Certified Airport Code 4 Runway	MTOW ≤ 45 tonne: $ 22.00 / tonne (Minimum Charge : $ 50.00) MTOW > 45 tonne: $ 9.50 / tonne	Training Flight Fee per approach: $ 35.00 Training Flight Fee per approach: $ 4.00 / tonne All fees exclude GST
YBSS – Bacchus Marsh	Uncertified Airport	$ 10.00 flat (Mon-Fri) / $ 15.00 flat (Sat-Sun)	

Airport	*Status*	*Aeronautical Charge*	*Note:*
YBLA – Benalla	Certified Airport Code 1 Runway	$ 10.00 / tonne	Only applies to Jet A1 fuelled aircraft
YMIA – Mildura	Certified Airport Code 4 Runway	$ 21.89 / tonne (excl GST)	
YMMB – Melbourne Moorabbin	Certified Airport Code 3 Runway	Per day $ 35.00 / tonne (For aircraft under 7,000 Kg MTOW) Per day $ 45.00 / tonne (For aircraft over 7,000 Kg MTOW)	Airport Access Charges, separate terminal services charges are levied by Airservices Australia
YMTH – Mt Gambier	Certified Airport Code 4 Runway	$ 7.00 / tonne (minimum $ 12.00)	

Table 4: Aeronautical charges in Victoria and border communities (commercial / RPT)

Airport	*Status*	*Commercial*	*Note:*
YCDE – Cobden	Uncertified Airport	Fixed fee agreements in place average of $275 / year	
YMNG – Mangalore	Certified Airport Code 2 Runway	$ 20.00 / tonne	Day: 3 x Landing Fee Annual: Negotiable
YBDG – Bendigo	Certified Airport Code 3 Runway	$ 10.00 / tonne (excl GST) Passenger Fee: $ 12.00	Operators can apply for an annual fee Annual usage fee does apply Local Flight Training Annual fee per aircraft: $ 1,000.00 Non-local Flight Training Annual fee per aircraft: $ 2,000.00
YTQY – Torquay	Uncertified Airport	Ultralight: $15 Single (up to 4 seats): $ 25.00 Single/Twin (up to 6 seats): $ 40.00 Twin (8 or more seats): $ 60.00	
YSWH – Swan Hill	Certified Airport Code 3 Runway	$9.50 / tonne	

Airport	*Status*	*Commercial*	*Note:*
YTDN – Tooradin	Uncertified Airport	Single Engine $ 10.00 Multi Engine $ 20.00	Charged per landing, touch and go, low pass, precautionary searches and missed approaches. Landing fee will be waived if Avgas is purchased Training fees for circuits apply: Single Engine: $ 25.00 per hour Multi Engine: $ 50.00 per hour If circuits are being conducted the lessor fee of per landings or per hour training fee will be charged whichever is the lessor fee.
YSHT – Shepparton	Certified Airport Code 1 Runway	$ 11.20 / tonne	Annual Access Fee: $ 257.05
YMAY – Albury	Certified Airport Code 3 Runway	RPT: Free Commercial via Terminal: Free Commercial via GA Area: $ 14.66 / tonne	Annual landing charge – Business Aircraft: $ 252.00 / tonne
YMAV – Melbourne Avalon	Certified Airport Code 4 Runway	**Regular Public Transport (RPT):** Passenger Fee International : $ 22.00 Passenger Fee Domestic : $ 5.00 Infrastructure Charge : $ 9.50 / tonne (minimum $ 50.00) **Non-RPT :** MTOW ≤ 45 tonne: $ 22.00 / tonne (Minimum Charge : $ 50.00) MTOW > 45 tonne: $ 9.50 / tonne	Training Flight Fee per approach: $ 35.00 Training Flight Fee per approach: $ 4.00 / tonne All fees exclude GST
YBLA – Benalla	Certified Airport Code 1 Runway	$ 10.00 / tonne	Only applies to Jet A1 fuelled aircraft
YMIA – Mildura	Certified Airport Code 4 Runway	$ 21.89 / tonne (excl GST)	
YMMB – Melbourne Moorabbin	Certified Airport Code 3 Runway	Per day $ 35.00 / tonne (For aircraft under 7,000 Kg MTOW) Per day $ 45.00 / tonne (For aircraft over 7,000 Kg MTOW)	Airport Access Charges, separate terminal services charges are levied by Airservices Australia
YMTH – Mt Gambier	Certified Airport Code 4 Runway	$ 7.00 / tonne (minimum $ 12.00)	

Table 5: Airport parking charges in Victoria and border communities

Airport	*Status*	*Parking*	*Hangar*
YCDE - Cobden	Uncertified Airport		Recreational Hangar Lease per annum: $ 610.00 Commercial Hangar Lease per annum: $1,500.00
YMNG – Mangalore	Certified Airport Code 2 Runway	One day: Included in landing fee 2 – 30 days: $ 5.00 / day Beyond 30 days: $ 2.55 / day	Contact Airport
YOLA – Colac	Uncertified Airport		Average lease per annum: $ 797.00 Colac Aero Club: $ 4.30 / per m^2
YBDG – Bendigo	Certified Airport Code 3 Runway	Hardstand parking: $ 11.00 / day Gravel/Grass parking: $ 5.00 / day Gravel/Grass parking: $ 1,000.00 / year	
YTQY – Torquay	Uncertified Airport	Overnight parking: $ 10.00 / night	
YSHT – Shepparton	Certified Airport Code 1 Runway	$ 387.60 / year	
YMAY – Albury	Certified Airport Code 3 Runway	Locally based operators up to 5,700 kg: $ 380.00 / year Locally based operators over 5,700 kg: on application Non RPT and Charter Aircraft on RPT Apron per 24 hour period or part thereof (First 4 hours no charge): < 10,000 kg MTOW: $ 103.00 > 10,000 kg MTOW: $ 205.00	
YMAV – Melbourne Avalon	Certified Airport Code 4 Runway	**RPT per hour (after first 2 hours)** International: $ 250.00 Domestic: $ 100.00 **Non-RPT** MTOW ≤ 45 tonne : $ 50.00 / day MTOW > 45 tonne: $ 100.00 / day (after first 2 hours) Fees exclude GST	

Airport	*Status*	*Parking*	*Hangar*
YBSS – Bacchus Marsh	Uncertified Airport		Max wingspan 18 m: $ 120.00 / week Max wingspan 14 m: $ 100.00 / week
YBNS – Bairnsdale Airport	Certified Airport Code 1 Runway	Overnight parking fees outside a hangar: $ 7.20 / night	
YBLA – Benalla	Certified Airport Code 1 Runway		Airside Hangar: $ 5.60 / m² / year Rental Hangar 26: $ 143.00 / month Rental Space Trike: $ 102.00 / month
YMIA – Mildura	Certified Airport Code 4 Runway	Commercial aircraft: $ 5.00 / tonne / day General Aviation aircraft: $ 11.00 / day Fees exclude GST	Hangar parking shall be by arrangement with Mildura Airport Pty Ltd Unauthorised use of hangars owned by MAPL is prohibited.
YMMB – Melbourne Moorabbin	Certified Airport Code 3 Runway	Hard stand: $ 165.00 / month All weather grass: $ 110.00 / month Non-all weather grass: $ 70.00 / month	Hangarage may be available from commercial operators who provide these services

7.7. Gap analysis

The results of the benchmarking study identified the following gaps in terms of the level of service at Cobden Aerodrome.

7.7.1. Runway and taxiway Infrastructure

The runway at Cobden Aerodrome, has an adequate length and width to capture and deliver the services the aerodrome is intended for. The runway was resurfaced in 2014 and is in an overall good condition, the exception being the turn pads on either side of the runway which will require resealing.

The runway should be widened to 18 m sealed so that there is a consistent pavement surface for the published runway dimensions.

All the benchmarked airports have a secondary (cross) runway, either sealed, gravel or grass. Having a cross runway could be achieved at Cobden, on the northern side of the aerodrome there is space available for a short cross runway.

A secondary or cross runway would only be required for aerodromes with significant number of movements or changing wind directions. This is not believed to be the case for Cobden Aerodrome, as the existing runway is ideally located for the predominant wind direction. It is therefore not considered a competitive disadvantage to only have a single runway available at Cobden Aerodrome and the available space on the northern side of the airport should be safeguarded for other aviation purposes.

7.7.2. Aircraft parking areas

Cobden Aerodrome has limited parking facilities for visiting aircraft, unlike some of the other aerodromes that have been benchmarked. Both Bairnsdale and Warrnambool have apron infrastructure that supports visiting and commercial operations at the aerodrome. The aprons at all benchmarked airports have been sealed, unlike Cobden which has a gravel apron.

Having a gravel apron can be a disadvantage as loose gravel may be sucked up by aircraft propellors and cause damage to the aircraft or helicopter. It is therefore recommended to seal the apron and to minimise the potential for aircraft getting damaged.

To attract overnight visitors flying in their own aircraft, it would be beneficial to provide aircraft tie-down areas at Cobden Aerodrome. These facilities allow pilots to securely park their aircraft and are provided at Bairnsdale.

7.7.3. Fuel facilities

Fuel facilities are provided at all aerodromes, but both Bairnsdale and Warrnambool Airports provide Jet A-1 fuel, which is used by bigger aircraft and helicopters. Having these additional facilities make these aerodromes more attractive for commercial operations and should be considered for Cobden Aerodrome.

7.7.4. Hangar and maintenance facilities

All three of the benchmarked airports, have ample space for hangars. At Warrnambool infrastructure has been developed that supports future growth and development of commercial and private hangars. Having this infrastructure ready and available positions Warrnambool as a go-to location for commercial operators.

At Cobden this could be reproduced to a certain extent. There is space for new hangars and associated taxiway infrastructure on the northern end of the aerodrome. It should be noted that the available space is limited due to the current airport boundary. This area is located directly onto a main road but would require some landside interface to make the area attractive for commercial purposes.

7.7.5. Aerodrome lighting and navigational aids

In terms of aerodrome lighting and navigational aids, both Bairnsdale and Warrnambool are fully certified for night operations and hence have the appropriate infrastructure to facilitate these operations. Colac is unsuitable for any night operations as it does not have any properly commissioned runway lighting or navigational aids.

Cobden is in a rather unique situation considering it is equipped with runway lighting, but the lighting is not inspected by CASA. The current configuration allows night flights in and out of the aerodrome for emergency services, which enables the aerodrome to establish itself as an important asset to the local community and the shire.

The cost to repair and commission the aeronautical ground lighting system at Cobden and the consequences of changes to the runway strip width and associated obstacle limitation surfaces may outweigh the benefits that the lighting system would bring to the community.

7.7.6. Passenger facilities

Passenger or terminal facilities are provided at all the benchmarked airports. It is understood that the passenger facilities at Colac Airport are provided in the building of the local Aero Club similar to the arrangement currently in place at Cobden Aerodrome. The state of the facilities at Colac Airport is unknown.

Both Bairnsdale and Warrnambool Airport have dedicated terminal facilities separate from the Aero Club building. These buildings provide dedicated amenities to visiting aircraft operators as well as commercial operators. Different services are operated out of the terminal building in Bairnsdale, such as the transfer of patients by Air Ambulance Victoria as well as the charter and scenic flights operated by Bairnsdale Air Charter. The building also houses the offices of the aerodrome management.

Having a dedicated facility separate from the local Aero Club would provide a higher level of service to passengers using the airport but does come at an additional cost. A purpose-built join facility may feature dedicated features aimed at tourists, whilst also catering to the needs of the aeroclub in a separate area.

7.7.7. Commercial activities / facilities

Commercial activities take place at all aerodromes as well as support for emergency services. Bairnsdale and Warrnambool have dedicated facilities for emergency services such as the DELWP base or the Air Ambulance Base.

Aero Clubs at the benchmarked airports offer some commercial activities such as scenic flights. At Bairnsdale Airport dedicated businesses such as Bairnsdale Air Charter and Riviera Acoustics provide official flying lessons whilst also providing other commercial activities such as charter, scenic and airwork flights (including survey, surveillance, and aerial photography). The airport also explicitly positions itself as a suitable location for maintenance activities.

At Warrnambool there is a company specialising in aerial agriculture as well as a flying school. Warrnambool City Council received an expression of interest from an operator in June 2020 to start a RPT service between Warrnambool Airport and Essendon, 3 times a week. This flight has not materialised but is a clear indicator of the interest to provide commercial flight services into regional Victoria.

Both Warrnambool and Bairnsdale airports have available land to expand for commercial purposes. Warrnambool has already taken a first step for this with the construction of the airpark, trying to attract new businesses to the airport. The airports have the available infrastructure necessary to support the local aviation businesses and to capture the demand.

If Cobden Aerodrome wants to attract commercial operators to the aerodrome, it should try and make the facility as attractive as possible by providing the right aeronautical infrastructure required to meet the needs of these operators.

7.8. Benchmarking summary

- Runway and taxiway Infrastructure - The runway should be widened to 18 m sealed so that there is a consistent pavement surface for the published runway dimensions. The northern side of the airport should be safeguarded for other aviation purposes.
- Aircraft parking areas - recommended to seal the apron and provide aircraft tie-down areas.
- Fuel facilities – consideration to supply Jet A-1 fuel for use by larger aircraft and helicopters.
- Hangar and maintenance facilities - Consideration for new hangars and associated taxiway infrastructure on the northern end of the aerodrome to attract commercial customers.
- Aerodrome lighting and navigational aids – Consideration should be given for CASA lighting certification so as the aerodrome is available for use by the public rather than only emergency services at night.
- Passenger facilities – Consider a dedicated built facility separate from the local Aero Club to service passengers using the airport. A purpose-built facility may have dedicated features aimed at tourists.
- Commercial activities / facilities – infrastructure needs to be in place to attract commercial activities such as charter, training, airwork and maintenance. Strategic use of the land available at Cobden is an enabler for the attraction of commercial operators.

7.9. Aeronautical fees

A simple charging framework would be to levy charges for airport services and facilities for resident users on an annual basis, with other aeronautical charges being applied to itinerants/visitors on occurrence.

Given the relatively low weight range of user aircraft, a flat fee of $9-$11 per landing or training approach would be appropriate.

An overnight parking fee of $4-$5 per night should also be considered.

There are various monitoring and invoicing systems available.

8. SWOT ANALYSIS

A Strength Weakness Opportunities and Threats (SWOT) analysis has been used to identify significant area within the Cobden Aerodrome and surrounding vicinities, as details in Table 6.

Table 6: Cobden Aerodrome SWOT analysis

Strength	*Weakness*	*Opportunities*	*Threats*
• Community supportive of the Aerodrome • Active and passionate Aero Club and Committee of Management • Proximity to Cobden • Central location within the Shire • Important facility for emergency services • Aerodrome contributes to the local community • All weather runway • Runway orientation is ideally situated against the predominant wind direction • Space for commercial development on northern side of the airport • Space to develop aircraft parking facilities • Resident Agriculture Aerial Operator providing fuel facilities • Transfer pad to support helicopter medical aid/transfer	• No room for expansion of the runway/aerodrome without land acquisition • Minimal fees or charges to contribute to airport operating costs • Runway width and length may limit opportunities to support larger aircraft • Old Terminal / Aeroclub Facility • No Jet A-1 Fuel available • Aprons and taxiways are in poor condition • Limited aircraft parking facilities	• Potential for economic development • Growth in agricultural operations • Establish as a gateway for existing tourism opportunities • Serves the wider region, rather than solely relying on traffic to and from the Twelve Apostles / Great Ocean Road • Establish tourism at the airport by engaging with tourism operators • Review and expand landing fees to fund the operating costs of the aerodrome	• Aerodrome is not certified • Other airports in the region also aiming to capture tourism • Global pandemic reduces the amount of tourist • Not protected under planning scheme • Risk of obstructions by incompatible developments in the area, such as windfarms.

9. STRATEGIC VISION

The strategic vision for Cobden Aerodrome is defined as the following:

- Protect Cobden Aerodrome through planning controls and by certifying the aerodrome as a Code 1 aerodrome and protecting the obstacle limitation surfaces required for night operations.
- Cobden Aerodrome should support the community by:
    - Offering access to emergency services
    - Support local businesses such as agriculture and tourism.

To achieve the strategic vision of becoming a preferred airport for tourism operations the following should be achieved:

- A fit for purpose terminal building with adequate facilities such as:
    - Appropriate seating for 30+ passengers
    - Ample toilet facilities (including wheelchair accessible toilets)
    - Tourist information
    - Cooking/catering facilities
    - Pilot Briefing Area
    - Colocation with Aero Club rooms.
- A bigger apron to park at least a Code B aircraft (design aircraft Beechcraft Super King Air 250)
- Additional parking area for visiting GA aircraft / Aero Club aircraft
- Landside developments supportive of tourism, parking facilities for up to 10 cars, as well as a dedicated parking facility for a mini or tour bus.
- Jet A-1 Fuel Facilities, required by larger commercial aircraft.

To achieve the strategic vision of developing and supporting the local agricultural aerial (and other commercial) operations at Cobden Aerodrome the following should be achieved:

- Development on the northern side of the aerodrome:
    - Taxiway infrastructure
    - Commercial Hangar Facilities with appropriate utilities
    - Appropriate Landside/Airside interface at Hallyburtons Road.
- Jet A-1 Fuel Facilities required by larger commercial aircraft.

The prime vision for the aerodrome is to serve the community, and the current runway infrastructure can provide this to a certain extent. Operating as a Code 1 (day only) will support commercial activities. Tourism and agricultural flights will be predominantly operated during daylight hours. The current lighting of the runway is not inspected by CASA but does allow for emergency operations in the hours of darkness.

Not being certified as a Code 1 night operation may make the airport less attractive for flight training purposes. It should be noted that this use of the aerodrome does not support the local community and can result in undesirable noise impacts on the surrounding community.

10. AIRPORT PLANNING PARAMETERS

10.1. Forecast of future operations

10.1.1. Current operators

There is no record of the number of aircraft movements occurring at Cobden Aerodrome over previous years. A summary of known operators that use or have used the facility recently is provided below.

Air Ambulance Victoria

Air Ambulance Victoria's fleet of five helicopters and four planes provide a vital link between rural communities and metropolitan health services.

The main users are patients outside the metropolitan area, which ensures rural communities have rapid access to our highest level of care and transport to major specialist care in the Melbourne metropolitan region, particularly for severe trauma patients as part of the state trauma system. Air Ambulance Victoria operates five emergency response helicopters based (AW-139) throughout the state. The two closest bases to Cobden are Essendon and Warrnambool.

Air Ambulance Victoria also operates four King Air B-200 fixed-wing aircraft, which are used in emergencies and for the routine transport of non-emergency patients. This service includes transporting people from regional and rural regions for regular and important treatments such as chemotherapy and radiotherapy for cancer patients, and transporting patients from metropolitan hospitals to regional hospitals.

Royal Flying Doctor Services

The Royal Flying Doctor Service (RFDS) has been saving lives in rural and remote Australia for more than 90 years. Delivered by a dedicated team of professionals, using the latest in aviation, medical and communications technology, and supported by a vast number of volunteers and supporters, the RFDS provides a lifeline for those that live, work and travel in rural and remote Australia.

The RFDS has a fleet of 77 aircraft and consists out of 4 different aircraft types. These are the Pilatus PC-12 and PC-24, the King Air B-350 and B-200. The King Air B-200 is the aircraft type that is most likely to visit Cobden.

Cobden Aero Club and Recreational Pilots

The Cobden Aero Club has approximately 32 member pilots all using the aerodrome for recreational purposes. In addition, the aerodrome is also visited by other recreational pilots.

Flying Training

There are several flying schools in the wider region that regularly fly into Cobden. Flying training at Cobden consists out of training circuits and touch and goes. The nature of flying training is that the student pilots do not spend a lot of time on the ground at Cobden. Flying schools that use or have used Cobden include RMIT Flight Training, RVAC Flight Training and CAE Melbourne Flight Training.

Aerial Agriculture

Cobden Aerodrome currently has one resident commercial operator, an aerial agriculture company. As there is lots of agriculture within the Corangamite Shire and adjacent LGAs. There is a potential to grow the number of aerial agricultural movements. This can either be achieved through growth of the local operator or new operators starting at Cobden Aerodrome.

One of the most common used aerial agriculture aircraft is the Air Tractor 802, which is a Code B aircraft.

Tourism / Sharp Airlines

Sharp Airlines was established in 1990 as an aviation company focused on Australia's Southeast region. The airline operates a fleet of Cessna 441 and Fairchild SA227 aircraft. The airline on behalf of Air Adventure Australia brings in tourists to Cobden from Melbourne Essendon Airport.

Department of Environment, Land, Water and Planning

The Department of Environment, Land, Water and Planning (DELWP) looks after and coordinates the aerial firefighting services in Victoria during the bushfire season. Each year DELWP contracts different aircraft and operators to assist in the firefighting. Depending on the location of the fires, Cobden Aerodrome is used as an important base for DELWP.

Common aircraft and helicopter types contracted by DELWP are: Air Tractor 802, Cessna 337 Skymaster, Cessna 208 Grand Caravan, Beechcraft King Air B-200, Bell 206 and Bell 204. These aircrafts and helicopters are all capable of using Cobden Aerodrome.

Other

There are a number of other users of Cobden Aerodrome. Many of them are not regular visitors to Cobden. Examples of these other usages of the aerodrome are: Fonterra and Murray Goulburn. Both are big businesses in the local area and fly in directors, business and maintenance personnel into Cobden to attend business.

Another example is the overnight parking and refuelling of helicopters at Cobden Aerodrome by Helicopter Power Line maintenance providers. The aerodrome is also used by government officials visiting the region.

10.1.2. Future operations

Determining the future aircraft and passenger demand is a key indicator for the infrastructure requirements at Cobden Aerodrome. As there is no record of current and historic number of movements, there is no baseline to start from.

As part of the master plan, upgrades and improvements will be recommended. It is anticipated that the aircraft movements at the aerodrome will increase once upgrades and improvements to the facilities and infrastructure are completed. The improved facilities will support connectivity and attract additional traffic.

With improved facilities, corporate and business flights could increase if the aerodrome is marketed and advertised as available with modern facilities and amenities by users such as Fonterra, Murray Goulburn and other organisations or operators.

It is anticipated that recreational flying will remain the predominant use of Cobden Aerodrome. It is estimated that up to 71% of all movements will be recreational movements. After the recreational sector, the biggest user of the aerodrome will be aerial agriculture accounting for up to 18% of all movements. This is followed by flight training at the aerodrome (6%) and tourism (3.5%). The remaining 1.5% is made up of business aviation, medical emergency flights, helicopter power line maintenance and government charters.

An overview of the anticipated movements is provided in Table 7 and Figure 21.

This movements forecast is applicable at the end of the 20-year planning horizon.

It should be noted a movement is defined as either a landing or a take-off. DELWP has not been included in the figures as they use the facility on ad-hoc basis as emergency response requires.

Table 7 Forecasted movements – 20-year horizon

Operator / type	*Movements / Year*
Air Ambulance Victoria, RFDS – B350	26
Private / non-scheduled air transport – B350	180
Private, training – single engine	5,500
Private, training – twin engine	1,500
Aerial Application – AT-802	1,500
Aeromedical rotary wing – AW139	26
Private/commercial rotary wing – AW119	26
Total:	8,758

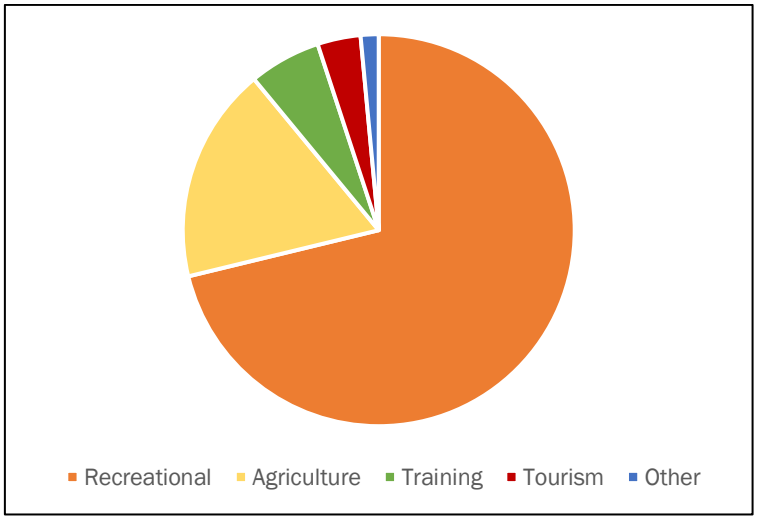

Figure 21: Breakdown forecasted movements - Cobden

10.2. Airport planning parameters

10.2.1. Aerodrome Reference Code

Corangamite Shire Council wishes to certify Cobden Aerodrome as a Code 1 Airport for day operations. The aerodrome will therefore need to meet the applicable requirements as set out in the Manual of Standards Part 139.

Council has advised that it wished to safeguard for future night-time operations. This should therefore be considered when planning for land acquisition.

10.2.2. Design aircraft

The design aircraft that need to be accommodated at Cobden Aerodrome are the Air Tractor AT-802 operated for aerial agriculture purposes and firefighting by the Department of Environment, Land, Water and Planning (DELWP) and the King Air B-200 operated by Air Ambulance Victoria and the Royal Flying Doctor Service.

The design aircraft and their respective code numbers and letters are provided in Table 8. Wingspan and OMGWS are sourced from Transoft Aircraft Data Viewer v3.4.

Based on the information provided in Table 8 and the standards set in the MOS Part 139, Cobden Aerodrome should be planned and certified as a Code 1B (OMGWS 4.5 m up to but not including 6 m) aerodrome.

It should be noted that although some aircraft in Table 8 have an ARC of 2, this does not mean they cannot operate out of Cobden. Aircraft can still operate subject to: pavement concessions, aircraft performance and their ability to operate on narrow runways.

As council has indicated that it wishes to certify the aerodrome as Code 1, all the infrastructure will be planned to accommodate the largest aircraft Code 1B aircraft.

Table 8 Aircraft types likely to operate at Cobden Aerodrome

	ARFL (m)	ARC number	Wingspan (m)	ARC letter	OMGWS (m)
Air Tractor 802	609[1]	1	18.04	B	3.36
Beech King Air 200	570[2]	1	16.6	B	5.67
Beech King Air 350	1000[3]	2	17.7	B	5.67
Cessna 208 Caravan	626[4]	1	15.9	B	3.54
Cessna 337 Skymaster	510[5]	1	11.6	A	2.48
Cessna 441 Conquest	550[6]	1	15	B	4.5-6
Fairchild SA227	870[7]	2	17.37	B	4.5-6

[1] https://airtractor.com/aircraft/at-802f/
[2] https://www.skybrary.aero/index.php/BE20
[3] https://contentzone.eurocontrol.int/aircraftperformance/details.aspx?ICAO=B350
[4] https://cessna.txtav.com/en/turboprop/caravan
[5] https://contentzone.eurocontrol.int/aircraftperformance/details.aspx?ICAO=C337
[6] https://contentzone.eurocontrol.int/aircraftperformance/details.aspx?ICAO=C441
[7] https://www.skybrary.aero/index.php/SW4

10.2.3. Navigational aids

Cobden Aerodrome will continue to operate as a visual non-instrument aerodrome in the future. It therefore does not require extensive Navigation Aids.

MOS Part 139 stipulates that an aerodrome operator must install and maintain at least one Wind Direction Indicator (WDI) at the aerodrome. The WDI must be visible from aircraft in flight or on the manoeuvring area.

A signal area may be provided in conjunction with 1 wind direction indicator. Provision of a signal area is optional. It is neither compulsory nor necessary because of the requirements for radio carriage and use at certified aerodromes.

10.2.4. Aerodrome lighting

There is no requirement for the aerodrome to be equipped with runway or aerodrome lighting. Currently the aerodrome is equipped with a non-commissioned runway lighting system. This enables the aerodrome to be used for emergency services during the hours of darkness.

Although the lighting system is not commissioned, it is deemed a valuable asset by both Council and the COM. It should therefore be protected in the master plan.

Commissioning the lighting system will require the runway strip width to increase from 60 m to 80 m. This would have consequential effects on the use of the parking apron in front of the Aero Club building.

10.2.5. Aircraft movement and parking areas

To be compliant with the MOS Part 139. The runway should be widened to 18 m sealed so that there is a consistent pavement surface for the published runway dimensions.

In addition, the taxiways and the access to the transfer pad at the aerodrome should be appropriately sealed to avoid any damages to aircraft operating at the airport due to loose gravel being sucked up by propellors.

Additional parking areas will be required to accommodate larger aircraft that are anticipated to visit Cobden in the future. Aircraft tie-down areas should be provided at the expanded apron.

10.2.6. Pavements design

A runway must be capable of bearing the weights and aircraft movement frequencies of the types of aeroplanes which the runway is nominated to serve. The pavement strength rating for a runway must be reported using the ACN – PCN pavement rating system.

The majority of the aircraft will weigh less than 5,700 kg. There may be some movements of heavier aircraft such as the Air Tractor 802 which has a MTOW of up to 7,257 kg.

10.3. Support facilities and security

10.3.1. Terminal building

Cobden Aerodrome should have passenger facilities with an appropriate level of service, to facilitate the processing of tourism flights. This incorporates the following: Ample seating and toilet facilities as well as tourist information and catering.

It is anticipated that this facility should be incorporated within the Cobden Aero Club building. This could be either be achieved by a refurbishment of the existing facilities or by providing a purpose-built new facility.

10.3.1. Fuel facilities

The fuel facilities at Cobden will be upgraded in the master plan to accommodate Jet A-1 fuel facilities, required by the larger aircraft that are anticipated to serve the aerodrome in the future.

10.3.2. Fence

A perimeter fence should enclose the aerodrome site, restricting access to the airside. The fence and aerodrome boundary should be clearly marked with signage. Airside access should be through a gate, which can be locked. The key and access should be managed by Council.

10.4. Hangar and maintenance facilities

Through consultation with Council and the COM, it has been agreed that any future developments in terms of hangar and maintenance facilities will be provided on the Northern side of the aerodrome. To the east of the runway along Hallyburtons Road land is part of the aerodrome and safeguarded for this purpose.

10.5. Obstacle limitation surfaces

Obstacle Limitation Surfaces (OLS) are required to be established for certified aerodromes. A separated study which focussed on the provision of the appropriate OLS surfaces for a Code 1 day only aerodrome has been prepared.

The master plan will safeguard for future night operations and the change in the OLS.

Drawings are provided at **Annexure 2**.

10.6. Environment and heritage

10.6.1. Environment

Council in the Corangamite Planning Scheme says it will support extensions to airfields, helipads or other aviation operations where there will be minimal impact on surrounding land uses, the landscape and the environment. This master plan has been developed in accordance with this requirement.

A search through the Environmental, Significant Landscapes and Vegetation Protection Overlays in the Corangamite Planning Scheme did not return any limitation for the master plan development.

10.6.2. Heritage

A search through VicPlan, shows that the Cobden Aerodrome site is not subject to a heritage overlay code.

10.7. Aircraft noise

Due to a likely increase in aircraft movements and a need to protect against incompatible development, a noise model has been prepared according to the types of aircraft and forecasted movements at Table 7.

The results of the noise modelling task are provided at **Annexure 3**.

10.8. Airport certification requirements

To become certified, the aerodrome would need to meet the requirements set out in MOS Part 139 – Aerodromes.

Only aerodromes with terminal instrument flight procedures are required to be certified under the new regulations.

11. MASTER PLAN DEVELOPMENT

The Cobden Aerodrome Master Plan is based on a Code 1 Non-Instrument Day Operations Aerodrome. By request of Council, the master plan safeguards for future night operations at the aerodrome.

11.1. Airport location plan

Cobden Aerodrome is centrally located within the Corangamite Shire. Council, COM and key stakeholders expressed their desire to capitalise on the existing tourism opportunities in the shire. A strategy for this is to utilise the aerodrome to provide to fly-in and fly-out tourism flights. Unlike some of the other aerodromes in the region, Cobden Aerodrome is able to serve the entire Shire.

11.2. Land use planning

As part of the master plan the aerodrome will be certified, to achieve this certification land needs to be acquired. The land that needs to be purchased is along the runway, and is required to provide the runway strip as well as sufficient clearance to provide fencing outside of the transitional surface.

In total three different land parcels need to be acquired by the aerodrome. The largest land parcel that needs to be acquired is a land strip of approximately 25 m wide along the entire length of the current western aerodrome boundary. The total land area to be purchased is approximately 27,453 m².

The second land parcel to be acquired has an area of 11,367 m² and is located on the south-eastern side of the aerodrome. An additional 2,257 m² along the eastern boundary of the aerodrome needs to be repurposed – this land is already owned by Council but not part of the aerodrome.

It should be noted that the land parcels that need to be purchased are currently part of a Farming Planning Zone. Once acquired these land parcels need to be reclassified as Public Use Zones (PUZ6 - Local Government) in the planning scheme.

Figure 22: Corangamite Planning Scheme Map

11.3. Facilities development plan

11.3.1. Aero Club and terminal development

The master plan incorporates the view of Council, COM and stakeholders that there is an opportunity to exploit the aerodrome for tourism purposes. Cobden Aerodrome can be established as a gateway for tourism in the region. However, the results of the stakeholder consultation clearly identify that the current state of the aerodrome facilities does not meet the expectations of the public.

The response of stakeholders when asked what kind of facilities they would like to see showed that half of the respondents were supportive of a standalone terminal building. Other respondents mentioned toilet and tourism facilities should be part of the future of Cobden Aerodrome. These can both be incorporated in a new terminal building.

COM provided plans that were produced in 2016 for the Cobden Aerodrome Passenger Terminal and Command Centre. These have been taken into consideration for the master plan. The long-term view should be to replace the current Cobden Aero Club building with a purpose-built joint facility that can be used for tourism purposes but also the aero club.

11.3.2. Hangars

The new hangar development in the northern part of the aerodrome provides space for up to 8 hangars. The proposed location of the hangars takes into consideration the limitations of the OLS.

These hangars will provide sufficient space for aerial agricultural operators as well as maintenance providers and for private aircraft storage. Additional land is made available on both the landside and airside of the hangars to be used for aircraft/vehicle parking and utilities.

11.3.3. Fuel

As part of the gap analysis, it was identified that providing Jet A-1 fuel should be considered at Cobden Aerodrome as part of the master plan. The master plan incorporates an upgraded fuel facility that provides both Avgas as well as Jet A-1 fuel. Having this upgraded fuel facility would make the aerodrome more attractive for commercial operations.

11.3.4. Aerodrome lighting

The master plan does not incorporate a new aerodrome lighting system as this is not required to achieve the Code 1 Certified status for day operations. The existing system will remain in place. It will not be able to be commissioned as it does not meet MOS Part 139 requirements.

The existing system allows for night operations by emergency services such as Air Ambulance Victoria and the RFDS. Having these services available at Cobden Aerodrome is a significant contributor to the community. The master plan provides for future development in consideration of the potential provision for night operations in the longer term. Therefore, the existing lighting system should be maintained in the master plan. If there was intention to upgrade the aerodrome to night operations the lighting system will require commissioning to meet MOS 139.

11.3.5. Aerodrome fence

A new fence surrounding the entire aerodrome site is proposed. The fence should be located approximately 15 m from the edge of the runway strip. This will give sufficient clearance with the transitional OLS surface along the runway and accounts for any increase in ground elevation.

The height of the fence should be sufficient to prevent the entrance to the movement area by animals large enough to be a hazard to aircraft. The height should also be suitable to deter the entrance of unauthorized persons to a non-public area of the aerodrome.

The length of the perimeter fence, including the land acquisition is approximately 3,200 m.

11.3.6. Drainage and utilities

The development needs to take into account storm water drainage and the need for utilities.

11.4. Movement area layout

11.4.1. Runway

Runway length and width

To be compliant with CASA MOS Part 139 and therefore compatible with the aerodrome certification parameters, runway 18/36 at Cobden Aerodrome should be widened to 18 m over the full length of the runway. The runway length from threshold to threshold will remain at 900 m.

Runway starter extensions – displaced threshold

As part of the master plan it is proposed to include the turnpads on either side of the runway in the take-off run available (TORA). This effectively means that departing aircraft have additional runway length available.

On the northern side of the runway it is proposed to provide a starter extension of 90 m. This will include a relocation of the existing turn pad to the north. This runway extension of 30 m on the northern side of the aerodrome will make sure that the runway and the new northern development are better connected to each other, and maximise take-off run, take-off distance and accelerate stop distance available.

It should also be noted that the area north of the runway cannot be developed for any commercial purposes nor storage facilities due to the OLS surfaces associated with the runway. Therefore, the only reasonable land use of this area is for additional runway length.

Providing a 90 m runway starter extension on the northern side, together with the 60 m starter extension gained from the southern turn pad will bring the total runway length to 1,050 m.

Runway strip

The runway strip presented in the master plan has a width of 60 m and extends beyond the runway thresholds for 30 m. This is the runway strip required for a Code 1 day operations runway.

However, as part of the safeguarding for future night operations, sufficient space has been provided to increase the runway strip to 80 m wide and extending 60 m beyond the runway thresholds.

11.4.2. Taxiways

Taxiway separation distance to runway

The distance between a parallel taxiway or taxilane and the runway is dictated by MOS Part 139. The master plan incorporates the distance set out for a Code 2B non-instrument runway. This is part of the safeguarding process in the master plan that will allow for future night operations at the aerodrome. The MOS Part 139 stipulates that the requirements for a code 2 runway apply to a code 1 runway for which lighting is provided. This is therefore adopted in this master plan.

Taxiway/taxilane separation to objects, structures and parked aeroplanes

The parallel taxilane in front of the Aero Club building requires an obstacle clearance of 16.5 m between the centre line and the nearest obstacle. Based on the available survey data the nearest obstacle is the Aero Club building and one of the hangars. The distance between the Aero Club and the proposed centreline is 16.75 m meaning that a full Code B taxilane can be provided. However, in the master plan a restricted Code B taxilane has been incorporated based on the maximum wingspan of the design aircraft (18.2 m). The additional area between the Aero Club and the edge of the taxilane strip can be used for equipment storage.

For the full length taxilane the required pavement width is 10.5 m. The is based on the OMGWS of the design aircraft. As can be noted the area in front of the aeroclub building is completely sealed. This pavement is part of the phasing strategy of the master plan. In addition, the access to the apron should be sealed.

The east-west taxi lane supporting the apron and the hangar to the north of the aeroclub building has the same wingspan limitations. It should be noted that the eastern part of this taxilane is unsealed as it is not supporting the apron.

Supporting the southern hangars is a full width Code A taxilane, which is provided between the existing hangars. This taxilane has 12 m clearance from the centreline to the hangars, which is compliant with the MOS Part 139 for a Code A taxilane.

The two central taxiways providing access to the runway have a pavement width of 10.5 m and have the appropriate wingtip clearance to provide access for full Code B aircraft.

Helicopter taxiway

Access to the helicopter stand is provided through the helicopter taxiway. The master plan incorporates a sealed taxiway for the helicopter (design helicopter: AgustaWestland 139). This enables both air and ground taxiing operations to and from the runway.

Helicopters will operate at night regardless of the certification status of Cobden Aerodrome. To enable safe ground and air taxiing operations to and from the helicopter stand an air taxiing route with a minimum width of 3 times the rotor diameter is provided.

11.4.3. Aprons

The Apron is located on the northern side of the Aero Club building. The apron has width of 34.4 m and a depth of 23.7 m. This provides sufficient space to park aircraft such as the Beech King Air 200/250. Due to the nature of the operation at Cobden Aerodrome aircraft are required to park and depart on their own power. This means that self-manoeuvring aircraft parking positions need to be provided.

The self-manoeuvring parking position is accessed by the east-west taxilane on the northern side of the apron. Aircraft taxi onto the stand before making a 135 degree turn onto the parking centreline.

The MOS Part 139 requires aircraft parking position markings to be provided on sealed apron surfaces for the use of aircraft with a maximum take-off weight exceeding 5,700 kg. In the master plan this is illustrated by the broken red line.

11.4.4. Northern development

The development on the northern boundary of the aerodrome incorporates the development of nine hangars and a taxilane for aircraft with a wingspan of up to 20 m.

Each of the hangars have a width of 22 m and a depth of 20 m. This will provide sufficient space to park the design aircraft under cover. On the northern side of each hangar a buffer space of 14 m is provided for car parking, utilities or landside infrastructure. On the airside (southern side) of the hangars, 11 m of apron space is provided which can be used to park aircraft.

On the western end of the row of hangars additional pavement is provided to park aeroplanes.

As discussed earlier in this chapter the taxilane supporting the northern development directly connects to the runway turning pad and starter extension of runway 18/36.

11.5. Environment

11.5.1. Environmental impact

A search through the Environmental Significance, Significant Landscapes and Vegetation Protection Overlays in the Corangamite Planning Scheme did not return any limitation for the master plan development. The proposed developments in the master plan do not impact on any of these overlays.

11.5.2. Storm water drainage

Currently there are multiple open storm water drains located within the boundary of the aerodrome. Due to the certification and expansion of the aerodrome these drains will need to be either relocated or be culverted.

11.5.3. Wildlife hazards

All wildlife on or around an airport should be regarded as a potential hazard to aircraft safety. Most wildlife strikes occur on and in the vicinity of airports, where aircraft fly at lower elevations. Flying vertebrates (e.g. birds or bats) mainly use airspace within 300 metres of the ground so are likely to conflict with aircraft when they are at their most vulnerable, i.e. immediately after take-off and during landing approaches or other low flying manoeuvres. Development should seek to avoid creating wildlife attracting land uses both on and within the vicinity of the airport.

Further information can be found in NASF Guideline C: Managing the Risk of Wildlife Strikes in the Vicinity of Airports.

11.6. Noise restrictions

The current noise restrictions are considered appropriate for the future scope of operations.

Consideration may need to be given to additional restrictions in Phase 4 to limit the impact that continuous night flying training operations may have on the surrounding community.

11.7. Obstacle limitation surfaces

Developments on and off the airport are restricted by the OLS surfaces. A separate study into the OLS surfaces associated with a Code 1 runway used for day operations at Cobden Aerodrome has been performed and should be read in conjunction with this report.

Drawings are provided at **Annexure 2**.

Figure 23 Fronterra factory located to the south-east of Cobden Aerodrome

12. DEVELOPMENT PHASES

Development is proposed to occur in four general phases, as set out in this section.

Detailed plans for each phase are provided at **Annexure 1.**

12.1. Phase 1 – Aerodrome Certification and Safeguarding (day operations)

Development in Phase 1 is aimed at having an aerodrome certificate issued.

Runway

- Widen the runway from 15 m to 18 m
- Resurface the runway turning pads
- Provide a 30 m runway extension on the northern end.
- Implement a 60 m wide runway strip

Apron and taxiways

- Extend the refuelling apron
- Relocate fence east to front of Aero Club building
- Resurface apron and taxiway in front of Aero Club
- Provide an unsealed apron to the north of the Aero Club and to the helicopter transfer pad
- Provide aircraft parking position markings
- Maintain aerodrome lighting system for emergency use

Navigational aids

- Provide a compliant Wind Direction Indicator (relocate from current position to allow area inside airport property + Signal Area)

Obstacle limitation surfaces

- Establish OLS surfaces for code 1 day non-instrument operations
- Safeguard code 1 night non-instrument – land acquisition required

Other

- Provide livestock and wildlife-proof perimeter fence to new site

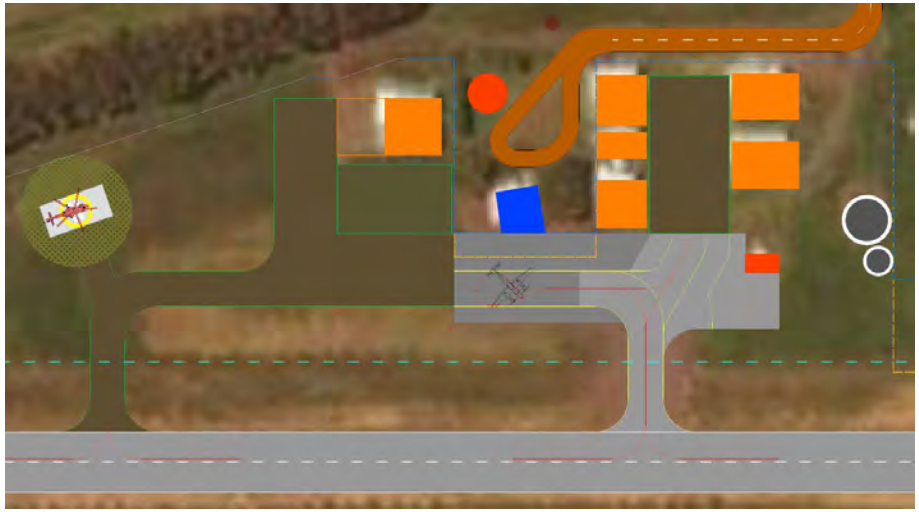

Figure 24 Phase 1 Terminal precinct

Figure 25 Phase 1 Overall layout

12.2. Phase 2 – Terminal Precinct and Helicopter Stand Upgrade

Phase 2 is centred around the current terminal precinct, with the development of a new passenger and Aero Club facility, demolition of the current Aero Club, upgrading the helicopter transfer pad and associated landside works.

Landside facilities

- Demolish current Aero Club
- Construct new passenger terminal and Aero Club facility

Apron and taxiways

- Extend unsealed apron over Aero Club building site
- Upgrade helicopter transfer pad to compliant helicopter parking position

Other:

- Provide sealed access road and car parking for 24 vehicles plus bus and PWD access with footpath to terminal
- Provide sealed airside road to helicopter parking position

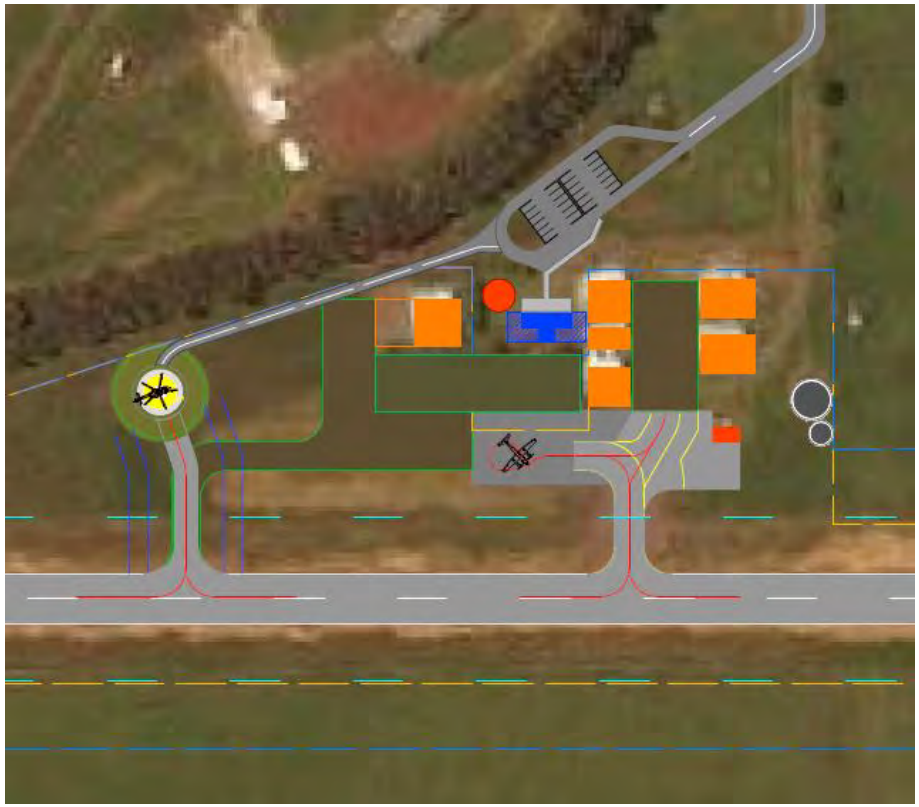

Figure 26 Phase 2 Terminal precinct and helicopter stand

12.3. Phase 3 – Northern Hangar Precinct

Phase 3 aims to develop the northern part of the site for small hangar lease sites.

Hangar sites

- Provide 8 serviced sites for hangars (power and water)

Apron and taxiways

- Provide sealed taxilane to service new hangar precinct
- Provide new sealed apron suitable for 2 aircraft

Figure 27 Phase 3 Northern Hangar Precinct

12.4. Phase 4 – Night Operations

Phase 4, the introduction of night operations, will require significant changes to the airside areas of the aerodrome, with a widening of the runway strip impacting on the apron parking area and significant works required to have the AGL system meet MOS 139 requirements.

Obstacle limitation surfaces

- Establish OLS for code 1 night non-instrument operations – runway strip and approach surface inner edge widen to 80 m

Navigational aids

- Install / Commission Aerodrome Lighting

Apron and taxiways

- Replace apron in front of Aero Club with a taxilane

Other:

- Provide Jet A-1 fuel

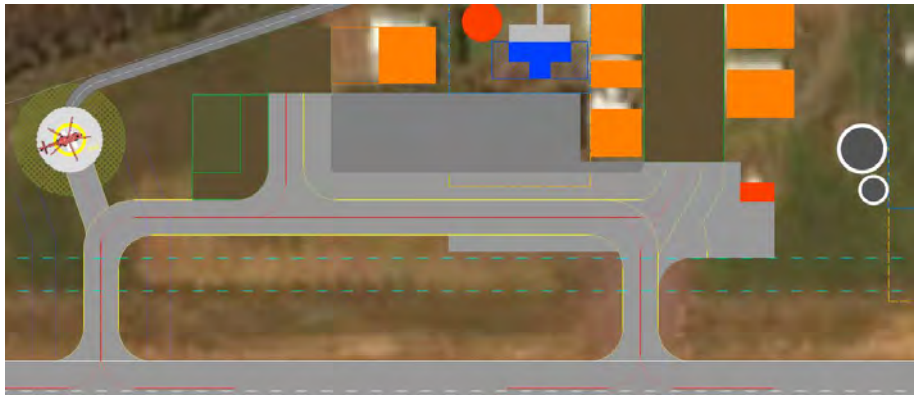

Figure 28 Phase 4 Night Operations

13. ANNEXURES

- Annexure 1 – Master Plan Drawings
- Annexure 2 – Aerodrome Safeguarding Drawings
- Annexure 3 – Noise Report
- Annexure 4 – References

ANNEXURE 1 – MASTER PLAN DRAWINGS

Phase 1 – Certification and Safeguarding

- Cobden Aerodrome – Overview: Certification Code 1 (Day Operations) + Safeguarding v1.0 221121
- Cobden Aerodrome – Apron Overview - Certification Code 1 (Day Operations) + Safeguarding v1.0 221121

Phase 2 – Terminal Precinct and Helicopter Stand Upgrade

- Cobden Aerodrome – Overview: Certification Code 1 (Day Operations) + Safeguarding – Terminal Precinct v1.0 221121
- Cobden Aerodrome – Terminal Precinct v1.0 221121
- Cobden Aerodrome – Overview: Certification Code 1 (Day Operations) + Safeguarding – Helicopter Stand v1.0 221121
- Cobden Aerodrome – Helicopter Stand and Taxiway v1.0 221121

Phase 3 – Northern Hangar Precinct

- Cobden Aerodrome – Overview: Certification Code 1 (Day Operations) + Safeguarding – Northern Hangar v1.0 221121
- Cobden Aerodrome – Northern Hangar Precinct v1.0 221121

Phase 4 – Night Operations

- Cobden Aerodrome – Overview: Stage 5 Night Operations v1.0 221121
- Cobden Aerodrome – Night Operations Apron v1.0 221121

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/2022	KP Smit	K Tonkin	

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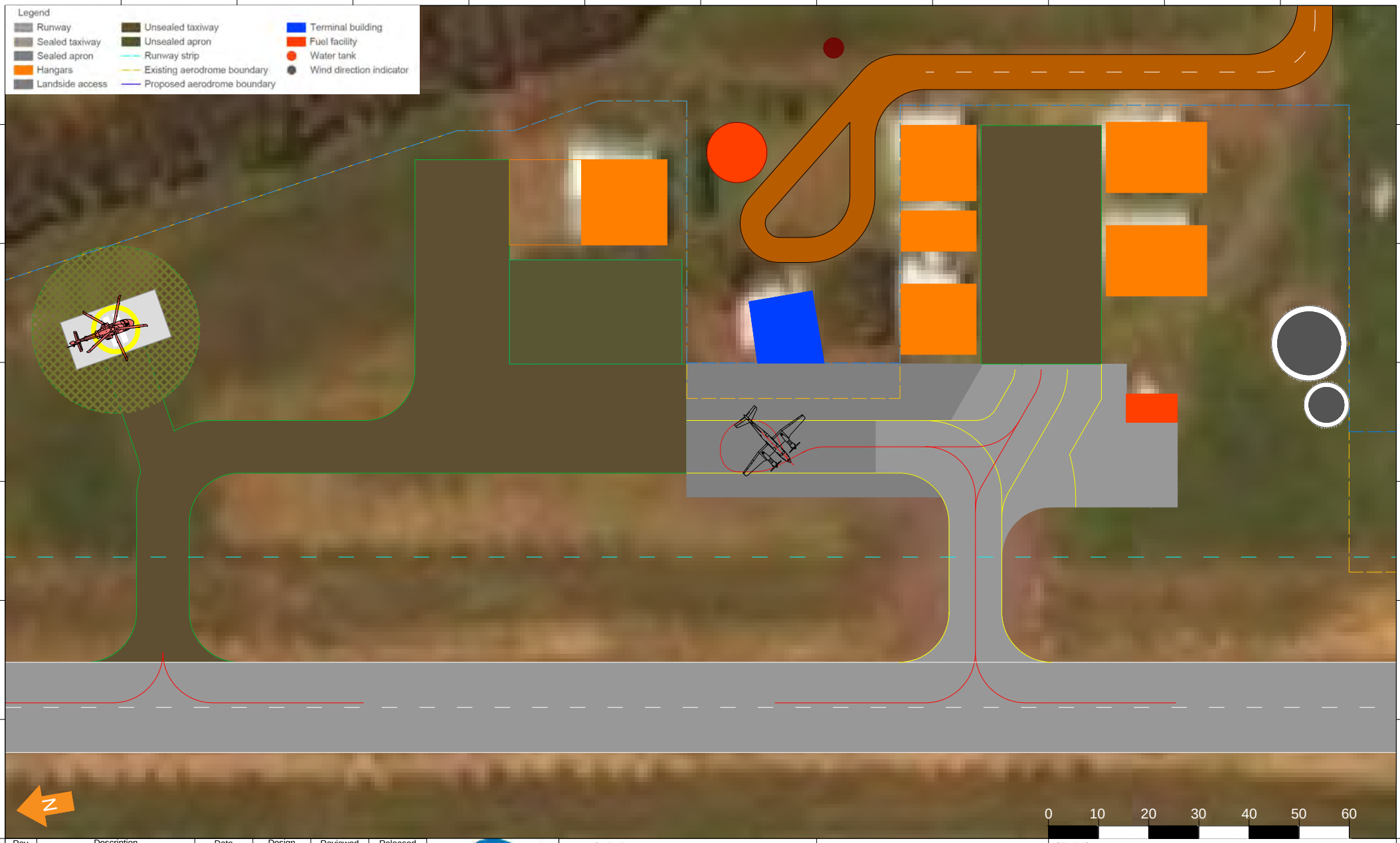
DRAWING FILE
Cobden Aerodrome - Overview
Certification Code 1 (Day Operations) + Safeguarding

DRAWING SCALE	GRID	SIZE	DRAWING FILE	REVISION
1:1500	DATUM	A0	YCDE02-01 - Cobden Master Plan - Certification and Safeguarding v0.2 210715.dwg	1.0



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Cobden Aerodrome - Apron Overview
Certification Code 1 (Day Operations) + Safeguarding

DRAWING SCALE
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SIZE
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YCDE02-01 - Cobden Master Plan - Certification and Safeguarding v0.2 210715.dwg
REVISION
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DRAWING FILE
Cobden Aerodrome - Overview
Certification Code 1 (Day Operations) + Safeguarding

DRAWING SCALE	GRID	SIZE	DRAWING FILE	REVISION
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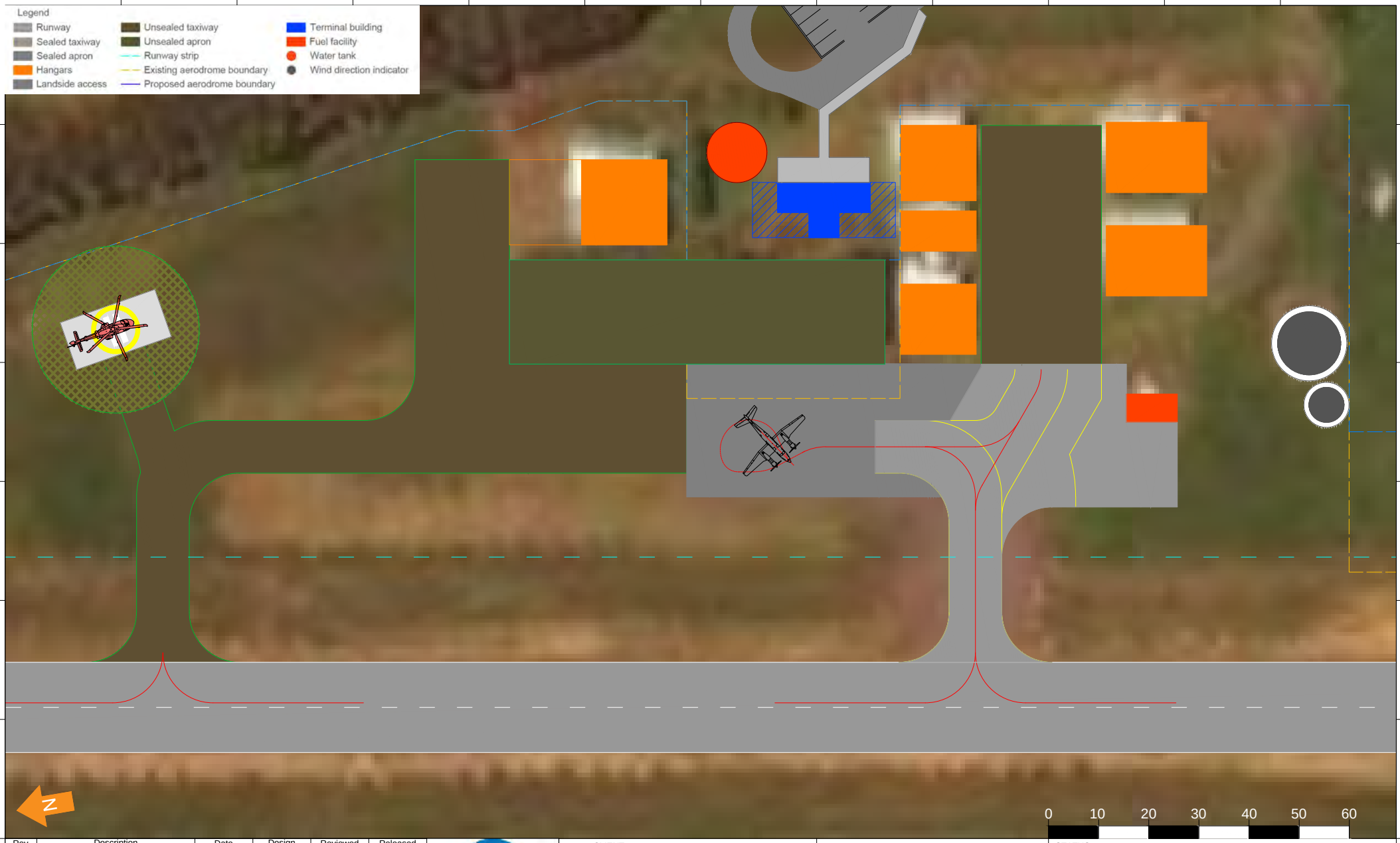

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DRAWING FILE
Cobden Aerodrome - Terminal Precinct
Terminal Precinct

DRAWING SCALE
1:250
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DRAWING FILE
YCDE02-01 - Cobden Master Plan - Terminal Precinct v0.2 210715.dwg
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Cobden Aerodrome - Overview
Certification Code 1 (Day Operations) + Safeguarding

DRAWING SCALE	GRID	SIZE	DRAWING FILE	REVISION
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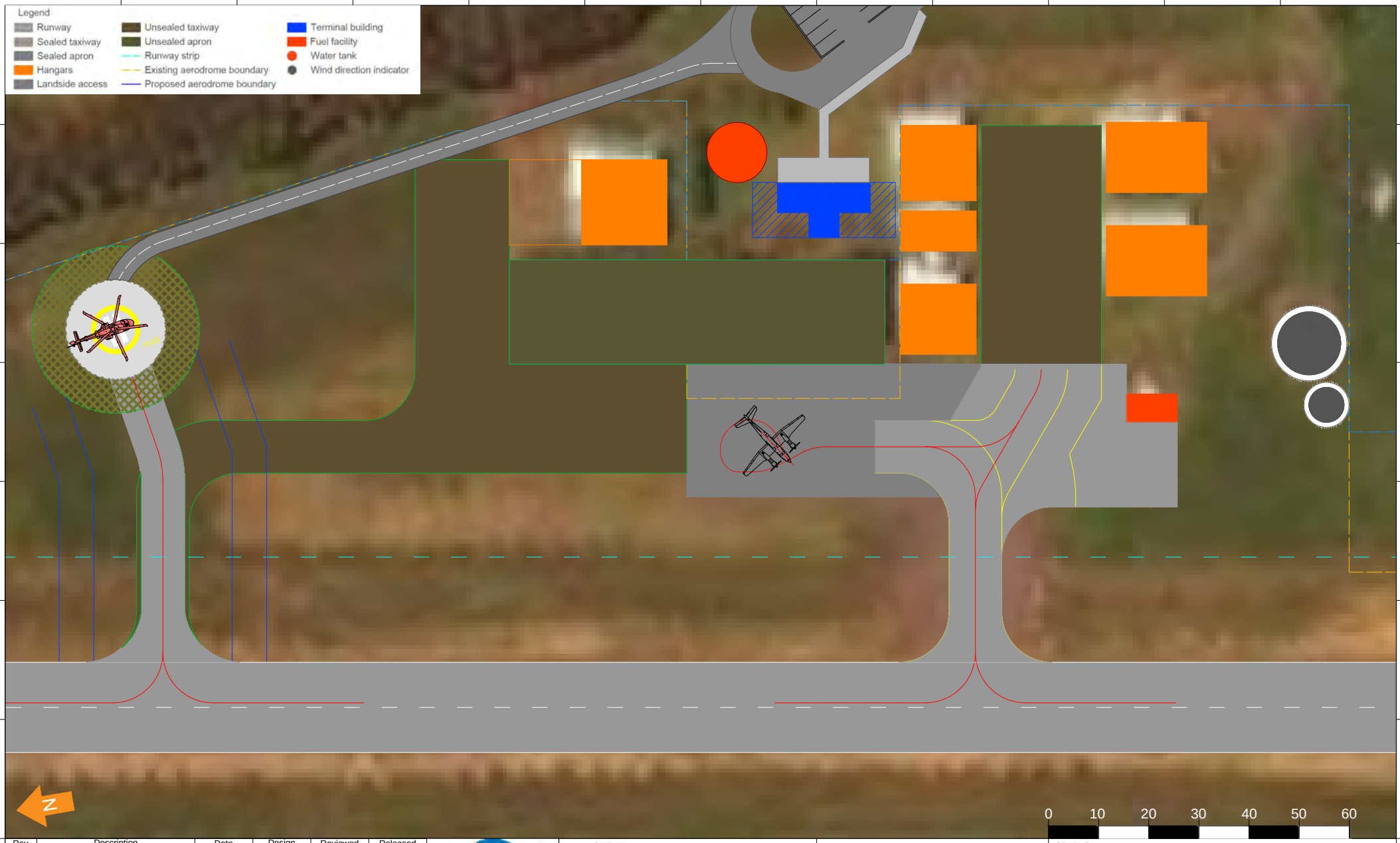

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DRAWING FILE
Cobden Aerodrome - Helicopter Stand
Helicopter Stand and Taxiway

DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:250		A0	YCDE02-01 - Cobden Master Plan - Helicopter Stand v0.2 210715.dwg	1.0

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Cobden Aerodrome - Overview
Certification Code 1 (Day Operations) + Safeguarding

DRAWING SCALE	GRID	SIZE	DRAWING FILE	REVISION
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FINAL
DRAWING FILE
Cobden Aerodrome - Northern Precinct
Northern Hangar Precinct

DRAWING SCALE	GRID	SIZE	DRAWING FILE	REVISION
1:500	DATUM	A0	YCDE02-01 - Cobden Master Plan - Northern Hangar Precinct v0.2 210715.dwg	1.0

Legend

- Runway
- Sealed taxiway
- Sealed apron
- Hangars
- Landside access
- Unsealed taxiway
- Unsealed apron
- Runway strip
- Existing aerodrome boundary
- Proposed aerodrome boundary
- Terminal building
- Fuel facility
- Water tank
- Wind direction indicator

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/2022	KP Smit	K Tonkin	

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DRAWING FILE
Cobden Aerodrome - Overview
Stage 5 - Night Operations

DRAWING SCALE
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GRID
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SIZE
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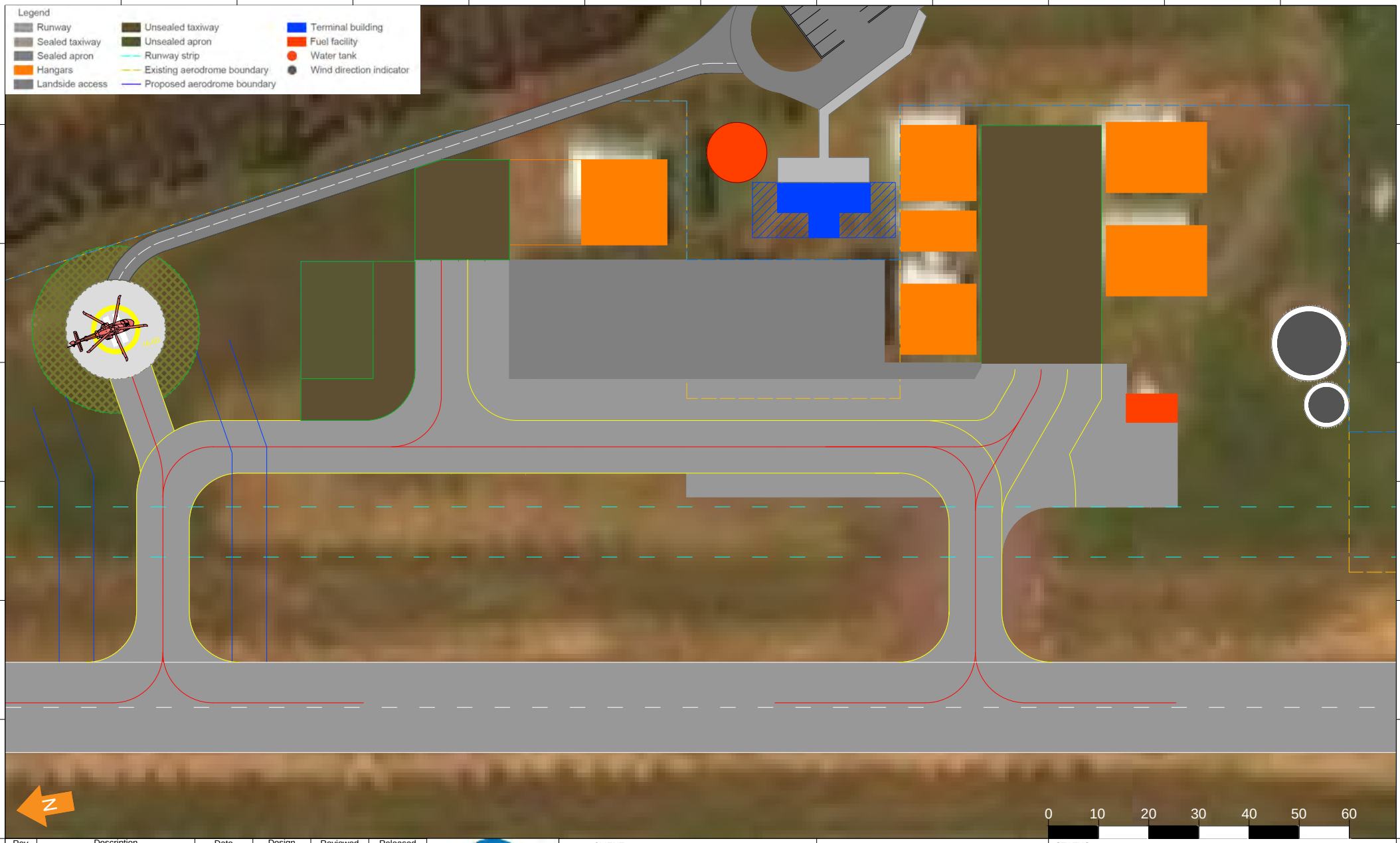
DRAWING FILE
YCDE02-01 - Cobden Master Plan - Night Operations v0.2 210715.dwg
REVISION
1.0



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1.0	Initial Release	21/11/2022	KP Smit	K Tonkin	

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STATUS
FINAL
DRAWING FILE
Cobden Aerodrome - Night Operations Apron
Apron Overview

DRAWING SCALE
1:250
GRID
DATUM
SIZE
A0
DRAWING FILE
YCDE02-01 - Cobden Master Plan - Night Operations v0.2 210715.dwg
REVISION
1.0

ANNEXURE 2 – AERODROME SAFEGUARDING DRAWINGS

- YCDE02-01 - Cobden Non-Instrument vs Non-Precision Runway v0.1 210514
- YCDE02-01 - Cobden OLS Surfaces (Code 1 non-instrument - Day) - Overall v1.0 221122
- YCDE02-01 - Cobden OLS Surfaces (Code 1 non-instrument - Day) - Approach & Transitional v1.0 221122
- YCDE02-01 - Cobden OLS Surfaces (Code 1 non-instrument - Day) - Penetrating Obstacles v1.0 221122
- YCDE02-01 - Cobden OLS Surfaces (Code 1 non-instrument - Night) - Overall v1.0 221122
- YCDE02-01 - Cobden OLS Surfaces (Code 1 non-instrument - Night) - Approach & Transitional v1.0 221122
- YCDE02-01 - Cobden OLS Surfaces (Code 1 non-instrument - Night) - Approach & Transitional Surfaces v1.0 221122
- YCDE02-01 - Cobden OLS Surfaces (Code 1 non-instrument - Night) – Elevated Terrain Penetration Area of the OLS v1.0 221122
- YCDE02-01 - Cobden Master Plan - Light Restriction Zone - v1.0 221121
- YCDE02-01 - Cobden Master Plan - Wildlife Buffer Zones - v0.1 210806
- YCDE02-01 - Cobden Master Plan – Building Generated Windshear and Turbulence Assessment Area - v1.0 221121

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/2022	KP Smit	K Tonkin	

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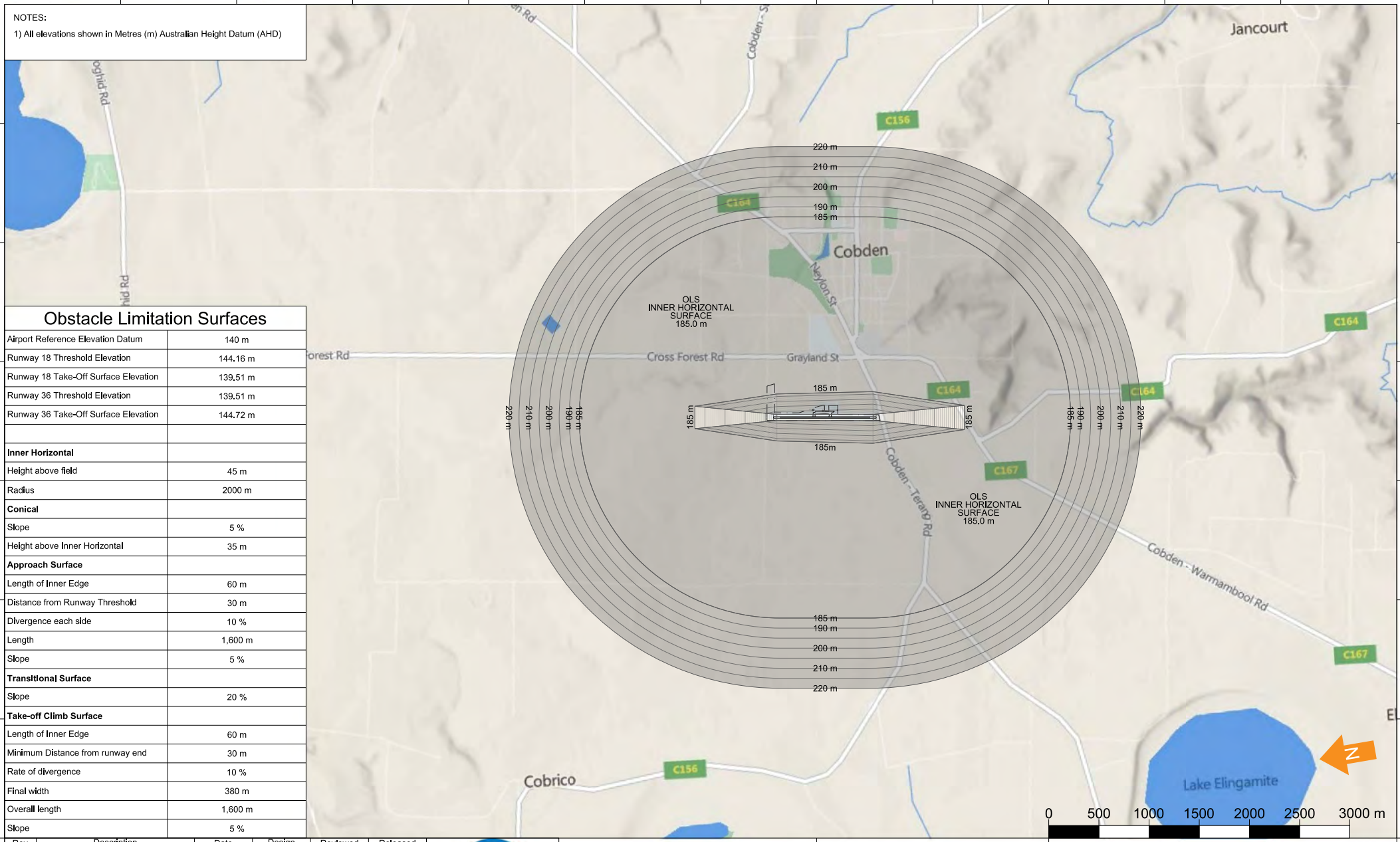
STATUS
FINAL
DRAWING FILE
Cobden Aerodrome - Runway Strip

DRAWING SCALE	GRID	SIZE	DRAWING FILE	REVISION
1 : 1500	DATUM	A0	YCDE02-01 - Cobden Non-Instrument vs Non-Precision Runway v0.1 210514.dwg	1.0

NOTES:

1) All elevations shown in Metres (m) Australian Height Datum (AHD)



Obstacle Limitation Surfaces

Airport Reference Elevation Datum	140 m
Runway 18 Threshold Elevation	144.16 m
Runway 18 Take-Off Surface Elevation	139.51 m
Runway 36 Threshold Elevation	139.51 m
Runway 36 Take-Off Surface Elevation	144.72 m
Inner Horizontal	
Height above field	45 m
Radius	2000 m
Conical	
Slope	5 %
Height above Inner Horizontal	35 m
Approach Surface	
Length of Inner Edge	60 m
Distance from Runway Threshold	30 m
Divergence each side	10 %
Length	1,600 m
Slope	5 %
Transitional Surface	
Slope	20 %
Take-off Climb Surface	
Length of Inner Edge	60 m
Minimum Distance from runway end	30 m
Rate of divergence	10 %
Final width	380 m
Overall length	1,600 m
Slope	5 %

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/22	J Christison	K Tonkin	

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AVIATION PROJECTS

STATUS
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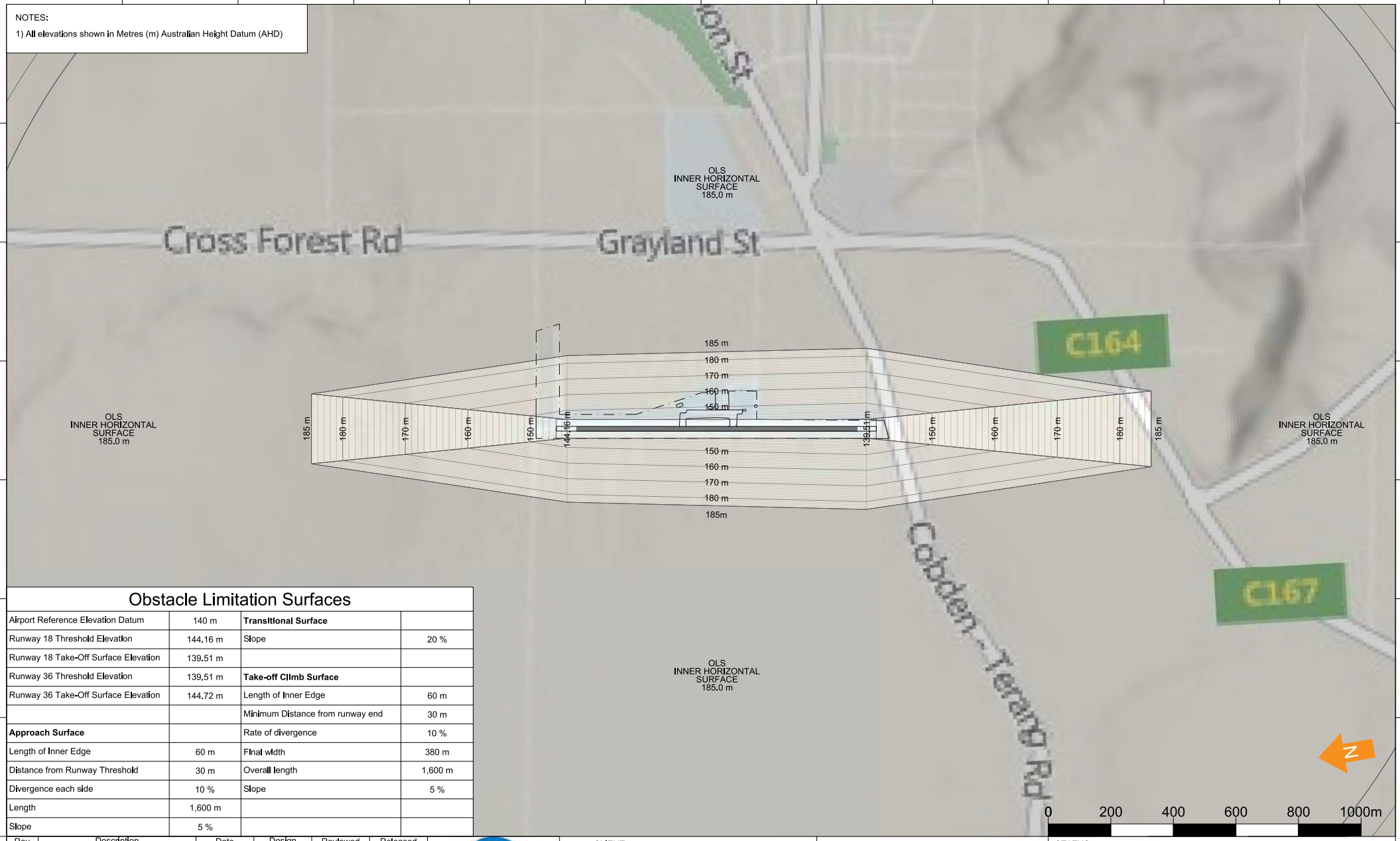
DRAWING NAME
Cobden Aerodrome - Obstacle Limitation Surfaces
Overall (Day Operations)

DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:12,500		A0	YCDE02-01 - Cobden OLS Surfaces (Code 1 Non-Instrument - Day) - v1.0 221122.dgn	1.0

NOTES:

1) All elevations shown in Metres (m) Australian Height Datum (AHD)



Obstacle Limitation Surfaces

Airport Reference Elevation Datum	140 m	**Transitional Surface**	
Runway 18 Threshold Elevation	144.16 m	Slope	20 %
Runway 18 Take-Off Surface Elevation	139.51 m		
Runway 36 Threshold Elevation	139.51 m	**Take-off Climb Surface**	
Runway 36 Take-Off Surface Elevation	144.72 m	Length of Inner Edge	60 m
		Minimum Distance from runway end	30 m
Approach Surface		Rate of divergence	10 %
Length of Inner Edge	60 m	Final width	380 m
Distance from Runway Threshold	30 m	Overall length	1,600 m
Divergence each side	10 %	Slope	5 %
Length	1,600 m		
Slope	5 %		

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1.0	Initial Release	21/11/22	J Christison	K Tonkin	

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DRAWING NAME
Cobden Aerodrome - Obstacle Limitation Surfaces
Approach and Transitional (Day Operations)

DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
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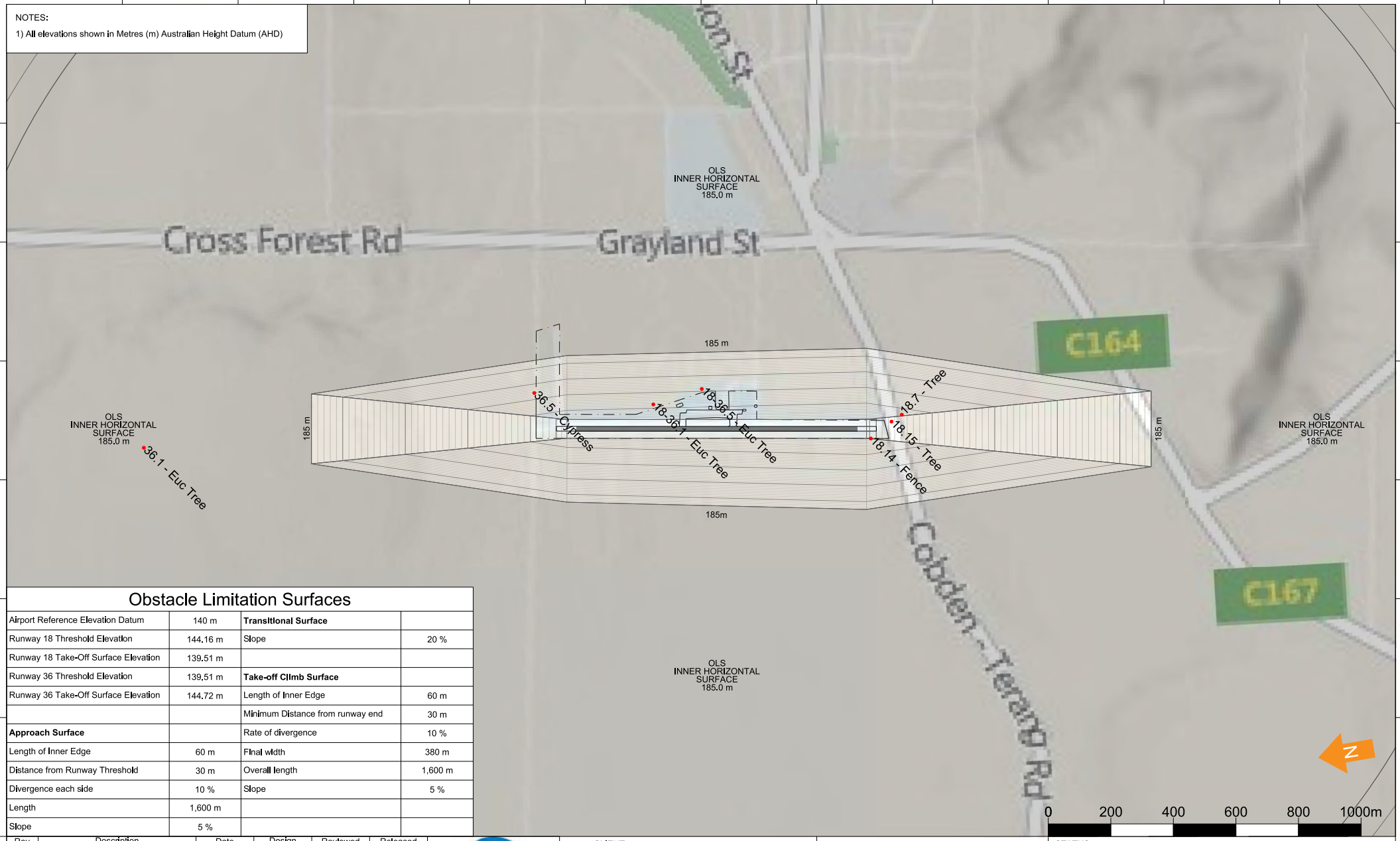
NOTES:

1) All elevations shown in Metres (m) Australian Height Datum (AHD)



Obstacle Limitation Surfaces

Airport Reference Elevation Datum	140 m	**Transitional Surface**	
Runway 18 Threshold Elevation	144.16 m	Slope	20 %
Runway 18 Take-Off Surface Elevation	139.51 m		
Runway 36 Threshold Elevation	139.51 m	**Take-off Climb Surface**	
Runway 36 Take-Off Surface Elevation	144.72 m	Length of Inner Edge	60 m
		Minimum Distance from runway end	30 m
Approach Surface		Rate of divergence	10 %
Length of Inner Edge	60 m	Final width	380 m
Distance from Runway Threshold	30 m	Overall length	1,600 m
Divergence each side	10 %	Slope	5 %
Length	1,600 m		
Slope	5 %		

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1.0	Initial Release	21/11/22	J Christison	K Tonkin	

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STATUS
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DRAWING NAME
Cobden Aerodrome - Obstacle Limitation Surfaces
Penetrating Obstacles

DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:4,000		A0	YCDE02-01 - Cobden OLS Surfaces (Code 1 Non-Instrument - Day) - v1.0 221122.dgn	1.0

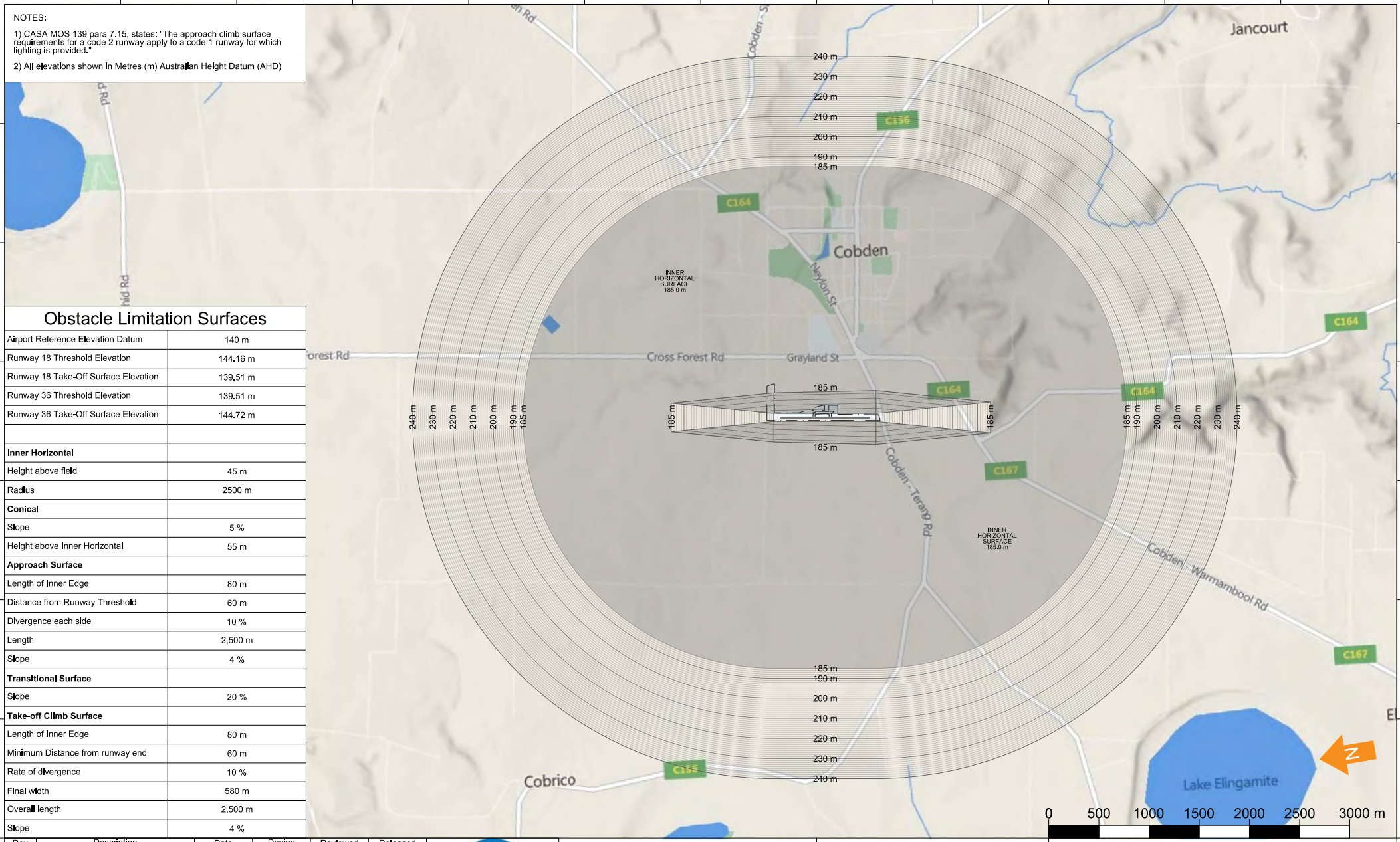
NOTES:

1) CASA MOS 139 para 7.15, states: "The approach climb surface requirements for a code 2 runway apply to a code 1 runway for which lighting is provided."

2) All elevations shown in Metres (m) Australian Height Datum (AHD)

Obstacle Limitation Surfaces

Airport Reference Elevation Datum	140 m
Runway 18 Threshold Elevation	144.16 m
Runway 18 Take-Off Surface Elevation	139.51 m
Runway 36 Threshold Elevation	139.51 m
Runway 36 Take-Off Surface Elevation	144.72 m
Inner Horizontal	
Height above field	45 m
Radius	2500 m
Conical	
Slope	5 %
Height above Inner Horizontal	55 m
Approach Surface	
Length of Inner Edge	80 m
Distance from Runway Threshold	60 m
Divergence each side	10 %
Length	2,500 m
Slope	4 %
Transitional Surface	
Slope	20 %
Take-off Climb Surface	
Length of Inner Edge	80 m
Minimum Distance from runway end	60 m
Rate of divergence	10 %
Final width	580 m
Overall length	2,500 m
Slope	4 %



Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/22	J Christison	K Tonkin	

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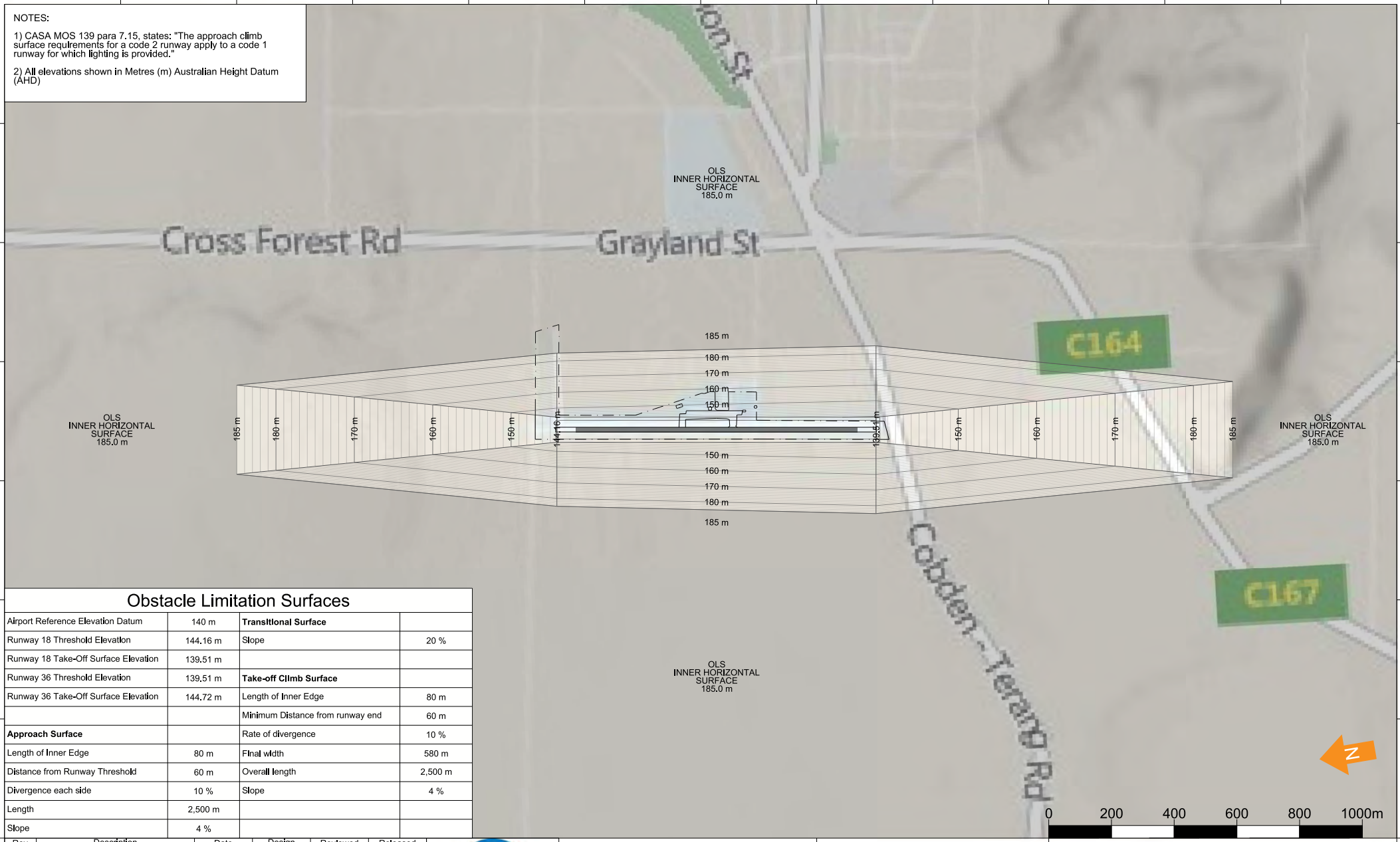
DRAWING NAME
Cobden Aerodrome - Obstacle Limitation Surfaces
Overall (Night Operations)

DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:12,500		A0	YCDE02-01 - Cobden OLS Surfaces (Code 1 Non-Instrument - Night) - v1.0 221122.dgn	1.0

NOTES:

1) CASA MOS 139 para 7.15, states: "The approach climb surface requirements for a code 2 runway apply to a code 1 runway for which lighting is provided."

2) All elevations shown in Metres (m) Australian Height Datum (AHD)



Obstacle Limitation Surfaces

Airport Reference Elevation Datum	140 m	**Transitional Surface**	
Runway 18 Threshold Elevation	144.16 m	Slope	20 %
Runway 18 Take-Off Surface Elevation	139.51 m		
Runway 36 Threshold Elevation	139.51 m	**Take-off Climb Surface**	
Runway 36 Take-Off Surface Elevation	144.72 m	Length of Inner Edge	80 m
		Minimum Distance from runway end	60 m
Approach Surface		Rate of divergence	10 %
Length of Inner Edge	80 m	Final width	580 m
Distance from Runway Threshold	60 m	Overall length	2,500 m
Divergence each side	10 %	Slope	4 %
Length	2,500 m		
Slope	4 %		

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/22	J Christison	K Tonkin	

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STATUS
FINAL

DRAWING NAME
Cobden Aerodrome - Obstacle Limitation Surfaces
Approach and Transitional (Night Operations)

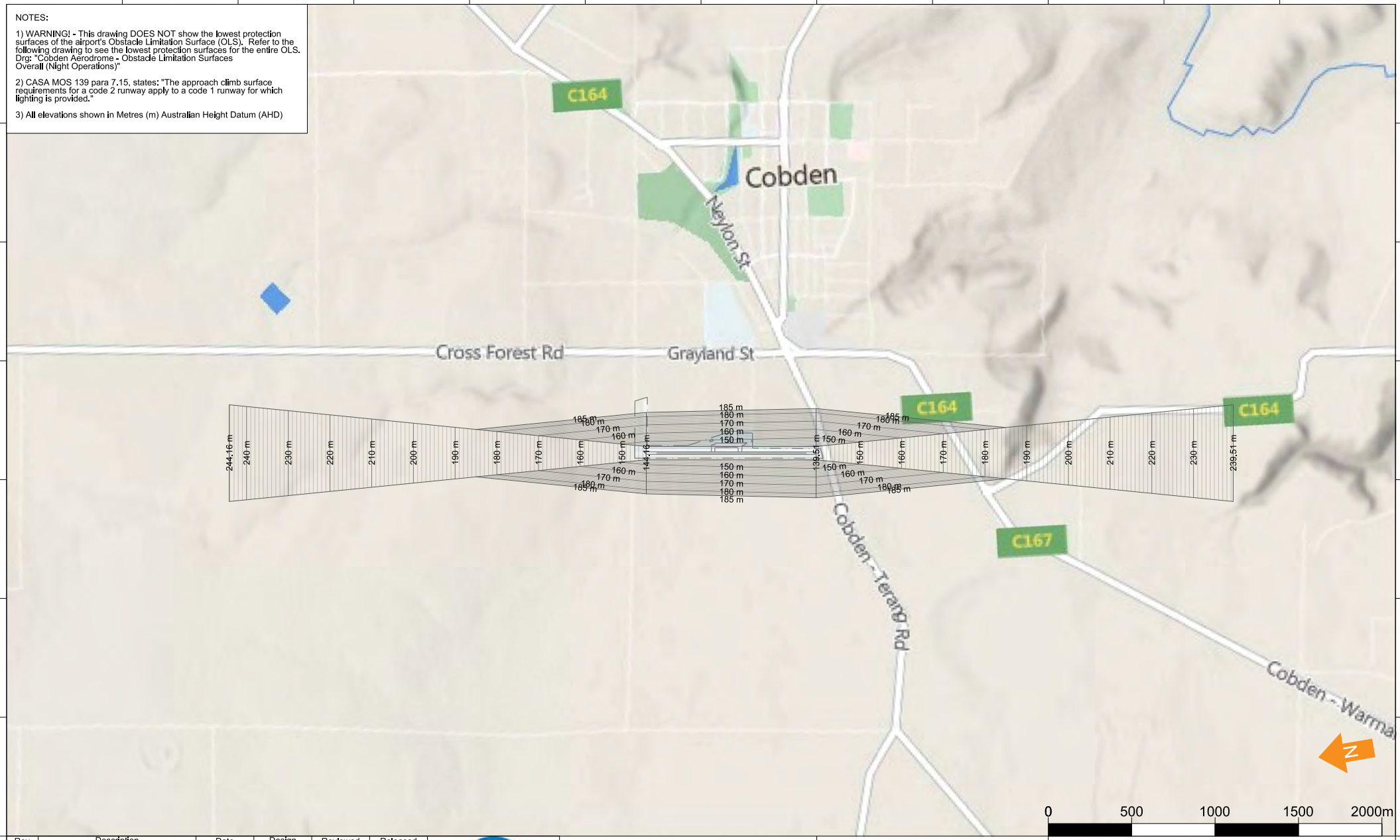
DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:4,000		A0	YCDE02-01 - Cobden OLS Surfaces (Code 1 Non-Instrument - Night) - v1.0 221122.dgn	1.0

NOTES:

1) WARNING! - This drawing DOES NOT show the lowest protection surfaces of the airport's Obstacle Limitation Surface (OLS). Refer to the following drawing to see the lowest protection surfaces for the entire OLS. Drg: "Cobden Aerodrome - Obstacle Limitation Surfaces Overall (Night Operations)"

2) CASA MOS 139 para 7.15, states: "The approach climb surface requirements for a code 2 runway apply to a code 1 runway for which lighting is provided."

3) All elevations shown in Metres (m) Australian Height Datum (AHD)



Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	07/12/22	J Christison	K Tonkin	

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STATUS
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DRAWING NAME
Cobden Aerodrome - Obstacle Limitation Surfaces
Approach and Transitional Surfaces (Night Operations)

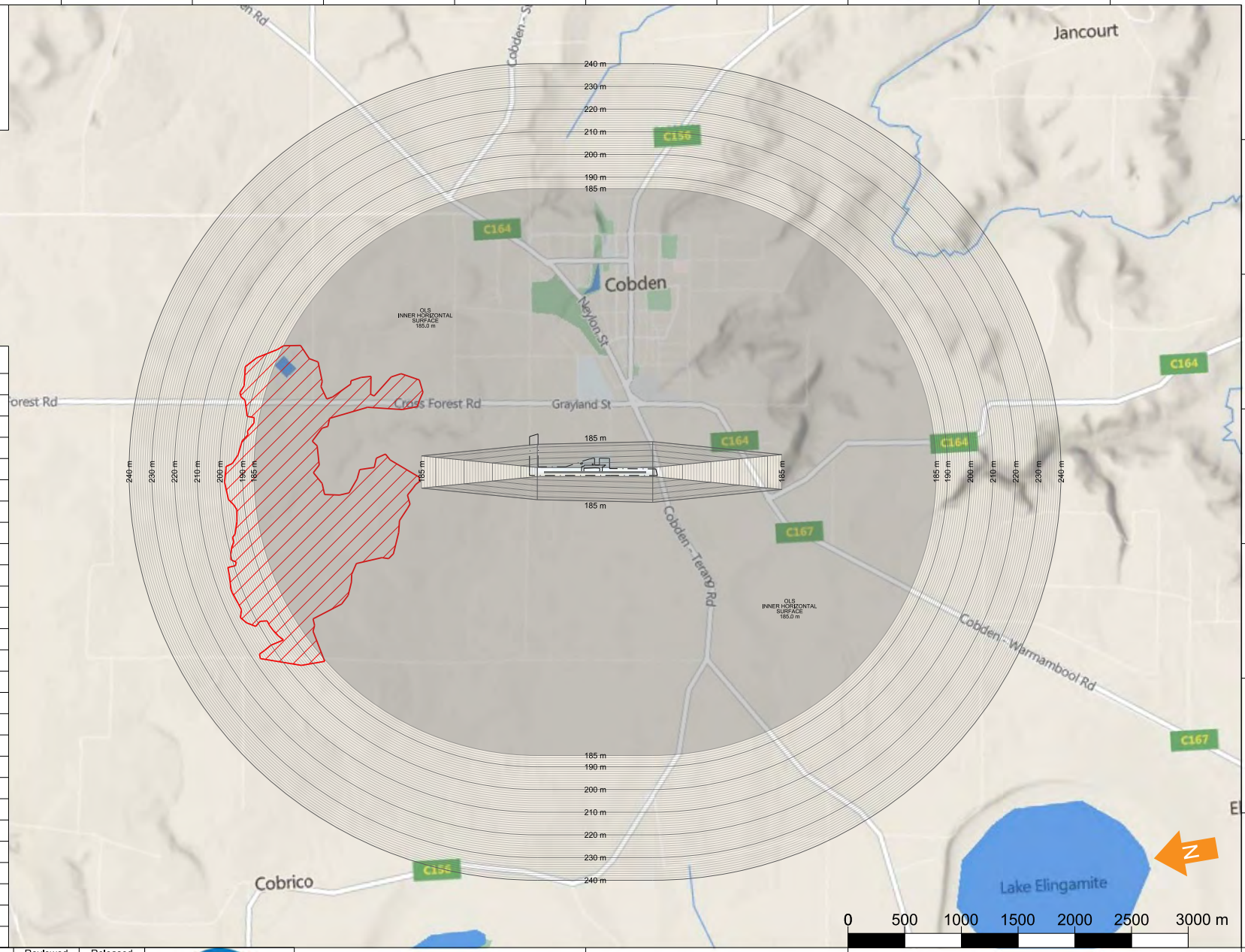
DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:7,500		A0	YCDE02-01 - Cobden OLS Surfaces (Code 1 Non-Instrument - Night) - v1.0 221122.dgn	1.0

LEGEND:

APPROXIMATE AREA OF ELEVATED TERRAIN WHERE VEGETATION OR GROUND PENETRATION OF THE OLS LOWEST PROTECTION SURFACES MAY OCCUR

NOTES:

1) All elevations shown in Metres (m) Australian Height Datum (AHD)



Obstacle Limitation Surfaces

Airport Reference Elevation Datum	140 m
Runway 18 Threshold Elevation	144.16 m
Runway 18 Take-Off Surface Elevation	139.51 m
Runway 36 Threshold Elevation	139.51 m
Runway 36 Take-Off Surface Elevation	144.72 m
Inner Horizontal	
Height above field	45 m
Radius	2500 m
Conical	
Slope	5 %
Height above Inner Horizontal	55 m
Approach Surface	
Length of Inner Edge	80 m
Distance from Runway Threshold	60 m
Divergence each side	10 %
Length	2,500 m
Slope	4 %
Transitional Surface	
Slope	20 %
Take-off Climb Surface	
Length of Inner Edge	80 m
Minimum Distance from runway end	60 m
Rate of divergence	10 %
Final width	580 m
Overall length	2,500 m
Slope	4 %

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/22	J Christison	K Tonkin	

CORANGAMITE SHIRE

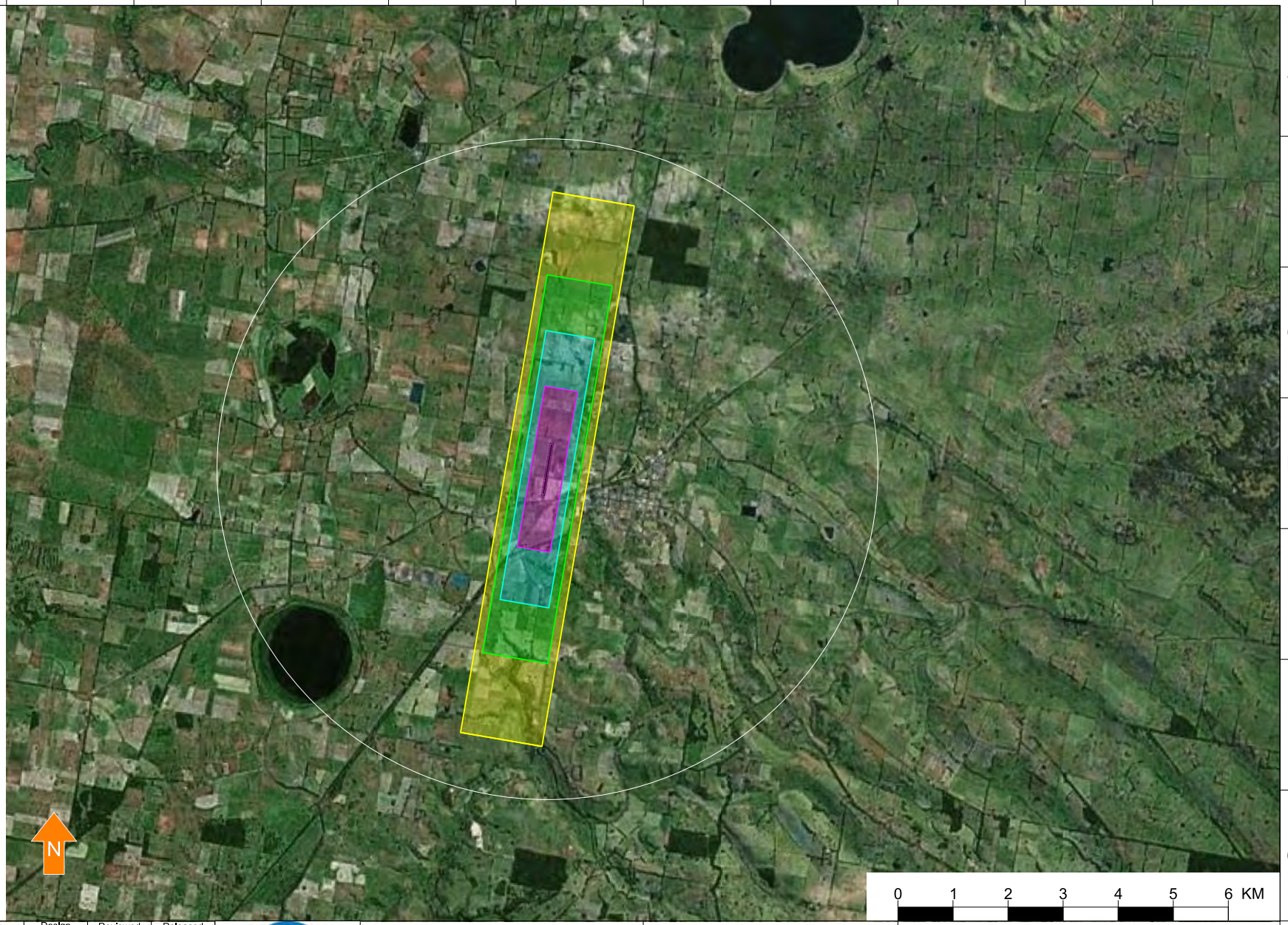
CLIENT
CORANGAMITE SHIRE
AIRPORT
YCDE - COBDEN AERODROME
PROJECT
AERODROME MASTERPLAN
DATE
November 2022

AVIATION PROJECTS

STATUS
FINAL

DRAWING NAME
Cobden Aerodrome - Obstacle Limitation Surfaces
Elevated Terrain Penetration Area of the OLS

DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:12,500		A0	YCDE02-01 - Cobden OLS Surfaces (Code 1 Non-Instrument - Night) - v1.0 221122.dgn	1.0



LEGEND DESCRIPTION

MAXIMUM INTENSITY OF LIGHT SOURCES
MEASURED AT 3° ABOVE THE HORIZONTAL

ZONE A	0 cd	600m WIDE 1000m FROM RWY STRIP
ZONE B	50 cd	900m WIDE 2000m FROM RWY STRIP
ZONE C	150 cd	1200m WIDE 3000m FROM RWY STRIP
ZONE D	450 cd	1500m WIDE 4500m FROM RWY STRIP

MAXIMUM INTENSITY OF ZERO CANDELA
ABOVE THE HORIZONTAL

GENERAL LIGHT CONTROL ZONE (6KM RADIUS)

REFER CASA MOS 139 SECTION 9.143
OTHER LIGHTING ON THE AERODROME

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/22	J Christison	K Tonkin	

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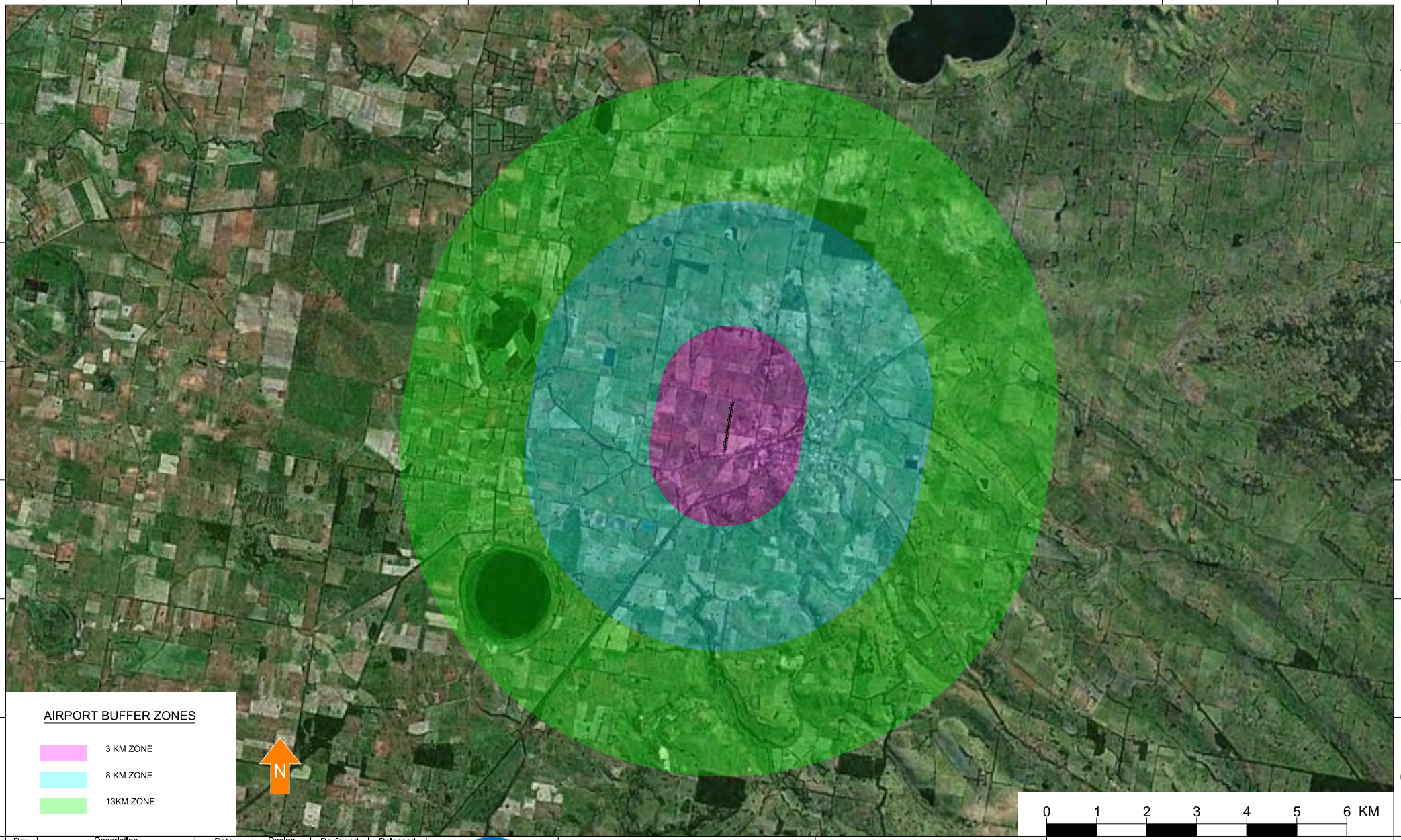
AERODROME MASTERPLAN
DATE
November 2022

AVIATION PROJECTS

STATUS
FINAL
DRAWING FILE
Cobden Aerodrome - Light Restriction Zones

DRAWING SCALE
1:25,000
GRID
DATUM
SIZE
A0
DRAWING FILE
YCDE02-01 - Light Restriction Zones - v0.2 210805.dwg
REVISION
1.0



Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/22	J Christison	K Tonkin	

CORANGAMITE SHIRE

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CORANGAMITE SHIRE
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PROJECT
AERODROME MASTERPLAN
DATE
November 2022

AVIATION PROJECTS

STATUS
FINAL

DRAWING FILE
Cobden Aerodrome - Wildlife Hazard Plan

DRAWING SCALE
1:25,000

GRID
DATUM

SIZE
A0

DRAWING FILE
YCDE02-01 - Wildlife Buffer Zones - v0.1 210805.dwg

REVISION
1.0

Rev	Description	Date	Design	Reviewed	Released
1.0	Initial Release	21/11/22	J Christison	K Tonkin	

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AIRPORT
YCDE - COBDEN AERODROME
PROJECT
AERODROME MASTERPLAN
DATE
November 2022

AVIATION PROJECTS

STATUS
FINAL

DRAWING FILE
Cobden Aerodrome - Building Generated Windshear and Turbulence Assessment Area

DRAWING SCALE	GRID / DATUM	SIZE	DRAWING FILE	REVISION
1:5,000		A0	YCDE02-01 - Cobden Master Plan - Bldg Windshear and Turbulence - v0.1 211122.dgn	0.1

ANNEXURE 3 – NOISE MODELLING

- Cobden Aerodrome Master Plan - Noise Modelling – SOUNDIN Report 17088 Ver10

COBDEN AERODROME

MASTER PLAN NOISE MODELLING

REPORT NO. 17088
VERSION 1.0

DECEMBER 2022

PREPARED FOR

AVIATION PROJECTS
19/200 MOGGILL ROAD
TARINGA QUEENSLAND 4068

DOCUMENT CONTROL

Version	Notes	Status	Date	Prepared	Reviewed	Approved
0.1	-	Final	26/07/2021	Adam Bioletti		ADB
0.2	Revised operations	Final	28/11/2022	Adam Bioletti		ADB
1.0	Minor revision	Final	13/12/2022	Adam Bioletti		ADB

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GLOSSARY OF TERMS

L_{Amax}	The maximum noise level over a sample period is the maximum level measured during the sample period. For aircraft noise, the maximum noise level is measured using slow response.
N-above	'Number-above', or 'N-above', describe the number of aircraft noise events that exceed a particular noise threshold. The most common 'N-above' are N70 and N60, describing the number of events above 70 dB(A) and 60 dB(A) respectively.
ANEF	Australian Noise Exposure Forecast (ANEF). An ANEF chart is a set of land-use planning contours for a specific airport that has been formally endorsed for technical accuracy by Airservices Australia.
ANEC	Contours that have been calculated in the same way as ANEF contours, but not formally endorsed by Airservices Australia, are known as Australian Noise Exposure Concept (ANEC) contours.
RNP-AR	Required Navigation Performance Authorisation Required (RNP-AR) is a precision arrival or departure procedure which uses satellite navigation. RNP-AR is typically developed to provide a shortened arrival procedure (as is the case at Brisbane Airport).
ILS	Instrument Landing System is a radio navigation system. ILS is typically available in most weather conditions, including poor conditions that may prohibit some other navigation methods. ILS require a long, straight arrival path.
AHD	The Australian Height Datum (AHD) is the official national vertical datum for Australia.

1 INTRODUCTION

SoundIN Pty Ltd (SoundIN) has been engaged by Aviation Projects to undertake noise modelling in support of the Cobden Aerodrome Master Plan.

This report presents a summary of the noise modelling.

2 AVIATION ENVIRONMENTAL DESIGN TOOL (AEDT)

The AEDT aircraft noise and emissions prediction program, produced by the United States Federal Aviation Administration (FAA), was used to predict noise levels. AEDT Version 3e was used.

The AEDT program is a computer model that calculates aircraft noise exposure in the vicinity of airports. It was developed based on the algorithm and framework from SAE-AIR-1845 *Procedure for the Calculation of Airplane Noise in the Vicinity of Airports* (Society of Automotive Engineers (SAE), 1986), which used noise-power-distance (NPD) data to estimate noise accounting for specific operation modes, thrust settings, source-receiver geometry, acoustic directivity and other environmental factors. AEDT succeeds the Integrated Noise Model (INM).

3 METEOROLOGICAL CONDITIONS AT COBDEN AERODROME

AEDT contains a database of meteorological data for airports around the world. Data for Cobden Aerodrome is not included in the current AEDT database. Meteorological conditions for Warrnambool (approximately 50km east) were adopted. The modelled meteorological conditions are:

- Temperature 13.3 degrees Celsius
- Sea level pressure 1008 hectopascals
- Relative humidity 76%
- Headwind 10.0 knots

Note that at the time of preparation, the FAA AEDT support website noted a known bug in AEDT 3e whereby user-defined weather may not be applied in the calculations. In this instance AEDT 3e appears to revert to ISA weather. A review of the log files indicates that this may have occurred in the calculation.

4 AEDT AIRCRAFT TYPES MODELLED

Table 4-1 presents the AEDT aircraft types that were used to model each of the aircraft in the forecast.

Table 4-1 Aircraft Types Modelled

Aircraft Type (forecast)	Aircraft Class	AEDT Equipment ID	AEDT ANP Airframe
AT802	Non-Jet	GASEPV	1505
C210	Non-Jet	CNA182	1262
B350	Non-Jet	DHC6	3054
PA31	Non-Jet	BEC58P	1196
A119	Helicopter	EC130	3806
A139	Helicopter	SA330J / B430 [1]	9 / 4126 [1]
R44	Helicopter	R44	3161

Notes: 1. AEDT contains EPNL data for a limited number of helicopters. SA330J was selected to represent the A139 for L_{Amax} calculations (i.e. N-above), based on the comparable size and power of the SA330J to the A139. AEDT does not contain EPNL data for the SA330J (EPNL is necessary for the calculation of the ANEF/C metric). B430 was selected as the best-available substitute for the ANEF calculation.

5 FLIGHT TRACKS

Flight tracks were provided by Aviation Projects. The tracks include departures and arrival routes off each runway, as well as circuits to the west of the runway.

Owing to the relatively low number of daily movements forecast, dispersion around the flight tracks was not modelled.

The modelled flight tracks are presented in **Figure 5-1**.

Figure 5-1 Modelled Flight Tracks – Runway 18

Figure 5-2 Modelled Flight Tracks – Runway 36

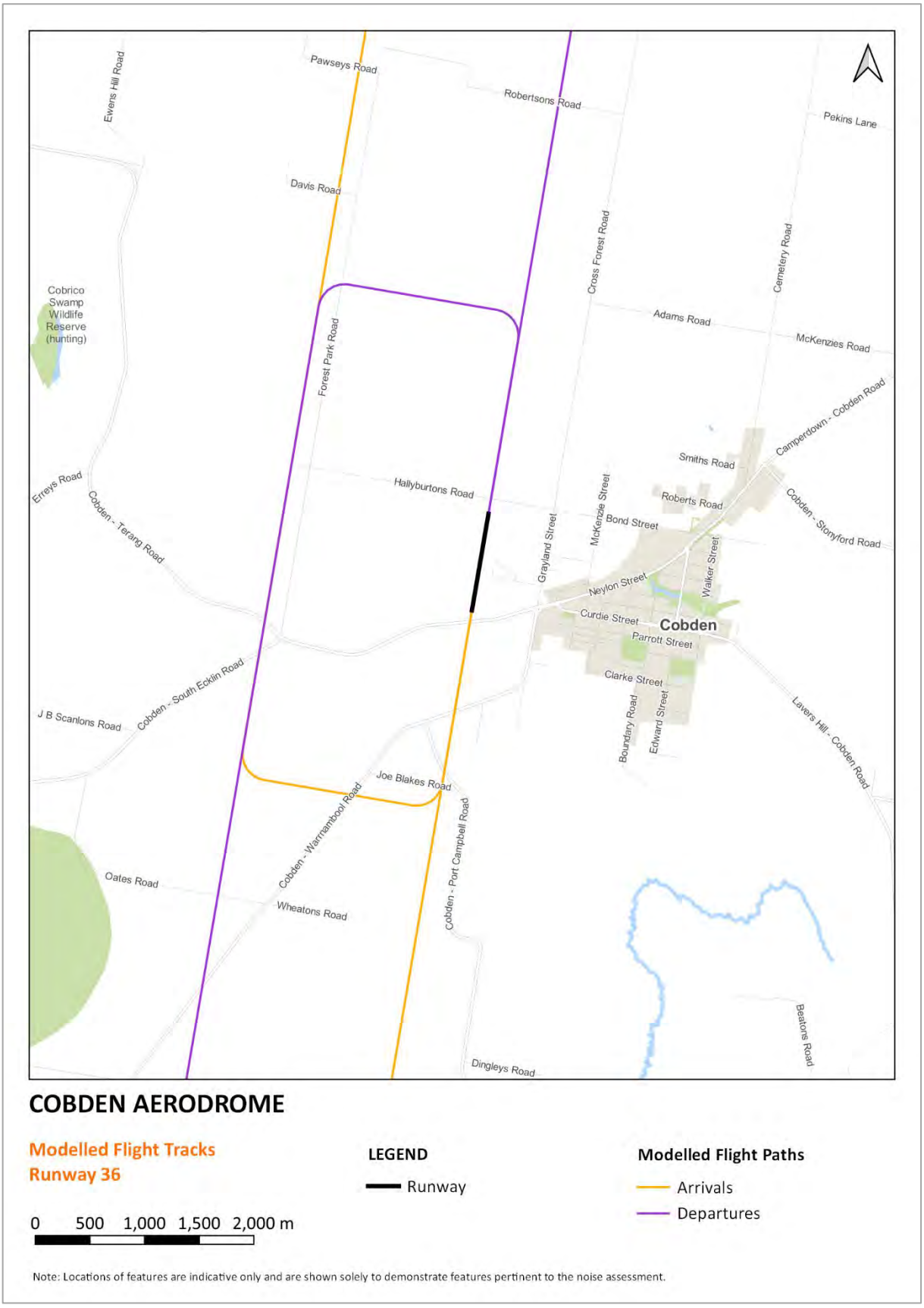


Figure 5-3 Modelled Flight Tracks - Helicopters

6 AIRCRAFT PROCEDURES AND HEIGHT-VS-DISTANCE PROFILES

AEDT includes several procedures for departures, arrivals and touch-and-go (circuit) operations. Default “STANDARD” procedures were modelled for all operations.

7 FORECAST MOVEMENTS

Forecasts were provided by Aviation Projects. The forecast annual movements are presented by aircraft type, operation, runway and time-period in **Table 7-1**.

Day and night periods refer to the ANEC-defined time periods – day 7am to 7pm and night 7pm to 7am.

Table 7-1 Forecast Annual Movements

Aircraft	Operation	Runway	Track	Operations – Day	Operations - Night
A119	A	H	A18_1	6.435	0.065
A119	A	H	A36_1	6.435	0.065
A119	D	H	D18_1	6.435	0.065
A119	D	H	D36_1	6.435	0.065
A139	A	H	A18_1	6.435	0.065
A139	A	H	A36_1	6.435	0.065
A139	D	H	D18_1	6.435	0.065
A139	D	H	D36_1	6.435	0.065
AT802	A	18	A18_1	74.250	0.750
AT802	A	18	A18_2	297.000	3.000
AT802	A	36	A36_1	74.250	0.750
AT802	A	36	A36_2	297.000	3.000
AT802	D	18	D18_1	74.250	0.750
AT802	D	18	D18_2	297.000	3.000
AT802	D	36	D36_1	74.250	0.750
AT802	D	36	D36_2	297.000	3.000
B350	A	18	A18_1	6.435	0.065
B350	A	18	A18_1	44.550	0.450
B350	A	36	A36_1	6.435	0.065

Aircraft	Operation	Runway	Track	Operations – Day	Operations - Night
B350	A	36	A36_1	44.550	0.450
B350	D	18	D18_1	6.435	0.065
B350	D	18	D18_1	44.550	0.450
B350	D	36	D36_1	6.435	0.065
B350	D	36	D36_1	44.550	0.450
C210	A	18	A18_1	272.250	2.750
C210	A	18	A18_2	1089.000	11.000
C210	A	36	A36_1	272.250	2.750
C210	A	36	A36_2	1089.000	11.000
C210	D	18	D18_1	272.250	2.750
C210	D	18	D18_2	1089.000	11.000
C210	D	36	D36_1	272.250	2.750
C210	D	36	D36_2	1089.000	11.000
PA31	A	18	A18_1	74.250	0.750
PA31	A	18	A18_2	297.000	3.000
PA31	A	36	A36_1	74.250	0.750
PA31	A	36	A36_2	297.000	3.000
PA31	D	18	D18_1	74.250	0.750
PA31	D	18	D18_2	297.000	3.000
PA31	D	36	D36_1	74.250	0.750
PA31	D	36	D36_2	297.000	3.000
Total				**8670.420**	**87.580**

8 CALCULATION DETAILS

ANEC and N-above values were calculated across a fixed grid. ANEC contours were calculated from that grid, within AEDT. N-above contours were calculated from the grid by custom developed software.

Contouring employed a smoothing algorithm to reduce 'anomalies' arising from the use of a fixed-grid spacing.

Table 8-1 details the modelling data used in the AEDT calculations.

Table 8-1 Modelling Data Used in AEDT Calculations

Parameter		Value
AEDT Version:		3e
Topography:		SRTM derived 1 arc second data (https://elevation.fsdf.org.au/)
Temperature:		13.3 degrees Celsius
Pressure:		1008 hectopascals
Humidity:		76%
Headwind:		10.0 knots
Grid type:		Fixed spacing
Grid spacing:		0.01 NM (ANEC); 0.025 NM (N-above)
Co-ordinate System:		WGS84 (EPSG:4326)
Airport Reference Point (Lat/Lon/Elevation):		-37.673333 144.843333, 435 ft
Existing Runway Ends (Lat/Lon/Elevation):	Runway End 18	-38.319464 143.057381, 475 ft
	Runway End 36	-38.327456 143.055875, 458 ft
	Helipad	-38.324086 143.057091, 466 ft

8.1 Forecast Noise Exposure

The resulting ANEC and N-above contours are shown in **Figure 8-1** and **Figure 8-2**.

N-above thresholds presented in **Figure 8-2** are lower than those promulgated by NASF Guideline A. NASF Guideline A promulgates the use of the following for consideration of land-use planning:

- N70 equals 20
- N65 equals 50
- N60 equals 100
- N60 equals 6 at night.

The forecast daily operations at Cobden Aerodrome are insufficient to generate any of the above N-above thresholds (daily movements equal 24). Therefore, the N-above presented in **Figure 8-2** may have limited relevance for land-use planning. Instead, the N-above are presented to indicate the regular presence of aircraft noise at levels that would likely be noticeable and could temporarily interrupt some activities.

Figure 8-1 ANEC

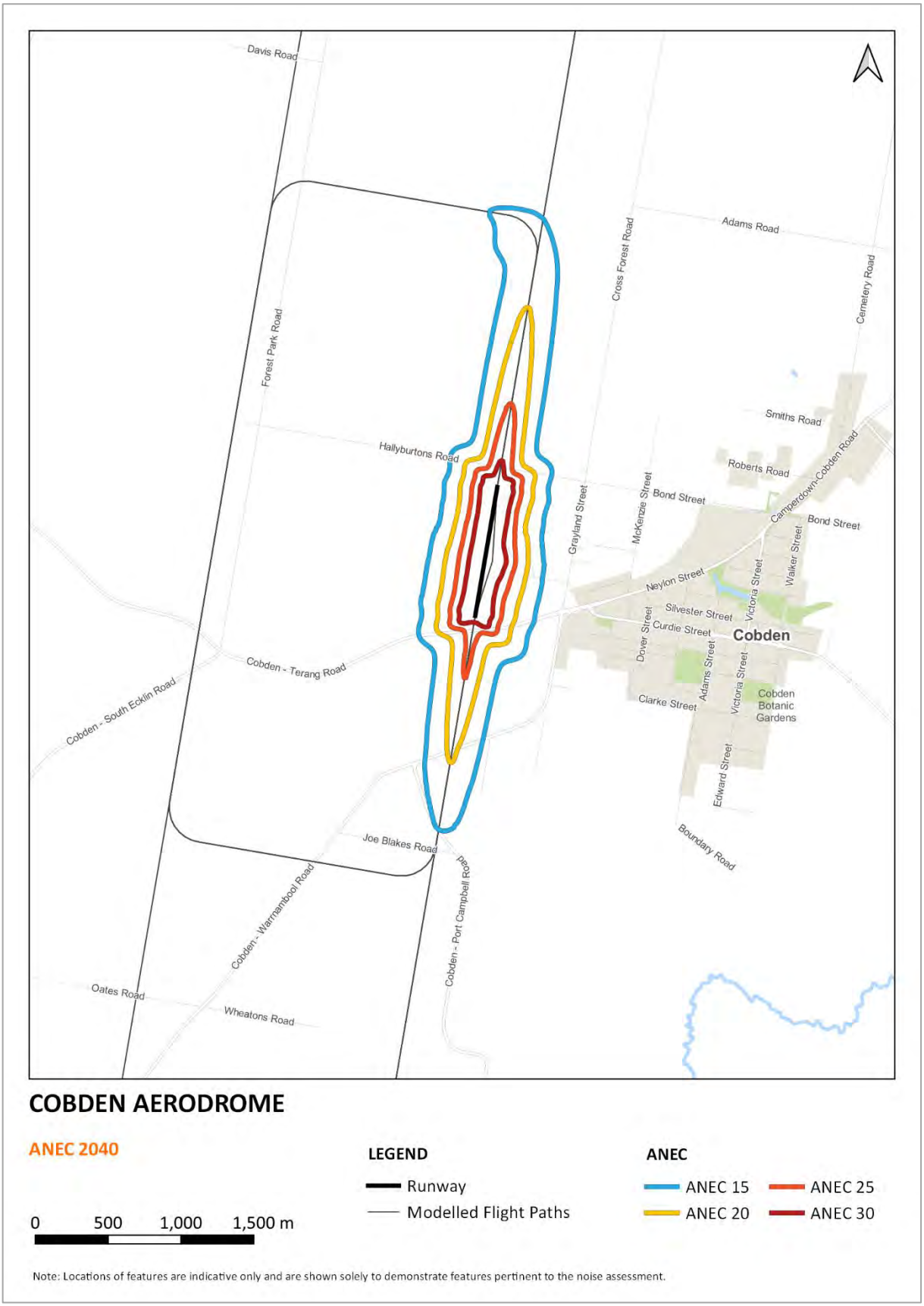
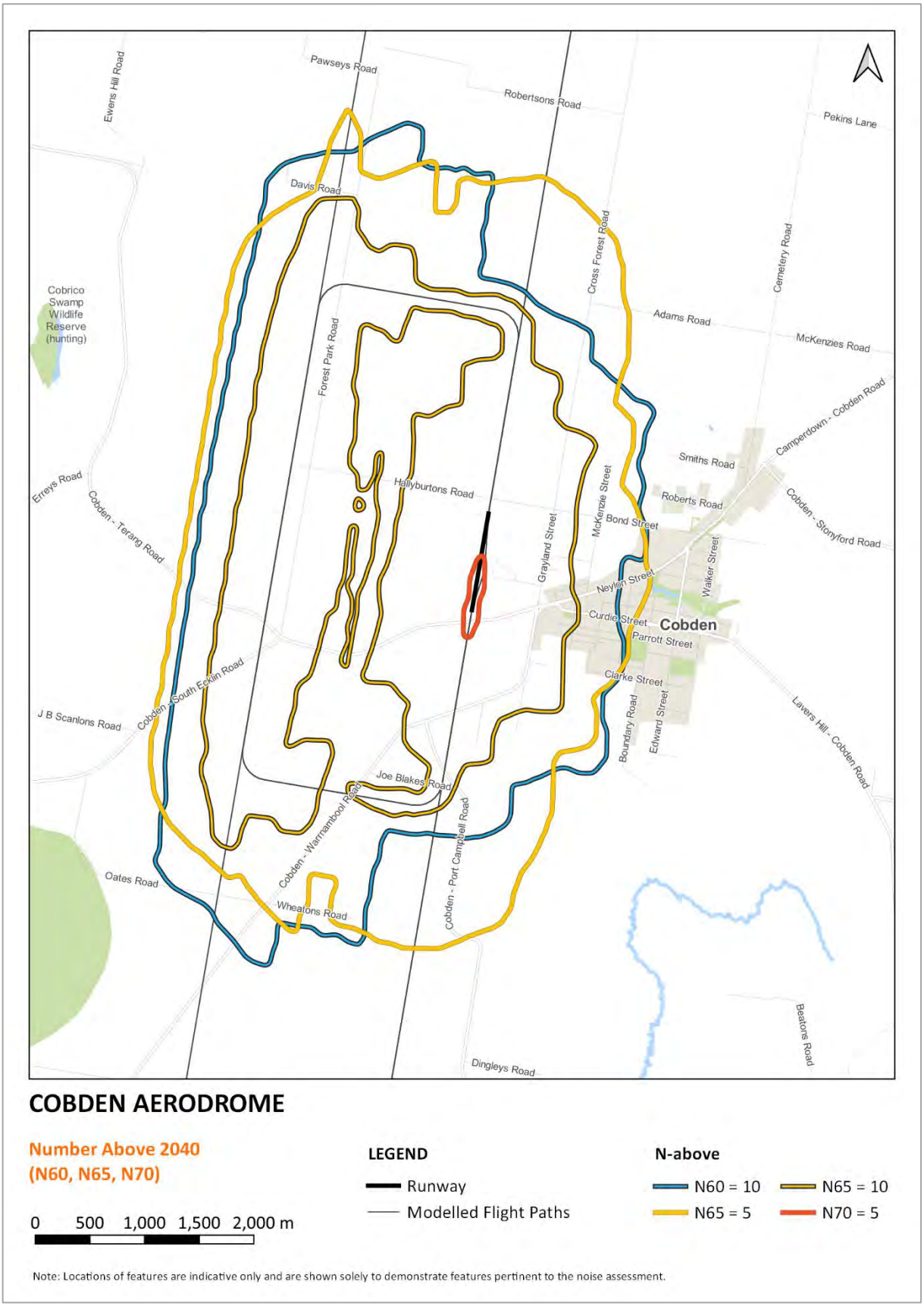


Figure 8-2 Number Above Noise Contours (N-above)



ANNEXURE 4 – REFERENCES

References used or consulted in the preparation of this report include:

- Airservices Australia, *Aeronautical Information Package (AIP) (including Departure and Approach Procedures (DAP), Designated Airspace Handbook, En Route Supplement Australia (ERSA) and Runway Distance Supplement (RDS)*, effective 21 June 2021
- Civil Aviation Safety Authority, *Manual of Standards Part 139 – Aerodromes*, version 1.15, dated 5 September 2019, effective August 2020
- Colac Otway Shire Council, Lease Register (17 February 2021)
- East Gippsland Shire Council, Bairnsdale Airport Master Plan (June 2020)
- OzRunways, aeronautical data, effective 21 June 2021
- Victorian Government – Aerodrome Landing Fees Act 2003 (version 003) (dated 14/6/2012)
- Victorian Government - Department of Environment, Land Water and Planning – Corangamite Planning Scheme (dated 22/11/2022)
- Victorian Government - Department of Environment, Land Water and Planning – Victorian Planning Provision (dated 22/11/2022)
- Other references noted.

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